



AKLAND COUNTY TRAILS MASTER PLAN



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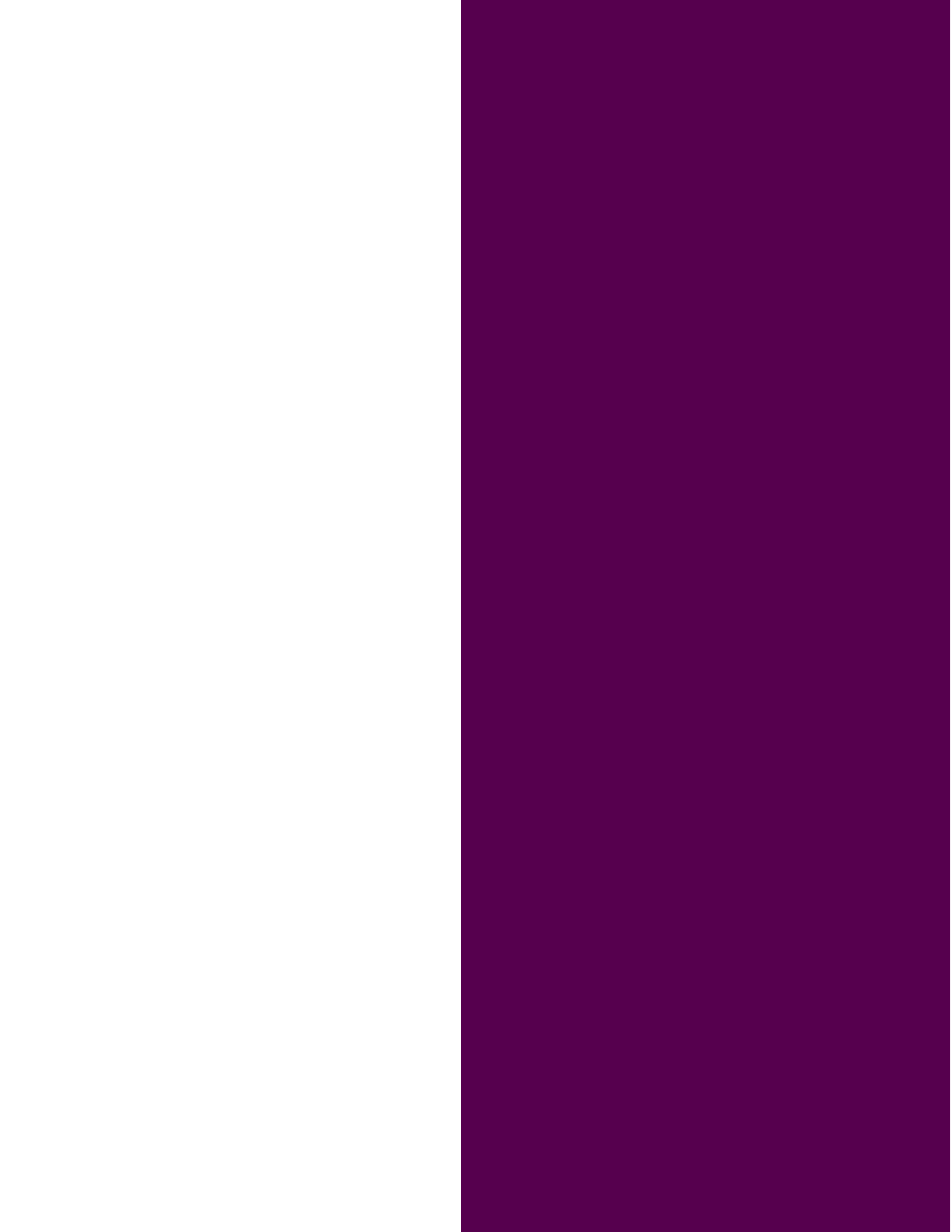
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E XECUTIVE SUMMARY

THE OAKLAND COUNTY TRAILS MASTER PLAN HAS BEEN DEVELOPED TO PROVIDE A FRAMEWORK FOR CREATING A CONNECTED SYSTEM OF GREENWAYS AND TRAILS THROUGHOUT OAKLAND COUNTY. THIS NON-MOTORIZED SYSTEM IS ENVISIONED TO SERVE A DIVERSE RANGE OF USERS, PROVIDING SAFE AND WELL-MAINTAINED LINKAGES TO IMPORTANT NATURAL, CULTURAL AND CIVIC DESTINATIONS AND OTHER POINTS OF INTEREST WITHIN AND OUTSIDE OF THE COUNTY.

The development of the Trails Master Plan was overseen by the Oakland Trails Advisory Council, Oakland County Parks and Recreation Department and Oakland County Planning & Economic Development Services. These agencies serve in a leadership role in the development of a connected non-motorized system, but rely on the determined efforts of numerous local agencies, trail commissions, friends groups and property owners for trail implementation. To date, 95 miles of completed trails stretch across Oakland County, with 13 miles in the planning, design and development stage and another 146 miles of trails under consideration.



OAKLAND COUNTY TRAILS

Non-motorized trail systems are developed or are being planned throughout the County for use by a wide variety of trail users.

The major existing trail routes in Oakland County include:

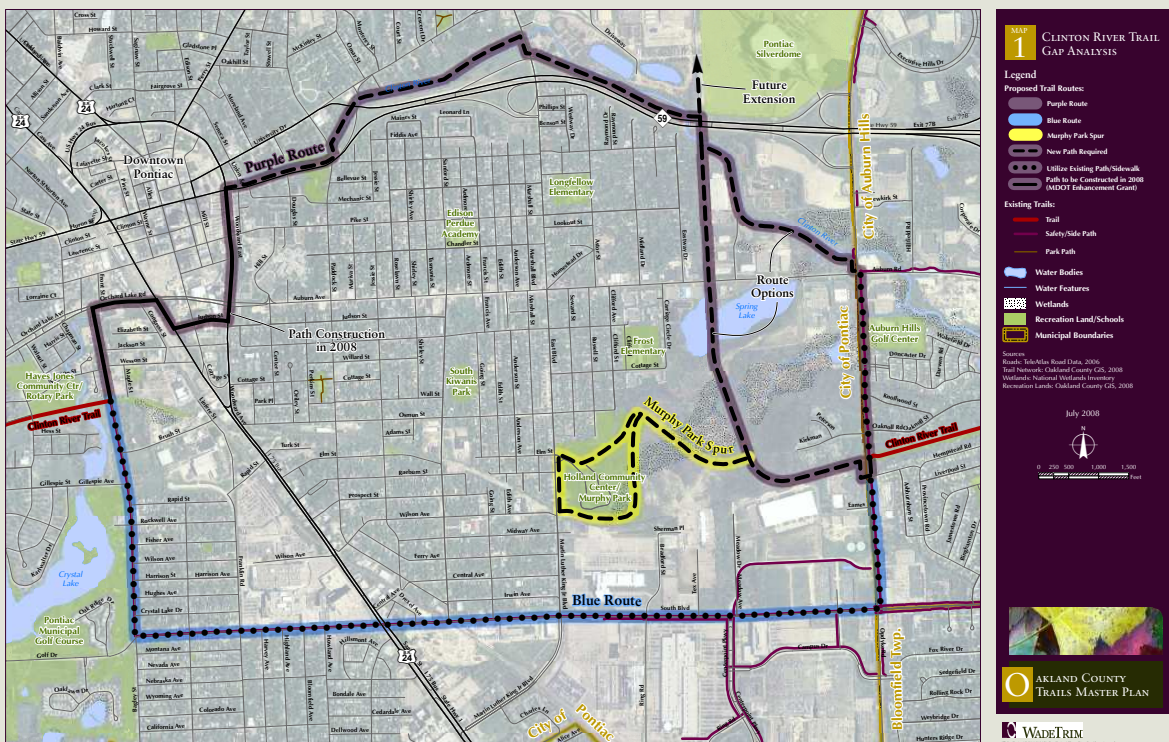
- I-275 Bike Path
- Polly Ann Trail
- Paint Creek Trail
- Clinton River Trail
- West Bloomfield Trail
- Lakes Community Trail
- Huron Valley Trail
- Headwaters Trails

These major trails are complimented by a substantial network of secondary pathways and greenways that extend throughout the County. Each with a specific purpose and design, Oak-

land County's current and planned non-motorized network employs a hierarchical system of pathways, as noted below:

1. Trail
2. Safety/Side Path
3. Sidewalk
4. Bike Lane
5. Bike Route
6. Park Path
7. Water Trail

An important focus of the Oakland County Trails Master Plan is the bridging of several primary "gaps," or critical missing links that exist in the major trail system, including:



GAP ANALYSIS

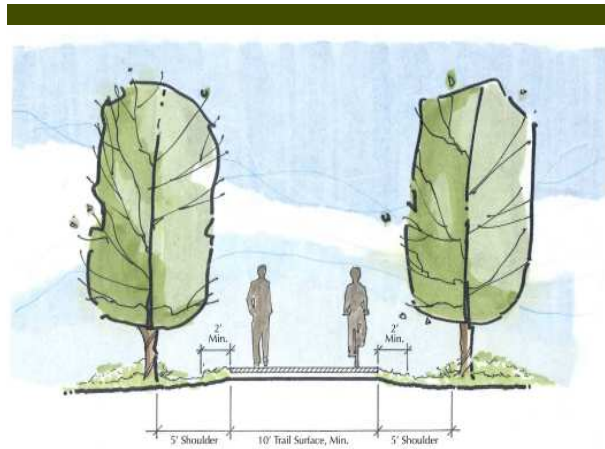
Alternative routes are identified and assessed for four of the critical missing links within Oakland County. This map shows the alternative routes to bridge the Clinton River Trail gap within Pontiac.

- Clinton River Trail (through Pontiac)
- Paint Creek and Polly Ann Trails
- West Bloomfield, Lakes Community, and Huron Valley Trails

These gaps were evaluated and discussed in great detail during the development of the Master Plan. For each gap, several prospective connector routes were identified and assessed based on their opportunities and constraints. In the end, it was determined there may not be a “preferred” route to bridge each gap; rather, it was found that multiple connector routes should be developed. The implementation of several connector routes for each gap will provide users with different trail experiences and provide an overall benefit to the system users, owners and communities.

Additionally, the lack of an urban trail network within the heavily urbanized southeastern portion of Oakland County was identified as a significant gap in the system. Therefore, the Trails Master Plan addresses the ongoing efforts to implement a greenway along the Woodward Corridor.

The Trails Master Plan includes a design element to serve as a resource and reference guide for county agencies, local communities, trail agencies, and stakeholder groups with regard to planning, design and construction of the non-motorized network.



DESIGN GUIDELINES

Design guidelines for various non-motorized facility types, such as this shared use trail, serve as a reference guide for planning, design and construction.

The Action Plan section of the Oakland County Trails Master Plan provides focus for the County and local agencies and identifies short- and long-term action items to continue progress and implementation. A funding component of the Action Plan serves as a foundation for future grant applications and funding requests.





1 INTRODUCTION

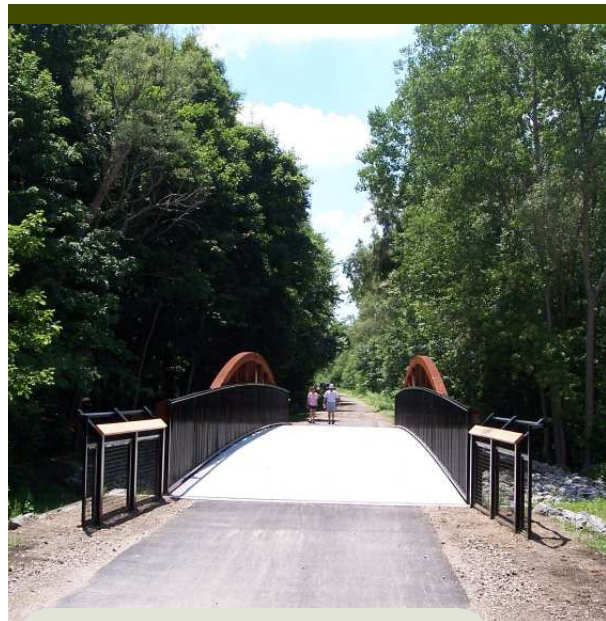
THE OAKLAND COUNTY PARKS AND RECREATION DEPARTMENT, PLANNING & ECONOMIC DEVELOPMENT SERVICES, AND OAKLAND TRAILS ADVISORY COUNCIL HAVE WORKED TO IMPLEMENT A RECOMMENDATION BY THE OAKLAND COUNTY BUSINESS ROUNDTABLE TO DEVELOP A COUNTY-WIDE GREENWAYS AND TRAILS SYSTEM.

Greenways are corridors of land recognized for their ability to conserve open space and connect people and places together. These ribbons of open space are linear corridors that are either natural, such as rivers and streams, or manmade, such as abandoned railroads and utility corridors. Many greenways also contain trails. A greenways network consists of links (such as trails), hubs (destinations for people and wildlife), and sites (points of interest or origins).

1.1 PURPOSE OF PLAN

Oakland County has been working for years with various agencies and communities to develop a connected non-motorized system. The formation of the Oakland Trails Advisory Council (OTAC) and the hiring of a Trail Network Coordinator in 2003 served to elevate the focus of a connected trails system and established

a liaison and resource to the local communities, trail agencies, and stakeholder groups. In order to continue progress and implementation toward a connected non-motorized system, OTAC and the County have worked to develop a comprehensive 5-year Trails Master Plan to serve as a guide and resource not only to County agencies, but also to local communities, trail agencies, and stakeholders. Over the years, a significant amount of work, information, maps, and stakeholder input has been collected and developed. This Trails Master Plan serves to document and organize the results of the various efforts into a single, comprehensive Master Plan.



CLINTON RIVER TRAIL

The Clinton River Trail is a 16-mile trail within an abandoned rail line traversing through the heart of Oakland County.



THE PURPOSE OF THE OAKLAND COUNTY TRAILS MASTER PLAN IS TO:

- Document the evolution of trail planning and development within the County
- Easily communicate the coordinated goals and vision for a connected non-motorized system within Oakland County and the region
- Promote the general health and wellness of the community and provide viable transportation alternatives to people of all ages and abilities
- Provide focus for the County by identifying short- and long-term action items to continue progress and implementation
- Serve as a resource and reference guide for county agencies, local communities, trail agencies, and stakeholder groups
- Serve as a foundation for future grant applications and funding requests

1.2 OVERVIEW OF OAKLAND COUNTY

Oakland County is located in southeast Michigan and has a total area of 908 square miles, of which 3.91% is water. Oakland County is rich in natural resources. The County has over 1,400 lakes (more than any other county in the state), is home to the headwaters of five major river systems, and has over 57,000 acres of public park and recreation lands. The rolling landform left by receding glaciers some 14,000 years ago has given birth to special natural areas, some unique to the entire state and beyond.

