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Anthony Casassanta  Macomb County Parks & Recreation Department
Lynne Yustick  Macomb County Public Works Office
Lara Sucharski  Macomb County Public Works Office
Robert Hoepfner  Road Commission of Macomb County
Joe Pacella  Road Commission of Macomb County

Gary Schocke  Bruce Township
Eric Wurmlinger  Chesterfield Township
Joe Silbernagel  Clinton Township
Gary Young  City of Eastpointe
Fred Lienemann  City of Fraser
Carolyn Loh  Lenox Township
Jeanette Ventimiglia  Lenox Township
Jerry Schmeiser  Macomb Township
Rick O'agn  Macomb Township
Denise Pike  City of Mt. Clemens
Paula Artman  Ray Township
Kathleen Bolton  Ray Township
Dennis Tipsword  Ray Twp/ Friends of the Macomb Orchard Trail
Jon Moore  City of Richmond
Troy Jeschke  City of Richmond
Kelley Osterman  City of Richmond
Joe Youngblood  Shelby Township
Denise Gerstenberg  City of Sterling Heights
Liz Mancini  City of St. Clair Shores
Chris Rayes  City of St. Clair Shores
Maggie Paul  City of Utica
Bill Lamb  City of Utica
Daniel Smith  City of Warren
Richard Doherty  City of Warren
Henry Bowman  City of Warren

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Janet Jawor  Clinton River Pathway
Andy Anderson  Prestige Cycles
Susan Stefanski  SEMCOG
Roberta Urbani  DTE Energy
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Drew Buckner  MDOT
Doug Skrzyniarz  Mt. Clemens General Hospital
Todd Scott  Michigan Mountain Biking Association
Matt Kowalczyk  Michigan Mountain Biking Association
Dan Keifer  Clinton River Watershed Council
Michael Sproul  St. Clair Shores Resident
Jennifer Chehab  AEW
Norman Cox  St. Clair County (consultant)
Anthony Marocco  Red Run Drain Board
William Misterovich  Red Run Drain Board

Special Thanks To Those Who Served As

Data And Information Resources:
Rails-To-Trails Conservancy, Michigan Field Office
Enhancement Staff from MDOT
Southeast Michigan Council of Governments
Community Foundation for Southeast Michigan

In memory of:
Ralph A. Liberato, County Commissioner
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Through funding assistance from the Michigan Department of Transportation, the Macomb County Department of Planning and Economic Development has facilitated the development of a county-wide trailways master plan. The benefits of trails and greenways have been heavily documented including economics, recreation, health, environmental protection, education and overall quality of life improvements. It is the County’s intention to capture the momentum of existing trail projects and work closely with local, regional and state agencies to develop a plan that presents a unified and coordinated vision for non-motorized transportation planning and development in Macomb County.

The Macomb County Trailways Master Plan will:
- Clearly and easily communicate the coordinated goals and direction of non-motorized trails and greenways in Macomb County;
- Serve as a tool and foundation for future grant applications;
- Provide flexibility and be uniquely tailored to the communities within Macomb County;
- Go beyond policy making and into implementation;
- Serve to develop public and private partnerships;
- Serve as an educational tool for the various benefits of trails and greenways including economic development, transportation alternatives, community health, conservation and recreation.
Project Overview
The Macomb County Department of Planning and Economic Development received funding assistance from the Michigan Department of Transportation (MDOT) and the Macomb County Board of Commissioners to develop a master plan for greenways and trails that will link people, schools, businesses, parks, natural resources, and cultural and historic landmarks to each other as well as to communities and resources in adjacent counties. The County worked with local, regional and state agencies to develop a consensus on the direction of trails and greenways within Macomb County. This report is tailored to the communities within Macomb County and will serve as a guide to future trail planning, design and construction. This plan is also intended to serve as a document that can easily communicate the coordinated goals and direction of trails and greenways in Macomb County.

Planning Process
The Macomb County Trailways Master Plan was an excellent opportunity for multi-jurisdictional collaboration. Open communication and coordination between the project team, an informal working committee, Macomb County, Huron-Clinton Metropolitan Authority, local communities and interested stakeholders was essential in its development. The planning process brought together the varied greenways and trail projects and ideas that had already been initiated prior to this project. Through an interactive planning process, these individual plans were combined into a single Trailways Master Plan for Macomb County.

In response to local requests, and prior to receiving a grant through MDOT, the County began to hold meetings with many of the local communities and regional agencies to discuss the development of a county-wide non-motorized plan. A precedent for coordinated non-motorized planning had already been established with the development of a plan for the Macomb Orchard Trail and the creation of the Macomb Orchard Trail Commission. From these meetings, and with the County Board of Commissioners providing matching funds, the County Department of Planning and Economic Development secured funding assistance from MDOT.

Stakeholder Meetings
The County held meetings with an informal stakeholder group consisting of representatives from local communities, other County departments, the HCMA, MDOT, Macomb Land Conservancy, Friends of the Macomb Orchard Trail, SEMCOG, Mt. Clemens General Hospital, ITC, Oakland County, St. Clair County, and others to begin to develop a vision for a county-wide non-motorized system. These meetings and discussions were used to develop a goal statement and guiding principles for the project, to communicate planning, design and construction efforts occurring at the local level, discuss issues in regard to potential non-motorized routes, confirm and/or correct the County geographic information systems (GIS) data and review draft versions of the plan.
Plan Development
Existing County GIS data was utilized to begin the development of the master plan. The County had previously collected and mapped some initial non-motorized route information from local communities. This data, along with information regarding locations of cultural destinations, orchards, historic sites, marinas, parks, schools, wetlands, institutions, etc., was utilized as a foundation in the development of preferred non-motorized routes. This information was presented at several meetings with the stakeholders and subsequent meetings with the general public to ensure accuracy, local preferences and overall consensus.

Outside of the regularly scheduled meetings with the informal stakeholder committee, the County Department of Planning and Economic Development staff met individually with the following entities to discuss the development of the master plan:
St. Clair Shores
Fraser
Bruce Township
Eastpointe
Mt. Clemens
Macomb Township
Clinton Township
MDOT
Red Run Inter-County Drain Board
City of Richmond
St. Clair County

Public Forums
After the local agencies and targeted stakeholder group reached general consensus on the preferred routes, four public forums were held. These forums were held to ensure a high level of project awareness and to review and gain input ultimately citizen preference to non-motorized trail alignments throughout the County. These meetings also continued to build enthusiasm and momentum for the project and ensured that the study is thorough and provides a vision for the system.

Four public forums were held in February and March 2004 at the following locations:

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
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<tbody>
<tr>
<td>February 18, 2004</td>
<td>Warren Community Center</td>
</tr>
<tr>
<td>February 25, 2004</td>
<td>Wolcott Mills Metropark (Ray Twp)</td>
</tr>
<tr>
<td>March 3, 2004</td>
<td>Clinton-Macomb Public Library</td>
</tr>
<tr>
<td>March 18, 2004</td>
<td>Chesterfield Township</td>
</tr>
</tbody>
</table>

Forum goals included:
- Raise the level of awareness and understanding of the purpose and anticipated future use of the county-wide trailways master plan project.
- Understand the regional context of non-motorized system planning.
- Discuss the benefits of non-motorized systems.
- Review the proposed Master Plan’s system of hubs and linkages.
- Establish priorities for short-term and long-term actions.

Overall, attendance at the four public forums was impressive. In addition to the County Trailways Master Plan being presented at the forums, other grass roots trail groups and non-profit organizations set up their displays within or near the meeting room. Groups such as the Clinton River Watershed Council, Spillway Trail, Friends of the Clinton River Pathway, Rails-to-Trails Conservancy, Macomb Land Conservancy, and Macomb Orchard Trail Commission were among a few that displayed.

<table>
<thead>
<tr>
<th>Forum Location</th>
<th>Approx. Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warren</td>
<td>90</td>
</tr>
<tr>
<td>Ray Twp</td>
<td>75</td>
</tr>
<tr>
<td>Clinton Twp</td>
<td>70</td>
</tr>
<tr>
<td>Chesterfield Twp</td>
<td>45</td>
</tr>
</tbody>
</table>

In general, the majority of attendees supported the development of a connected trail system within the County. Attendees were encouraged that the County and communities were working together to establish a foundation and beginning for a non-motorized system. Concerns that were heard and documented included typical issues of almost any trail planning, design, or
construction project. Concerns included property values, crime increases, disruption of nature and wildlife, private property rights, continued maintenance, design standards, safety, liability, etc. Although these concerns are typical for any trail project, they are nonetheless very real issues that will need to continue to be addressed as trail planning and design progresses. While these concerns are common, many dissipate after the trail is established and experienced.

Public Comment on Draft Plan
A public comment session was held on August 26, 2004, at the Clinton-Macomb Public Library to present the draft master plan and associated vision map for additional public comment prior to completion. Approximately 50 people attended the presentation. Goals for the meeting were to:

• Continue to raise the level of awareness and understanding of the purpose and anticipated future use of the county-wide Trailways Master Plan.
• Review the system of preferred corridors within the county.
• Provide an overview of the draft Master Plan contents.
• Gather final comments and concerns prior to adoption.

The majority of those that attended were very supportive of developing a connected non-motorized system within Macomb County and were encouraged that communities were working together toward that goal. Discussions continued as to where trails would be most appropriate. It was reiterated that this Master Plan is a framework for more detailed studies and analysis. It is fully anticipated that connections and trail locations will likely change over the course of implementation due to a variety of issues such as public input, property ownership, soil conditions, available funding, adequate space to accommodate a trail, wetlands, etc. Most in attendance agreed that the plan presented a beginning foundation for the local communities and the county to build upon.

Benefits of Non-Motorized Systems
Trails and greenways positively impact individuals and improve communities by providing not only recreation and transportation opportunities, but also influencing economic and community development as well as conservation, water quality improvements, health benefits, public education, and an overall improvement in quality of life. Some of the many trails and greenways benefits include:

• making communities better places to live by preserving and creating open spaces
• encouraging physical fitness and healthy lifestyles
• creating new opportunities for outdoor recreation and non-motorized transportation
• strengthening local economies
• protecting the environment
• preserving culturally and historically valuable areas

We have designed and built an environment over the last 50 years that, through land-use patterns and transportation facilities, makes non-automobile travel difficult. The result has been a reduction in non-motorized trip making and an increase in traffic congestion, air pollution, loss of open space and decreases in our collective health. (RTC Trails and Greenways: Advancing the Smart Growth Agenda)

Recreation
The growing popularity of outdoor recreation activities, such as cycling, inline skating, walking and running, combined with the loss of community open space, has increased the need to develop quality recreational facilities. Trails provide places for cyclists, hikers, walkers, runners, horseback riders, inline skaters, cross-country skiers and physically challenged individuals to exercise and experience the many natural and cultural wonders of the urban, suburban and rural environments. Trails serve as independent community amenities and also enhance existing recreational resources by linking neighborhoods and schools to parks, waterfronts, recreational centers and other facilities.

Alternative Transportation
Many public agencies, as well as prominent advocacy groups, are leading the charge for smarter community design through better choices in transportation spending. Many environmentalists and urban planners agree: transportation systems that rely upon the automobile are increasingly detrimental to both quality of life and community budgets saddled with increasing road repair and construction costs. If properly planned for and constructed, trails can connect residential areas with retail areas, neighborhoods with schools and homes with work. If coordinated to intersect with bus routes and bus stops, trails can allow people to access these other modes of regional transit. SMART recently announced a new "bikes on board" program where all 280 fixed-route SMART buses will be equipped with racks that hold bicycles. Trails can provide an alternate route for commuting or running an errand, reducing air pollution and traffic congestion.

Conservation and Water Quality
As tools for ecology and conservation, trails can help preserve important natural landscapes, provide needed links between fragmented habitats and offer tremendous opportunities for protecting plant and animal species. They also can be useful tools for wetland preservation and improvement of air and water quality. In appropriate and applicable areas, a trail corridor can become a linear habitat or "greenway" that connects wildlife areas isolated by expansive development, with only a minimal intrusion by trail users.

Trails and greenways can play an important role in improving water quality and mitigating flood damage. Many times, trails can be incorporated into or near natural resources such as water bodies, rivers, streams, creeks, wetlands and woodlands. Greenways along riparian corridors, drains, etc., preserve critical open space that provides natural buffer zones, allows for ground infiltration, and protects the resource from pollution run-off. These areas can also serve as flood plains that absorb excess water and mitigate damage caused by flooding.

In addition, as tools for conservation or preservation of historic and cultural resources, trails can provide a window into our history and culture by connecting people to the past. Trails can often link and connect people to historic features such as bridges, canals and buildings.
**Health Benefits**

Many studies show that trails create healthy recreation and transportation opportunities by providing people of all ages with attractive, safe, accessible and low- or no-cost places to cycle, walk, hike, jog or skate. Trails help people of all ages incorporate exercise into their daily routines by connecting them with places they want or need to go.

In a recent report on physical activity and health, the U.S. Department of Health and Human Services (HHS) addressed the national public health crisis stemming from physical inactivity. Most Americans make the connection between exercise and health, but many people still lead sedentary lives. According to HHS, “approximately 300,000 U.S. deaths a year are associated with obesity and overweight (compared with 400,000 deaths a year associated with cigarette smoking). The total direct and indirect costs attributed to overweight and obesity amounted to $117 billion in the year 2000.” The alarming national statistics point to a growing health crisis that impacts Americans of all ages.

Trails figure prominently in the fight against obesity and inactivity. The National Center for Chronic Disease Prevention and Health Promotion (Center for Disease Control) trumpets the positive impact trails can have on the overall health of their users. As described in the CDC publication “Promoting Physical Activity Through Trails,” there is now scientific evidence that providing access to places for physical activity increases the level of physical activity in a community. The Task Force on Community Preventive Services strongly recommends creating or enhancing access to trails and other places for physical activity. However, just building trails is not enough, the Task Force highlighted that communication strategies and outreach activities that promote using trails and facilities are also recommended. The CDC has found that the health benefits of using trails are significant.

- Regular physical activity is a key component of any weight loss effort. Greater access to trails can directly impact our nation’s obesity epidemic by improving access to places for physical activity and opportunities.
- Participating in aerobic training significantly reduces systolic and diastolic blood pressure. Trails provide the opportunity for individuals to help control their hypertension (high blood pressure).
- Moderate physical activity such as walking and cycling on trails can protect against developing non-insulin dependent diabetes.
- Through aerobic exercise training, walking and cycling on trails can improve symptoms of mild-to-moderate depression and anxiety of a magnitude comparable to that obtained with some pharmacological agents.
- Studies have reported that walking two or more miles a day reduces the chance of premature death by 50%.

Many commonly recognized activities related to physical activity exclude large segments of the community. For example: organized team sports may favor athletically gifted individuals and families with sufficient financial means; fitness centers may favor individuals who have high self-determination and fitness ability; youth recreational programs may favor young children. Trails however, represent a diversity of opportunity from the gifted athlete interested in a convenient place to train to individuals who are looking for an aesthetically-pleasing place to take an after-dinner walk.

A recent study completed by the Michigan Department of Community Health and the Governor’s Council on Physical Fitness, Health and Sports, states that intervening on the human built environment is a new concept for today’s public health professionals. The 2000 Behavioral Risk Factor Surveillance System indicated that 62% of adults in Michigan are overweight and/or obese, a rate that’s tied with Alabama for first in the nation. In addition, the prevalence of overweight children has tripled over the last 20 years.

<table>
<thead>
<tr>
<th>Physical Inactivity and Overweight Trends Among Youth</th>
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<tbody>
<tr>
<td>• 1 in 3 high school youth do not engage in vigorous physical activity</td>
</tr>
<tr>
<td>• Less than 30% attend daily physical education</td>
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<tr>
<td>• 1 in 7 youth ages 6-19 is overweight</td>
</tr>
<tr>
<td>• Children spend more time watching television in a year than they do attending school</td>
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</tbody>
</table>

Source: Community, Active Living and Public Health Presentation www.lgc.org

**Economic Benefits**

One of the greatest challenges many local governments face is how to revitalize urban environments and attract people back to the cities from the suburbs (or back to the suburbs from the extended suburbs). Trails and greenways are valued for their ability to connect people with places and enhance the beauty of urban centers. Trails and greenways bring job growth in construction and maintenance as well as tourism-related opportunities like canoeing, horseback riding, bike rentals, restaurants and lodging.

Trails have also been shown to bolster property values and make adjacent properties easier to sell. A central Indiana study found that the average price for all homes sold in greenway corridors was nearly 10% higher than the average price for all homes. More and more real estate advertisements proclaim the proximity of the property to a trail, demonstrating that agents are recognizing that trails are an asset and key attractor to neighborhoods. In addition, the cost of infrastructure to support non-motorized trails...