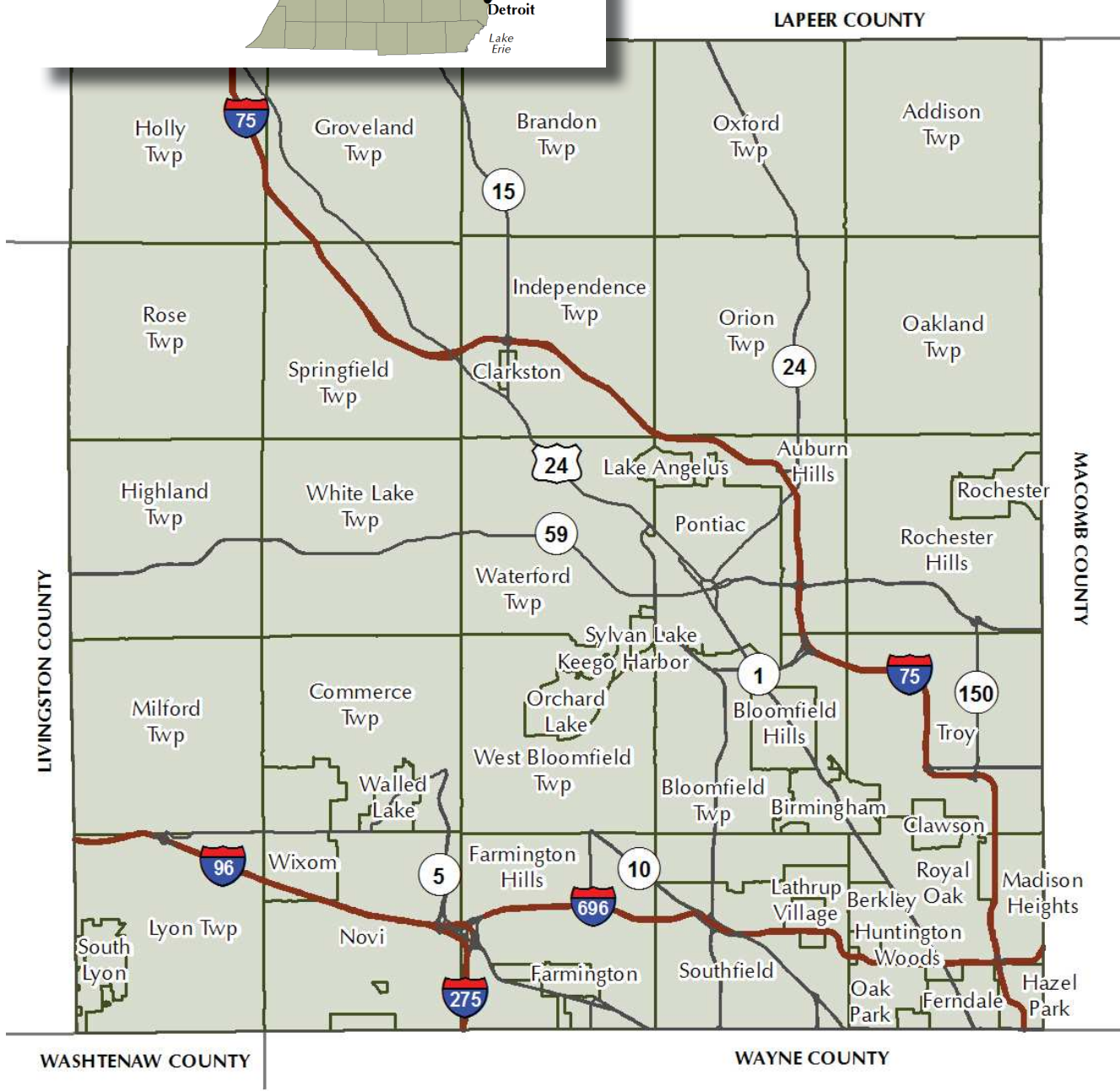
POPULATION CHARACTERISTICS

US Census data from 1990 and 2000 indicates Oakland County as a whole grew by more than 10%. This is greater than the State of Michigan, which grew by 7%, and similar to the growth rate of neighboring Macomb County. Lapeer and Wayne Counties experienced a population decline from 1990 to 2000 while Livingston County grew by more than 35%. The Population by Census Tract Map illustrates those areas within Oakland County that have the greatest density of population. Generally speaking, the southeastern half of the County has the greatest population density with the most “urban” communities such as Royal Oak, Southfield, Troy, Birmingham, Farmington Hills, and Pontiac.

While the Population Density Map illustrates areas within Oakland County that have the greatest numbers of people per square mile, the map does not show which areas and communities are experiencing the greatest amount of growth pressures. The Population Change by Municipality Map depicts the percent change in population by community from 1990 to 2000. In general, the map reveals the greatest population growth occurred in the more “out-

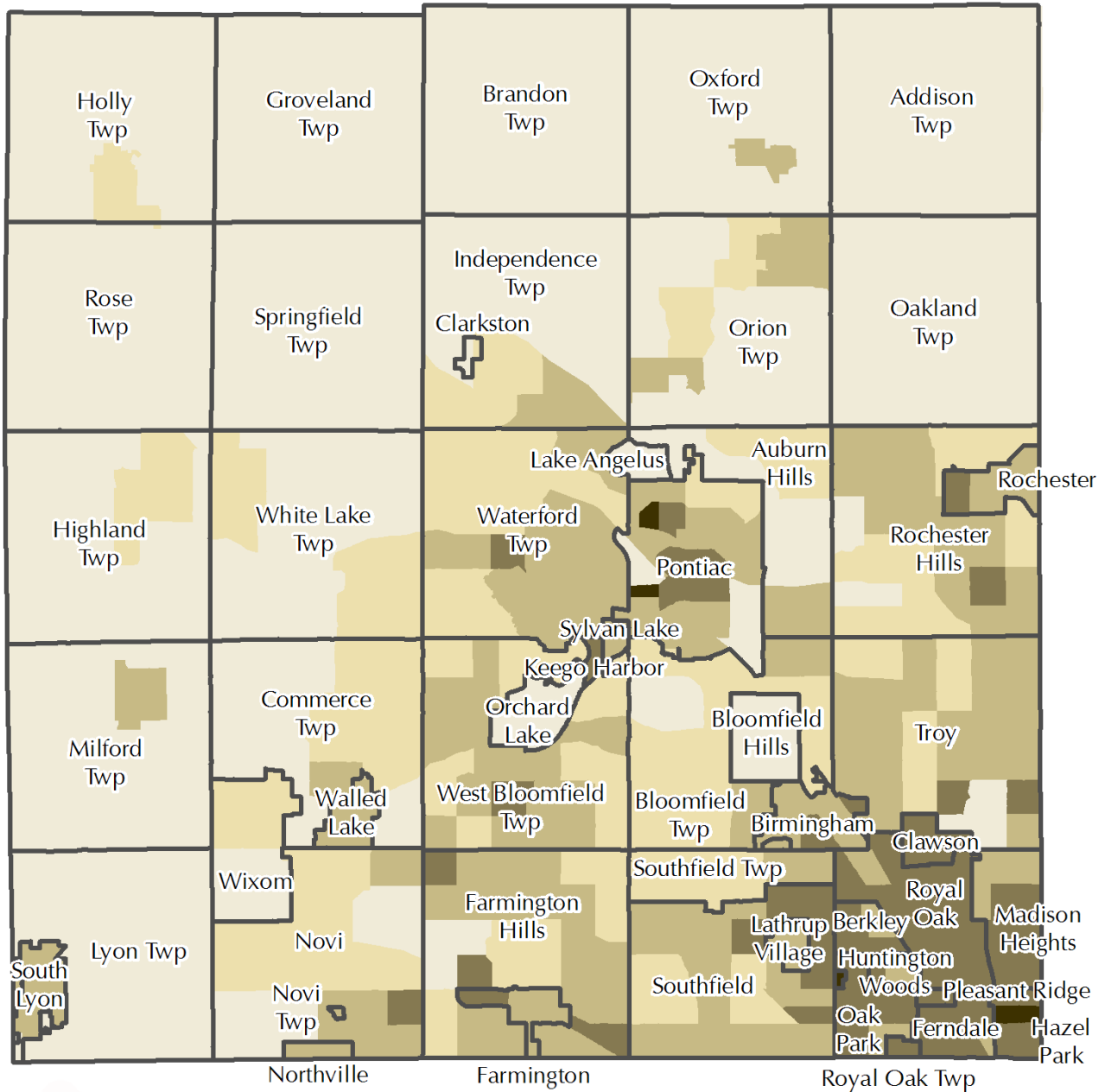


OAKLAND COUNTY LOCATION MAP



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OPULATION DENSITY BY CENSUS TRACT (2000)

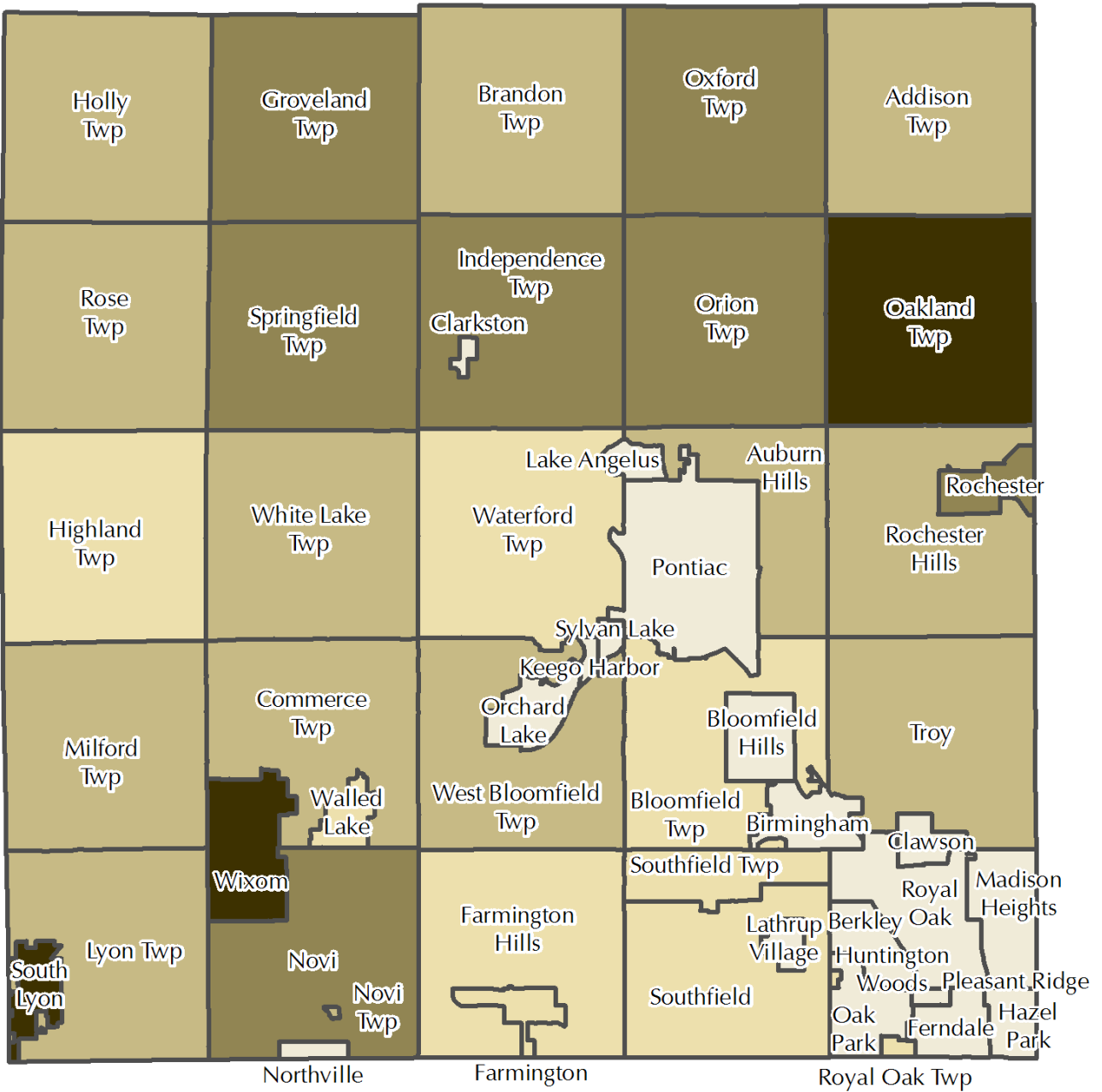


(Persons/Sq. Mile)

SOURCE: U.S. CENSUS BUREAU

P

OPULATION CHANGE BY MUNICIPALITY ('90 - '00)



SOURCE: U.S. CENSUS BUREAU





Population Change in Oakland County

	2000	1990	% Change
Addison Township	6,439	5,142	25.2%
Auburn Hills	19,837	17,076	16.2%
Berkley	15,531	16,960	-8.4%
Birmingham	19,291	19,997	-3.5%
Bloomfield Township	43,023	42,473	1.3%
Bloomfield Hills	3,940	4,288	-8.1%
Brandon Township	14,765	12,051	22.5%
Clawson	12,732	13,874	-8.2%
Commerce Twp	34,764	26,955	29.0%
Farmington	10,423	10,132	2.9%
Farmington Hills	82,111	74,652	10.0%
Ferndale	22,105	25,084	-11.9%
Groveland Township	6,150	4,705	30.7%
Hazel Park	18,963	20,051	-5.4%
Highland Township	19,169	17,941	6.8%
Holly Township	10,037	8,852	13.4%
Huntington Woods	6,151	6,419	-4.2%
Independence Township	32,581	24,722	31.8%
Keego Harbor	2,769	2,932	-5.6%
Lake Angelus	326	328	-0.6%
Lathrup Village	4,236	4,329	-2.1%
Lyon Township	11,041	9,450	16.8%
Madison Heights	31,101	32,196	-3.4%
Milford Township	15,271	12,121	26.0%
Northville	3,352	3,367	-0.4%
Novi	47,386	32,998	43.6%
Novi Township	193	150	28.7%
Oakland Township	13,071	8,227	58.9%
Oak Park	29,793	30,462	-2.2%
Orchard Lake	2,215	2,286	-3.1%
Orion Township	33,463	24,076	39.0%
Oxford Township	16,025	11,933	34.3%
Pleasant Ridge	2,594	2,775	-6.5%
Pontiac	66,337	71,166	-6.8%
Rochester	10,467	7,130	46.8%
Rochester Hills	68,825	61,766	11.4%
Rose Township	6,210	4,926	26.1%
Royal Oak	60,062	65,410	-8.2%
Royal Oak Township	5,446	5,011	8.7%
Southfield	78,296	75,728	3.4%
Southfield Township	14,430	14,255	1.2%
South Lyon	10,036	5,857	71.4%
Springfield Township	13,338	9,927	34.4%
Sylvan Lake	1,735	1,884	-7.9%
Troy	80,959	72,884	11.1%
Clarkston	962	1,005	-4.3%
Walled Lake	6,713	6,278	6.9%
Waterford Township	73,150	66,692	9.7%
West Bloomfield	64,860	54,516	19.0%
White Lake	28,219	22,608	24.8%
Wixom City	13,263	8,550	55.1%

lying”, historically rural areas of the County. South Lyon (71.4%) and Oakland Township (58.9%) experienced the greatest amount of population growth as did Rochester, Wixom, and Novi.



Population Change in Region and State

	2000	1990	% Change
Oakland County	1,194,156	1,083,592	10.2%
Genesee County	436,141	430,459	1.3%
Macomb County	788,149	717,400	9.9%
Lapeer County	74,768	87,904	-14.9%
Livingston County	156,951	115,645	35.7%
St. Clair County	164,235	145,607	12.8%
Washtenaw County	322,895	282,937	14.1%
Wayne County	2,061,162	2,111,687	-2.4%
State of Michigan	9,990,817	9,295,297	7.5%

Source: US Census Bureau

1.3 BENEFITS OF TRAILS

Trails and non-motorized systems are a tremendous community asset, providing a host of benefits. Non-motorized systems can lessen the traffic burden by providing alternative routes to school, work, shopping, etc. By reducing traffic congestion, these systems can also lessen the environmental costs associated with automobiles. At the same time, non-motorized systems promote healthier communities and increased recreational opportunities. By attracting visitors and increasing property values, non-motorized systems can also bolster local and regional economies. Taken together, these benefits can strengthen individual and community well being, while fostering greater economic and environmental sustainability. The following sections examine these benefits in greater detail.

RECREATION

The 2000 Census revealed that almost 75% of Michigan residents live in urban areas¹. As urban areas expand, large open areas for recreation are often lost to development. At the same time, increasing urban populations create a growing demand for these open spaces. Michigan and Oakland County are unique in their abundance of parkland and natural resources. However, access to many of these parks requires an automobile. Non-motorized systems can improve recreation opportunities by linking urban areas with local and regional parks, as demonstrated by the existing trail systems in the County. Trails accommodate a host of recreational interests, such as walkers, runners, in-line skaters, bikers, equestrians, cross-country skiers, and the physically challenged. By providing access to lakes, rivers, wetlands, and woodlands, non-motorized systems can also

foster passive recreation such as fishing, bird watching, and outdoor education. By linking communities and natural areas, non-motorized systems are making Oakland County communities more enjoyable places, and improving quality of life.

ENVIRONMENT AND CONSERVATION

Non-motorized systems complement ongoing efforts throughout the County to reduce pollution and conserve important natural features. By reducing the volume of automobile traffic, non-motorized systems can improve air and water quality. Greenway linkages can also help protect sensitive ecological systems from ever-expanding urban development. Investment in Oakland County’s non-motorized network is an investment in the health and integrity of the

OAK ROUTES



County's most important natural resources. Automobiles are the largest source of air pollution in the US, emitting carbon monoxide, ozone, particulate matter, sulphur oxides, and hydrocarbons. These airborne pollutants contribute to a number of human health problems. Falling back to the land in the form of rain or dust, these pollutants can also degrade soil and water quality. A reduction in short vehicle trips can have significant impacts on environmental health. For example, a four-mile bicycle ride, in place of driving, can prevent 15 pounds of pollutants from being released into the air².

Aside from pollution reduction, trails and green infrastructure help to sustain the ecological integrity of Oakland County's natural systems. As linear vegetated corridors, trails and greenways play an important role in linking natural areas, fostering plant growth, and ensuring wildlife access to water and food. Greenways can also protect water quality by isolating aquatic ecosystems from developed land areas. As buffers, greenways can absorb storm water runoff and capture non-point sources of pollution before they enter surface waters. Greenways can also ensure the protection of pervious land areas, which are essential to the health and abundance of Michigan's groundwater resources.

ECONOMIC DEVELOPMENT

As Michigan and Oakland County communities work to bolster their local and regional economies, many are looking to non-motorized systems to complement these efforts. This is because non-motorized systems have proven successful at increasing property values, boosting retail sales, attracting tourism, as well as lowering health costs. There is a clear connection between non-motorized access and improved economic vitality.



Natural Assets = Higher Property Values

Preliminary estimates of the impact on property values in Oakland County due to natural assets. *Prepared by Oakland County Planning & Economic Development Services.*

1. Water Resources

Up to 23% premium on parcels that border a water body

2. Trail/Path Network


Up to 6% premium on parcels within 100 feet of a primary trail

3. Natural Areas / Open Space

Up to 12% premium on subdivision parcels that border open space

The access provided by non-motorized systems is widely regarded as an attractive component of a community. Such systems can provide places to recreate, access to natural features, and reduce automobile reliance. These characteristics are often sought by potential homebuyers, and are often touted as key selling points by real estate agents. As an example, following development of the Betsie Valley Trail in Benzie County, Michigan, property values adjacent to the trail rose between six and ten percent.³ Non-motorized systems provide a unique amenity that can enhance the character and economic vitality of nearby properties.

Attracting visitors and stimulating economic activity are central to the County's economic



THE LAND POLICY INSTITUTE AT MICHIGAN STATE UNIVERSITY COMPLETED A REPORT IN DECEMBER 2007 ENTITLED *“Economic Valuation of Natural Resource Amenities: A Hedonic Analysis of Hillsdale and Oakland Counties”*.

The focus of the study was on the valuation of “green infrastructure” in Michigan. In Oakland County, the amenity values of waterways, water-bodies, recreational lands, and walkable and bikeable green infrastructure such as trails, sidewalks, bike lanes, and park paths were considered. Property sales transaction data from the county were collected and a pricing model was developed to determine the influence of green infrastructure on property values in the county.

Results indicate that, consistently, across the two counties and across green infrastructure types, these assets contribute positively and significantly to property values. Specifically:

- In the case of water amenity in Oakland County, the results suggest that properties within 15 meters of water bodies have a substantial capitalization of these amenities into property values, compared with properties located at more than 150 meters. **The average “green-capitalization” attributable to water-bodies within 15 meters is \$55,082.**
- In the case of recreational lands in Oakland County, results suggest that recreational areas have significant impact on property values, ranging in impact from 3.1 percent capitalization for properties within 15 meters, to 3.2 percent gain for properties within 15 to 75 meters, 2.2 percent gain for properties within 75 to 150 meters and a 2.6 percent capitalization for properties within 150 to 300 meters, compared to properties located at more than 450 meters.
- In the case of walkability and bikeability enabling green infrastructure in Oakland County, results indicate that the effect of these green infrastructure on property values were significant. **Existence of these composite green assets within 100 to 500 meters appreciates property values by 4.6 percent, or \$11,785;** within 500 to 1000 meters results in “green capitalization” of 2.3 percent; and within 1000 to 1500 meters results in a gain of 6.3 percent, or \$16,140, compared to properties located at more than 1500 meters away from these outdoor opportunities.

The report goes on to indicate that green infrastructure also has broader implications. **“In the New Economy, talent and innovation are sources of new local and regional economic growth. Talent tends to migrate to places with significant green infrastructure. Jobs tend to follow people, who follow green quality infrastructure.”** The findings of this study suggest that green asset enhancement meets sustainability and enhances the economy simultaneously. As part of a long-term strategy, green infrastructure can be leveraged to enhance local economic viability and sustainability at the same time.

development objectives. Local and regional non-motorized systems can increase the circulation of people and money within and between communities. Trails that provide regional links can transform ordinary communities into destinations. Coupled with unique natural features such as lakes, rivers, and parks, these destinations become even more desirable for prospective visitors. Local communities, in turn, benefit by providing equipment, refreshments, and lodging to trail users.

Several additional success stories are emerging in states across the country.

- In Lanesboro, Minnesota, the Root River Trail has stimulated a substantial amount of economic activity. Before the trail was developed, Lanesboro was a sleepy town of 800. Today, with the trail in place, Lanesboro boasts 12 B&Bs (with year-long wait lists), eight restaurants, an art gallery, a museum, and an extremely successful theater.⁴
- The Ohio, Kentucky, Indiana Regional Council of Governments reports that each year 150,000 to 175,000 people visit the 27 mile stretch of trail that runs between Loveland and Corwin in Warren County, Ohio. These visitors spend approximately \$3.1 to \$3.7 million annually on trip-related expenditures and trail-related accessories.⁵
- An economic impact study of the Pere Marquette Trail in Central Michigan, found that more than 60% of trail users visited a business along the trail. The trail is also attractive to the local workforce. The same study revealed that among businesses located within ¼ mile of the trail, 96% of their employees use the trail⁶.

SMART GROWTH

As an alternative to traditional, automobile-oriented development practices, principles of Smart Growth are continuing to be adopted in communities throughout the country. With expanding urban and suburban populations, communities are experiencing the economic, environmental, and societal costs of disbursed development patterns, sometimes referred to as “urban sprawl.” Smart Growth promotes redevelopment of the urban core of communities with the intention of strengthening their economies, protecting human and environmental health, and improving community well-being through urban design. While not opposed to growth, proponents of Smart Growth seek to develop areas that will yield the highest return on investment, while protecting the character of the community and the landscape. Non-motorized systems complement the Principles of Smart Growth by helping to make communities more walkable and bikeable, protecting important natural areas, and reducing automobile-related pollution.

SAFE ROUTES TO SCHOOL

The number of children walking or bicycling to school has continued to drop in recent years. A survey of US adults revealed that more than 71% walked or biked to school as a child, whereas only 13% of their children walk or bike to school today. The Centers for Disease Control and Prevention reveal similar statistics, noting that today almost 85% of children’s commutes to school are made by car, bus, or some other form of motorized transportation.



Individual efforts to deliver children safely to school are collectively resulting in a number of undesirable physical and social outcomes. A reduction in the number of children walking or bicycling to school means more vehicle trips and more traffic in school zones, adding to the notion that walking and bicycling to school is unsafe because of all the traffic. Motorized commutes also exacerbate problems associated with children's increasingly sedentary lifestyles. The decline in the number of children walking to school corresponds to a sharp increase in the incidence of overweight children. The time children spend in vehicle commutes deprives them of valuable opportunities for physical activity, social interaction, and getting to know their surrounding built and natural environment.

As these trends become more apparent, local communities are taking action, resulting in a national movement known as Safe Routes to School. Commonly known as "SR2S", these

initiatives employ a wide variety of strategies to make walking or biking to school safer and easier. SR2S programs typically engage parents, community members, school staff, traffic engineers, planners, law enforcement officers, and other community leaders.

Michigan launched a state-wide Safe Routes to School initiative in fall 2005. The program is sponsored by the Michigan Governor's Council on Physical Fitness, Health and Sports, and was developed with the input of a diverse coalition including state, non-profit, and private stakeholders. With the passage of the federal transportation legislation in 2005, Michigan's SR2S program is making schools eligible for transportation enhancement funds, providing for infrastructure improvements, and increasing education campaigns.

TRANSPORTATION ALTERNATIVE

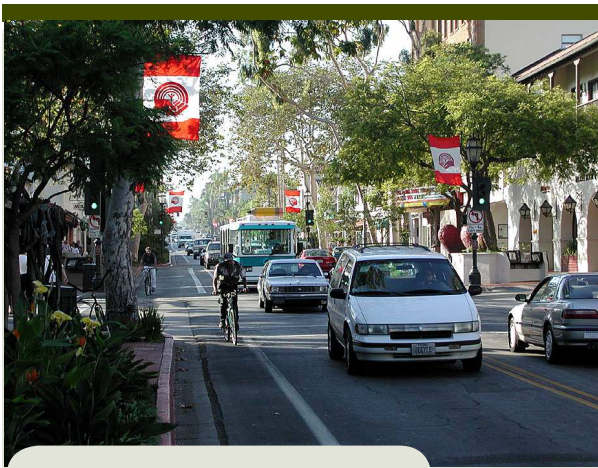
In today's automobile-dominated landscape, walking or bicycling as a mode of transportation can be difficult and often dangerous. Absent bicycle lanes, trails, or sidewalks, would-be users of non-motorized transportation are often discouraged. As a result, short trips that could easily be made by bicycle or foot are often made by car. In Michigan, 57% of all trips under a half mile are made by car. In contrast, only 2.2% of Michigan commutes to work are done on foot⁷. These figures suggest that Michigan truly is an automobile dominated state.

At the same time, many people are growing tired of the costs, dangers, and frustration that accompany private automobile commuting. As support grows for alternative ways to get around, more communities are looking to non-motorized systems for answers, such as



WORKING TOGETHER WITH STATE AND/OR FEDERAL ASSISTANCE, SR2S COALITIONS FOCUS ON THE "FIVE E'S" OF A SOUND PROGRAM:

- Educating the community
- Encouraging students to walk or bike to school
- Enforcing traffic and safety laws
- Engineering that accommodates users of non-motorized transportation
- Evaluating programs and making adjustments when needed



TRANSPORTATION ALTERNATIVE

As support grows for alternative ways to get around, more communities are looking to non-motorized systems for answers.

expanded public transit options and bicycle sharing programs. These efforts are reducing automobile-dependency, while making walking and biking safer, more enjoyable, transportation options.

HUMAN HEALTH

The recreation and transportation opportunities created by non-motorized systems invariably contribute to improved human health and well-being. The sedentary lifestyle of many Americans is causing a multitude of preventable health problems in people of all ages. These problems are partly the result of community design. By creating non-motorized systems, communities can remove structural and motivational barriers to more active lifestyles, increase social interaction, and enhance physical and mental well-being.

Physical inactivity is a serious problem in Michigan, contributing to obesity and a host of preventable diseases and deaths. Currently, twenty-five percent of Michigan adults are obese.⁸ Similarly, nearly eleven percent of

Michigan children are considered overweight (the term “obese” is not usually used for kids), a threefold increase in 30 years.⁹ Michigan ranks 3rd worst among states for rate of obesity and has been among the 10 heaviest states for the past 14 years. More than 62% of Michigan adults are considered overweight, and a majority of high school students and adults indicated that they were trying to lose or maintain their weight. (MDCH: The Healthy Michigan 2010 Report, April 2004) In addition to being dangerous, inactive lifestyles are also costly. In 2002, physical inactivity cost Michigan adults \$8.9 billion for health care¹⁰.

In response, the Michigan Surgeon General’s office launched a statewide campaign to promote healthy and active living in Michigan. The program, “Michigan Steps Up,” identifies five steps to improving human health. Central to this initiative is making physical activity safer and easier in Michigan communities. The Surgeon General recommends the connection of “neighborhoods, schools, stores and parks with trails and sidewalks,” as well as “adding bike lanes and proper signage to key roads.”¹¹ The presence of these facilities can remove barriers to exercise by providing immediate access to destination-based corridors that are safe and enjoyable. Increased physical activity, such as walking or bicycling, can reduce the risk of several health problems. The presence of these facilities can also serve as rallying points for community clubs and social interaction. Examples can include running and bicycling groups, walk-to-work days, and charity races. These events, in turn, reinforce the culture and acceptability of active community lifestyles.



MICHIGAN STATE UNIVERSITY TRAIL STUDY

Under the direction of Dr. Christine Vogt, Associate Professor, Michigan State University, Department of Community Agriculture, Recreation and Resources Studies, a study was conducted of several Michigan Rail Trails from 2001-2004 to ascertain a variety of usage characteristics. The following excerpts are from "Summary of Multi-Use Trail Surveys 2001-2004" compiled by Nancy Krupiarz. These excerpts continue to support the economic benefits of trails.

Tourism Expenditures

Trail users who described themselves as being from outside the area were given a postcard questionnaire to complete and mail back. Tourists on the White Pine trail spent an average of \$85.00 while visiting the trail. The following purchases were evidenced by those returning the postcards:

Trail	Lodging	Restaurant/ Bar	Groceries	Vehicular Expense	Other
Pere Marquette	66%	*1	*1	*1	*1
T.A.R.T.	93%	*2	*2	*2	*2
Leelanau	93%	*3	*3	*3	*3
Lansing River	21%	77%	31%	46%	39%
Paint Creek	9%	54%	18%	18%	9%
White Pine	21%	79%	43%	57%	

*1 Respondents to the Pere Marquette Trail Study's special tourist study showed that 8 out of 10 "travel inquirers" and 2/3 of "intercepted tourists" visited businesses along its length. Those most visited were restaurants and convenience stores.

*2 The T.A.R.T. Trail Study asked for actual dollar amounts spent, not percentages. Tourists spent an average \$437 per party per trip on lodging, \$165 on restaurant/bar meals and drinks/trip, \$72.00 on grocery and convenience store goods, \$151 on motor vehicle expenses, \$74.00 on recreation and entertainment, and \$50 per trip on other goods, such as souvenirs and clothes.

*3 The Leelanau Trail Study asked for actual dollar amounts spent, not percentages. Tourists spent an average \$671 per party per trip on lodging, \$234 on restaurant/bar meals and drinks/trip, \$145 on grocery and convenience store goods, \$98 on motor vehicle expenses, \$70 on recreation and entertainment, and \$51 on other goods, such as souvenirs and clothes.

Of the tourists surveyed who visited Oakland County primarily to use the Paint Creek Trail, 9% stayed overnight in Oakland County and 91% were on day visits. During their trip to Oakland County primarily to use the Paint Creek Trail, 9% spent money on lodging, 54% on restaurant food/drink, 18% on groceries, 18% on their vehicle and 9% on all other items.

1.4 HISTORY OF TRAIL DEVELOPMENT

The implementation of a countywide network of connected trails seeks to fulfill recommendations from the Oakland County Business Roundtable. Since its conception by the County's Planning & Economic Development Services Division, the vision of a countywide network has moved closer to reality with 8 major, multi-jurisdictional trail initiatives underway and/or in operation. The following outlines the major steps and accomplishments in the overall history and development of a connected non-motorized system in Oakland County.

OAKLAND COUNTY BUSINESS ROUNDTABLE-1995 FINAL REPORT

The Oakland County Business Roundtable was formed in the early 1990's and was charged with developing an "economic course to position Oakland County for the competitive challenges in the international marketplace of the next Millennium." The Roundtable consisted of 125 people representing a broad cross-section of interests, industries, and sectors. The group was divided into 12 subcommittees who focused on developing recommendations for areas ranging from transportation and tax reform,

to quality of life issues. The Quality of Life Committee made 3 recommendations related to recreation and trails:

- Provide Oakland County residents with easy access to a network of paved bike paths throughout the county.

- Ensure that bike paths in the County support family recreational activities and the needs of bicycle commuters.
- Develop a bike path network that connects with state, regional, county and local parks and other recreational centers.

OAKLAND COUNTY TRAILS INITIATIVE

Oakland County Planning and Economic Development Services (PEDS) first assisted in the planning for the Paint Creek Trail in the 1980s, and then followed by developing the concept for a countywide system of trails. The initiative envisioned two primary trail/path components – a Cross-County Trail and North County Trail loop, as well as multiple local secondary trail links. The Trails Initiative worked with local railway coalitions and governments to secure several million dollars in funding to plan, purchase, design, and construct miles of non-motorized trail systems.

OAKLAND COUNTY TRAIL/PATH NETWORK STUDY

In 2002, the Oakland County Parks and Recreation Commission, Oakland County Planning and Economic Development, and the Huron Clinton Metropolitan Authority joined together to develop the Oakland County Trail/Path Network Study to assess the feasibility of developing a county-wide Trail Network System. The main focus of the study was to determine the support for, and potential extent of the County's role in developing a trail network, how to fund and maintain it, and how to ensure safety and minimize liability. The study involved extensive public input and workshops to develop a vision for a connected network of trails and provide input as to the specific role for the County. Multiple findings and recommendations came out of the study including 3 primary action items:



OAKLAND COUNTY TRAIL DEVELOPMENT MILESTONES

EARLY 1970's

Abandonment of Penn Central RR in Paint Creek corridor anticipated

Local Master Plans indicate desire for non-motorized trails

LATE 1970's

Local, County and State Agencies coordinate efforts to purchase Paint Creek corridor

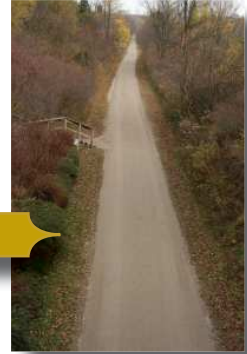
1981

Intergovernmental Trailways Commission formed by Rochester, Avon (now Rochester Hills), Oakland and Orion

County applies for federal funding for Paint Creek

1990

Paint Creek Trail Opens- First Michigan Rail Trail



DNR Trust Fund provides 50% funding for purchase of 10.5 miles of Penn Central (Paint Creek) right-of-way

1990

Oakland County Trails Initiative -- Cross County Trail and North County Trail Loop Vision established



1995

Oakland County Business Roundtable Report recommends trail development and connectivity

2002

Oakland County Trail/ Path Network Project -- Recommends OTAC and Trail Network Coordinator

2003

OTAC formed and Oakland County Trail Network Coordinator hired

2006

Community Foundation for Southeast Michigan Regional Greenways Workshops



2008

Oakland County Trails Master Plan Published

- Hire a full-time, salaried Trail Network Coordinator to facilitate the development of the network
- Create a Trail Advisory Council (TAC) to provide oversight and guidance to the Coordinator
- Develop a concise Trail Hierarchy with guidelines/standards for County and Local Trails

OAKLAND COUNTY TRAILS ADVISORY COUNCIL AND TRAIL NETWORK COORDINATOR

In 2003, and based on the recommendations of the 2002 Trail/Path Network Study, the Oakland County Parks and Recreation Department developed a Trail Network Coordinator position and also formed the Oakland Trails Advisory Council (OTAC). The Coordinator and OTAC work with a variety of partnering agencies and interested stakeholders to expand and coordinate a network of trails throughout Oakland County. OTAC envisions an interconnected trail system throughout the region to facilitate enjoyment of the outdoors, provide health and fitness opportunities, establish transportation alternatives, and complement economic development.