A significant amount of information regarding benefits was derived from the Rails-To-Trails Conservancy Fact Sheets.

transportation is significantly less than that needed for motorized transportation.

**Outdoor Education**
Because trails connect a wide variety of things and are used by a wide variety of people, they can serve as a catalyst to bridge a vast range of topics and serve as a conduit for education. Through interpretive signs that describe wildlife or historic aspects of corridors, for example, trails can serve as outdoor classrooms that tell the story of the community, and describe resources on the landscape.

**Quality of Life**
The “quality of life” of a community or county is a primary attractor and marketing tool for many places in the United States and Michigan. Those communities perceived to offer a high “quality of life”, including parks, open spaces, natural resources, walkability, connectivity, etc. are the areas that are beginning to attract people and business. Factors and programs relating to trails and greenways that lend to the quality of life initiative include some of the following.

**Smart Growth**
In communities across the nation, there is a growing concern that current development patterns—dominated by what some call “sprawl”—are no longer in the long-term interest of cities, existing suburbs, small towns, rural communities, or wilderness areas. Though supportive of growth, communities are questioning the economic costs of abandoning infrastructure in the city, only to rebuild it further out. Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth. The result is both a new demand and a new opportunity for smart growth.

**Safe Routes to School Program**
The Safe Routes to School program is a national movement to make it safe, convenient and fun for children to bicycle and walk to school. When routes are safe, walking or biking to and from school is an easy way to get the regular physical activity children need for good health. Safe Routes to School initiatives also help ease traffic jams and air pollution, unite neighborhoods and contribute to students’ readiness to learn in school. In Michigan, officials from transportation, public health, and education have joined with parents, students, teachers, school administrators, city engineers, law enforcement, and other community leaders to support Safe Routes to School.

As documented by the Safe Routes to School Program, 30 years ago, more than 66% of all children walked to school. Walking or biking to school gives children a sense of freedom and responsibility, allows them to enjoy the fresh air, and provides opportunities to get to know their neighborhood while arriving at school alert, refreshed, and ready to start their day. Yet most American children are denied this experience; in fact, only 13 percent of American children walk or bike to school. Recent research indicates that 20 to 25% of morning traffic is due to parents driving their children to school. As a result, traffic congestion has increased around schools, prompting even more parents to drive their children to school. The health consequences to our children and to the well being of the community are extensive.

**Michigan’s Cool Cities Initiative**
A series of 150 forums held by mayors across Michigan, culminated in a conference in December 2003 to focus on stemming the migration of young professionals (ages 25-34) out of Michigan by increasing creative arts and vibrant quality of life in communities. A recent report from the U.S. Census Bureau indicated that more than 33,000 young adults left the southeast Michigan region alone, between 2000 and 2002. Trails and bikeable/walkable communities were mentioned as a component of cool cities in every one of the forums across the state. The Governor’s Cool Cities Initiative is about reinventing Michigan’s cities to be attractive places to live for an increasingly diverse group of residents. This pilot program, under the Governor’s initiative, is an effort to promote neighborhoods as attractive places to live, by promoting investment in neighborhoods that have, or are moving to create, higher density, a mix of residential and commercial uses, mixed income housing, and a pedestrian-friendly environment. This is as important in downtown and near downtown areas as it is in more traditional residential neighborhoods.

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**Cool Cities in Macomb County**

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<tr>
<th>City</th>
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<tbody>
<tr>
<td>Center Line</td>
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<td>Eastpointe</td>
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<td>Fraser</td>
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<tr>
<td>Mount Clemens</td>
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<tr>
<td>New Baltimore</td>
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<tr>
<td>City of Richmond</td>
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<tr>
<td>Saint Clair Shores</td>
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<tr>
<td>Sterling Heights</td>
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<tr>
<td>Utica</td>
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<td>Warren</td>
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2 Smart Growth Online (www.smartgrowth.org)
**Principles of Smart Growth**

- Create range of housing opportunities and choices
- Create walkable neighborhoods
- Encourage community and stakeholder collaboration
- Foster distinctive, attractive communities with a strong sense of place
- Make development decisions predictable, fair and cost effective
- Mix land uses
- Preserve open space, farmland, natural beauty and critical environmental areas
- Provide a variety of transportation choices
- Strengthen and direct development towards existing communities
- Take advantage of compact building design

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**The Disappearing Walk to School**

- 1 in 4 trips made by 5-15 year olds are for the journey to and from school
- Only 10% of these trips are made by walking and bicycling
- Of school trips one mile or less, about 28% are walk-based and less than 1% are bike-based.

Source: Community, Active Living and Public Health Presentation [www.lgc.org](http://www.lgc.org)

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**It's the Urban Design....**

“Reliance on physical activity as an alternative to car use is less likely to occur in many cities and towns unless they are designed or retrofitted to permit walking or bicycling. The location of schools, work sites, and shopping areas near residential areas will require substantial changes in community or regional design.”

--Journal of the American Medical Association, Editorial, 10/27/99
Prior to receiving a grant through MDOT, the County and many of the local communities and regional agencies were meeting on a regular basis to discuss the development of a county-wide non-motorized plan. A precedent for coordinated non-motorized planning had already been established with the development and maintenance of the Macomb Orchard Trail in northern Macomb County and the creation of the Macomb Orchard Trail Commission.

Utilizing the County GIS data, a base map of existing conditions was generated as a foundation for further non-motorized transportation planning. Elements such as rivers, creeks and roads were mapped in relation to community boundaries, schools, and economic centers. Existing conditions information also included the locations of marinas, cider mills, libraries, community centers, college campuses and museums. Providing connections to these destinations was a guiding principal throughout the development of the overall non-motorized vision.

The existing non-motorized system was reviewed and modified by local communities and stakeholders to ensure accuracy. This effort revealed that the County has the beginnings of an emerging network of non-motorized facilities that include: the Metropolitan Parkway, a system developing along the Clinton River, the Spillway Trail in Clinton and Harrison Townships, and the developing Macomb Orchard Trail.
Significant Systems Within Macomb County

Macomb Orchard Trail

The Macomb Orchard Trail (MOT) is a non-motorized path that will provide users with a safe transportation and recreation route through northern Macomb County. The 24-mile route will serve as a regional connection between the Clinton River and Paint Creek Trails in Oakland County, through the developing communities of Shelby and Washington Townships and to the rural and agricultural landscapes of Bruce, Armada, and Richmond Townships. The MOT will also connect the Villages of Romeo and Armada, as well as the City of Richmond where it will link to trail efforts in St. Clair County.

The route of the MOT will follow an old Canadian National Railroad right-of-way that was put up for sale in 1998. The Macomb County Board of Commissioners negotiated with the railroad for a price of $3.5 million for the 24-mile corridor. Financing for the purchase of the land was achieved through the Trust for Public Land.

In 2001, the Macomb Orchard Trail Commission was formed and was given the responsibility of developing and providing ongoing maintenance for the trail. Members include representatives from five of the ten communities that the former railroad corridor runs through, a County commissioner and a member of the Huron-Clinton Metropolitan Authority. The Commission is staffed by Macomb County Planning, Macomb County Corporation Council, and Parks and Recreation. In 2002, the Commission developed a Master Plan for the trail to provide a safe and attractive trail for users. In 2003, the Commission hired an engineering firm to prepare specifications for developing Phase I of the MOT. Phase I includes a six-mile stretch from 24 Mile Road and Dequindre in Shelby Township to 29 Mile Road and Van Dyke in Washington Township. Phase I was completed in summer 2004. Equestrian use of the trail is planned from the east side of Romeo to the City of Richmond.

Stony To MetroBeach Trail

The Stony Creek Metropark to MetroBeach Metropark trail is an emerging, and nearly continuous trail and greenway along the Clinton River and Metropolitan Parkway. This trail route connects two Metroparks as well as a string of local parks providing access to significant open space preserves along the Clinton River. The trail also meets at Dequindre Road at the intersection of the Macomb Orchard Trail and the Clinton River Trail in Oakland County.

Clinton River Spillway Trail

The Clinton River Spillway trail extends from Shadyside Park in Mt. Clemens, across the Clinton River via a pedestrian bridge into Clinton Township, then runs parallel to the spillway, intersecting with the Metroparkway trail and progressing beyond it eastward until it reaches its Lake St. Clair destination two miles down in Harrison Township. Five parks are accessible near or along this important stretch of the trail network including Shadyside and historic Sleepy Hollow in Mt. Clemens, Neil Reid in Clinton Township, Tucker Park and Lake St. Clair Park in Harrison Township (located at the path’s end near the newly constructed DNR boat launch). The Charter Township of Clinton is also implementing a Downtown Redevelopment Plan ½ mile west of the current path’s location that will be significant in connecting pathway users to this vital economic undertaking.

The spillway path is home to the County’s first “Adopt a Hike-Bike Path” adopted by The Michigan State University Master Gardener program where it has nurtured the establishment of 230 new trees and nine gardens. Not only does this particular segment of the path provide an aesthetic and quieter trail option for its users, the public is actually invited into the garden to sit, relax and enjoy the peaceful beauty of the surrounding gardens that are designed to encourage the return of wildlife to the city. Apartment dwellers and nursing home residents along this trail have found respite and ownership in “their” backyard trail as they come to visit or volunteer. This part of the trail is cosponsored by several large organizations including the Macomb County Public Works and Road Commission, Macomb Conservation District, Clinton River Watershed Council, River of Life, Nautical Coast Clean-Up and We are Here Foundation.
Existing Non-Motorized Systems in Macomb County

- Spillway Trail in Clinton Township
- Macomb Orchard Trail (City of Richmond)
- Jefferson Bridge (over Milk River)
- Riverbend Park in Shelby Township
- Red Run Drain Trail (Warren Community Center)
Existing Non-Motorized Systems in Macomb County

- Metropolitan Parkway Trail (Harrison Township)
- Spillway Trail (Harrison Township)
- Boardwalk in Mt. Clemens
- Route in City of Utica
- Riverbend Park (Shelby Township)
- Equestrian Trails at Wolcott Mill Metropark (Ray Township)
Associated Planning Efforts
Several significant planning efforts that relate to greenways and non-motorized transportation have occurred in the region and surrounding counties that affect the Macomb County Trailways Master Plan.

Southeast Michigan Greenways Plan
In 1998, the Rails-to-Trails Conservancy (RTC) developed a vision for Southeast Michigan Greenways. RTC’s Michigan Field Office and the National Parks Service Rivers, Trails and Conservation Assistance Program as well as many other local and national entities, both public and private, assisted in the development. The plan is a vision for an interconnected greenway system for the seven counties of southeast Michigan, including Macomb, and is intended to give communities and counties guidance regarding the acquisition of land for public greenway use.

RTC’s Michigan Field Office was established in 1989 and launched the Southeast Michigan Greenways Initiative in 1990 with the goal to connect the 4.5 million people of southeast Michigan to the proposed Discover Michigan Trail. Since then, the Initiative has brought together professionals, officials and representatives from across the area to discuss some of the critical issues facing communities including:

- Promoting sustainable economic growth
- Preserving community character
- Providing close-to-home recreation while reducing crime
- Teaching young people about the natural world
- Accommodating wildlife in rapidly suburbanizing areas
- Protecting drinking water quality
- Reducing flooding
- Providing safe places to walk and bike to work, school and local stores

Southeast Michigan Greenways: Strategic Plans for The Clinton River Trail, The Macomb Orchard Trail, and the Stony Creek Metropark/Clinton River Park Link
Completed in 2001 by the Rails-to-Trails Conservancy, Michigan Field Office, with funding assistance from the Department of Natural Resources, this feasibility study identifies key bits of information to assist in eventual implementation. The purpose of the report was to:

- Identify the project scope
- Determine the probable project cost
- Identify potential funding sources
- Identify key stakeholders
- Define proposed implementation teams
- Outline potential partnerships
- Outline proposed implementation steps

The three projects studied have the potential to be connected not only to each other but to four of the region’s longest greenways creating an impressive “X” shaped greenway system that will provide 110 miles of shared-use pathways and regional interconnected green space to one of the fastest growing areas in the state.

Oakland County Projects
Clinton River Trail Master Plan
The Clinton River Trail Master Plan, completed in 2003, was a project of the Rails-to-Trails Conservancy with funding from the Community Foundation for Southeast Michigan: Greenways Initiative. The Clinton River Trail is a nearly 16-mile proposed multi-use path that travels through the eastern half of Oakland County, roughly paralleling and frequently crossing the Clinton River. The proposed Clinton River Trail goes from the West Bloomfield Trail, through Sylvan Lake, Pontiac, Auburn Hills, Rochester Hills, and Rochester, ending at Dequindre Road where the Macomb Orchard Trail begins.

Paint Creek Trail
The Paint Creek Trailway is approximately 8.5 miles long and runs from the City Rochester to Lake Orion in Oakland County and connects the suburban Detroit communities of Rochester, Rochester Hills, Oakland and Orion Townships. The trail is used by hikers, cyclists, joggers, equestrians, nature observers and photographers. The trail follows the old Penn Central Railroad up the Paint Creek Valley through highlands, pastures, and wetlands. The compacted limestone surface provides a solid, but natural surface for non-motorized uses. During winter, many residents utilize the trail for cross-country skiing.

Polly Ann Trail
The Polly Ann Trail is a non-motorized trail that uses the abandoned P.O. & N. railroad corridor. This linear park transverses 12.2 miles through some of the most beautiful and untouched landscape in northern Oakland County. It begins in Orion Township on Joslyn and Indianwood Roads and continues northeast through Oxford and Leonard and into the middle portion of Lapeer County.
Choices for the Future:
1990 Land Use/Land Cover

This map shows how the greenway vision relates to existing land use. As an area develops, the open space generally becomes fragmented. Greenways provide an opportunity for development while still maintaining connected natural areas.

Legend:
- Significant Open Space
- Greenway Corridors
- Significant Developed
- Agriculture
- Commercial, Office, Industrial
- Other Developed
- Natural Areas
- Waterbodies
- Waterways

2010 Forecast Land Use/Land Cover

This map shows how the greenway vision relates to the planned land use. While the Macomb County currently has significant amounts of open space, there is no comprehensive plan on what should remain open.

Legend:
- Greenway Network Vision:
- Significant Open Space
- Greenway Corridors
- Significant Developed
- Agriculture
- Commercial, Office, Industrial
- Other Developed
- Natural Areas
- Waterbodies
- Waterways
Macomb/Oakland Trail System

The existing and proposed trails total over 100 miles and over 800,000 people live within two miles (a 15 minute bike ride or 30 minute walk) of the proposed trail system.
Madison Heights
Red Run Drain Trail Study
The George W. Kuhn Drain project is scheduled for completion in December 2005. Madison Heights has initiated conversations with Oakland County Parks to develop a non-motorized trail along the historic corridor of the Red Run Drain and within or near the Red Oak Golf Course. The Madison Heights plan proposes a trail from Dequindre, along the historic drain corridor to I-75 and Stephenson Highway.

Oakland Trails Advisory Council
The Oakland Trails Advisory Council (OTAC) recently formed to partner, expand and coordinate a network of trails within the County. There are 41 miles of completed trails; 29 miles in the planning, design and development stage; and 82 miles under consideration. The OTAC envisions an interconnected trail system throughout the region for enjoyment of the outdoors and fitness activities. The OTAC group is represented by various partners involved in trails and pathways and meets on a monthly basis to discuss and coordinate non-motorized activities within Oakland County.

Wayne County Project
Conner Creek Greenway
The Detroit Eastside Community Collaborative (DECC) has been developing a plan for the proposed Conner Creek Greenway which is approximately eight miles long running from Maharas Park on the Detroit River up to Eight Mile Road. It roughly follows the historic route of the Conner Creek, which now has been enclosed in storm sewers. The corridor passes through significant industrial and commercial developments. The greenway will provide a key non-motorized link between numerous parks, cultural sites, recreation centers and neighborhoods. The challenges the project present include working with extremely busy road corridors and industrial landscapes. The master plan includes recommendations for road reconfigurations and intersection improvements to safely move people along the greenway.

St. Clair County Projects
There are two primary non-motorized projects in St. Clair County that provide regional connections into Macomb County: The Bridge-To-Bay Trail and the proposed South County Connector.

Bridge-to-Bay Trail
The proposed Bridge-to-Bay Trail project is a cooperative program involving the St. Clair County Parks and Recreation Commission and local units of government. The planned trail traverses more than 50 miles and extends from the Blue Water Bridge in Port Huron near the waters edge to Algonac and Anchor Bay. Sections of the trail have been built and include diverse styles and landscapes featuring boardwalks, river walks, rail trails, safety paths and bike paths.

South County Connector Greenway
The South County Connector Greenway in St. Clair County is proposed to provide an east-west connection from the City of St. Clair and East China Township area, generally following the Belle River to the City of Richmond in Macomb County. The preferred route for the South Connector has not yet been determined.