The OTAC group meets bi-monthly to share resources, discuss needs and concerns, and provide updates to local, county, regional, and state efforts related to the implementation of non-motorized systems.

1.5 PLANNING PROCESS

The Oakland County Trails Coordinator and a Master Plan Sub-Committee comprised of OTAC representatives and County staff oversaw the development of the Trails Master Plan. OTAC and the Master Plan Sub-Committee had worked to develop an outline of desired plan



CURRENT PARTNERING OTAC AGENCIES INCLUDE:

- Oakland Co. Parks and Recreation
- Oakland Co. Planning and Economic Development Services
- Oakland Co. Board of Commissioners
- Oakland Co. Business Roundtable
- Oakland Co. Drain Commission
- Road Commission for Oakland County
- Huron-Clinton Metropolitan Authority
- Michigan DNR
- Michigan DOT
- Clinton River Trail Alliance (Clinton River Trail)
- Headwaters Trails, Inc.
- Paint Creek Trailways Commission (Paint Creek Trail)
- Polly Ann Trail Management Council, Inc. (Polly Ann Trail)
- West Bloomfield Parks and Recreation (West Bloomfield Trail)
- Huron Valley Trail
- Lakes Community Trail
- Woodward Corridor Trail

Advising Members:

- Hiking Michigan
- League of Michigan Bicyclists (LMB)
- Michigan Mountain Biking Association (MMBA)
- Michigan Trails & Greenways Alliance (MTGA)
- Oakland Equestrian Coalition
- Highland Equestrian Conservancy
- Blueway Interests

contents prior to hiring a consultant in September 2007 to assist in compilation of this document. The Sub-Committee met with the consultant team in September 2007 to discuss goals for the project, purpose of the Master Plan, and generally discuss plan contents and schedule.

Field work associated with the Gap Analysis portion of the Master Plan was conducted in November 2007 with draft findings from the fieldwork presented to OTAC at their December 2007 meeting. Draft findings were also emailed out to a broad cross-section of stakeholders and agencies for their review and input. The Gap Analysis findings were also presented at a day long session of meetings in January 2008 with affected stakeholders to gather additional input and consensus on preferred routes. The input from these meetings was used to finalize the Gap Analysis findings and recommendations contained within this Master Plan. The revised findings were distributed to OTAC at their February 2008 meeting.

A draft of the Oakland County Trails Master Plan (at approximately 75% complete) was presented to OTAC and meeting attendees at their April 2008 meeting. Attendees were asked to provide input and comments so they could be incorporated into the final Master Plan.

The Master Plan Sub-Committee met again in May 2008 to review the document and discuss the draft in greater detail, with particular focus on the development of the Action Plan and coordination with the Oakland County Parks and Recreation Strategic Planning efforts.

A final Master Plan was presented and accepted by OTAC at a special July 30, 2008 meeting. A public hearing was held in front of

the Parks and Recreation Commission on September 3, 2008 at which time the Commission adopted the plan.

1.6 STAKEHOLDER INPUT

As has been documented, the Trails movement in Oakland County has been underway for many years. In the development of the non-motorized system, including the Oak Routes maps and the creation of OTAC, a significant amount of input has been gathered from a wide variety of stakeholders. Stakeholder input is on-going as all OTAC meetings are open to the public and are attended by a broad cross-section of trail users, agencies, and managers that provide input and ideas on a continuous basis. In addition, as the Oak Routes program has evolved, a significant number of community specific meetings have been held throughout the County to discuss the non-motorized system, to provide education regarding trail safety, design, funding, and development, and to generally promote trails. There also have been more formal stakeholder input gathering efforts in recent years as described in the following sections.

OAKLAND COUNTY TRAIL SUMMITS

In 2003, Oakland County began organizing and holding annual Trail Summits in order to share information with other trail stakeholders, to celebrate success stories, and provide a networking opportunity between various communities, agencies, and advocates. The following Trail Summits have been held:

- 2003 Bloomer Park, Rochester Hills
- 2004 Independence Oaks County Park
- 2005 West Bloomfield Parks & Recreation
- 2006 Indian Springs Metropark
- 2007 Royal Park Hotel, Rochester



TRAIL SUMMIT

Oakland County Trail Summit's have been held on an annual basis since 2003 to share information, network, and celebrate trail successes.

GREENWAYS INITIATIVE REGIONAL VISIONING WORKSHOPS

Beginning in the spring of 2006, the Community Foundation for Southeast Michigan, through its GreenWays Initiative Program, assisted and facilitated regional greenway visioning workshops throughout southeastern Michigan. Each county in the 7-county region (Wayne, Oakland, Macomb, Monroe, Washtenaw, Livingston and St. Clair) received a grant from the Community Foundation to assist in the workshop process. The goal of each workshop (or series of workshops in most counties) was to gather information from all of the municipalities in each county on the status of their trails and greenways (or their plans if no greenways were currently built). This information was gathered by county staff before each workshop so that the workshop could be spent analyzing and reviewing the collected data, and communities could discuss with each other ways to connect their built and planned greenway systems.

In Oakland County, this information was then put into an existing GIS database to update online and printed trail maps and the county's interactive trail mapping Website. The information was also used to create the maps and information found in this Master Plan.

In the fall of 2006 the Community Foundation hosted a 7-county workshop at Greenfield Village at The Henry Ford. More than 250 people attended this workshop to discuss ways to connect their trails across county boundaries throughout the entire metro-Detroit region. The product was a series of maps created by The Greenway Collaborative, illustrating the greenway possibilities and potential for the region.



GREENWAYS WORKSHOPS

Workshops were held with OTAC and throughout the County in 2006 as part of the Community Foundation for Southeast Michigan's regional greenway planning efforts.

PARKS AND RECREATION CITIZEN SURVEY RESULTS

The Parks and Recreation Department completed a citizen survey in 2006 to better understand the needs and desires of the residents. The survey was administered by phone and

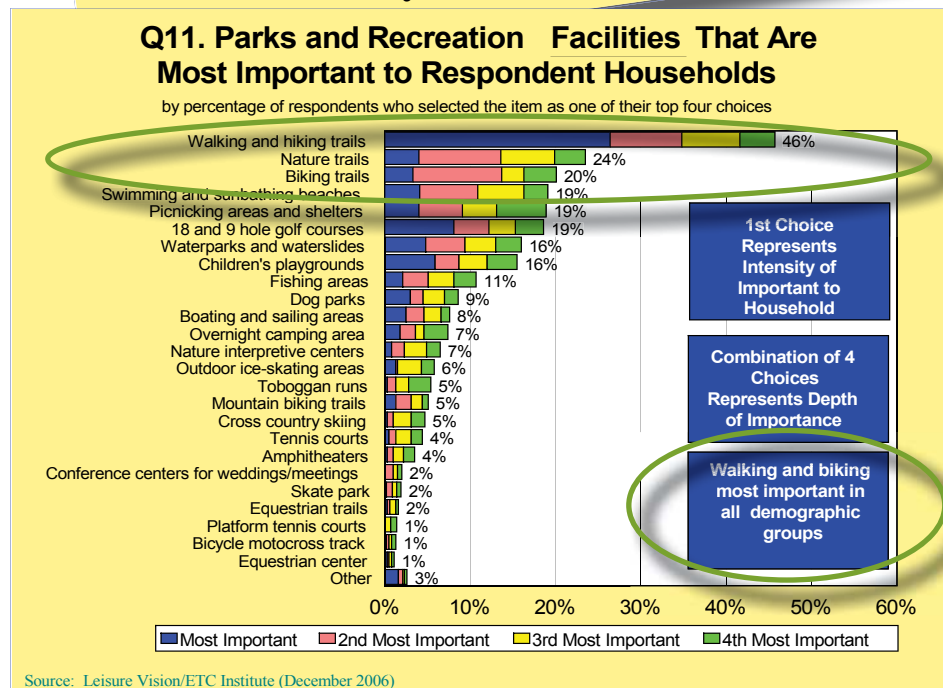
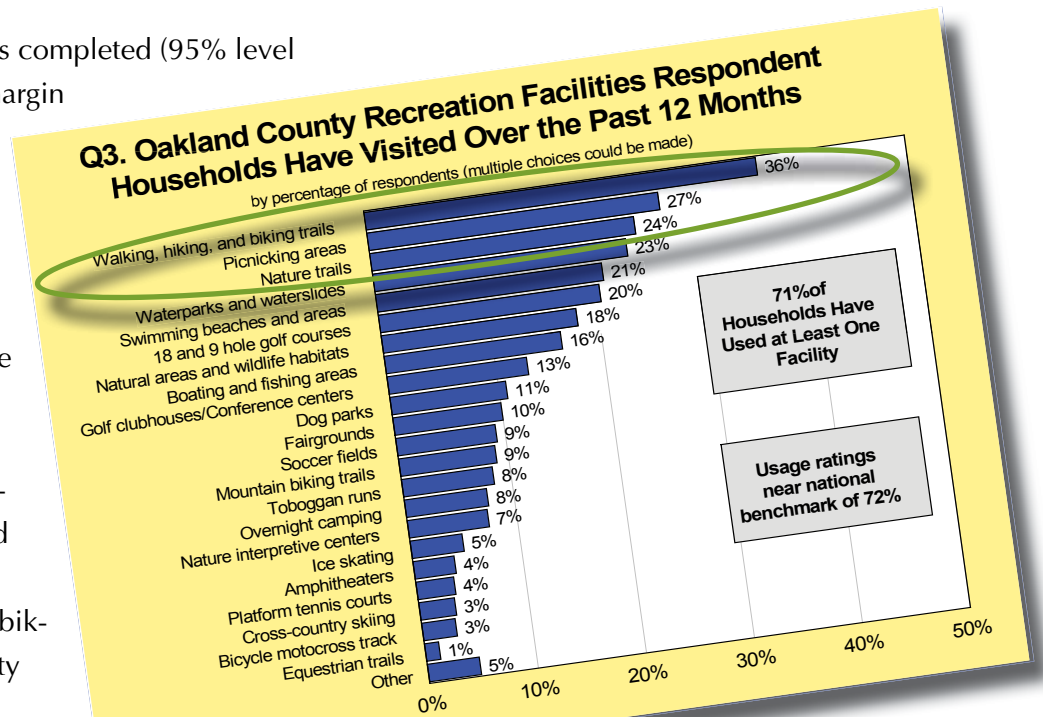
mail with 607 surveys completed (95% level of confidence with margin of error of +/- 4%).

Several of the questions and corresponding results reflected the high usage and importance of trails within the County. The largest percentage of respondents, 36%, indicated that they have visited walking, hiking, and biking trails in the County within the past year.

The results also indicated that walking and biking trails are the most important parks and recreation facility to all demographic groups.

OAKLAND COUNTY TRAILS MASTER PLAN
Specific to the effort of compiling this Trails Master Plan, the County has gathered stakeholder comments in a variety of methods.

- The Master Plan project was announced and discussed at the Trails Summit held in October 2007 in Rochester in order to raise awareness of the project and encourage participation.
- The Master Plan project, including the Table of Contents, Gap Analysis results, and draft and final products were reviewed and



discussed at OTAC meetings from October 2007 through April 2008. OTAC meeting participants and attendees represent a broad cross-section of trail users, agencies, and managers.

- A series of stakeholder meetings were held in January 2008 with communities, agencies, and representatives that have a particular influence related to the various "gaps"

that were studied in detail for this Master Plan.

- Oakland County organized a meeting at the City of Troy in March 2008 and invited all of the communities that comprise the Southeast portion of Oakland County where the highest percentage of residents reside. The meeting was held to share information and ideas between the various communities regarding non-motorized systems and connections. The emerging “urban trail network” was discussed as was the Trails Master Plan.

FOOTNOTES

- ¹ American Fact Finder. 2000 Census. Detailed Tables SF1
<http://factfinder.census.gov>
- ² Pedestrian and Bicycling Information Center. “The Benefits of Bicycling” <http://www.bicyclinginfo.org/pp/benefits/enviroben/index.htm>
- ³ The New Path to Prosperity: Betsie Valley Trail Revving Up Small Town Economies. By Kelly Thayer. <http://www.mlui.org/transportation/fullarticle.asp?fileid=16872>
- ⁴ American Trails. “The Economic Impacts of Trails.” By Gary Sjoquist. <http://www.americantrails.org/resources/economics/MNecon.html>
- ⁵ Ohio, Indiana, Kentucky, Regional Council of Governments. <http://www.oki.org/transportation/bike/littlemiami.html>
- ⁶ A case study measuring economic and community benefits of Michigan's Pere Marquette Rail-Trail, Michigan State University. Research conducted by Christine Vogt, Ph.D. Charles Nelson, Ph.D. and Joel Lynch, Ph.D.
- ⁷ U.S. Census 2000, Summary File 3 (SF-3) Sample Data.
- ⁸ The Detroit News. <http://www.detnews.com/2004/health/0402/26/health-75744.htm>
- ⁹ Ibid
- ¹⁰ The Economic Cost of Physical Inactivity in Michigan, Michigan Fitness Foundation, Study Conducted by David Chenowith, Ph.D. FAWHP, 2003.
- ¹¹ <http://www.michigan.gov/surgeongeneral>





2 EXISTING CONDITIONS

WHILE THE FOCUS OF THIS MASTER PLAN IS THE EMERGING NON-MOTORIZED SYSTEM WITHIN OAKLAND COUNTY, IT IS IMPORTANT TO UNDERSTAND THE LARGER CONTEXT OF TRAIL PLANNING AND DEVELOPMENT WITHIN THE STATE AND REGION. THIS CHAPTER ALSO HIGHLIGHTS THE MAJOR TRAIL SYSTEMS WITHIN OAKLAND COUNTY AS WELL AS RELATED INITIATIVES AND PROGRAMS.

2.1 STATE AND REGIONAL CONTEXT

There are a number of efforts throughout Michigan that have a direct impact on the Oakland County trail system and highlight the fact that the trails being planned and built within Oakland County are part of a much larger non-motorized effort. These initiatives and efforts are described on the following pages.