County-Wide Effort
MDOT and St. Clair County are working together to generate a county-wide non-motorized transportation plan along existing or proposed county or state thoroughfares. This effort will include a comprehensive analysis of the existing and planned systems and coordinating them with the MDOT transportation planning, design, and construction process.
Non-Motorized Regional Perspective

Many of these regional non-motorized corridors are in the planning or conceptual phase, several are emerging routes in the design phase, some are under construction, and several segments have been in the ground and utilized for many years.

The emerging regional network of non-motorized facilities is continuing to grow and gain momentum as communities work toward providing citizens with a connected transportation alternative to improve quality of life, overall health, protect natural resources, and bolster economic activity.
Efforts to develop this master plan will move the state, region, county, local governments, as well as existing and future trail users one-step closer to realizing a coordinated and connected non-motorized system.

This master plan and the preferred corridors represent a long-term vision for non-motorized facilities in Macomb County. Significant amounts of work, further planning, public involvement, design and construction efforts will need to follow this initial effort in order for implementation to begin. As time progresses, and more details and studies are gathered, it is highly likely that the preferred corridors will need to change or move due to a number of potential issues including property ownership, public opinion, funding, soil conditions, land use, and many others. This master plan is a foundation; a beginning point for non-motorized planning within Macomb County. This is not a static document; it will change and be updated on a regular basis.
Understanding that this master plan is a foundation for the County and local communities, the stakeholder committee that guided the development of this plan engaged in a process to develop preferred non-motorized corridors and routes within Macomb County. Utilizing the existing GIS information, the committee met on a regular basis to confirm the accuracy of the information, provide updates based on their local recreation and non-motorized plans, and to guide the overall development of the county-wide trailways plan. The committee also worked together to suggest potential route solutions to “gaps” in the existing and planned non-motorized system. The County also held public forums throughout the County to garner public input and to assist in beginning to develop priority routes and corridor connections. In addition, numerous individual meetings were held with special interest groups, Oakland County, St. Clair County, representatives from Wayne County, the Macomb County Road Commission, MDOT, and several local communities within the County to discuss the feasibility of potential non-motorized routes.

The planning process culminated with the identification of preferred non-motorized corridors that traverse the County providing connections to significant natural resources, parkland, commercial centers, institutions, neighborhoods and schools, as well as routes that provide connections into non-motorized systems that exist or are being planned in adjacent counties.

**Route Classifications**

As the planning process progressed, and the system of existing and planned non-motorized routes began to emerge, it became evident that segments of the system were different in terms of what they connected, where they were located and the distance they traveled. It was apparent that non-motorized segments such as the Macomb Orchard Trail and the Stony to MetroBeach connection were of regional significance due to the nature of the routes, the elements they connected, and the fact that they directly connected into adjacent counties. Therefore, a route classification system was developed to begin to help illustrate the developing hierarchy within the overall non-motorized systems.

**Regional Corridor**

Regional corridors include primary routes and corridors that connect into planned and/or built systems in adjacent counties as well as provide access to major regional destinations such as Lake St. Clair, and the Huron-Clinton Metropolitan Authority System.

**County Connectors**

County connectors are routes that provide significant connections into the larger regional system and continuously traverse a considerable portion of the County in all directions.

**Local Connectors**

Local connectors are segments within the system that lead from the regional or county system to various destinations or points of interest. Local connector segments also serve as feeder connections within a community into either the County Connectors or Regional Corridors.

**Blueway Water Trail**

A portion of the Clinton River within Macomb County was discussed as a potential future Blueway Water Trail. This designation is intended to allow small boaters or other water vessels access to rivers, streams, and coastlines. Designation as a Blueway can assist in broadening awareness and education of navigable areas and natural resources.

**Staging Areas**

Discussions also took place regarding locations of potential staging areas within the non-motorized system. It was discussed that staging areas should have sufficient parking and preferably restrooms. The majority of identified staging areas are also destinations in and of themselves including the Clinton-Macomb Public Library, Macomb Township Town Center, Wolcott Mill Metropark, Riverbend Park, Freedom Hill County Park, Wetzel State Park, and other municipal facilities. As described in the Southeast Michigan Strategic Plans completed by the Rails-To-Trails Conservancy, staging areas located near a town or commercial center provide opportunities for local business to offer provisions for trail users. Locations that take advantage of shared parking, where the parking demands of the existing use complement the typical demands of the path users are also advantageous from a cost and environmental standpoint. Designated staging areas within the non-motorized system should be signed as such and ideally include a map and information regarding the system.
Public Forum Input
At the public forums held in February and March 2004, participants were asked to use stickers on maps illustrating the preferred corridors to designate their top three priorities for regional corridors, top three priorities for county connectors and top three priorities for local connectors. While nearly every trail segment proposed on the county-wide map received at least a couple of “priority votes”, several segments received a vast majority of “priority votes”. (Refer to public forum maps on the following pages) These included:

Regional Corridor Priorities
- Macomb Orchard Trail
- Stony to Metro Beach
- Red Run Drain
- Clinton River Pathway*

County Connector Priorities
- 26 Mile Road
- North-South Ray Twp Corridor
- Clinton River Pathway*
- Gratiot (New Haven to Richmond)
- Metropolitan Parkway (Freedom Hill to Dequindre)

Local Connector Priorities
- Garfield Road
- Clinton River Pathway*
- East-West Ray to Washington Twp

Within the entire County, the two trail segments that garnered the greatest amount of comments and concerns were the: Red Run Drain in Warren and Sterling Heights and the Clinton River Pathway in Shelby Township, Sterling Heights, Clinton Township and Mt. Clemens. Before design and construction would begin on any proposed trail segment within the County, much greater planning work, analysis, public involvement and coordination will need to take place. However, the issues and concerns, for the public and the political entities as well as technical issues that remain outstanding on the Red Run Drain, Clinton River Pathway, as well as the equestrian-based connection between the Macomb Orchard Trail and Polly Ann Trail in Bruce Township, warrant a much greater detailed analysis, beyond that of which was permitted during the process of developing this plan. To determine feasibility of these three segments in particular, it is likely that separate planning studies for each of these corridors would need to take place before a conclusive feasibility determination could be made.

After the public forums were held in February and March, general consensus among the stakeholder group and County, was that these three segments of trail be illustrated on the map as “Special Study Areas”. This acknowledges the interest shown at the public forums as well as the many outstanding issues that need to be studied in much greater detail before progressing.

* Public indicated as high priority in each of the three designations. A special study of the corridor should also suggest how/if the pathway should be classified as a regional, county, or local connector.
Public Forum Composite Results
Regional Corridor Priorities
Public Forum Composite Results
County Connector Priorities
Public Forum Composite Results
Local Connector Priorities
Proposed Corridors and Community Cut Sheets

The county-wide map on the following page illustrates the foundation for a vision of a connected, non-motorized system within Macomb County that will also link to adjacent counties and lend to recognizing a regional vision for southeast Michigan.

In addition to the county-wide map, that illustrates the connectivity of the overall system, separate “cut sheets” for each community or geographic area were created to provide local communities with a more detailed tool describing the various segments of the system within their municipality. The cut sheets describe the proposed routes as well as indicate outstanding issues that should be taken into consideration as the plan progresses and communities forge ahead with implementing non-motorized systems within their jurisdictions. The cut sheets are organized from west to east beginning in the southwest corner of the County with Warren and Centerline.

As has been described, three areas have been categorized as “Special Study Areas” including the Macomb Orchard Trail to Polly Ann Trail equestrian connection, the Clinton River Pathway and the Red Run Drain. These have been designated as such due to the complexity of issues that remain outstanding to determine feasibility on these routes. While every proposed non-motorized corridor will require much more ground work and coordination prior to implementation, each of the Special Study Areas will require a significant amount of detailed examination, public involvement, property ownership research, general engineering pre-design analysis, etc., prior to determining feasibility. Therefore, separate cut sheets have been made for each of the Special Study Areas.

As is further detailed in the Implementation Strategies chapter, it is hoped that Macomb County communities will amend their local plans, ordinances, site plan standards, and policies to incorporate the county-wide vision. This will assist in the implementation of non-motorized segments within each individual jurisdiction.
Regional Corridors
Two regional routes bisect within the City of Warren, including an east-west route along the Red Run Drain (Special Study Area) connecting the Warren Community Center and Library into Madison Heights and Freedom Hill County Park, and a north-south route, primarily within the ITC corridor and connecting into the planned Conner Creek Greenway and Detroit River.

County Connectors
An east-west route is proposed along 12 Mile Road, providing connections into Roseville, the GM Tech Center, St. John Macomb Hospital and the Macomb County Community College South Campus.

Local Connectors
Two primary local connectors identified within the City include Van Dyke (also within City of Centerline) and a north-south route connecting several of the City’s major parks and schools.

Trail Head/Staging Area
The City of Warren Community Center, south of 14 Mile Road and north of the Red Run Drain has been proposed as a staging area for the non-motorized system.

Significant comment was gathered at the public forums, particularly surrounding property rights and proximity to homes of a proposed trail along the Red Run Drain. Further study would be necessary to determine feasibility of this route (see following page).

Routes proposed on Van Dyke as well as connections in the southern portion of the City are in highly dense, urban areas. These connections will likely be on-road facilities due to limited right-of-way and extensive curb cuts.
Significant public input regarding the Red Run Drain was gathered at the county-wide forums held during the planning process for this Master Plan and it was designated as a top priority connection by the public. Outstanding issues for future study include soils, property ownership and associated legal concerns, further public input, contaminated lands, and general design, grading and underpass issues. Segments of the route may need to deviate away from the Red Run Drain due to the above noted issues. The drain easement is one of the only remaining contiguous open spaces within the City of Warren.

Due to the extent and complexity of the outstanding issues, the Red Run Drain segment has been designated as a Special Study Area. A separate and detailed analysis of this corridor is necessary to determine the feasibility of implementation.
Proposed Routes and Outstanding Issues

**Route Description**

**Regional Corridors**
A regional corridor route is proposed along or near Jefferson Avenue and Lake St. Clair. This regional connection would provide connectivity south into Wayne County, north into Harrison Township and destinations along the way.

**County Connectors**
An east-west route is proposed along 12 Mile Road within the City of Roseville, south along Little Mack and east along 11 Mile Road to Jefferson Avenue.

**Local Connectors**
Eastpointe has indicated an interest in creating a local non-motorized connection along Gratiot Avenue. A local connector is also proposed along Hayes Road which is the border of Roseville, Warren and Fraser.

**Trail Head/Staging Area**
Eastpointe City Hall and the One-Water Place development in St. Clair Shores have been proposed as primary destinations within the county-wide system.

**Outstanding Issues and Considerations**

Route proposed along Gratiot Avenue is located in a highly dense, urban area. This connection will likely be an on-road facility due to limited right-of-way and extensive curb cuts. Where an on-road facility or trail within the right-of-way cannot be accommodated, it may be necessary to deviate away from the proposed route.

Lake St. Clair was identified as a primary resource and destination within the County, therefore, a regional corridor has been proposed within St. Clair Shores. While space limitations may prove difficult to resolve, a north-south connection, as close to the lake as possible, is a long-term preference. The existing 6-foot wide system along Jefferson Avenue may be utilized to provide pedestrian connectivity and connections to major destinations.
Proposed Routes and Outstanding Issues

Harrison Township

Regional Corridors
Two segments of the proposed regional corridor exist along the spillway and Metropolitan Parkway and Metro Beach. Routes are also proposed near Jefferson and along the I-94 right-of-way, west of the Selfridge Air National Guard Base.

Local Connectors
Harrison Township has proposed several local routes to provide connections to the regional system, the Clinton River and Lake St. Clair. Local routes are proposed along Jefferson, Lanse Creuse, Coleridge, Shoreline, South River and North River Roads.

Blueway Water Trail
The Clinton River, leading out to Lake St. Clair, within Harrison Township, has been designated as a potential blueway to provide for small watercraft and highlight the natural resource and history of the area.

Outstanding Issues and Considerations
Lake St. Clair, as well as Metro Beach, were identified as primary resources and destinations within the County, therefore, regional corridors have been proposed within Harrison Township. Coordination and additional conversations with MDOT and Selfridge will be necessary to determine the feasibility of a route within or near the I-94 right-of-way. The route location will need to ensure security measures and concerns at Selfridge.

Local routes proposed within Harrison Township are located in fairly dense, urban areas. Some of these connections may need to be on-road facilities due to limited right-of-way and extensive curb cuts.

Route Description

Legend
- Regional Corridor
- County Connector
- Local Connector
- Proposed Blueway
- Water Trail
- Special Study Areas
- Park
- Proposed Trail Head/Staging Areas

Source: Macomb County GIS

Regional Corridors
Two segments of the proposed regional corridor exist along the spillway and Metropolitan Parkway and Metro Beach. Routes are also proposed near Jefferson and along the I-94 right-of-way, west of the Selfridge Air National Guard Base.

Local Connectors
Harrison Township has proposed several local routes to provide connections to the regional system, the Clinton River and Lake St. Clair. Local routes are proposed along Jefferson, Lanse Creuse, Coleridge, Shoreline, South River and North River Roads.

Blueway Water Trail
The Clinton River, leading out to Lake St. Clair, within Harrison Township, has been designated as a potential blueway to provide for small watercraft and highlight the natural resource and history of the area.

Trail Head/Staging Area
The Huron-Clinton Metropolitan Authority, Metropolitan Beach is designated as a trail head and staging area within the county-wide system as is the area near Metropolitan Parkway and the Clinton River Spillway.
Proposed Routes and Outstanding Issues

Regional Corridors
A segment of a primary regional route is planned within the City of Mt. Clemens. A preferred route is along the I-94 right-of-way from Chesterfield Township south to North River Road. The route is then planned along the Clinton River in downtown Mt. Clemens where segments are already constructed. The regional corridor will then follow the Spillway toward Lake St. Clair.

County Connectors
An east-west route is proposed along Harrington Road, passing Mt. Clemens General Hospital and leading to Canal Park in Clinton Township.

Local Connectors
A local connector along Gratiot is proposed as the City works to improve the walkability of their primary commercial corridor.

Blueway Water Trail
The Clinton River within Mt. Clemens has been designated as a potential blueway to provide for small boats or other water vessels and highlight the natural resource and history of the area.

Outstanding Issues and Considerations

The City of Mt. Clemens is considered a primary destination and economic and cultural center within Macomb County and the region. The segment of the regional corridor system planned along the Clinton River is fundamental, however, several private properties exist along this segment within Mt. Clemens. As redevelopment along the river corridor continues, sufficient easements or dedicated public property should remain along the river to accommodate public space including a greenway/trail, landscaping and amenities (20 to 30 feet is preferred). It may also be necessary to provide separate systems for bicycles and pedestrians due to space constraints and safety provisions.

Significant comment was also gathered during public forums regarding a trail connection along the Clinton River from Canal Park in Clinton Township to downtown. This has been designated as a Special Study Area for further analysis and determination of feasibility.

Coordination of the county-wide non-motorized plan and the on-going redevelopment and improvements made to the Gratiot corridor is essential in accommodating connections into the larger system.
Proposed Routes and Outstanding Issues

Regional Corridors
The existing system along Metropolitan Parkway and the Spillway have been designated as regional routes due to their connections to Mt. Clemens and Metro Beach.

County Connectors
A route along Heydenreich, Cass, Moravian and Harrington has been proposed to provide connections to the northern communities as well as Mt. Clemens.

Local Connectors
Several local connections are proposed near Romeo Plank, 18 Mile, Clinton River Rd, Gratiot and Garfield. This will provide connections to the Civic Center, Budd Park, Canal Park and the Clinton-Macomb Public Library.

Blueway Water Trail
The Clinton River has been designated as a potential blueway to provide for small boats and other water vessels and highlight the natural resource and history of the area.

Trail Head/Staging Area
The Clinton Township Civic Center has been proposed as a trail head.

Outstanding Issues and Considerations

County and local connectors are proposed within fairly dense, urban areas. Some of these connections may need to be on-road facilities due to limited right-of-way and/or extensive curb cuts.

Walkability and non-motorized connections should be incorporated into the design and promotional elements being proposed along the Gratiot corridor. This is a major commercial center and destination for the Township.

Significant comment was gathered during public forums regarding a trail connection along or near the Clinton River (Clinton River Pathway) from Sterling Heights, through Clinton Township and into Mt. Clemens. This has been designated as a Special Study Area for further analysis and determination of feasibility (see following page).
Proposed Routes and Outstanding Issues

Sterling Heights, Clinton Township & Mt. Clemens

CLINTON RIVER PATHWAY SPECIAL STUDY AREA

A grass roots initiative is underway to establish a “Clinton River Pathway”. Advocates have proposed a non-motorized route along or near the Clinton River from Dodge Park in Sterling Heights to downtown Mt. Clemens. This segment of trail is proposed to link into the emerging Stony to MetroBeach Trail, and provide a northern route along the river into Mt. Clemens. The route through Mt. Clemens, Clinton Township, Sterling Heights, Shelby Township and Utica is proposed to utilize the riparian corridor where possible to provide access to the natural resources of the Clinton River as well as link the Edison Train Station in Mt. Clemens and the historic remnants of the Clinton-Kalamazoo Canal.