CONNECTING MICHIGAN PLAN

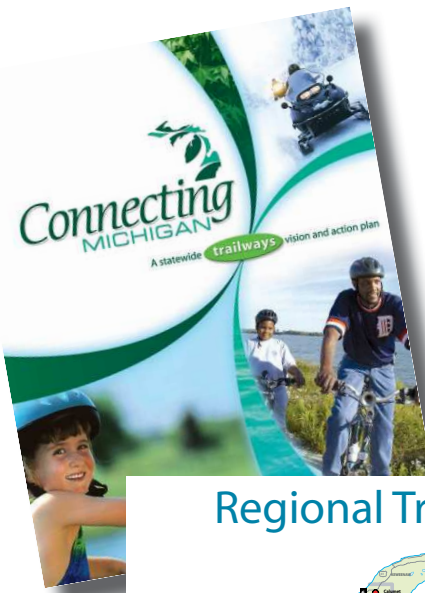
The year-long work of 10 task forces on statewide trail issues culminated in 2007 in the release of *“Connecting Michigan: A Statewide Trails Vision and Action Plan”*, a report issued by project partners: Michigan Trails and Greenways Alliance, the National Park Service Rivers, Trails, and Conservation Assistance Program, and Michigan Recreation and Park Association Trails, Greenways, and Blueways

Committee. The task forces each covered distinctly different topics:

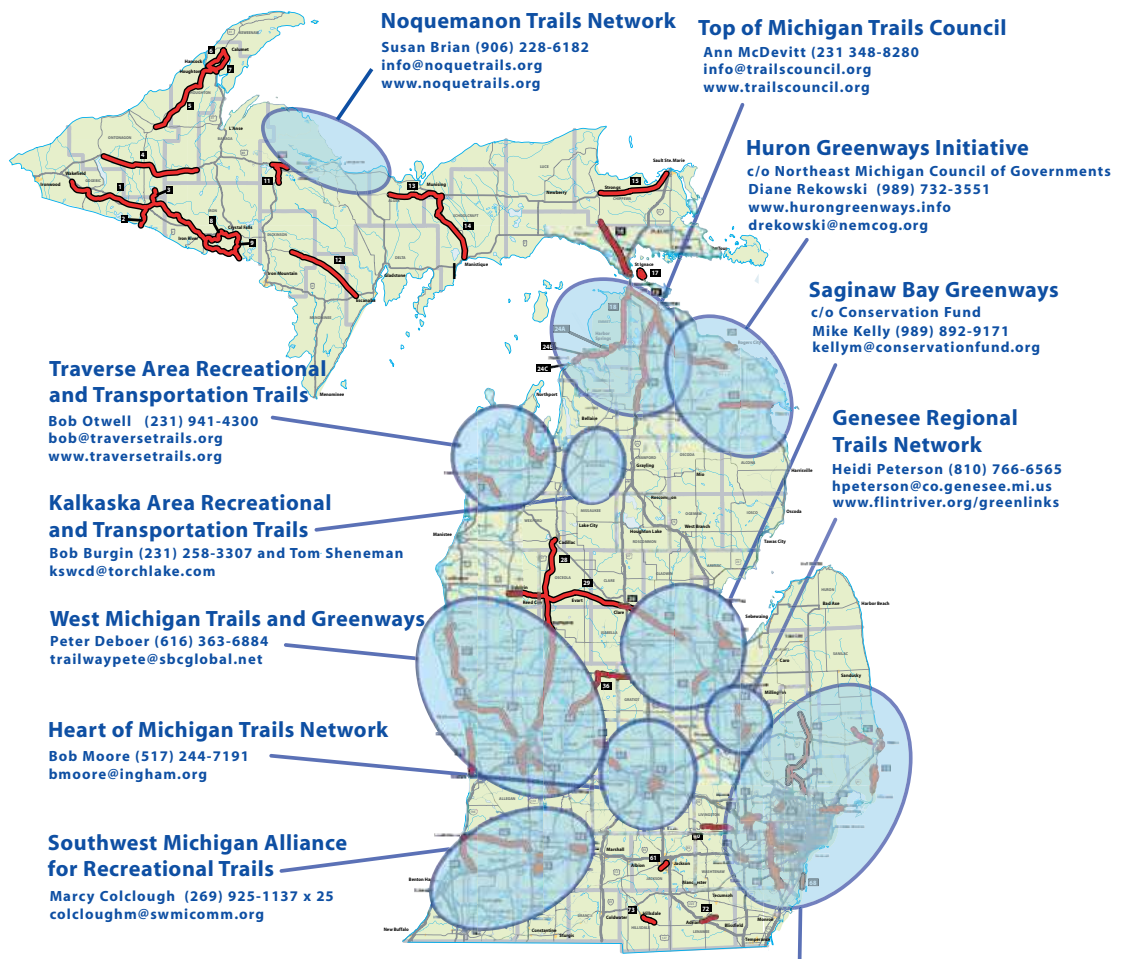
- Funding
- Programming
- Promotions
- GIS statewide trails mapping
- On-road connections to trails
- Private property easements
- Multi-use trail design standards
- Advocacy support
- Regional collaboration
- State and local interdepartmental coordination

The deliberations of these task forces comprised of over 100 individuals and resulted in 39 goals and 109 action steps. Four overarching goals emerged which form a framework for an interconnected trailway network that connects every region of the state. Goals of the Connecting Michigan Plan include:

- Ensure that Michigan’s trailway stakeholders have ready access to technical resources and best practices from Michigan and beyond, and across all the many facets of trailways planning, acquisition, development, maintenance, operations, and advocacy.
- Improve Michigan’s financial, maintenance, and marketing resources necessary for developing, promoting, enhancing, and sustaining a statewide interconnected trailway system.
- Improve coordination and communication, encourage cooperation, foster new partnerships to support trailway planning, development, management, and programming that enhances the trailway experience.
- Provide Michigan’s trailway stakeholders with a compelling statewide trailway vision and a tactical plan to achieve and market the vision.



Regional Trail Initiatives



Noquemanon Trails Network
 Susan Brian (906) 228-6182
info@noquetrails.org
www.noquetrails.org

Top of Michigan Trails Council
 Ann McDevitt (231) 348-8280
info@trailsCouncil.org
www.trailsCouncil.org

Huron Greenways Initiative
 c/o Northeast Michigan Council of Governments
 Diane Rekowski (989) 732-3551
www.hurongreenways.info
drekowski@nemcog.org

Saginaw Bay Greenways
 c/o Conservation Fund
 Mike Kelly (989) 892-9171
kellym@conservationfund.org

Traverse Area Recreational and Transportation Trails
 Bob Otwell (231) 941-4300
bob@traversetrails.org
www.traversetrails.org

Kalkaska Area Recreational and Transportation Trails
 Bob Burgin (231) 258-3307 and Tom Sheneman
kswcd@torchlake.com

West Michigan Trails and Greenways
 Peter Deboer (616) 363-6884
trailwaypete@sbcglobal.net

Heart of Michigan Trails Network
 Bob Moore (517) 244-7191
bmoore@ingham.org

Southwest Michigan Alliance for Recreational Trails
 Marcy Colclough (269) 925-1137 x 25
colcloughm@swmicomm.org

Genesee Regional Trails Network
 Heidi Peterson (810) 766-6565
hpeterson@co.genesee.mi.us
www.flinriver.org/greenlinks

GreenWays Initiative
 Tom Woiwode (313) 961-6675
twoiwode@cfsem.org
<http://greenways.cfsem.org>

Downriver Linked Greenways
 Anita Twardesky (734) 626-5465
anita@riversidekayak.com
 Mary Bohling (313) 235-9159
bohling@msu.edu

Macomb County Trails
 John Crumm (586) 469-5285
john.crumm@co.macomb.mi.us
www.wadetrail.com/resources/macomb/index.htm

Oakland Trails Advisory Council
 Melissa Prowse (248) 858-4611
prowsem@oakgov.com
http://www.oakgov.com/parksrec/program_service/trails_intro.html

St. Clair County Trails
 Mark Brochu (810) 989-6960
mbrochu@stclaircounty.org
www.stclaircounty.org

The Plan and accompanying endorsements are now being used to build momentum for funding, legislative action, and advocacy that will drive the implementation of the Connecting Michigan Plan. The Michigan Trails and Greenways Alliance will monitor the progress of the plan as well as undertake many of the action steps in addition to encouraging other groups to take the lead on other recommendations. MTGA will also dovetail their work with the Governor's state trails initiative, "Michigan Trails at the Crossroads: A Vision for Connecting Michigan", since the two plans work very well together as well as coordinate with the Governor's State Trails Advisory Council.

MICHIGAN RECREATION AND PARKS ASSOCIATION TRAILS, GREENWAYS, BLUEWAYS, AND OPEN SPACE COMMITTEE

The Trails, Greenways, Blueways, and Open Space Committee was formed in 2006 under the Michigan Recreation and Parks Association umbrella. The Committee promotes a statewide network of trails, greenways, and water trails and also works to enhance the movement of trail advancement nationally and statewide to the trail community. Recreation opportunities are also promoted to enhance quality of life, influencing landscapes and diverse accessibility. The Committee organized and held a day-long training and information sharing session as a precursor to the annual MRPA State Conference (held in Traverse City in 2008). The session was attended by more than 100 people and included such topics as legal liability, trail technology, programming, and maintenance.

PROMOTING ACTIVE COMMUNITIES PROGRAM

Sponsored by the Michigan Department of Community Health, the Governor's Council on Physical Fitness, Sports and Health, Michigan State University, and the Prevention Research Center of Michigan, the Promoting Active Communities program is an online assessment and award system. Communities can use the online self-assessment to evaluate their built environments, policies, and programs related to promoting and supporting physical activity.



Michigan communities that complete the assessment are eligible for an award that recognizes them as an innovative Michigan community that is making it easier for their citizens to lead an active lifestyle. The program is part of a state initiative on physical activity to help Michigan communities make changes to their policies, promotion strategies, and the physical design of their communities to make it easier for residents to be physically active. In order to help communities move toward becoming more active, a guidebook was created entitled "Design Guidelines for Active Michigan Communities: Imagining, Creating, and Improving Communities for Physical Activity, Active Living, and Recreation".

COMMUNITY FOUNDATION FOR SOUTHEAST MICHIGAN REGIONAL GREENWAYS VISION

Over the past several years, the cities, counties, neighborhoods and community groups of southeastern Michigan have come together in unprecedented ways to create a network of greenways serving local areas as well as the region. These non-motorized routes are linking neighborhoods to schools, communities to cultural centers, and people to people. The benefits include new opportunities for recreation, fitness, economic development and neighborhood enhancement. Most recently, in 2006, the 7-county region that makes up Southeast Michigan got together to develop an updated Southeast Michigan Greenways Vision which also reflects the desired non-motorized connections in the Oakland County area. Counties worked together with each other and with local municipalities and interested stakeholders to develop a long-term vision for a connected system of greenways and non-motorized accommodations.

The Regional Trails and Greenways Vision for Oakland County was produced by utilizing the Oak Routes maps and information as a starting point and then holding several local and regional workshops to gather input and updates. The Greenways Vision for Oakland County reflects the desires of the workshop participants and represents various opportunities to provide connections to the major destinations within and around Oakland County and the region.

MDOT NON-MOTORIZED COMMITTEE

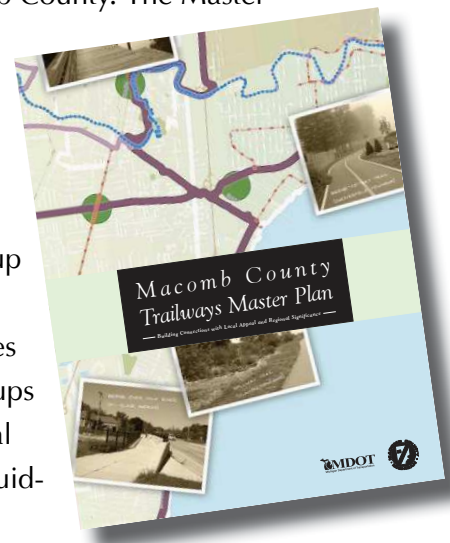
The Michigan Department of Transportation's (MDOT's) Metro Region Office, which serves Wayne, Oakland, Macomb and St. Clair counties, formed the Metro Region Non-motorized Advisory Committee in early 2005. The com-

mittee's mission is "to advance the planning, funding, construction, maintenance and usage of non-motorized transportation facilities." A major goal of the group is to create linkages and connections within the regional trail network by coordinating non-motorized plans with region-wide road planning and project scoping.

The committee, which meets quarterly, includes recreation and transportation representatives from each of the Metro Region counties and the City of Detroit, several non-motorized advocacy groups, and MDOT staff. Among the achievements of the committee are guidance in preparing a non-motorized transportation plan for St. Clair County and assistance in studying, rehabilitating and maintaining the I-275 Bike Path, which the committee considers to be the "spine" of the area trail network.

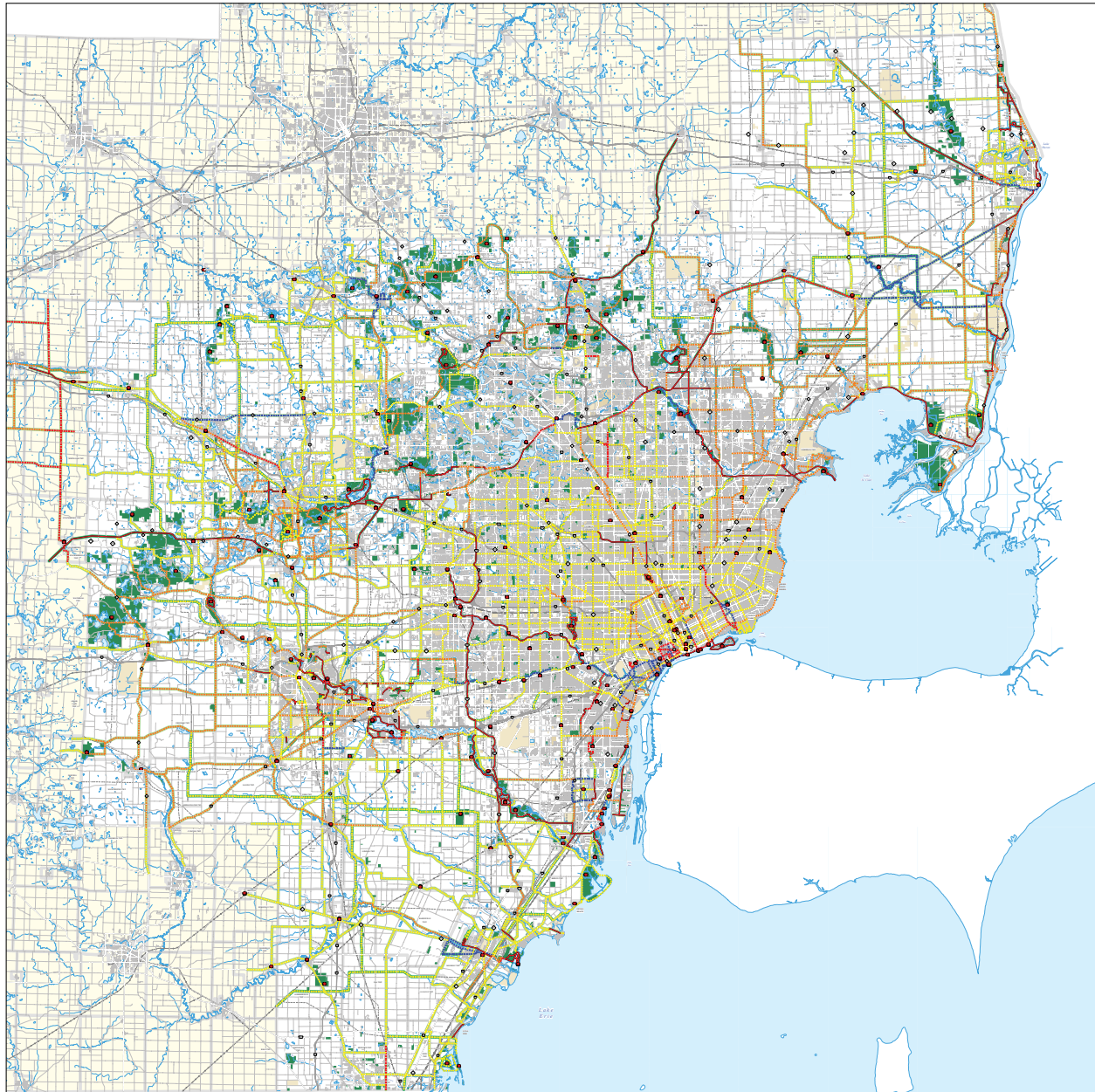
MACOMB COUNTY TRAILWAYS MASTER PLAN

The Macomb County Planning & Economic Development Department completed a County-wide Trailways Master Plan in 2004. The County worked closely with local, regional and state agencies to develop a plan that presented a unified and coordinated vision for non-motorized transportation planning and development in Macomb County. The Master Plan serves as a guide to trail planning, design and construction. A stakeholder group consisting of multiple agencies and interest groups developed a goal statement and guid-



R

EGIONAL TRAILS AND GREENWAYS (CFSEM)



Regional Trails and Greenways Vision



Made possible through financial support provided by The Community Foundation for Southeastern Michigan's GreenWays Initiative

Greenway System Legend:

A greenway system is comprised of three basic parts: links, hubs and stubs.

- Greenway Links**
Links are the backbone of the greenway system. They are the most corridors for people.
- Type of Link**
 - Off-Road Corridor
 - On-Road Corridor
 - On-Road Corridor (Bike Lanes & Sidewalks or Subpaths)
- Status of Link**
 - Existing or Near-term Completion
 - Under Development
 - Detailed Design / Study Underway
 - Planned (Included in a Report)
 - Preliminary Concept

Greenway Hubs

Hubs are the anchors of the system, such as transit stations and major cultural attractions.

- Regional Hub
- School
- Parks and Open Space

Greenway Stubs

Stubs are smaller features that hubs that serve as points of interest and frequent destinations.

- School
- Parks and Open Space

Legend for Other Symbols

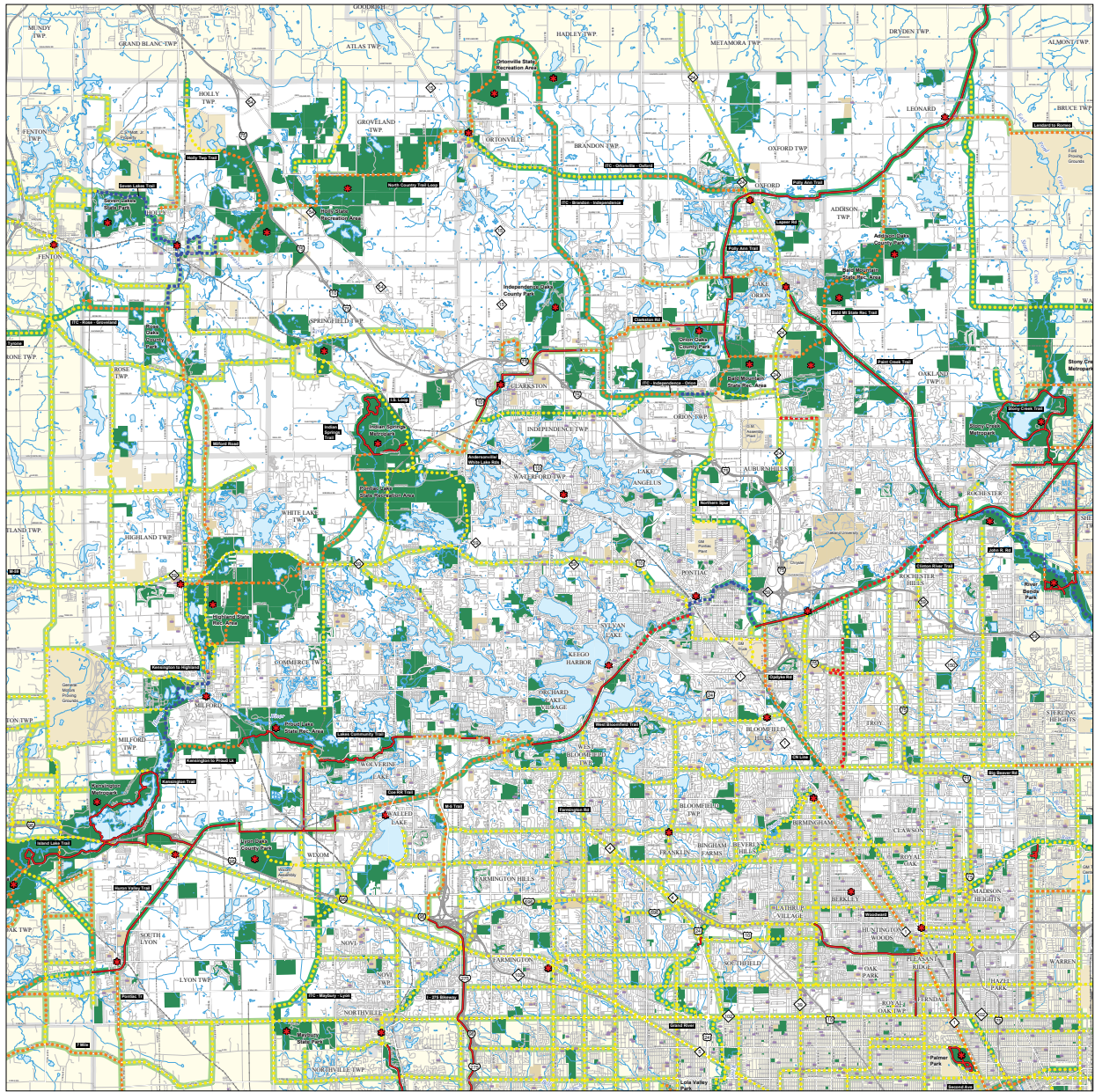
- City, Village and Township Boundaries
- Water
- School Properties
- Selected Large Private Properties
- Primary Road
- Local Road
- Railroad
- Power Transmission Line - Existing
- Power Transmission Line - TTC-Design



A scale bar between 10 and 20 miles for use with a 1:50,000 scale map not intended for display.

Prepared by The Urbanist Collaborative, LLC
October 17, 2018

REGIONAL TRAILS AND GREENWAYS - OAKLAND COUNTY (CFSEM)



Regional Trails and Greenways Vision
Oakland County

Environmental Stewardship Program
 Planning & Economic Development Services

Made possible through financial support provided by
 The Community Foundation for Southeastern Michigan's
 GreenWay Initiative

Greenway System Legend:
A greenway corridor is a combination of these uses: parks, trails, and water.

- Greenway Links**
Links are the heart of the greenway system. They are the trail connections for people.
- Type of Link:**
- Off-Road Corridor
 - Roadway-Based Corridor (Bike Lanes & Sidewalks or Separators)
- Status of Link:**
- Existing or Near-Term Completion
 - Local Development
 - Outdated Design / Study Undertaken
 - Planned (Included in a Report)
 - Preliminary Concept

- Greenway Hubs**
Hubs are the anchors of the system, such as major parks and major cultural attractions.
- Regional Hubs
- Greenway Sites**
Sites are smaller features than hubs that serve as points of interest and frequent destinations.
- Schools
 - Parks and Open Space

- Legend for Other Symbols**
- City, Village and Township Boundaries
 - Water
 - School Properties
 - Selected Open Private Properties
 - Freeway
 - Primary Road
 - Local Road
 - Railroad
 - Power Transmission Line - Examined
 - Power Transmission Line - ITC Cleared

Scale: 1 inch = 1 mile
 0 0.5 1 Miles
 0 0.5 1 Kilometers

State involvement in all 20 counties
 in order and a fee to be set and
 approved by the legislature.

Prepared by:

 November 17, 2009

ing principles for the project, communicated the trail efforts occurring at the local level, and discussed issues regarding potential routes and connections. The Master Plan included trail connections to Oakland County along the Red Run Drain, Macomb Orchard Trail and a connection to the Polly Ann Trail through Bruce Township. The development of the Master Plan also included public forums to gather additional comments and input. Macomb County is currently in the process (2008) of updating the County Trailways Master Plan to illustrate new sections of constructed trail, as well as revised routes, destinations and priorities.

DETROIT NON-MOTORIZED URBAN TRANSPORTATION MASTER PLAN

The City of Detroit prepared and adopted a non-motorized master plan in 2006 that outlines the locations and types of non-motorized facilities recommended for the City. The proposed system consists of a comprehensive network of functional routes classified as: Regional Connectors; City Connectors; Neighborhood Connectors; Downtown-Midtown Connectors; and City Loops. Each route is proposed to consist of a recommended facility type, including: Bike Paths; Bike Lanes; Blue Bike Lanes (blue surfaced); Shared Parking Lanes and Shared Curb Lanes.

The Regional Connector routes follow selected state trunklines within Detroit and are recommended to take the form of bike lanes. The City Connector routes are identified along selected arterial streets and are to be designed as shared parking lanes or shared curb lanes. The Neighborhood Connector routes are envisioned as shared parking lanes or shared curb lanes along important inter-connecting neighborhood streets. Blue bike lanes are recommended along the Downtown-Midtown Connector routes,

which follow important streets in the midtown and downtown districts of the city. City Loop routes are identified along scenic streets and are predominantly designed to accommodate bike lanes.

The Master Plan takes into consideration existing and planned regional non-motorized systems and the systems of adjacent communities. Along the Detroit/Oakland County border, 8 Mile Road is designated as a Regional Connector route and a number of non-motorized connection points are also identified. A major proposed non-motorized connection point is designated at Woodward Avenue, which is a proposed Regional Connector route.

OAKLAND EQUESTRIAN COALITION

The Oakland Equestrian Coalition was founded in early 2003. It is an advocacy group representing the varied equestrian interests in Oakland County. Members have interests in farming, trail riding, breeding, showing, 4-H horse activities, equestrian teams, boarding farms, and equestrian facilities. The Oakland Equestrian Coalition represents equestrians of all ages. The vision for the Oakland Equestrian Coalition is to:

- Educate Oakland County governmental units and citizens about equestrian concerns in Oakland County.
- Promote growth of equestrian activities in Oakland County.
- Preserve existing equestrian facilities and trails in Oakland County.
- Develop new equestrian opportunities in Oakland County, including access to the entire Oakland County Greenways system of multi-use trails.



MICHIGAN EQUINE SURVEY - 2007

An Equine Survey was conducted in 2007 by the USDA, NASS, Michigan Field Office in order to update the last major equine survey which was completed in 1996. The estimate of equine in Michigan as of June 2007 was 155,000, an increase of 25,000 (19.2% increase) from 1996. Excluding wages and salaries to hired workers, operators and owners incurred over \$800 million of equine-related expenditures in 2006 including costs for feed, fuel, health care, transportation, equipment, tack, boarding, bedding, breeding, show and race entry fees, and taxes. **The Equine Survey illustrated that Oakland County contains the largest number of horses (at 6,900) than any other county in the state.**

Top Equine Inventory Counties (June 2007)

Oakland	6,900
Washtenaw	6,300
Livingston	5,900
Jackson	5,700
Hillsdale	5,500
Lapeer	5,100
<i>Six County Total</i>	<i>35,400</i>

These six counties accounted for almost a quarter of the equine in the State of Michigan.

Equine: Trail and Pleasure Riding Locations Used

Location	Owners (%)
Parks or recreation areas	23
State or national forests	14
Wildlife management areas	6
Public roads	36
Private land	53
Other	6
Do not ride	41



2.2 MAJOR OAKLAND COUNTY SYSTEMS

Oakland County, the Oakland Trails Advisory Council, numerous agencies, and Friends Groups have worked together to implement 8 major trail systems that, when complete, will crisscross Oakland County and connect into adjacent counties and regions. The 8 major trail systems that comprise the primary spine of the emerging non-motorized network are described in further detail on the following pages.

I-275 BIKE PATH

Constructed in the 1970's, the I-275 Bike Path is located within the right-of-way of MDOT's I-275 freeway. Over 42 miles in length, this regional trail traverses through eleven communities within three counties, including the Cities of Novi and Farmington Hills within Oakland County. The segment of the trail located within Oakland County is approximately 4.1 miles in length. Along its route, the path provides access to numerous destinations including Wayne County's Hines Park, several Metroparks, neighborhoods, commercial, office, and entertainment venues, as well as local parks and natural resources. Until recently, the bike path, however, has received little attention in terms of maintenance and rehabilitation since construction. Renewed interest in connected trail corridors and transportation alternatives has breathed life into the deteriorating trail system.

In 2006, the Michigan Trails and Greenways Alliance (MTGA) (former Rails-to-Trails Conservancy Michigan Chapter), in conjunction with the League of Michigan Bicyclists, and with funding from the GreenWays Initiative of the Community Foundation for Southeast Michigan, published a study of the I-275 Bike Path in Oakland, Wayne, and Monroe counties. The 2006 Study consisted of two phases:

- 1) Consultation with individual communities on the feasibility of making connections to the bike path, and their overall impression of it; and,
- 2) Forming an organized structure to provide for coordinated communication between communities and MDOT for the long-term sustainability of the bike path.

The vision for the I-275 Bike Path by the various user groups is to rehabilitate the trail so that it can serve as a premier trail system and the main spine connecting all of the other non-motorized efforts moving forward in the region and state.

The MTGA efforts and report led to the Michigan Department of Transportation conducting and funding an Asset Management Study of the 42-mile trail system. The MDOT Study began in 2007 and will be completed in 2008. The Study includes a comprehensive analysis addressing how to best rehabilitate and manage the existing bike path within the I-275 Corridor,

Reviving the I-275 Bikeway: The Potential for Community Enhancement



An Interim Report
March, 2006

Michigan Trails and Greenways Alliance

9/7/2006

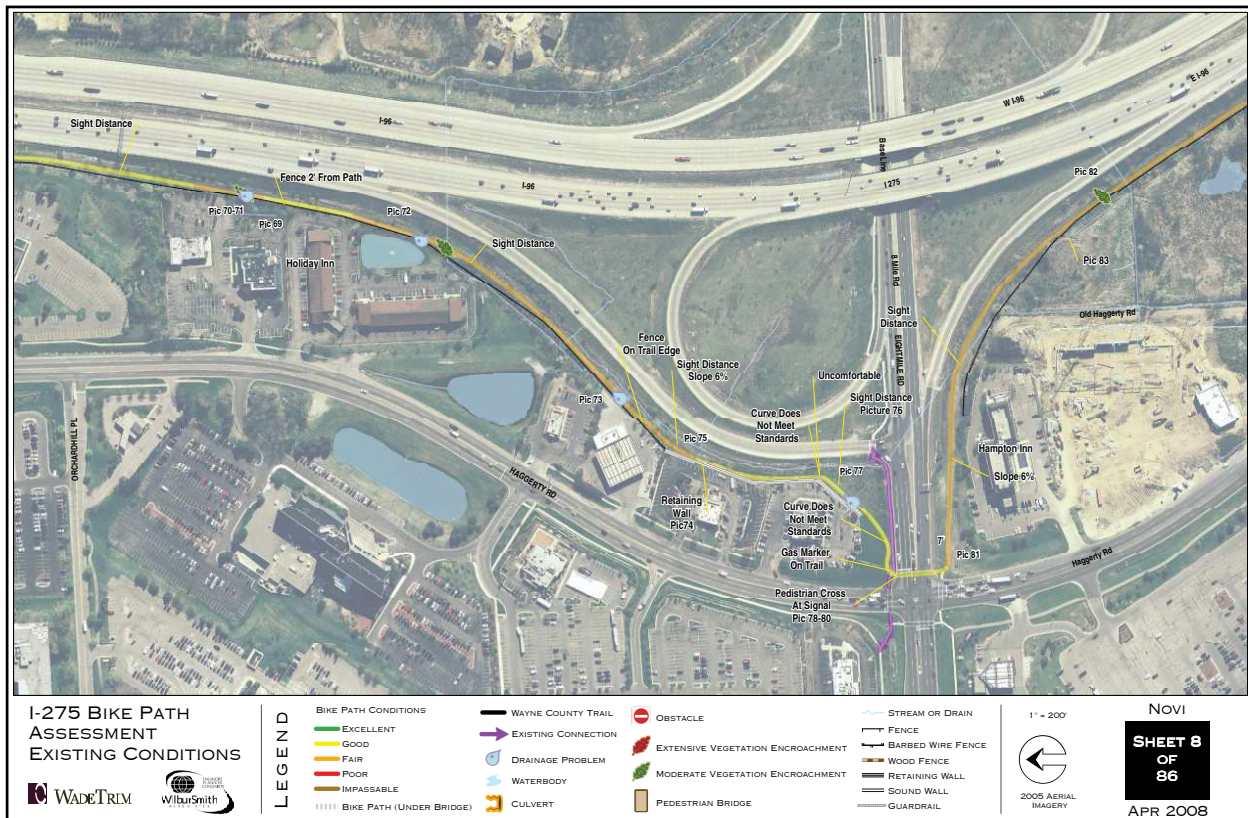
as well as determine the feasibility of expanding the trail to the south into the City of Monroe.

The Asset Management Study includes a detailed inventory of the existing system utilizing GPS and GIS technologies to document pavement condition, vegetation overgrowth, bridge locations, trail width, ADA accessibility and user safety concerns. The inventory also includes a field examination of road crossings and assessment of pedestrian bridge conditions. Several public meetings were held during the project period with user groups and local communities along the corridor. The results of the existing conditions analysis and extension feasibility study were the basis for the development of recommendations and probable cost estimates related to the rehabilitation of the system.