Legends:
- Regional Corridor
- County Connector
- Local Connector
- Proposed Blueway Water Trail
- # # # Special Study Areas
- Parks
- Proposed Trail Head/Staging Areas

Significant public input regarding the feasibility of the “Clinton River Pathway” was gathered at the county-wide forums held during the planning process for this Master Plan and it was designated as a top priority connection by the public. Outstanding issues for future study include property ownership, political support, further public input, coordination, consensus and support with and between the local entities, route determination, and general design, grading, materials and underpass issues. Segments of the route may need to deviate away from the Clinton River due to the above noted issues. The Clinton River corridor is one of the significant natural resources within the County. If feasible, trail development could assist with general clean up of the corridor, as well as raise public awareness of the natural resource and amenity within the community.

Due to the extent and complexity of the outstanding issues, and the fact that it does not have complete local government support at this time, the Clinton River Pathway segment has been designated as a Special Study Area. A separate and detailed analysis of this corridor is necessary to determine the feasibility of implementation.
Proposed Routes and Outstanding Issues

Local Connectors
Several Local connector routes have been proposed within the City of Fraser, all along or near road rights-of-way. These include Garfield, Mulvey, 14 Mile Road and Hayes.

Trail Head/Staging Area
The municipal complex in the center of the City of Fraser has been proposed as a trail head within the county-wide non-motorized system.

Outstanding Issues and Considerations
Coordination with Roseville, Warren and Clinton Township will be important to ensure connectivity with one another, and understand project status as well as location preference. Proposed routes are located in highly dense, urban areas. These connections may need to be on-road facilities due to limited right-of-way and extensive curb cuts.

Route Description
Several Local connector routes have been proposed within the City of Fraser, all along or near road rights-of-way. These include Garfield, Mulvey, 14 Mile Road and Hayes.
Proposed Routes and Outstanding Issues

Regional Corridors
The emerging system along the Clinton River and local parklands has been designated as a Regional Corridor. From Dodge Park, the City has indicated a route continuing along Schoenherr and connecting to Freedom Hill County Park and the Metropolitan Parkway system.

County Connectors
Two primary routes have been proposed including Metropolitan Parkway (16 Mile Road) heading west into Oakland County, and Troy's "Golden Corridor" as well as a north-south connection within the ITC corridor.

Local Connectors
Local connectors are proposed along 14 Mile Road as well as loops within local parks.

Blueway Water Trail
The Clinton River has been designated as a potential blueway to provide for small watercraft and highlight the natural resource and history of the area.

Trail Head/Staging Area
Dodge Park and Freedom Hill County Park have been designated as trail heads within the county-wide system.

Outstanding Issues and Considerations

Significant comment was gathered during public forums regarding a trail connection along or near the Clinton River (Clinton River Pathway) from Sterling Heights, through Clinton Township and into Mt. Clemens. This has been designated as a Special Study Area for further analysis and determination of feasibility. (See Clinton River Pathway Special Study Area Cut Sheet)

Significant discussion also took place at the public forums regarding a trail along the Red Run Drain. Particular issues included property rights, proximity to homes, and potential issues related to contamination. Further study would be necessary to determine feasibility of this route. (See Red Run Drain Special Study Area Cut Sheet)

The City recently finished construction of the regional trail on the south side of Utica Road from Schoenherr to Dodge Park Road. This allows users to travel non-stop from Metropolitan Beach to Dodge Park. The City has future plans to widen Utica Road to five lanes from Utica Road to Van Dyke. With this widening project, the City would like to finish installation of the path on both the north and south side of Utica Road. This would provide a local connection with Clinton Township at Hayes Road and a connection with the City Nature Center.
Regional Corridors
A regional route has been proposed to continue along the Clinton River corridor within the City of Utica, utilizing the existing non-motorized tunnel under M-59 and connecting to Shelby Township and Sterling Heights.

County Connectors
A segment of the north-south connector within the ITC utility corridor between Van Dyke and Schoenherr is located within Utica.

Local Connectors
The City has indicated a desire to provide a local connector route along M-59, connecting the regional and county corridors as well as passing through the City’s primary commercial district.

Trail Head/Staging Area
The City of Utica City Hall and associated property, north of M-59 and near the Clinton River is a proposed trailhead for the county-wide system.

Inclusion of the regional corridor along the Clinton River should be closely coordinated in early conversations related to any potential redevelopment or use, particularly of the sizeable vacant property on the east side of the river, north of M-59. A 20- to 30-foot easement for public use would be the preferred minimum, although a larger easement would be desirable to ensure adequate protection and buffer for the Clinton River.

Coordination with Sterling Heights and Shelby Township should occur to establish a trail alignment and easement language within the ITC corridor.
Proposed Routes and Outstanding Issues

Regional Corridors
Two regional corridors intersect in Shelby Township and serve as primary connections into Oakland County; the Macomb Orchard Trail near 24 Mile Road and the emerging Stony to Metro Beach route near the Clinton River and connecting Holland Ponds Park and River Bend Park.

County Connectors
A segment of the north-south connector within the ITC utility corridor between Van Dyke and Schoenherr is continued as well as an east-west route along 26 Mile Road. Routes are also designated along Dequindre and into Stony Creek Metropark.

Local Connectors
Local routes are designated along 22 Mile, 24 Mile, and Mound Roads to feed into the larger regional and county system.

Trail Head/Staging Area
Trail heads for the county-wide system are proposed at River Bend Park, Holland Ponds Park, as well as the intersection of the Macomb Orchard Trail and the Stony to Metro Beach system along the Clinton River.

Coordination with Utica and Sterling Heights should occur to establish a trail alignment and easement language within the ITC corridor.

Shelby Township has aggressively pursued funding sources and has been successful in developing significant segments of non-motorized trail, particularly within River Bend Park. Close coordination will be required with the City of Utica to establish an alignment and linkage, most likely on the east side of the Clinton River.
Proposed Routes and Outstanding Issues

Macomb Township

County Connectors
A north-south route is proposed along or near the North Branch of the Clinton River (north of 23 Mile) and Card Road, south of 23 Mile, to M-59. An east-west connection is proposed along 26 Mile into Wolcott Mill Metropark and west toward the Macomb Orchard Trail.

Local Connectors
Local connectors are proposed along Romeo Plank, 24 Mile Road, east of Hayes, and Broughton which provides a connection into the new Town Center.

Trail Head/Staging Area
The Town Center has been proposed as a trail head and staging area within Macomb Township due to the parks, municipal offices, recreation center, and planned neighborhoods and commercial areas.

Outstanding Issues and Considerations
The establishment of the Town Center, including the Township Hall, and the new 57,000-square-foot recreation center, as well as planned neighborhoods, parks and restaurants, are undoubtedly primary destinations for the community and surrounding areas. The provision of non-motorized connections to these facilities should be paramount and included early in the design and planning stages.

Macomb Township is one of the fastest growing communities in southeast Michigan with significant land planned and/or available for future development, particularly along the North Branch of the Clinton River, McBride Drain, and Coon Creek. Conversations with potential developers should occur early in the planning and design phase to ensure continuous public access and the provision of a non-motorized system that connects neighborhoods, adjacent communities, the Wolcott Mill Metropark and the Town Center. A 20- to 30-foot easement for public use would be the preferred minimum, although a larger easement would be desirable to ensure adequate protection and buffer for the various rivers, creeks and drains. Public input indicated a strong desire to establish the non-motorized system along or near the natural resources of the community.
Proposed Routes and Outstanding Issues

Regional Corridors
A continuation of the St. Clair County Bridge-to-Bay non-motorized project is proposed as a regional route within New Baltimore and Chesterfield. Traversing along or near Jefferson, then to Sugar Bush to connect to the Township Hall and parkland, to 21 Mile and then within or near the I-94 right-of-way. A regional route has also been designated along or near County Line Road to connect to the new High School and the City of Richmond.

County Connectors
New Haven-Washington Road from Gratiot into New Baltimore and connecting to Jefferson is a proposed County connection.

Local Connectors
Local connectors within New Baltimore and leading to various parks and facilities are proposed as connections along 24 Mile, Chesterfield, 25 Mile and Gratiot.

Trail Head/Staging Area
Pollard Park and Brandenburg Memorial Park in Chesterfield Township have been proposed as trail heads within the county-wide system.

Coordination and conversations with the Road Commission of Macomb County should begin to try and coordinate the provision of non-motorized facilities as plans to widen Gratiot, north to 26 Mile Road progress.

The Regional Corridor is proposed to veer away from Jefferson and onto Sugar Bush to maintain security concerns around Selfridge National Guard Base. This also provides a connection to the Township Hall and surrounding parklands.

I-94 is a significant physical barrier between the west and east sides of the community. Providing non-motorized connections to Pollard Park, as well as New Haven and Macomb Township, will be essential. Local connectors proposed in the northwest portion of the Township are along roads that are currently gravel with open drainage ditches on either side. Accommodating a non-motorized system may be difficult, however, if development begins to occur in these areas. It may be possible to work with developers to incorporate segments of the non-motorized connections.
Proposed Routes and Outstanding Issues

Regional Corridors
A regional route has been designated along or near County Line Road to connect to the new High School, the City of Richmond, and a proposed non-motorized system within St. Clair County.

County Connectors
M-19 (Gratiot) within New Haven and Lenox, leading into the City of Richmond, is a proposed County connection as is 27 Mile Road leading into Wetzel Park and Ray Township.

Local Connectors
Lenox Township recently updated and adopted their Recreation Master Plan and included potential local non-motorized connections along three ITC utility corridors that run the length of the Township (east-west), a connection along or near Coon Creek and Omo Road, as well as Forest, leading into the City of Richmond.

Outstanding Issues and Considerations
Coordination and conversations with the Road Commission of Macomb County will need to occur in the coming years regarding the provision of non-motorized facilities along Gratiot, particularly if plans arise for widening or improvements.

Coordination with the Michigan Department of Natural Resources will be essential to provide a non-motorized connection into Wetzel State Recreation Area. It is a beautiful natural resource amenity that has remained undeveloped and is utilized for hiking, hunting, snowmobiling and cross-country skiing. These other uses will need to be considered when locating non-motorized routes.

Discussions with ITC will need to occur to evaluate the feasibility of locating non-motorized routes with their utility corridors. It may also prove useful to discuss route alternatives and connectivity with Ray Township.
Proposed Routes and Outstanding Issues

Ray Township

Regional Corridors
No regional corridor is currently proposed within Ray Township, however, the Macomb Orchard Trail (regional corridor) is located just a few miles to the north and west in Washington and Armada Townships.

County Connectors
A significant north-south route is proposed to connect the Macomb Orchard Trail to the Wolcott Mill Metropark south to 26 Mile Road. This route is illustrated along Wolcott Road, south into the planned Metropark trail system. The connection between Wolcott Mill and the Macomb Orchard Trail should also accommodate equestrian use. An east-west route is also planned within an existing ITC electrical corridor connecting Wolcott Mill to the W.C. Wetzel State Recreation Area.

Local Connectors
An east-west local connector is proposed within an ITC electrical corridor between 29 and 30 Mile Roads, to provide a connection into Washington Township.

Trail Head/Staging Area
Wolcott Mill Metropark has been proposed as a trail head within the county-wide system.

Outstanding Issues and Considerations

Equestrians represent a large number of potential users in the northern portion of the County. There was considerable interest at public forums to incorporate equestrian trails into planning, design and construction efforts. The Macomb Orchard Trail (MOT), in Armada and Richmond Townships is planned to accommodate equestrians. Significant equestrian trails exist within Wolcott Mill.

Providing a trail connection that accommodates equestrians between these two amenities is a priority in Ray Township. There is potential for the connection between Wolcott Mill and the MOT to follow near the North Branch of the Clinton River rather than Wolcott Road. If airport expansion plans progress, this possibility should be further investigated.

There are also several ITC electrical corridors as well as gas easements within Ray Township. Although not currently identified as a priority connection, these corridors may prove to be viable, contiguous land areas where future trail connections could be accommodated.

Coordination efforts should continue between the Township, ITC, Wolcott Mill Metropark, W.C. Wetzel Park and adjacent communities.
Regional Corridors
The Macomb Orchard Trail is designated as a regional corridor as it traverses through Washington Township and into the Village of Romeo.

County Connectors
County Connectors are proposed along 26 Mile Road and within the Stony Creek Metropark.

Local Connectors
Local connections are proposed along Mound, 28 Mile Road, Camp Ground Road, 27 Mile and Jewell. These will improve the connectivity of the surrounding areas to the Macomb Orchard Trail and Stony Creek Metropark.

Trail Head/Staging Area
Stony Creek Metropark as well as two locations along the Macomb Orchard Trail (near 26 Mile and 28 Mile Roads) are planned as trail heads within the county-wide system.

The two primary destinations within the Township, particularly for non-motorized users, are likely to be the Stony Creek Metropark and the Macomb Orchard Trail. Implementing the Macomb Orchard Trail has been a successful challenge that will be a jewel to the community, county and region.

Future and on-going challenges will be the provision of local connections to and from the Macomb Orchard Trail and Stony Creek Metropark.
Proposed Routes and Outstanding Issues

Regional Corridors
The Macomb Orchard Trail is planned to continue from Washington Township into the Village of Romeo and then into Armada Township. In addition, a regional corridor has been proposed to connect Romeo and Bruce Township to Oakland County, toward Leonard and the Polly Ann Trail.

Local Connectors
The Village of Romeo has proposed designating local connections along Morton, Gates, Bailey and 32 Mile Road.

Trail Head/Staging Area
A trail head/staging area has been proposed along the Macomb Orchard Trail, just east of the Village of Romeo that will accommodate equestrian use as well as other non-motorized users.

Further coordination and discussion will be necessary with Ford Motor Company, the Village of Romeo, Bruce Township, Oakland County and the Polly Ann Trail Manager regarding a regional corridor. The 4,000-acre Ford Proving Grounds is bounded by 34 Mile, 36 Mile, Hipp and Dequindre, and occupies approximately 17% of Bruce Township.

Significant comment was gathered during public forums regarding a potential trail connection between the Macomb Orchard Trail and the Polly Ann Trail in Oakland County. Considerable interest in including equestrian use was essential due to the fact that the Polly Ann Trail is equestrian, the eastern portion of the MOT is planned for equestrians, and the Wolcott Mill Metropark includes equestrian trails. The vision is for a future link between these three systems. This link has been designated as a Special Study Area for further analysis, study, discussion and determination of feasibility (see following page).
The non-motorized Polly Ann Trail uses an abandoned P.O. & N. railroad corridor. It traverses 12.2 miles beginning in Orion Township in Oakland County and continues northeast through Oxford and Leonard to central Lapeer County. Permitted activities include hiking, biking, horseback riding and cross country skiing. A horse staging area has been constructed in the Village of Leonard (Oakland County) along the Polly Ann Trail.

No potential route locations to connect the Polly Ann Trail with the planned equestrian staging area along the Macomb Orchard Trail have been discussed or reviewed at this time.

Significant public input regarding the potential for a connection between the Macomb Orchard Trail and the existing Polly Ann Trail in Oakland County was gathered during the development of this Master Plan. Interest exists to provide non-motorized, including equestrian, connections due to the relative proximity of the Polly Ann system, the planned equestrian use of the MOT from Hayes, east to the City of Richmond, as well as the extensive equestrian trails within Wolcott Mill Metropark.

Due to the complexity of outstanding issues and the preliminary nature of the discussions that have taken place to date, this has been designated as a Special Study Area. No potential route locations have been discussed or reviewed at this time. The graphic on the map merely represents a desire for connectivity. Van Dyke is a significant physical obstacle, particularly for equestrian use. There may be a need to propose a route further north and even into Lapeer County if necessary. A separate and detailed analysis of a potential corridor is necessary to determine feasibility of implementation.
Proposed Routes and Outstanding Issues

Regional Corridors
The Macomb Orchard Trail runs along the southern portion of Armada Township, into the Village of Armada and then neighboring Richmond Township. This segment of the MOT is planned to accommodate multiple uses including equestrians.

County Connectors
A county connector is proposed to connect the MOT with the Wolcott Mill Metropark in Ray Township. This route is illustrated along Wolcott Road, Armada Ridge and Coon Creek. The connection between Wolcott Mill and the Macomb Orchard Trail should also accommodate equestrians.

Trail Head/Staging Area
A trail head/staging area has been proposed along the Macomb Orchard Trail, just east of the Village of Romeo that will accommodate equestrians as well as other non-motorized users.

Equestrians represent a large number of potential users in the northern portion of the County. There was considerable interest at public forums to incorporate equestrian trails into planning, design and construction efforts. The Macomb Orchard Trail (MOT), in Armada and Richmond Townships are planned to accommodate equestrians. Significant equestrian trails also exist within Wolcott Mill Metropark in Ray Township. Providing a trail connection that accommodates equestrians between these two amenities is preferred. There is potential for the connection between Wolcott Mill and the MOT to follow near the North Branch of the Clinton River rather than Wolcott Road, Armada Ridge and Coon Creek. If airport expansion plans progress in Ray Township, this possibility should be further investigated.

Significant comment was gathered during public forums regarding a potential equestrian trail connection between the Macomb Orchard Trail and the Polly Ann Trail in Oakland County. A future link between these three systems has been designated as a Special Study Area for further analysis, study, discussion and determination of feasibility (see Special Study Area Cut Sheet).
Proposed Routes and Outstanding Issues

Regional Corridors
The Macomb Orchard Trail runs from Armada Township along the southern portion of Richmond Township and into the City of Richmond where it terminates. This segment of the MOT is planned to accommodate equestrians. The regional corridor is proposed to continue along 32 Mile Road and along County Line Road to provide a connection into a planned system in St. Clair County.

County Connectors
A route along Gratiot, leading from the City of Richmond into New Haven has been proposed.

Trail Head/Staging Area
Two locations along the Macomb Orchard Trail (both near Armada Ridge in the Township and City) are planned as trail heads within the county-wide system.

Outstanding Issues and Considerations
Coordination efforts should continue between the City of Richmond and St. Clair County to ensure alignment and connectivity with a “South Connector” route that is in the early planning stages in St. Clair County. This South Connector will lead into the Bridge-To-Bay system along the St. Clair River.

Coordination and conversations with the Road Commission of Macomb County as well as Lenox Township will need to occur in the coming years regarding the provision of non-motorized facilities along Gratiot, particularly if plans arise for widening or improvements.
The key to successfully accommodating multiple modes of non-motorized transportation is to involve all users early on in the planning and design phase. This will ensure that the variety of needs based on user type are fully understood, and where feasible, incorporated into the final design and construction. With the exception of on-road bike lanes and already designated special purpose trails, the vast majority of routes within Macomb County are likely to be multi-use or multi-purpose. This could include a variety of users such as pedestrians, bicyclists, in-line skaters, equestrians, and those with strollers, wheel chairs, etc.

Designing and constructing trails and non-motorized systems is often as complicated as building roads. There are undoubtedly a number of agencies and groups that need to be involved in the planning and design process and multiple issues must be considered and resolved. The following pages provide guidance and example cross-sections for typical non-motorized sections and situations within Macomb County. While planning, designing and constructing a connected non-motorized system will require some continuity and coordination between communities to ensure quality and connectivity, there remains a strong desire for each community to have the ability to establish a uniqueness to the system. These are intended as guidelines only, although they are based on standards established by the American Association of State Highway and Transportation Officials (AASHTO), and other state agencies and non-motorized organizations. All mandated standards (outside of this document) that are required for construction, should be referenced at the time of design as they change and are updated.

Regardless of where a non-motorized system is built or who it is built by, users should expect a safe, user-friendly, and accessible system.
Trailway Planning and Design Steps

- Conduct Pre-Design Study
  - Locate utilities
  - Confirm right-of-way & property ownership
  - Identify outstanding issues and concerns
  - Meet with appropriate agencies and stakeholders
  - Gather public input
  - Identify unique features and potential connections
- Gain Right-of-Entry Permit If Not Public Property
- Walk and Stake Trail Centerline
- Gather Survey Data
  - Topographic data
  - Benchmarks/control points
  - Tree survey
  - Wetland edge delineations
  - Stream/river/water top of bank
  - Cross-sections of streams at bridge locations
  - Location of trail centerline
  - Existing structures
  - Property lines
  - Road right-of-way and curbs
  - Utilities
  - Existing abutments/piles
- Conduct Geotechnical Work to Determine Soil Conditions
- Develop Engineering Construction Design Drawings
- Obtain Permits, Necessary Reviews and Approvals
- Complete Bid and Specification Package
- Bid and Award Construction Project

General Design Guidelines

Nearly every accepted design guideline has exceptions, necessitated by local conditions, community desire, changing trends, intensity of use, and many other factors. However, design guidelines offer an easy-to-use summary of extensive design expertise, that allows for flexibility in dealing with site-specific issues without the rigid process associated with mandated standards.1

These design guidelines are not all inclusive. Typical guidelines that are most likely to apply to situations within Macomb County have been highlighted as a reference and starting point for communities and agencies to further their implementation efforts.

Typical Situations

General guidelines are provided for on-road bike lanes, non-motorized systems that are within road rights-of-way, but separated from traffic, routes within riparian corridors, utility corridors, as well as guidelines for the accommodation of equestrians.

Bike Lanes

It should be noted that the current Road Commission of Macomb County policy does not permit on-road bike lanes.

During design of road improvements, shared roadways require improvements that promote bicycle-safe design practices as described in the Guide for the Development of Bicycle Facilities (AASHTO), so that costly retrofits can be avoided. Several design features of roadways can be made more compatible to bicycle travel including bicycle-safe drainage grates, bridge expansion joints, rail crossing treatments, pavement textures, sight distances and signal timing and detector systems. All of these elements should be designed with the bicyclist in mind if the road corridor is to be shared safely and effectively. However, the most critical variable affecting the capability of a roadway to accommodate the bicycle is road width. Two means to providing adequate road width for both vehicular and bicycle travel are paved shoulders and bike lane restriping.

Paved Shoulders

Often roads are designed with a wide shoulder to enhance the service life of the road, facilitate drainage and maintain adequate sight distances. Paving of these shoulders is an effective means to prevent edge deterioration of the road surface as well as accommodate bicycle travel.

1 Iowa Trails 2000: Design Guidelines
Bike Lane Restriping
In urban areas, a wide curb lane is a cost-effective means to safely provide a designated section of the road for bicycles. The designation of a bike lane in pavement striping tends to minimize motorists from swerving to the left to avoid bicyclists that may be traveling along the curb lane. Bike lanes should be one-way facilities and carry bike traffic in the same direction as adjacent motor vehicles. A bike lane width of five feet is recommended and should only occur on the right-hand side of the travel lane. A wide lane of six to eight feet is recommended when larger vehicle traffic is numerous and higher vehicle speeds are permitted. A smooth riding surface is necessary as well as drainage and utility grates that are bicycle friendly and flush with the surface.

Bike lane pavement marking can be designated at the edge of the travel lane with a four-inch solid white line. Raised pavement markings and barriers can cause steering difficulties and, therefore, should be avoided. Bike lane pavement marking should never extend through the intersection and never cross pedestrian crosswalks.

Non-Motorized Design Resources


Manual on Uniform Traffic Control Devices

A Policy on Geometric Design of Highways and Streets “Green Book”, AASHTO.


Drainage Inlet Grates
Grate covers are potential obstructions to bicyclists and, therefore, may result in serious damage to the bicycle wheel and frame and/or injury to the bicyclist. Drainage inlet grates with slots parallel to the roadway or gaps between the grate and frame can trap the front wheel of a bicycle causing a loss of control. Several models of bicycle-safe and hydraulically-efficient grates are available in the marketplace so retrofitting is easily accomplished and relatively inexpensive.
Packing Stalls or Optional 4 in. Solid Stripe

6 in. Solid White Stripe

Vehicle Lanes

Packing  Bike Lane  Parking
3 ft. Min.  5 ft. Min.  3 ft. Min.

11 ft. Min.*

*13 ft. is recommended where there is substantial parking or turn over of parked cars is high

Vehicle Lanes

Bike Lane  Bike Lane
5 ft. Min.  5 ft. Min.

3 ft. Min.

6 in. Solid White Stripe

(With Curb and Gutter)  (Without Curb and Gutter)

Bike Lane  Bike Lane
5 ft. Min.  5 ft. Min.

6 in. Solid White Stripe

Vehicle Lanes

Bike Lane  Bike Lane
5 ft. Min.  5 ft. Min.

Rumble Strips**

** If rumble strips exist there should be 4 ft. minimum from the rumble strips to the outside edge of the shoulder
Successful Components of Non-Motorized Systems

- Scenic qualities offer an aesthetic experience that attracts cyclists and pedestrians
- Connect to land-uses such as shopping malls, downtown, schools and other community destinations
- Continuous separation from traffic by locating paths along a river or a greenbelt such as a rail-to-trail conversion, with few street or driveway crossings
- Well-designed street crossings with measures such as bike and pedestrian activated signals, median refuges and warning signs for both motor vehicles and path users
- Shorter trip lengths than the road network, with connections between dead-end streets or cul-de-sacs, or as short-cuts through open spaces
- Visibility, proximity to housing and businesses increases safety. Despite fears of some property owners, paths have not attracted crime into adjacent neighborhoods
- Good design by providing adequate width and sight distance, and avoiding problems such as poor drainage, blind corners and steep slopes
- Proper maintenance with regular sweeping and repairs. The separation from motor vehicle traffic can reduce some maintenance requirements, such as sweeping the debris that accumulates on roads.

Source: Oregon Department of Transportation

Paths shared by pedestrians and bicyclists need to be designed in accordance with AASHTO design requirements. In particular, the following design considerations should be used in planning for a shared-use facility.

- Horizontal and vertical alignment to ensure clear sight lines.
- Wide shoulders, two feet minimum on each side, to provide stopping and resting areas and allow for passing and widening at curves.
- Avoid view obstructions at edges of the trail by placing signs, poles, utility boxes, waste receptacles, trenches and other elements away from the edge of the path and using low-growing shrubs and groundcovers or high-branching trees.
- Use bicycle speed limits.
- Use delineation and separation treatments such as colored paving, textured paving, pavement markings, and signing.
- Use directional signing.
- It is recommended to sign and mark a four-inch wide solid line at the center of the path as well as edge lines when curves with restricted sight distances are experienced.

The minimum width of a shared path is 10 feet and possibly a 12-foot minimum in more heavily-used sections.

A separate, soft-surfaced jogging or equestrian path may be constructed using wood chips, compacted crushed gravel, or other resilient material, parallel to but separated from the paved shared-use path (see Equestrian Systems for more details).

Systems Separated from Motor Vehicles

Trails separated from motor vehicles can provide experiences for differing levels of accessibility. The level of accessibility depends to a great extent on the setting. In urban areas, full accessibility is typically expected. Therefore, easy access, smooth hard pavement, and easy gradient are the norm.

In more rural areas and primitively developed recreation areas, full accessibility is not expected. Trails tend to serve a varying level of accessibility and may have segments that use granular surfacing, steeper gradient and sometimes unpaved surfaces. Individuals are free to choose a trail that provides the recreation experiences and degree of challenge that they desire. A recent publication of the FHWA, “Designing Sidewalks and Trails for Access: Part II Best Practices Design Guide” provides information on trail design to accommodate a variety of users with disabilities. “Universal Access to Outdoor Recreation: A design Guide” USDA Forest Service, provides extensive design guidance related to outdoor recreation trails and includes a universal trail rating system to indicate level of accessibility.

Shared Use (Pedestrians and Bikes)

The mix of pedestrian and bicycles on multi-purpose trails is not without problems and can result in conflicts between different trail users. However, when design treatments are employed to address these potential conflicts, the majority of user problems can generally be avoided.
Shared Use Within Road Rights-of-Way

The compelling rationale for placing a non-motorized system within an existing right-of-way is typically, single, continuous ownership as well as access to various destinations. However, conflicts at intersections and driveways are a major concern on paths located adjacent to roadways. Motorists will often not see bicyclists or pedestrians coming toward them on the right, since they do not expect to see them going against the flow of traffic. AASHTO has documented numerous concerns related to this type of environment and several conditions should exist during planning and design.

- A minimum of five feet horizontal separation or a physical barrier (concrete divider and railing minimum of 3.5 feet high) from motor vehicle traffic.
- Development of bike lanes and sidewalks as an alternative to the shared use path is not feasible or permitted.
- There are no reasonable alternative alignment for bikeways and sidewalks on nearby parallel routes.
- The path can be terminated onto streets with good bicycle and pedestrian facilities at each end.
- There are popular origins and destinations throughout the corridor.
- The path can be constructed wide enough to accommodate all types of users, with delineation and separation techniques to minimize conflicts between users. (10 to 12 feet wide is desirable, 14 feet wide is optimum)

Systems Within Riparian Corridors

Riparian corridors and greenways are one of the preferred locations for the provision of non-motorized facilities and connections. However, consideration and potential impacts of the project to the natural environment must be considered for a project to successfully balance recreational, transportation and interpretive opportunities with protection of the greenway’s environmental assets. If constructing a trail within a riparian corridor, permits will likely be necessary prior to construction. Consultation with appropriate professionals and specialists to evaluate the most ecologically-sensitive alignment of the trail project is essential.

Except during flood events, riparian corridors are accessible for a variety of recreational pursuits and are a good choice for trail development. However, there are a few restrictions that need to be considered during project planning:

- Limit trails to one side of the river or stream, especially in sensitive areas.
- Route trails through areas of least habitat value i.e., disturbed areas and stands of invasive vegetation.

Example Trail Within Riparian Corridor (Rendering)

Example Trail Within Road Right-of-Way (Rendering)
• Avoid long stretches of path immediately adjacent to riverbanks.

• Avoid nesting areas of wildlife.

• Avoid wetlands if possible (development within these areas may fall under the regulation of the Michigan Department of Environmental Quality).

• Filling of floodplain and wetlands is prohibited.

• Avoid loss of mature trees and native vegetation.

• Route locations may need to divert away from the natural resource due to unresolved private property issues.

A primary design issue associated with trails in riparian corridors is trail surface treatments. In natural areas, such as floodplain forest basins, natural surface materials such as aggregates and crushed stone may be appropriate. They will need yearly maintenance after flood waters recede, but will have minimal impacts on the environment and adverse effects from flooding. Care should be taken to grade and compact the natural surface to a firm and stable state that is accessible to all users.

In urban areas, hard surfaced trails can provide important links in a non-motorized network and will experience heavier use. Trails should be surfaced with concrete or asphalt due to frequency and velocity of flood waters typical to the urban floodway. Aggregate surfaces should not be used. In areas that are periodically inundated or cross wetlands, boardwalks constructed on piles or piers that limit disturbance to the existing system are preferred. In all cases, erosion and sediment control measures are required during construction.

Equestrian Systems
Equestrian interest is particularly extensive in the northern portion of Macomb County. There is significant support by equestrian user groups to provide and accommodate horses within as many non-motorized systems as possible. The Macomb Orchard Trail is already slated to accommodate equestrians from just east of the Village of Romeo, east to the City of Richmond. The Wolcott Mill Metropark also has an extensive equestrian trail system.

Multiple uses can be safely accommodated within a non-motorized corridor provided there is adequate space, as well as appropriate design and signage. In terms of design, local equestrian groups should be consulted to ensure adequate setbacks, signage, etc.

Trails for horses have some flexibility in design. One of the most important consideration for equestrian trails is that the surface, minimizes injuries to animals and riders. Equestrian requirements should be considered when designing crossings, bridges and tunnels. Trails should be designed to avoid or limit the number of times a rider is required to dismount to avoid obstacles. If a rider is required to dismount, install mounting blocks or rest benches on each side. In addition, equestrian safety signage and awareness that trails are used by multiple forms of non-motorized transportation including feet, wheels, and horses is essential to improve safety and awareness.

Blueways and Water Trails
A designated blueway was discussed for the Clinton River as it traverses Macomb County. Blueways, or water trails, are specifically designed for small, non-motorized boats to access the local waterway, features and stopping points along the way, public parks and the area’s natural landscape. It is hoped that users could experience the ecosystem in the region and ultimately build and foster a respect, understanding, and stewardship of the natural resources. Water trails can also provide links to local culture, as well as interpret the environment and history of the area.