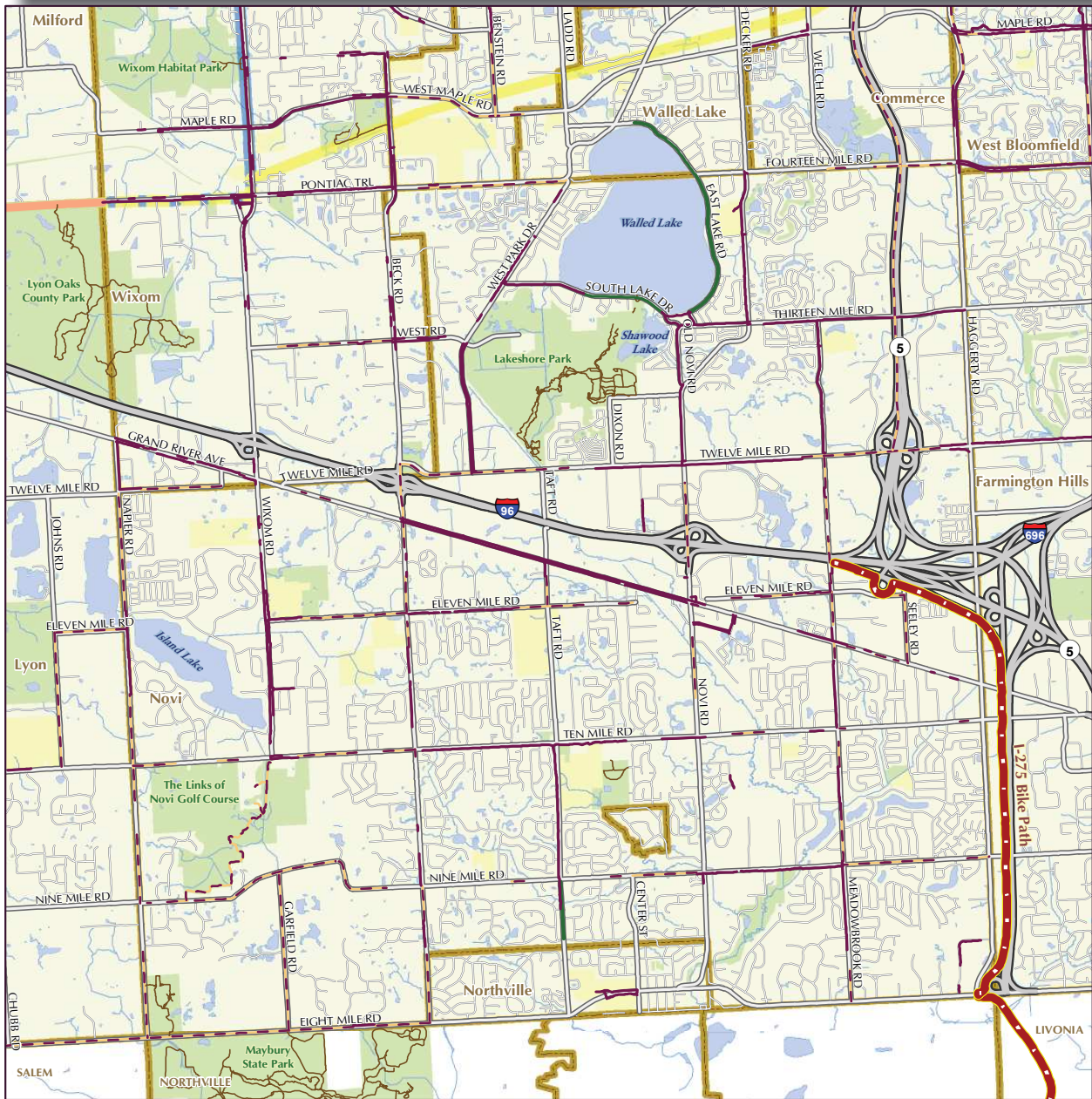
MDOT has committed to moving forward with a multi-year, multi-phase rehabilitation project of the I-275 Bike Path. They are also planning to design a trail extension from the I-275 path north along M-5 to Pontiac Trail Road (slated for 2008/2009).

POLLY ANN TRAIL

The Polly Ann Trail uses the abandoned P.O. & N. railroad corridor. This linear park traverses 12.2 miles through some of the most beautiful and untouched landscape in northern Oakland County. It begins in Orion Township at Joslyn and Indianwood Roads and continues northeast through Oxford and Leonard to the Oakland/Lapeer County line at Bordman Road. The trail connects the communities of Orion Township, Oxford Township, the Village of Oxford, Addison Township, and the Village of Leonard. The trail is open to walking, hiking, jogging, cycling, horseback riding, and cross country skiing. With significant federal and



I 275 BIKE PATH



Legend	I-275 Bike Path	Municipal Boundary
Proposed Trail-to-Trail Connector Routes:	Trail	Lakes & Ponds
Yellow & Blue Route	Safety/Side Path	Rivers & Streams
Yellow Route	Route	Recreation Land
Blue Route	Bike Lane	School
	Water Trail	
	Park Path	
	Proposed Pathway	

June 2008

Sources:
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008

AKLAND COUNTY
TRAILS MASTER PLAN

state funding, the railroad corridor was purchased for use as a trail in 1997 and 1999. The trail is owned by the Michigan Department of Natural Resources and managed by the Polly Ann Trailway Management Council, Inc. The Council is a nonprofit, intergovernmental entity that meets on a monthly basis and consists of representatives from Orion Township, Oxford Township, Village of Leonard, and the Village of Oxford. The Council receives staff assistance from a Trail Manager.

The state-owned segment of the Lapeer County Polly Ann Trail is approximately 20 miles long and is managed by Lapeer County. The Lapeer County section traverses from Bordman Road to Kings Mill, passing through Dryden, Imlay City, and Lum.

PAINT CREEK TRAIL

The 8.9-mile Paint Creek Trail follows the old Penn Central Railroad and connects the Cities of Rochester and Rochester Hills, Village of Lake Orion, and Oakland and Orion Townships. The trail also connects into the Clinton River Trail and Macomb Orchard Trail via the Downtown Rochester River Walk with plans to connect to the Polly Ann Trail. The Paint Creek Trail was the first rail trail project in the State of Michigan and opened in 1990. The trail is managed by the Paint Creek Trailways Commission established through an intergovernmental agreement between the four communities of Rochester, Rochester Hills, Oakland Township and Orion Township. The members share expenses of the annual operating budget, including a Trail Manager, and are responsible for maintenance on the segment of trail within their boundaries.



POLLY ANN AND PAINT CREEK TRAILS

The Polly Ann Trail uses the abandoned P.O. & N railroad corridor and traverses 12.2 miles through northern Oakland County. The Paint Creek Trail was the first rail-trail in Michigan, is 8.9 miles and connects the communities of Rochester, Rochester Hills, Village of Lake Orion, Oakland and Orion Townships.

POLLY ANN TRAIL



Legend

Proposed Trail-to-Trail Connector Routes:

- Yellow Route
- Purple Route
- Blue Route
- Green Route

- Polly Ann Trail
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Water Trail
- Park Path
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School

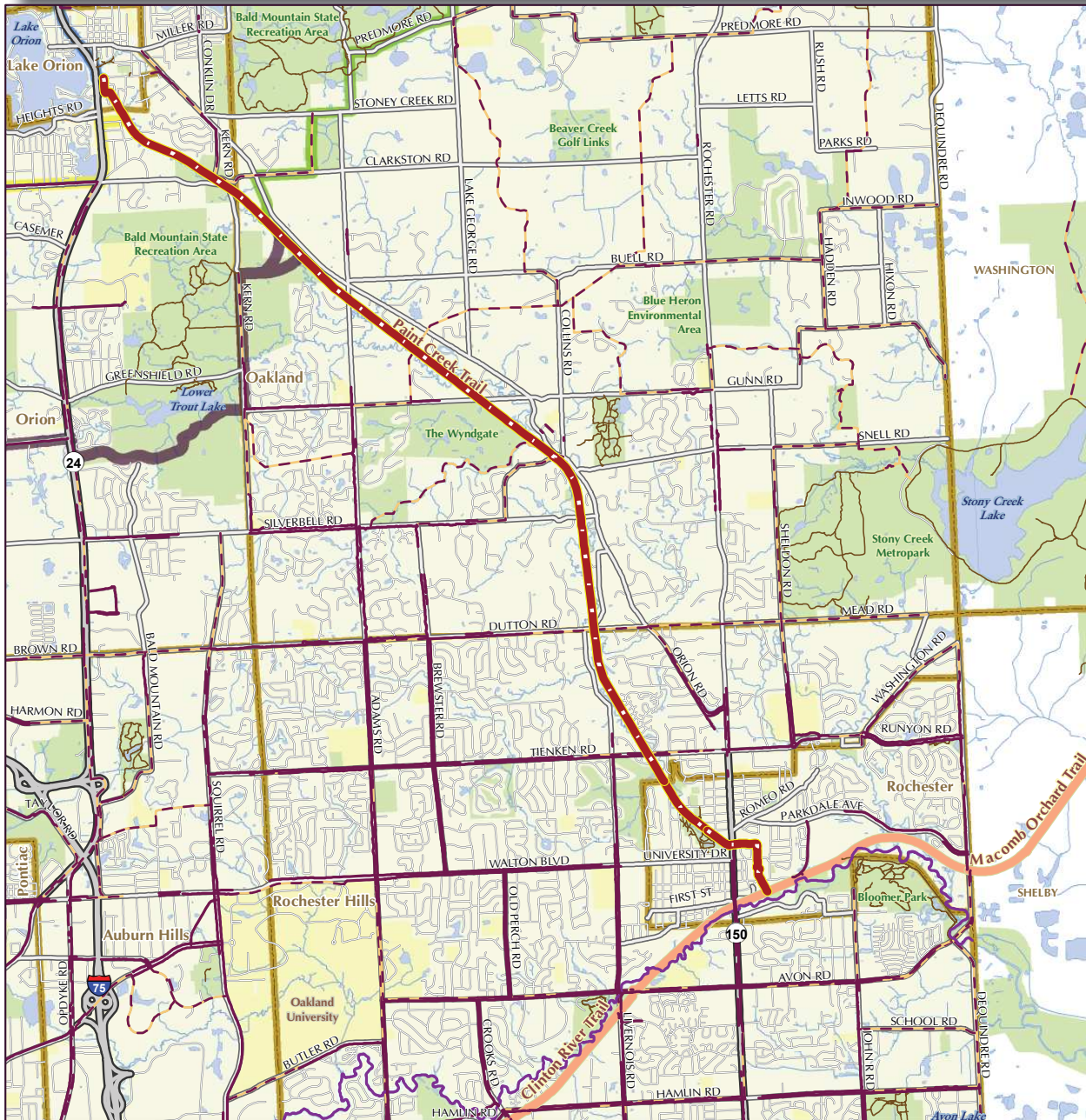
June 2008



Sources
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



P AINT CREEK TRAIL



Legend

Proposed Trail-to-Trail Connector Routes:

- Yellow Route
- Purple Route
- Blue Route
- Green Route

- Paint Creek Trail
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Water Trail
- Park Path
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School

June 2008



0 0.25 0.5 0.75 1
Miles

Sources
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008

OAKLAND COUNTY TRAILS MASTER PLAN

CLINTON RIVER TRAIL

The Clinton River Trail is a 16-mile trail within an abandoned rail line traversing through the heart of Oakland County, including the cities of Sylvan Lake, Pontiac, Auburn Hills, Rochester Hills and Rochester. It connects with the existing West Bloomfield Trail to the west, the Macomb Orchard Trail to the east, and Paint Creek Trail to the north. The Grand Trunk Railroad (originally called the Michigan Air Line) established the rail corridor in 1879. In 1998, when the railroad divested this portion of the rail road, the City of Auburn Hills purchased a 2-mile section which was the catalyst for the formation of the Friends of the Clinton River Trail group and future acquisitions of the property for use as a public trail. Each community manages/maintains their own portion of the trail, while the Clinton River Trail Alliance (comprised of representatives from each community) meets monthly to plan and coordinate trail activities.

WEST BLOOMFIELD TRAIL

The West Bloomfield Trail is a 4.25 mile rail-to-trail project that traverses through West Bloomfield, Orchard Lake, Keego Harbor and Sylvan Lake. The West Bloomfield Woods Nature Preserve is the west trailhead and Sylvan Manor Park is the east trailhead. Sylvan Manor Park also serves as the trailhead for the Clinton River Trail, enabling West Bloomfield Trail users to continue northeast toward Pontiac. Along the trail, 21 nature interpretive sites give visitors the opportunity to see various habitats without putting undue pressure on the ecosystems and sensitive wildlife species.

LAKES COMMUNITY TRAIL

The Lakes Community Trail is located between the West Bloomfield Trail and the Huron Valley

Trail. The trail is 3.2 miles long and runs east to west through the City of Wixom, Village of Wolverine, and Commerce Township. The trail connects several parks and green spaces together such as Clara Miller Park, Maple Glen



CLINTON RIVER TRAIL

The 16-mile rail trail passes through Sylvan Lake, Pontiac, Auburn Hills, Rochester Hills and Rochester. The trail connects to the West Bloomfield Trail to the west, the Macomb Orchard Trail to the east, and the Paint Creek Trail to the north.

Park, Hickory Glen Park, Gilbert Willis Park, and Proud Lake State Park. The asphalt trail was constructed in the early 2000's and varies between 6 and 8 feet wide. Each community maintains the portion of the trail within their jurisdiction. Many of the local Safety Path systems connect into the Lakes Community Trail.

HURON VALLEY TRAIL

The Huron Valley Trail is a network of trails utilizing the former railroad corridor connecting the cities of Wixom and South Lyon. It begins at Lyon Oaks County Park, accessible from Pontiac Trail, and follows the former "Airline Railroad" corridor westward through Milford Township. At I-96 a connector trail heads west toward Kensington Metropark and Island Lake State Recreation Area. The trail to South Lyon is relatively flat with very gentle grades while the trail to Kensington/Island Lake offers some challenging hills. A unique boardwalk under I-96 provides access from Island Lake Recreation Area to Kensington Metropark.

HEADWATERS TRAILS

In northwest Oakland County, the Townships of Groveland, Holly, Rose and Springfield and the Village of Holly are continuing to explore options for the Headwaters Trails. The Headwaters Trails will be an interconnected trail system providing recreation and fitness opportunities from Holly to Rose Oaks to Seven Lakes State Park. Headwaters Trails Inc. is a non-profit 501(c)(3) organization dedicated to the construction of a trail network in the Headwaters region. The Headwaters Trails system includes 4 proposed trail routes/segments:

- *Top of the Shiawassee River Water Heritage Trail*
The Top of the Shiawassee River Water Heritage Trail is a shallow river starting from the



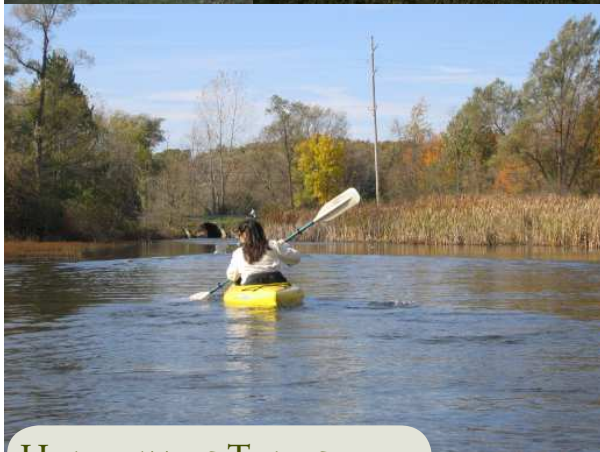
WEST BLOOMFIELD TRAIL

The West Bloomfield Nature Preserve anchors the western end of the 4.25 mile West Bloomfield Trail.

old water works building in the Village of Holly and traveling seven river miles downstream through an unspoiled natural landscape to Strom Park in the City of Fenton. Great Blue Herons, Kingfishers and Sandhill cranes can be seen on most trips down the river.

- *Village-Township Connector*
This 4.3-mile segment of the Headwaters Trail system is proposed to traverse from the Village of Holly to Holly Township and provide a connection to various destinations including WaterWorks Park, downtown historic Holly, as well as five parks that will be connected by the trail.

- *Seven Lakes Park Connector*
The Seven Lakes State Park Connector segment will connect the Village of Holly with the Seven Lakes State Park. From downtown historic Holly traveling west, the path will follow along village streets and end at the entrance of Seven Lakes State Park.
- *Rose Oaks Connector*
The Rose Oaks Connector segment of the Headwaters Trail system will connect the Village of Holly to Camp Has-O-Rec on the border of Rose Oaks County Park. Rose Oaks is a 260 acre passive use County park. The nineteen acres of the former school camp Has-O-Rec would be able to serve as a trailhead and staging area.



HEADWATERS TRAILS

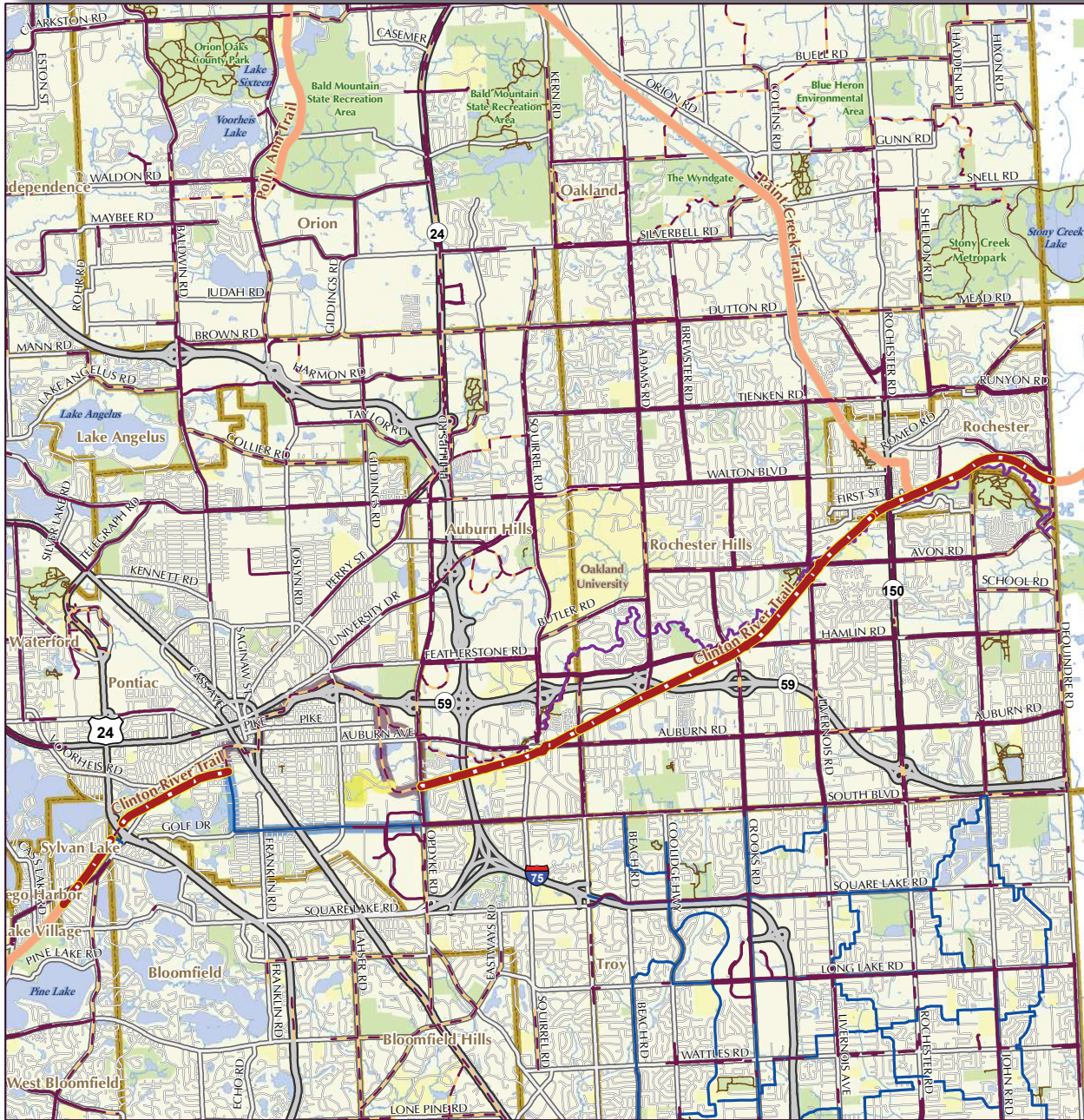
The Headwaters Trails system encompasses 4 connected segments including the Shiawassee River Water Heritage Trail, the Village-Township Connector, Seven Lakes Park Connector, and the Rose Oaks Connector.