Blueways and Water Trails follow three primary principles:

1. **Environmental Enhancement**
   - natural resource conservation, preservation and restoration
   - volunteer resource stewardship by the users of the resource
   - sensitive, sustainable, no-impact use by individuals and business

2. **Community Livability**
   - citizen’s rights of access to public waterways and enjoyment of the resource
   - scientific, historical and cultural interpretation, appreciation and education
   - citizen involvement, local community involvement, action and pride

3. **Personal Wholeness**
   - health and wellness through outdoor exertion
   - character growth - building confidence and self-reliance through outdoor skills
   - growth through solitude, observation and communication with the wilderness

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**Preferred Equestrian Trail Guidelines**

<table>
<thead>
<tr>
<th>Trail Width</th>
<th>3 to 4 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleared Width</td>
<td>3 to 4 feet on each side of the trail</td>
</tr>
<tr>
<td>Vertical Clearance</td>
<td>10 feet</td>
</tr>
<tr>
<td>Desirable Grade¹</td>
<td>0% - 10%</td>
</tr>
<tr>
<td>When Adjacent to</td>
<td>4 feet on one side of asphalt</td>
</tr>
<tr>
<td>Asphalt Trail</td>
<td>permits safe passing</td>
</tr>
<tr>
<td>Surface Materials</td>
<td>Dirt, grass, wood chips, crushed limestone, asphalt when necessary</td>
</tr>
</tbody>
</table>

Source: Oakland County Equestrian Info CD 12-03
Iowa DOT: Iowa Trails 2000
A map is the key element to a water trail. The map should identify paddling routes, describe difficulty levels, identify public lands, warn of hazards and communicate rules and regulations. It is a critical guide providing information to visitors. To prevent inadvertent use of private lands, a water trail map should clearly and accurately indicate all public lands and rest areas. Water trail guides can educate the visitor about conservation concerns and entice paddlers to learn about natural and historic features. It should also provide information regarding low-impact use and regulations to protect and enhance natural and heritage resources.

Printing the water trail guide on synthetic, waterproof paper creates a map and guide that is assured to last through wet conditions.

Water Trail Design and Management Considerations

- Designate and clearly sign legal access points and public land at reasonable intervals to minimize landowner concerns.

- Promote ‘leave no trace’ ethics or provide adequately maintained facilities to mitigate for environmental impacts from improperly disposed human waste, large groups and littering.

- Ensure adequate access to parking at river put-ins. Information and access are two big issues to improve trail system usage.

- Manage a river experience. The quality of the natural environment and uncrowded river conditions are important to paddlers. These aspects of the river experience are vital for all management actions.

- Explore the history of the waterway and interpret these stories to paddlers in creative ways. Trail users often have an interest in the history and environment of the community, and can help to support museums, nature centers and other cultural assets. The interpretation of history and linkages with the past is a marketable concept.

- Offer a variety of accessible activities. Paddlers are often interested in easy access to downtown, restaurants, campgrounds and bed and breakfasts, in other outdoor recreation experiences and learning about local history and culture. Successful paddle destinations offer diverse activities with a wide variety of opportunities.

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Recommended Dimensions For Non-Motorized Trails and Paths

<table>
<thead>
<tr>
<th>Trail/Pathway Element</th>
<th>Recommended Dimensions</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECREATION TRAILS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved Pedestrian-Only Trail Width</td>
<td>5 ft minimum 6 ft desirable</td>
<td>These trails are for exclusive use by pedestrians.</td>
</tr>
<tr>
<td>Unpaved Pedestrian-Only Trail Width</td>
<td>2 ft minimum 4 — 6 ft desirable</td>
<td>Best as limited purpose facility in rural or semi-primitive areas; can provide interim solution; minimum width should only be used in constrained areas.</td>
</tr>
<tr>
<td>Unpaved Shared Use Trail Width</td>
<td>6 ft minimum 8 — 10 ft desirable</td>
<td>Only suggested as an interim solution and not appropriate for high use trails; best in rural or semi-primitive areas.</td>
</tr>
<tr>
<td>Vertical Clearance</td>
<td>8 ft minimum 10 ft desirable</td>
<td>Additional clearance improves visibility. Ten feet is minimum when equestrian use is expected.</td>
</tr>
</tbody>
</table>

| **SHARED USE NON-MOTORIZED SYSTEMS** | | |
| Shared Use Path Width | 10 ft minimum 12 ft desirable 14 ft optimum | Minimum width should only be used where volumes are low and sight distances are good; width should be based on relative speed of users; higher speed users (bicyclists and skaters) require greater widths. |
| Roadway Separation | 5 ft minimum | Minimum separation for parallel, adjacent path; a physical barrier should be installed where minimum separation cannot be met. |
| Shoulders | 1 ft minimum (peds. Only) 2 ft minimum (shared use) | Shoulders provide pull-off/resting and passing space; should be graded to the same slope as the path; minimum shoulder width of 1-foot should only be used in constrained areas. |
| Clear Zones | 1 ft minimum* 2 ft desirable* | Clear zones are additional lateral clearance on each side of the path beyond the shoulders. All obstructions (e.g., trees, signs, etc.) should lie outside of the clear zones. |
| Vertical Clearance | 8 ft minimum 10 ft desirable | Additional clearance improves visibility. |

*If less than (4 ft.) total lateral clearance is provided (including shoulder) between the edge of trail, and there is a vertical grade drop greater than (30 in), steeper than 2:1, railing may be required.

Source: Georgia Department of Transportation Pedestrian and Streetscape Guide
• Access points (landings) should be situated at maximum intervals of 5 miles.
• Camping and sanitary facilities should be situated at maximum intervals of 20 miles.
• Portages should be kept to a minimum, but, where required, should consist of established landings and a well-drained, natural surface trail that is free from branches, brush, or other obstacles.
• Accurate information on the route should be available, including river maps, mileage between services, level of difficulty, and current water levels. This information should be updated frequently.
• Signage should be included to direct users to the river, and to inform users on the river. Uniform directional signage should be placed on nearby roadways to advertise landing locations. Uniform signage should be installed along the river to advertise landings, camping facilities, portages, and hazards.

Other Non-Motorized Considerations
In addition to the general design guidelines and cross-sections for each typical situation, a variety of other issues must be considered during the design and implementation of a non-motorized system.

Materials
Hard, all-weather pavement surfaces are usually preferred over those of crushed aggregate, sand, clay or stabilized earth. These materials provide a much lower level of service and require higher maintenance. However, operating agencies that have chosen crushed aggregate as their surface material have found that they can achieve a completed path in less time and at less cost than with asphalt or concrete. In areas that are subjected to frequent or even occasional flooding or drainage problems, or in areas with steeper terrain, unpaved surfaces will often erode and are not recommended.

Designing and selecting pavement sections for shared-use paths is in many ways similar to designing and selecting highway pavement sections. A soils investigation should be conducted to determine the load-carrying capabilities of the native soil, unimproved shoulder or former railroad bed. Paths should be designed to sustain, without damage, wheel loads of occasional emergency, patrol, maintenance and other motor vehicles expected to use or cross the path. Pavements should be machine laid; soil sterilants should be used where necessary to prevent vegetation from erupting through the pavement. On Portland cement concrete, the transverse joints necessary to control cracking, should be saw cut to provide a smooth ride. However, skid resistance qualities should not be sacrificed for the sake of smoothness. Broom finish or burlap drag concrete surfaces are preferred.

Crushed stone (gravel) provides a smooth, firm, durable surface that can also be suitable for trails with high use requirements. Crushed stone surfaces are more easily repaired than asphalt surfaces and the patched areas do not show. Gravel trail surfaces are suitable for a wide range of trail activities. Clay-gravel mixtures provide a trail surface that approaches asphalt or concrete in consistency and helps reduce the spreading seen on gravel only trails. Gravel surfaces can become very dusty. Avoid attempts to remedy the situation with chemicals, such as calcium chloride (CaCl), because the chemicals will kill vegetation along trail edges.

Crushed limestone is similar to gravel surfaces. Limestone is generally rolled to provide a smooth surface suitable for most uses, but must be graded regularly to maintain an even tread. Use construction procedures similar to those for gravel surfaces.

Railroad Crossings
When railroad crossings are required, the trail should cross at a right angle to the tracks as much as possible. If this is not possible, consideration should be given to the following options:

1. Widening the approaching roadway, bike lane or shoulder will allow the user to cross at approximately 90 degrees without veering into the path of overtaking traffic. The minimum amount of widening should be six feet; however, eight feet is desirable, depending on the amount of available right-of-way. Adequate tapers should be provided.

2. On low-speed, lightly-traveled railroad tracks, commercially available flangeway fillers can eliminate the gap next to the rail. The filler normally fills the gap between the inside railbed and the rail. When a train wheel rolls over it, the flangeway filler compresses. This solution, however, is not acceptable for high-speed rail lines, as the filler will not compress fast enough and the train may derail.

3. In some cases, abandoned tracks can be removed, completely eliminating the problem.

4. If no other solution is available, warning signs and pavement markings should be installed in accordance with the Michigan Manual of Uniform Traffic Control Devices (MMU TCD). A warning sign with an appropriate subpanel message (e.g., Bike Cross at Right Angle) may provide sufficient warning for bicyclists.
Structures
An overpass, underpass, bridge, or facility on a highway bridge may be necessary to provide connectivity and continuity to the developing non-motorized system. For new structures, the minimum clear width should be the same as the approach paved shared use trail, plus the minimum 2-foot wide clear areas. As an example, a 10-foot wide paved path would require a 14-foot wide bridge to provide the required clearance areas. Access by emergency, patrol and maintenance vehicles should also be considered in establishing design clearances of structures along a trail system. A vertical clearance of 10-feet is desirable for adequate vertical shy distance. On all bridge decks, special care should be taken to ensure that bicycle-safe expansion joints are used, and that decking materials that become slippery when wet are avoided.

Signage
Signage is an essential element for a successful non-motorized system. While it is assumed that, in most cases, each local entity will design and implement signage for a system segment within their jurisdiction, coordination and some consistency in signage and way-finding will be of utmost importance.

Signage and way-finding can provide educational and/or interpretive directional, informational, regulatory, awareness, or warning messages. All traffic control devices must conform to the “Manual on Uniform Traffic Control Devices” (MUTCD) and be coordinated with the Macomb County Road Commission and/or MDOT. All bikeway signing and striping plans should also be reviewed by a traffic engineer and coordinated and approved by the applicable road agency.

Signage and way-finding coordination should not only occur with communities within Macomb County, but also with communities and agencies in adjacent counties. Several of the proposed or constructed non-motorized segments connect into adjacent counties where signage consistency is already being discussed and/or developed.

Maintenance
Developing maintenance guidelines and standards will be essential in assuring the safety and continued life of the non-motorized system. Repairs may be as minor as fixing a pothole in an asphalt trail or as major as the complete renovation of an entire trail section. Low areas that hold or channel water need to be repaired as soon as possible. Areas that have not held or channeled water in the past may begin to do so due to increased runoff from nearby development. If not addressed immediately, these areas can spread and damage large sections of trails. As is recommended as a short-term action, communities and entities within Macomb County should develop a consistent, minimum maintenance guideline for the entire system.

Routine Trail Tasks
Routine maintenance tasks are all directed to extending the life expectancy of trails, providing a high quality product to trail users, and ensuring the safety of trail users. Routine maintenance and inspection of the trail system also minimizes repair and renovation costs.

- **Trail Inspection**
  Trails must be inspected on a routine basis. Inspections should include the trail surface, any culverts and water crossings, all amenities, signs, and surrounding vegetation. User safety should always be the primary consideration of any inspection. Potential safety problems should always take precedence when scheduling maintenance. Vandalism left unattended encourages more of the same and should likewise be a high priority for maintenance. Graffiti and “tagging art” should be documented with incident reports and police should be notified, then the graffiti removed or covered as soon as possible. Inspections may also need to be done after severe weather events or storms.

*Fairfax County Trail Maintenance Standards.*
• Mowing
Mowing should be done on a regular basis to prevent trails from becoming overgrown. Brush and grass that grow along trails should not be allowed to grow to excessive heights within two feet of the edge of the trail surface.

• Tree and Brush Pruning
Pruning is performed for the safety of the trail user and to protect the trail and other assets located along the trail. Proper pruning also allows mowing operators to do a thorough and safe job. Inspectors need to be trained to identify potential hazards and to determine what can be handled by staff and what will require the attention of a private contractor.

• Leaf and Debris Removal
Keeping the trail surface clean is one of the most important aspects of trail maintenance. Mud and other sediment should be removed along with fallen leaves and branches to ensure the safety of users and to increase the life expectancy of the trail itself.

• Snow and Ice Removal
Decisions should be made early on as to whether trails will be cleared of snow and ice. Snow and ice should be removed, particularly from trails used by children going to and from school sites.

• Cleaning and Replacement of Culverts
Culverts often become clogged with trash and debris that must be removed to prevent flooding and undercutting of trail surfaces. Culverts may also need to be upgraded in size or replaced because of deterioration or increased storm water flow due to increased surrounding development.

• Maintenance of Water Crossings
Water crossings can be bridges, fair weather crossings, or open box culverts. Debris needs to be removed on an as-needed basis from these structures to allow for free flow of water and to reduce the risk of flooding. These structures need to be inspected on a regular basis for erosion control and action taken accordingly to preserve or replace the structure.

• Repairs to Signs and Other Amenities
These repairs may include kiosks, wood and metal signs, benches, etc. These amenities need to be kept in safe and aesthetically pleasing condition. Items that fall into disrepair often become the target of vandals. Repairs should be completed as quickly as possible to discourage vandalism.

Safety Considerations
Safety considerations should be at the forefront of design decisions for any non-motorized project. Several design guidelines and suggestions have been made within this chapter as they relate to improving and ensuring safety for users. The combination of a multitude of factors assists in developing and maintaining a safe non-motorized system. These include elements such as bicycle safe drainage grates, and providing adequate clearance along the edges of trails, paths and bike lanes. Considering pavement textures, sight distances, design speeds, proper striping and signage go a long way to help make non-motorized systems safe. Choosing an appropriate type of trail based on the situation and conditions is also important. For example, when there are a significant amount of curb cuts, it is typically much safer to have on-road bike lanes rather than trails off road, but within the right-of-way. Providing access points and adequate room for emergency and maintenance vehicles is also important to trail safety. Proper and regular maintenance of non-motorized systems is essential when it comes to providing a safe and enjoyable system.

Permits
Permits are necessary for every trail or greenway project. The specific permits that may be required vary greatly depending on the circumstances and location of the project. Obtaining permits almost always requires the assistance of a professional and the timing it takes to develop and obtain permits must be built into the design and construction timeline.

<table>
<thead>
<tr>
<th>Regulatory Approval</th>
<th>Reviewing Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 106 Clearance</td>
<td>State Historic Pres Office</td>
</tr>
<tr>
<td>NEPA</td>
<td>MDOT/Federal Highway</td>
</tr>
<tr>
<td>Floodplain Impacts</td>
<td>FEMA/MDEQ</td>
</tr>
<tr>
<td>Inland Lakes &amp; Streams</td>
<td>MDEQ</td>
</tr>
<tr>
<td>Construction Permits</td>
<td>Local Jurisdiction</td>
</tr>
<tr>
<td>Erosion &amp; Sediment Control</td>
<td>Drain Commission</td>
</tr>
<tr>
<td>Section 404</td>
<td>Army Corps of Engineers</td>
</tr>
<tr>
<td>Wetland Impacts</td>
<td>MDEQ/MDNR</td>
</tr>
</tbody>
</table>
Agency Policies and Contacts
During the process of developing this master plan, several meetings and communications took place with a wide variety of agencies that will have an influence on the development of a non-motorized system in Macomb County.

International Transmission Company
The International Transmission Company (ITC) transmits high-voltage electricity throughout southeast Michigan. ITC owns and operates the vast majority of electrical transmission corridors in Macomb County. The ITC corridors, particularly one running north and south on the west side of the County from Warren to Washington Township, as well as corridors in Lenox and Ray Townships, have been identified as potential non-motorized routes. In several places, these corridors are the only remaining contiguous land under single ownership. ITC considers itself an environmental and community asset to the areas they serve and they have an established corporate policy intended to encourage public development of their corridors and rights-of-way for bicycle and pedestrian paths.

In general, use of their corridors must be for non-motorized purposes and no permanent structures such as play equipment or park benches are permitted within the easement. Bike or pedestrian facilities are limited to ten feet in width and should be located at the edge of ITC’s corridor. No part of the path can be located closer than twenty feet from any transmission tower. If this requirement cannot be met, the community will be responsible for the installation of an 8-foot chain link fence around the tower.

The local community is responsible for maintenance of the trail. ITC will continue to mow the corridor area, however, if greater frequency is desired, the community can provide its own mowing of the area ten feet either side of the trail. Insurance and indemnification requirements are necessary and will be included in final executed easement agreements.

To begin the review process, drawings of the proposed location of the path should be submitted to ITC for review by their Real Estate and Engineering Departments. If feasible, ITC can grant a right-of-entry permit so that the centerline of the trail can be staked and surveyed prior to final easement language being drafted and executed.

Road Commission of Macomb County
The Road Commission of Macomb County (RCMC) maintains more than 1,500 miles of road, more than 800 traffic signals, and 60,000 signs. The RCMC is not part of the general County government and is funded directly by the State, through Motor Fuel Taxes and Vehicle Registration fees. The RCMC completed the Road Commission of Macomb County Long Range Master Plan 2003-2028. The vision of the plan is to improve the quality of life for users of the transportation system by utilizing transportation to shape desired development patterns, enhance the community, and promote economic vitality. At this time, the RCMC does not allow for on-road bicycle lanes on their facilities. The Commission has accommodated off-road trails within County road rights-of-way.

Michigan Department of Transportation
The Michigan Department of Transportation (MDOT) Macomb TSC office is located in Sterling Heights. The office has participated in the development of this Trailways Master Plan and is aware of the proposed routes within or near MDOT rights-of-way and properties. MDOT has indicated a willingness to discuss non-motorized planning and specifics of preferred routes as they develop throughout the County.

Red Run Inter-County Drain Board
The Red Run Inter-County Drain Board has representatives from the State of Michigan, Oakland County and Macomb County who are responsible for maintaining the Red Run Drain as well as review, on a case-by-case basis, any proposed uses or crossings of the drain and the associated easement.

Macomb County Public Works Office
The goal of the Macomb County Public Works Office is to help protect the environment of Macomb County for all its residents. Their primary function is to direct the construction and maintenance of storm water drains, sanitary sewers, and water supply systems. They also have the responsibility of controlling soil erosion, reviewing subdivision plats for property drainage, and operation of County flood control and anti-pollution facilities. Improving the quality of water in the Clinton River and Lake St. Clair is also a function of the Office and is accomplished through combined sewage overflow basins, the metropolitan sewerage system, a soil erosion program, as well as regular testing of County drains, the Clinton River and Lake St. Clair.

The Public Works Office has participated in the development of this Trailways Master Plan with particular interest in corridors proposed near the lakes, rivers, creeks, and drains within the County. The Public Works Office sees the development of a non-motorized system within riparian corridors as an opportunity to implement associated Best Management Practices as required under the National Pollutant Discharge Elimination System (NPDES) Permitting Program.
Agency Contact Information

International Transmission Company
39500 Orchard Hill Place
Novi, Michigan  48375
Attention: Barbara Mention
248.374.7257

Macomb County Road Commission
117 S. Groesbeck Highway
Mount Clemens, Michigan  48043
Attention: Robert Hoepfner
586.463.8671

Macomb County Public Works Office
115 S. Groesbeck Highway
Mount Clemens, Michigan 48043
Attention: Lynne Yustick
586.469.5325

Michigan Department of Transportation
Macomb TSC
38257 Mound Road
Sterling Heights, Michigan  48310
Attention: Drew Buckner, Manager
586.978.1935

Red Run Inter-County Drain Board
Public Works Building 95 West
One Public Works Drive
Waterford, Michigan 48328
Attention: John P. McCulloch, Drain Commissioner
248.858.0958
The Macomb County Trailways Master Plan is a long-term vision for a connected non-motorized network both within Macomb County and within the larger, emerging regional system. Implementation of this vision will require extensive effort on the part of multiple agencies, departments, and organizations. As has been witnessed by the effort, coordination and funding that has produced the implementation of the Macomb Orchard Trail, the eventual construction of connecting county-wide non-motorized segments will require extensive cooperation and resources. Trails and greenways are not implemented overnight. This Master Plan, however, is intended to provide a foundation and vision for communities to reference as they continue to develop and contemplate future development patterns, road projects, land acquisitions, economic development strategies, resource protection, community health and education opportunities.

The corner stones for successful implementation of this Master Plan are cooperation, coordination, and relentless focus on the overall goal of connectivity. The implementation strategies contained on the following pages are actions that will serve to move the creation of a connected, non-motorized system closer to reality. This portion of the Master Plan in particular, should be reviewed and updated on a regular basis as priorities shift, recommended actions are completed, and costs and funding opportunities change.
Role of the County Department of Planning and Economic Development

Macomb County provided funding and obtained funding assistance from MDOT to facilitate development of this county-wide non-motorized transportation plan. The County approached the development of the plan as a facilitator, fiduciary and resource. The County has looked to the individual local units of government to provide their plans and recommended routes for inclusion in the county-wide plan. The County has served to facilitate the resolution of “gaps” in the emerging system, however, the County does not intend to dictate or mandate the final location or implementation of the non-motorized system. This plan is a resource that will provide local agencies with tools and information to respond to their own individual needs.

The County Department of Planning and Economic Development will continue to assist communities that request guidance. The Department will also be the repository for non-motorized efforts and updates to the GIS layers, databases and maps. The County also intends on facilitating continuing meetings regarding the county-wide system. The County, however, does not intend on implementing or lobbying for routes that are not supported (either formally or informally) by the local unit of government that they traverse. This does not mean that the County will not meet with local units of governments, agencies and stakeholders to attempt to resolve outstanding issues, discuss route locations, attempt to ensure connectivity, or provide guidance based on experience. The County looks forward to continuing to serve in a leadership position and as an entity that has the ability and responsibility to engage in planning, design and construction efforts that will benefit the County as a whole as well as ensure Macomb County’s inclusion in the materializing regional system.

Recommended Actions

The following actions will assist in furthering implementation efforts for a connected non-motorized system within the County and southeast Michigan.

- Local communities and the County should amend Land Use, Transportation, and Recreation Master Plans to include the Macomb County Trailways Master Plan. Proposed developments should be designed in a manner that is consistent with the adopted plans for the area or community.

- Raise the level of awareness of the Plan both internally with County staff as well as with local units of government, regional, state and national agencies. Eventual design and construction of the non-motorized corridors will require involvement, cooperation and support of many departments and agencies.

- Develop a coordinated signage and wayfinding plan for the non-motorized system that allows for local flare while providing some visual consistency for the user.

- As segments of the system are proposed for construction, it will be necessary to develop a continued and dedicated maintenance program and associated funds. This is imperative to ensure the long-term success of the network.

- A map of the proposed non-motorized system should be updated and published on an annual basis to ensure accurate information is available and to celebrate progress. The master plan that is currently being developed is fluid and dynamic. Overtime, it is fully anticipated that the map and plan will be outdated as communities are continuously working to build non-motorized trail segments or alter their local plans based on technical issues, land acquisitions, political agendas, etc.

- Awareness of grant opportunities should remain high. Local agencies should pursue funding and grant prospects on a regular basis to advance those segments of the system that are within their jurisdiction and/or boundaries.

- Incorporate and coordinate non-motorized goals and plans with the Macomb County Road Commission, MDOT and SEM COG.

Several segments of the planned non-motorized system are within road rights-of-way, or cross over or under road rights-of-way. Significant coordination with MDOT and the Road Commission of Macomb County will need to occur on a continual basis to discuss potential for providing space for non-motorized facilities or accommodating non-motorized facilities within a planned design and construction project. This includes rehabilitation and/or replacement of bridges. The local communities and Macomb County Planning & Economic Development must stay aware of road rehabilitation, widening and design projects and compare them to proposed non-motorized connections.

All transportation projects receiving federal funding in southeast Michigan are identified in the Transportation Improvement Program (TIP) which is posted and updated on the SEM COG website (www.sem cog.org). The TIP represents the priorities of cities and transportation agencies for implementing the 2025 Regional Transportation Plan (RTP). It should be noted that SEM COG has begun development of the 2030 RTP, that is anticipated for adoption in November 2004. For a community or agency to receive federal highway or transit funds, the project must first be in the Regional Transportation Plan. To get in the TIP, projects pass through a rigorous technical review that determines the impact on our community’s air quality and minority populations and the financial feasibility of the project. The current TIP provides projects for the years 2004 through 2006. Many of the projects currently listed in the TIP are either under construction or very near completion of design, therefore, if non-motorized facility accommodation has not taken place to date, it may prove more difficult to coordinate as road/bridge projects near completion. Projects identified in the current TIP and RTP that may have some effect on the emerging non-motorized system have been listed. This is not a complete listing of projects. The complete TIP and RTP should be reviewed and project details and applicability discussed with the jurisdiction. Local communities, and the Macomb County Department of Planning and Economic Development should ensure considerable involvement and review of TIP amendments as well as the development of the
## SEMCOG TIP Projects Near Proposed Non-Motorized System

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Name</th>
<th>Limits</th>
<th>Proposed Work</th>
<th>Project Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mt Clemens</td>
<td>Crocker Blvd Bridge @ Clinton River</td>
<td>Resurface deck, new wall &amp; railing, replace sidewalks</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>Mt Clemens</td>
<td>Dickinson Bridge over Clinton River</td>
<td>Bridge rehabilitation</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>RCMC</td>
<td>Gratiot 24 Mile to 25 Mile</td>
<td>Widen from 2 to 5 lanes</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>RCMC</td>
<td>Harper 11 Mile to 12 Mile</td>
<td>Resurface</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>MDOT</td>
<td>I-696 4 bridges on 696, Warren</td>
<td>Replace decks and overlays</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>MDOT</td>
<td>I-94 4 Bridges on I-94</td>
<td>Overlays</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>MDOT</td>
<td>I-94 4 Bridges on I-94</td>
<td>Superstructures and substructure repairs</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway Gratiot to Harper</td>
<td>Reconstruct, add 1 lane each direction</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway Groesbeck to Gratiot</td>
<td>Widen from 4 to 6 lanes</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway Utica to Garfield</td>
<td>Widen from 4 to 6 lanes</td>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>RCMC</td>
<td>Romeo Plank Rd Bridge over Gloede Drain</td>
<td>Rehab bridge</td>
<td>2004</td>
<td></td>
</tr>
</tbody>
</table>


RMC = Road Commission of Macomb County

MDOT = Michigan Department of Transportation

long-range transportation plan as they relate to the proposed non-motorized system.

- The non-motorized stakeholder group that has assisted in developing this Master Plan needs to work to identify or establish a “formal” non-motorized advisory council, committee or group. To date, the stakeholder group has been informal and has served well in the development of this Master Plan. However, as implementation progresses, it will become evident and necessary for a formal advisory group to exist that has established goals and a regular meeting schedule to oversee and discuss implementation and updating of the Master Plan.

- General maintenance guidelines should be developed so that there is some expected consistency within the system. While it is likely that individual communities will be responsible for segments within their boundaries, each community should follow a uniform minimum maintenance guideline.

### RCMC Bridge Program Work Plan

**2005**
- Shelby over Conrail Shelby
- Bridgeview over Clinton River Harrison
- Hagen over Deek Creek Chesterfield
- 33 Mile over Ward Drain Richmond
- 34 Mile over Cemetery Creek Richmond
- Bordman over EB Coon Creek Armada
- Lowe Plank over Tributary Salt River Lenox
- Irwin over EB Coon Creek Armada

**2006**
- 14 Mile over Red Run Drain Warren/Sterling Heights
- Chapman over Deer Creek Macomb
- Lowe Plank over Salt River Lenox
- Irwin over Coon Creek Armada
- 27 Mile over NB Clinton River Ray
- 28 Mile over NB Clinton River Ray
- 30 Mile over NB Clinton River Ray

Source: Macomb Co Board of Commissioners Bridge Program Update. October 2003.
## SEMCOG 2025 Regional Transportation Plan Projects Near Proposed Non-Motorized System

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Name</th>
<th>Limits</th>
<th>Proposed Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCMC</td>
<td>Multiple miles of County-wide gravel roads</td>
<td>Pave</td>
<td></td>
</tr>
<tr>
<td>Warren</td>
<td>13 Mile Road</td>
<td>Dequindre to Ryan</td>
<td>Widen to 5 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>15 Mile Road</td>
<td>Groesbeck to Harper</td>
<td>Widen to 5 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>County Line Road</td>
<td>Green to 25 Mile</td>
<td>Resurface</td>
</tr>
<tr>
<td>RCMC</td>
<td>Critical Bridges</td>
<td>County-wide</td>
<td>Replace, rehab</td>
</tr>
<tr>
<td>RCMC</td>
<td>Garfield</td>
<td>14 Mile to 16 Mile</td>
<td>Widen to 5 lanes</td>
</tr>
<tr>
<td>St. Clair Shores</td>
<td>Jefferson</td>
<td>10 Mile to Riovista</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>St. Clair Shores</td>
<td>Jefferson</td>
<td>Hoffman to NCL</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>St. Clair Shores</td>
<td>Jefferson</td>
<td>Riovista to Hoffman</td>
<td>Reconstruct</td>
</tr>
<tr>
<td>St. Clair Shores</td>
<td>Jefferson</td>
<td>SCL St. Clair Shores</td>
<td>Reconstruct to Marter</td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway</td>
<td>Dodge Park to Schoenherr</td>
<td>Widen from 4 to 6 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway</td>
<td>Groesbeck to I-94</td>
<td>Widen to 6 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway</td>
<td>Schoenherr to Utica</td>
<td>Widen from 4 to 6 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Metro Parkway</td>
<td>Utica to Groesbeck</td>
<td>Widen from 4 to 6 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Mound</td>
<td>Shelby to 26 Mile</td>
<td>Widen to 5 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Romeo Plank</td>
<td>21 1/2 Mile to 23 Mile</td>
<td>Widen from 2 to 5 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Romeo Plank</td>
<td>Hall to 21 1/2 Mile</td>
<td>Widen to 5 lanes</td>
</tr>
<tr>
<td>RCMC</td>
<td>Romeo Plank/Cass</td>
<td>Hall to Halsey</td>
<td>Widen to 5 lanes</td>
</tr>
</tbody>
</table>

RCMC = Road Commission of Macomb County
MDOT = Michigan Department of Transportation
Additional Tools and Strategies For Implementation

There are a number of techniques and methods that communities and agencies across the country have utilized to assist in implementation of a connected, non-motorized system. When public spaces and connections are implemented in a system-wide approach, they can provide a central focus for new development, serve as a catalyst for private investment, and contribute to the creation of a coherent framework of open space amenities. As has been described, it is hoped that Macomb County communities will amend their local plans, ordinances, site plan standards, and policies to incorporate the county-wide vision. Coordinating both public and private sector planning of green space and non-motorized systems will ensure a connected system with a multitude of destinations and amenities. Non-motorized systems and connections should be incorporated at all levels of planning including conceptual planning, site plan review, planned unit developments, cluster development projects, etc. To work toward accomplishing this, a few strategies have been described with illustrations on the following page.

- Work with developers to encourage the inclusion of pedestrian or non-motorized connections as part of their development. Ensure the smaller system is connected, or can be linked in the future, to the larger emerging county and regional systems. Examples around the country include Stapleton, Colorado, and Haile Plantation in Florida. These developments incorporated extensive open space and non-motorized systems to ensure connectivity within the development as well as with adjacent land uses and amenities.

  Open space systems can be designed to meet multiple needs including storm water drainage and treatment, wildlife habitat, as well as active and passive recreation. The site's topography, drainage flows, corridors and channels should be used to give structure and form to the overall site plan.

- Work with developers and property owners to discuss the county-wide non-motorized vision and associated benefits. Meet with property owners and developers early to discuss voluntary trail easements or dedications of land so that planned segments of the system can be incorporated.

- Develop ordinance language that addresses non-motorized system connectivity and provides guidance and regulations for including and building upon the county-wide vision. This can include language for developer provision of easements and development of critical non-motorized segments.

- Non-motorized systems typically have the support of numerous nonprofit organizations that have a demonstrated ability to maintain and construct trails. These groups not only can provide tools, equipment, and labor to supplement government efforts, but also help by organizing community events, conducting fundraising activities, participating in grant application preparation, and soliciting donations of money, land, or easements from property owners.

  As community members and trail advocates, they understand the issues and concerns of property owners. They can serve as community “trail ambassadors” that can answer many property owner questions regarding liability, associated costs and potential tax reduction for their donation.¹

¹San Diego County Trails Program
Example conceptual plan that includes non-motorized system and connections to adjacent neighborhoods and land uses.


Phasing Priorities

As has been stated, this master plan represents a long-term vision that may not be fully implemented for 20 plus years due to a variety of reasons including funding, politics, feasibility, public involvement and overall community priorities.

Regional System

A hierarchy within the non-motorized system has begun to develop with regional corridors, and county and local connectors. Implementation of any segment of the proposed system is a step toward recognizing the goals of the plan, however, implementation of the regional corridors should take highest priority as these systems connect major destinations and are an integral part of the larger southeast Michigan system. In the same vain, implementation of the county connectors would be the second highest priority, and so on.

Public Forum Priorities

Regional Corridor Priorities
- Macomb Orchard Trail
- Stony to Metro Beach
- Red Run Drain
- Clinton River Pathway

County Connector
- 26 Mile Road
- North-South Ray Twp Corridor
- Clinton River Pathway
- Gratiot (New Haven to Richmond)
- Metropolitan Parkway (Freedom Hill to Dequindre)

Local Connector
- Garfield Road
- Clinton River Pathway
- East-West Ray to Washington Twp

Special Study Areas

Three areas have been designated as “Special Study Areas” due to the complexity of issues that remain outstanding. These include a connection between the Macomb Orchard Trail and the Polly Ann Trail, the Clinton River Pathway and the Red Run Drain. Each of these potential segments are likely to require significant “master planning” and detailed data collection in and of themselves. Due to the level of effort required and the possible significance and importance of these connections, it is recommended that these special studies be undertaken as soon as possible.

Population Change

<table>
<thead>
<tr>
<th>Macomb County</th>
<th>717,400</th>
<th>788,149</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armada village</td>
<td>1,548</td>
<td>1,573</td>
<td>2%</td>
</tr>
<tr>
<td>Armada twp</td>
<td>2,943</td>
<td>5,246</td>
<td>78%</td>
</tr>
<tr>
<td>Bruce twp</td>
<td>4,193</td>
<td>8,158</td>
<td>95%</td>
</tr>
<tr>
<td>Center Line city</td>
<td>9,026</td>
<td>8,531</td>
<td>-5%</td>
</tr>
<tr>
<td>Chesterfield twp</td>
<td>25,905</td>
<td>37,405</td>
<td>44%</td>
</tr>
<tr>
<td>Clinton twp</td>
<td>85,866</td>
<td>95,648</td>
<td>11%</td>
</tr>
<tr>
<td>Eastpointe city</td>
<td>35,283</td>
<td>34,077</td>
<td>-3%</td>
</tr>
<tr>
<td>Fraser city</td>
<td>13,899</td>
<td>15,297</td>
<td>10%</td>
</tr>
<tr>
<td>Harrison twp</td>
<td>24,685</td>
<td>24,461</td>
<td>-1%</td>
</tr>
<tr>
<td>Lake twp</td>
<td>101</td>
<td>80</td>
<td>-21%</td>
</tr>
<tr>
<td>Lenox twp</td>
<td>3,069</td>
<td>5,362</td>
<td>75%</td>
</tr>
<tr>
<td>Macomb twp</td>
<td>22,714</td>
<td>50,478</td>
<td>122%</td>
</tr>
<tr>
<td>Memphis city (pt)</td>
<td>896</td>
<td>807</td>
<td>-10%</td>
</tr>
<tr>
<td>Mount Clemens city</td>
<td>18,405</td>
<td>17,312</td>
<td>-6%</td>
</tr>
<tr>
<td>New Baltimore city</td>
<td>5,798</td>
<td>7,405</td>
<td>28%</td>
</tr>
<tr>
<td>New Haven village</td>
<td>2,335</td>
<td>3,020</td>
<td>29%</td>
</tr>
<tr>
<td>Ray twp</td>
<td>3,230</td>
<td>3,740</td>
<td>16%</td>
</tr>
<tr>
<td>Richmond city</td>
<td>4,141</td>
<td>4,896</td>
<td>18%</td>
</tr>
<tr>
<td>Richmond twp</td>
<td>2,528</td>
<td>3,416</td>
<td>35%</td>
</tr>
<tr>
<td>Romeo village</td>
<td>3,520</td>
<td>3,721</td>
<td>6%</td>
</tr>
<tr>
<td>Roseville city</td>
<td>51,412</td>
<td>48,129</td>
<td>-6%</td>
</tr>
<tr>
<td>St. Clair Shores city</td>
<td>68,107</td>
<td>63,096</td>
<td>-7%</td>
</tr>
<tr>
<td>Shelby twp</td>
<td>48,655</td>
<td>65,159</td>
<td>34%</td>
</tr>
<tr>
<td>Sterling Heights city</td>
<td>117,810</td>
<td>124,471</td>
<td>6%</td>
</tr>
<tr>
<td>Utica city</td>
<td>5,081</td>
<td>4,577</td>
<td>-10%</td>
</tr>
<tr>
<td>Warren city</td>
<td>144,864</td>
<td>138,247</td>
<td>-5%</td>
</tr>
<tr>
<td>Washington twp</td>
<td>11,386</td>
<td>19,080</td>
<td>68%</td>
</tr>
</tbody>
</table>

Population Density

US Census data from 1990 and 2000 for Macomb County indicates an overall growth in population by 10%. This is greater than the State of Michigan as a whole, which grew by 7%, and the same as neighboring Oakland County. Population by census tract illustrates those areas that have the greatest density of population within the County. As depicted on the map on the following page, south of M-59, generally has the greatest population density. This area is the most “urban” area within the County and many communities, such as Warren, Eastpointe, Fraser, Centerline, Roseville, Mt. Clemens, Clinton Township and St. Clair Shores are nearly built out with little remaining land available for open space and/or development. With respect to non-motorized transportation planning and implementation, these areas have unique issues and constraints. Many places have limited rights-of-way, there are a significant number of curb cuts along many of the main thoroughfares, and little, contiguous open space or property remains under single ownership. In most cases, non-motorized transportation must be retrofitted into an already established infrastructure and development pattern.
Macomb County Trailways Master Plan
Population Growth Pressure
The population density map demonstrates areas within the County that have the greatest numbers of people per square mile, however it does not show which areas of the County that are receiving the greatest amount of growth pressures. The second map illustrates the percent change in population, by community, from 1990 to 2000. This clearly reveals population growth is occurring at high percentages in many of the northern communities. Lenox Township population increased by 175% and Macomb Township by 122%. Other communities such as Armada, Bruce, Chesterfield, and Washington Townships also experienced significant increases in population between 1990 and 2000. These areas, while still considered “rural” in comparison to the southern portion of the County, are attempting to manage significant growth pressures. In terms of non-motorized transportation planning and implementation, these areas have the greatest opportunity, although it is diminishing with each day that passes, to establish preferred non-motorized routes that can be implemented as roads are expanded, as stream and river corridors are protected, as development occurs, and as funds become available. In many places, large pieces of land are still under single ownership, or plans to acquire additional right-of-way are only in the discussion phase. This makes the opportunity ripe to include planning for the space to accommodate non-motorized transportation connections.

Probable Cost Estimates
Implementation of the vision for Macomb County is envisioned to take several years, however the planning of the network is an ongoing effort both at the local and county level of government. A major consideration during the planning for the implementation phase of the Master Plan is cost. Cost will influence the type of materials and construction, the phasing of the improvements and the potential funding sources. This section of the Master Plan provides a summary of probable costs for implementation. The costs are derived from a variety of sources and are intended to illustrate magnitude of costs and estimates for the purpose of capital expenditure planning by local communities and special interest groups. The costs indicated are a starting point in planning for the cost of implementation. More detailed engineering design, analyses and site-specific design data must be collected as part of a more detailed design phase and prior to funding requests being submitted.

<table>
<thead>
<tr>
<th>Estimated Cost Per Mile For Non-Motorized Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surface Material</strong></td>
</tr>
<tr>
<td>Granular Stone</td>
</tr>
<tr>
<td>Asphalt</td>
</tr>
<tr>
<td>Concrete</td>
</tr>
<tr>
<td>Boardwalk</td>
</tr>
<tr>
<td>Resin Stabilized</td>
</tr>
<tr>
<td>Wood Chips</td>
</tr>
<tr>
<td>1-3 Years</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Cost Estimates For Retrofitting Existing Road Sections For Bike Paths</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paved Shoulder Per Mile</strong></td>
</tr>
<tr>
<td>4 feet each side</td>
</tr>
<tr>
<td><strong>Bike Lanes Per Mile</strong></td>
</tr>
<tr>
<td>5 feet each side with curb and gutter</td>
</tr>
<tr>
<td><strong>Wide Curb Lane Per Mile</strong></td>
</tr>
<tr>
<td>2 feet each side</td>
</tr>
</tbody>
</table>

Source: Adapted from Virginia Department of Transportation, 2000.

<table>
<thead>
<tr>
<th>Typical Annual Maintenance Costs For One-Mile Paved Trail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drainage and storm channel maintenance</strong></td>
</tr>
<tr>
<td><strong>Sweeping/blowing debris off trail</strong></td>
</tr>
<tr>
<td><strong>Pick-up/removal of trash</strong></td>
</tr>
<tr>
<td><strong>Weed control and vegetation management</strong></td>
</tr>
<tr>
<td><strong>Mowing of grass shoulder</strong></td>
</tr>
<tr>
<td><strong>Minor repair to trail furniture/safety features</strong></td>
</tr>
<tr>
<td><strong>Maintenance supplies for work crews</strong></td>
</tr>
<tr>
<td><strong>Equipment fuel and repairs</strong></td>
</tr>
<tr>
<td><strong>Total Estimated Cost Per Mile</strong></td>
</tr>
</tbody>
</table>

Possible Funding Sources
Potential funding sources for non-motorized planning, design and construction change and evolve on a regular basis. Understanding available funding programs, their requirements and deadlines requires continuous monitoring. A few of the more common funding sources have been detailed here as a reference and resource. The next few pages are by no means all inclusive.

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

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. There is no minimum or maximum for acquisition projects. For development projects, the minimum funding request is $15,000 and the maximum is $500,000. Applications are due in April and August for acquisition projects and April for development projects. (Although in 2004 the August deadline was also open to development projects). Potential revisions to the Trust Goals and Evaluation Criteria are currently being discussed at the state level.

Land and Water Conservation Fund
The Land and Water Conservation Fund (L WCF) 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 M NRTF program.

Transportation Enhancement Funds (MDOT)
The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) established a fund for Transportation Enhancement Activities. Transportation Equity Act for the 21st Century (TEA-21) of 1998 continued this program through the year 2003. Legislation for a new Transportation Bill is currently under negotiation at the Congressional level. The Transportation Equity Act for the 21st Century (TEA-21) defines a bicycle transportation facility as “a new or improved lane, path, or shoulder for use by bicyclists and a traffic control device, shelter, or parking facility for bicycles.” To be eligible for TEA-21 funds, projects must either be associated with a roadway and consist of:
- Paved shoulders 4 or more feet wide
- Curb lane width greater than 12 feet
- Bike lanes; and/or,
- Pedestrian facilities

or be separate from roadways and consist of:
- Multi-use paths at least 10 feet wide;
- Path/trail user amenities;
- Facility grade separations; and/or,
- Bicycle parking facilities

A minimum 20% local match is required for proposed projects and applications are accepted on an on-going basis with awards made twice a year. Eligible Transportation Enhancement work items include:
- Property acquisition
- Grade separation structures
- Grade preparation and surfacing
- Pavement marking and signage
- Trail heads

As of summer 2004, MDOT was in the process of improving the Enhancement Program and revising the application process. Currently, applications can be submitted at any time.

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

REI, Inc.
The outdoor store and company, REI, Inc., dedicates a portion of its operating profits to help protect and restore the environment, increase access to outdoor activities, and encourage involvement in muscle-powered recreation. REI employees nominate organizations, projects, and programs in which they are personally involved to receive funding or gear donations. REI does not accept unsolicited grant requests and proposals. The company calls on their employees to nominate non-profit organizations for REI grants. Recent grants range from $2,000 to $25,000.

Community Foundation for Southeastern Michigan: GreenWays Initiative
The Community Foundation for Southeastern Michigan solicits, receives and manages charitable contributions from individuals, families, corporations, other foundations and nonprofit organizations. These financial resources are used to make grants that benefit the quality of life in the region. In addition to providing support for nonprofit organizations, the Community Foundation
The GreenWays Initiative is a comprehensive effort aimed at expanding and enhancing the region’s natural landscape. The initiative is about linkage, leverage and collaboration. The objectives of the program are to:

- Build awareness in southeast Michigan about the value of greenways.
- Build the capacity of non-profits and government agencies to help them engage in future greenway projects.
- Help local governments and nonprofit organizations construct and implement greenways projects.

The two types of grants offered are:

- GreenWays Predevelopment Grants
  Predevelopment activities such as engineering studies, design, activities to increase collaboration, final planning work, etc. Range from $5,000 to $100,000.

- GreenWays Land Grants
  For the physical creation of greenways, including in-ground construction, renewal of habitat, planting of native species, trail construction, waterfront restoration, etc. Range from $25,000 to $1 million and require matching funds at a 2 to 1 ratio.

Applications are due by June 1st and December 1st. Decisions of award are typically within three months of the deadline. For additional details, deadlines, grant programs/funds available, go to www.cfsem.org.

The Trust for Public Land

Founded in 1972, the Trust for Public Land is the only national nonprofit working exclusively to protect land for human enjoyment and well-being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities. TPL’s legal and real estate specialists work with landowners, government agencies and community groups to:

- Create urban parks, gardens, greenways, and riverways
- Build livable communities by setting aside open space in the path of growth
- Conserve land for watershed protection, scenic beauty, and close-to-home recreation
- Safeguard the character of communities by preserving historic landmarks and landscapes.

In the past few years, the TPL has assisted with several projects in Michigan, including financial assistance to ensure the acquisition of the Macomb Orchard Trail.

KODAK Grants Program

Kodak, The Conservation Fund, and the National Geographic Society, provide small grants to stimulate the planning and design of greenways in communities throughout America. The annual grants program was instituted in response to the President’s Commission on Americans Outdoors recommendation to establish a national network of greenways. 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. Grants may be used for activities such as: mapping, ecological assessments, surveys, conferences, design activities, developing brochures, interpretive displays, planning, hiring consultants, etc. Maximum grant is $2,500, however, most grants range from $500 to $1,500. For more information go to www.conservationfund.org.

Cool Cities Grant Pilot Program

The Governor’s Cool Cities Initiative is about reinventing Michigan’s cities to be attractive places to live for an increasingly diverse group of residents. The pilot program promotes investment in neighborhoods that have, or are moving to create, higher density, a mix of residential and commercial uses, mixed income housing, and a pedestrian-friendly environment. The program combines more than 100 of the state’s community improvement grants, tax credits, loans and assistance programs into a single resource toolbox that can be used by cities and communities for revitalization projects. In 2004, the first year of the program, Warren was selected as an awardee for their City Square Project, a two-acre urban park that will contain a fountain and ice rink. For more information go to www.coolcities.com.

Strategies of Successful Grant Applications

Compiling and writing a successful grant application is not an easy task, particularly when funds for non-motorized projects in Michigan are highly competitive. There are several things that should be kept in mind when deciding whether or not to apply for funding assistance, and when developing a grant application.

Know the Funding Source

Do your homework up front and fully understand the goals and purpose of the funding agency. This is essential in determining whether or not your project has a high likelihood of being considered for funding. Funding is extremely competitive. Understanding the funding source will require work up front, but could save you the time of completing an entire application if your project scope is not appropriate. This upfront work could also change your project scope and can definitely make your application stronger.

Talk With the Funding Agency

When at all possible, talk with a representative of the funding agency either via phone, or better yet, in person to discuss your project before investing time and resources in completing a grant application. Be prepared to show photos and a map of your proposed project. This meeting or discussion will help you make a final decision as to whether or not you should submit an application. This will also make the funding agency aware of your project and will give them some context and understanding when reviewing your application.
Collaborate
It is essential, particularly in non-motorized planning, design and construction projects, to collaborate with multiple agencies, organizations and departments. Meet early on with adjacent communities, with adjacent property owners, and other interested parties. Gather their input and incorporate it into the grant application and design. Include letters of support from the various partnerships you have developed. Funders are looking for projects with collaboration and broad support that will improve a community and provide benefits to an expansive cross-section of the population.

Start Early
The time it takes to assemble a high-quality grant application is often underestimated. Meeting with potential partners, gathering letters of support, generating solid cost estimates, developing graphics, taking photographs, holding public hearings, getting resolutions of support from governing bodies and discussing your project with potential funders takes a considerable amount of time. Deciding to submit a grant application three weeks before it is due will likely not yield a strong submittal and chances for success are lessened. Be aware of funding opportunity due dates and make decisions to assemble an application package at least two to three months prior to the due date.

Be Clear and Concise
Assume the reader and evaluator of your grant application has never been to your community and that they know very little about your efforts to date. In your grant application, describe your project scope and benefits, and include photographs and graphics that clearly and concisely illustrate your project. If it’s part of a bigger project, describe the bigger project, but make it very clear as to the exact scope and elements that you are requesting funding for. Set the stage and paint the picture for the application reviewer. What’s clear to you may not be clear to someone who has never been to your community or never walked the proposed trail route.

Cost Estimates
Enlist help and assistance from someone who has experience in designing and constructing non-motorized systems to develop a cost estimate to include in your grant application. This is a difficult task because often times you will be attempting to generate a cost estimate based on a loose concept plan. You may not have completed soil investigations, you may not have preliminary engineering completed, you may not know the exact route or location of the trail, or fully understand the extent of necessary permits, length of boardwalk necessary, or cost of construction design drawings. If awarded a grant, your community will be held to the funding amount requested in your application. Any cost overruns are typically the responsibility of the grantee, not the grantor. It is essential to ensure you have developed conservative cost estimates and are capable of providing the local match. You don’t want to be in the situation of having to return grant funds because you underestimated the cost of the project and now don’t have sufficient local funds to complete it.