HURON VALLEY AND LAKES COMMUNITY TRAILS

The 3.2-mile Lakes Community Trail was built in the early 2000's within Wixom, Village of Wolverine, and Commerce Township. The Huron Valley Trail leads from the Orion Oaks County Park, through Wixom, Milford, and into Lyon and South Lyon. The Huron Valley Trail also connects into Kensington Metropark and Island Lake State Recreation Area.

CLINTON RIVER TRAIL



Legend

Proposed Trail-to-Trail Connector Routes:

- Murphy Park Spur
- Purple Route
- Blue Route

- Clinton River Trail
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Water Trail
- Park Path
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School

June 2008



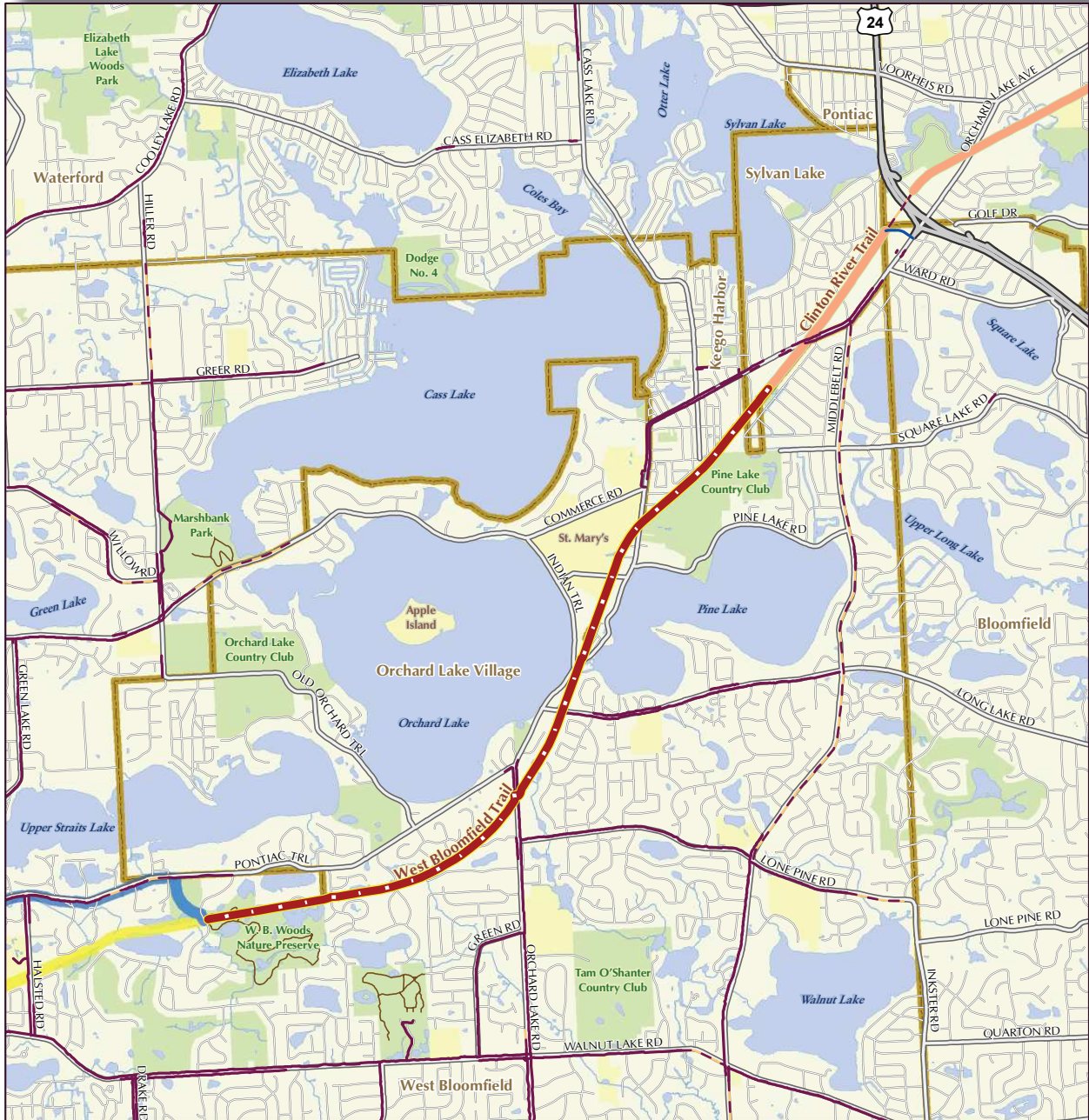
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Sources
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



OAKLAND COUNTY
TRAILS MASTER PLAN

WEST BLOOMFIELD TRAIL



Legend

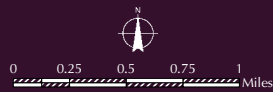
Proposed Trail-to-Trail Connector Routes:

- Yellow Route
- Blue Route

- West Bloomfield Trail
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Water Trail
- Park Path
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School

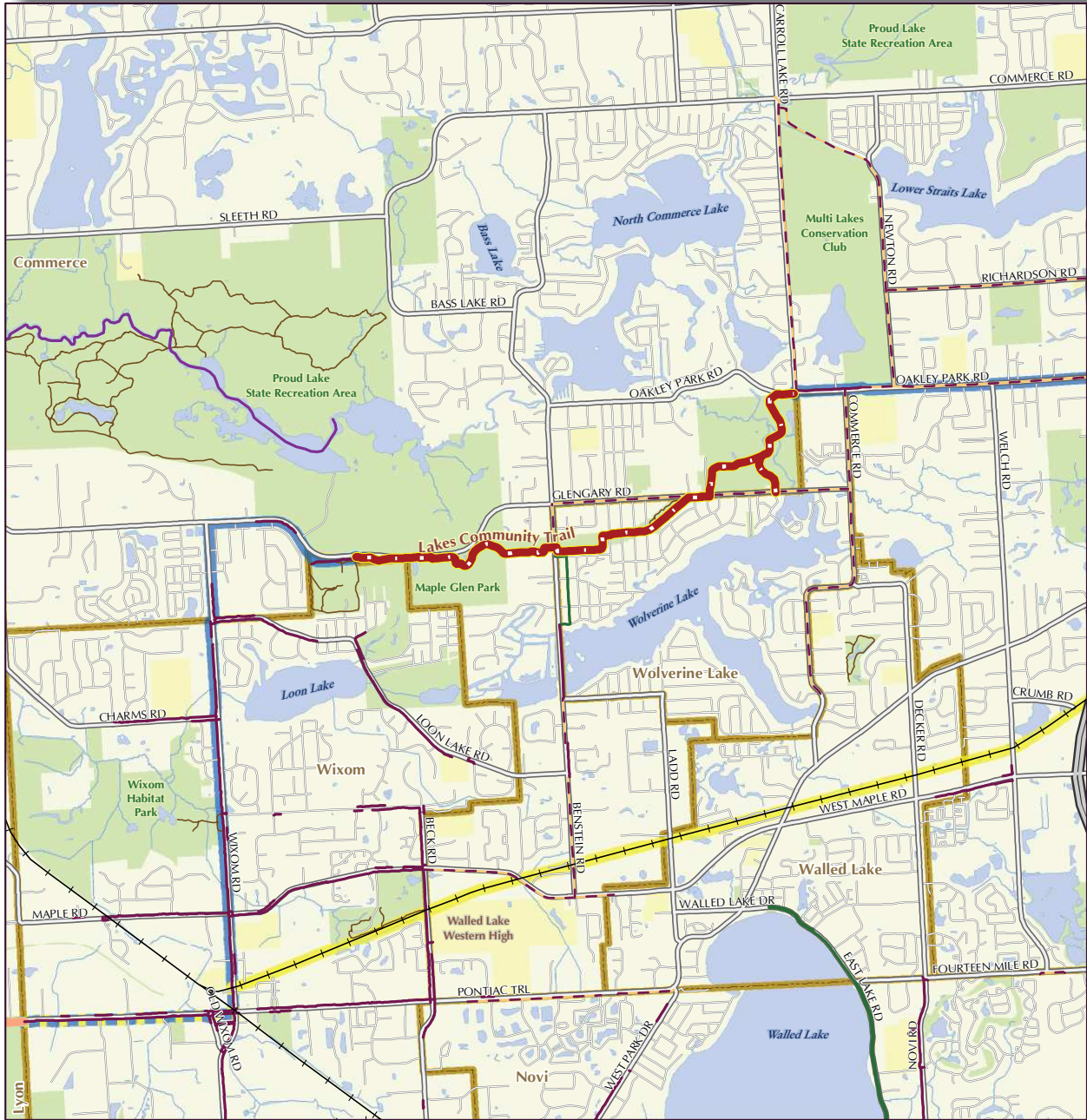
June 2008



Sources
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008

AKLAND COUNTY
TRAILS MASTER PLAN

LAKES COMMUNITY TRAIL



Legend

Proposed Trail-to-Trail Connector Routes:

- Yellow Route
- Blue Route

- Lakes Community Trail
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Water Trail
- Park Path
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School
- Railroad

June 2008



0 0.25 0.5 0.75 1 Miles

Sources:
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



OAKLAND COUNTY
TRAILS MASTER PLAN

HURON VALLEY TRAIL



Legend

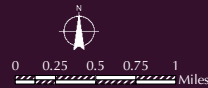
Proposed Trail-to-Trail Connector Routes:

- Yellow & Blue Route
- Yellow Route
- Blue Route

- Huron Valley Trail
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Water Trail
- Park Path
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School

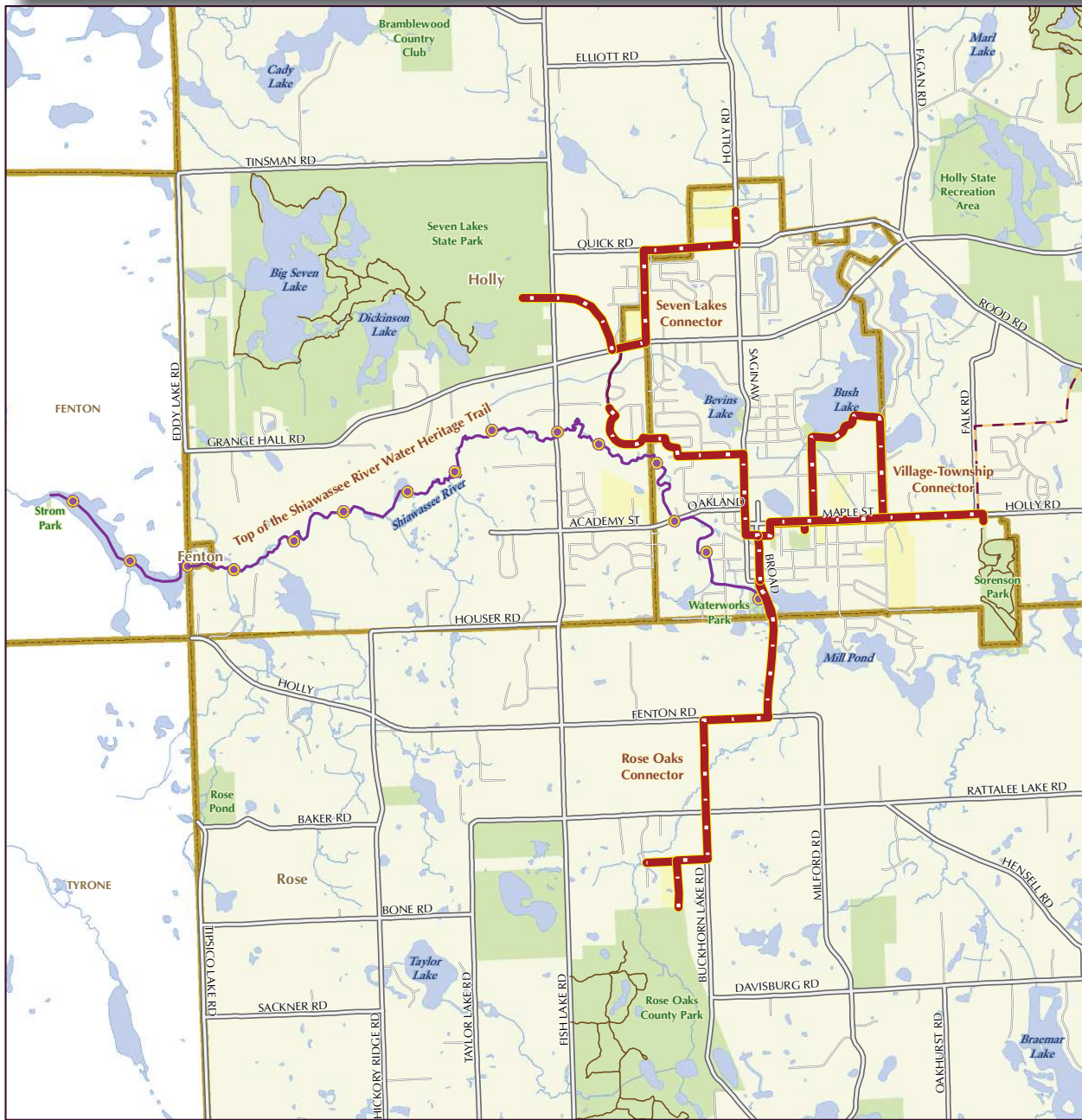
June 2008



Sources
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



HEADWATERS TRAILS



Legend

Proposed Trail-to-Trail Connector Routes:

Headwaters Trails

- Proposed Headwaters Trails
- Trail
- Safety/Side Path
- Route
- Bike Lane
- Park Path
- Top of the Shiawassee River Water Heritage Trail
- Proposed Pathway

- Municipal Boundary
- Lakes & Ponds
- Rivers & Streams
- Recreation Land
- School

June 2008



0 0.25 0.5 0.75 1 Miles

Sources:
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



AKLAND COUNTY
TRAILS MASTER PLAN



Major Oakland County Trail Systems

Trail Name	Width	Surface	Length	Year Established
I-275 Bike Path	6-10'	Asphalt	4.1 miles (+38 miles in Wayne & Monroe Counties)	1970's
Polly Ann Trail	12'	Asphalt Crushed Aggregate	14.2 miles (+ 20 miles in Lapeer Co)	1997
Paint Creek Trail	8'	Asphalt Crushed Limestone	8.9 miles	1990
Clinton River Trail	10'	Asphalt Crushed Limestone Recycled Asphalt	16 miles	2003
West Bloomfield Trail	8'	Crushed Limestone	4.25 miles	1991
Lakes Community Trail	6-8'	Asphalt	3.2 miles	Early 00's
Huron Valley Trail	10'	Asphalt	10.5 miles	2003
Headwaters Trails		Water Trail Land Trails	7 miles (Proposed)	

EQUESTRIAN TRAILS

As documented in previous sections of this Master Plan, Oakland County has the greatest number of equine in the State of Michigan. The equestrian community and various trail rider groups and associations actively coordinate and promote the needs of the equestrian community with local communities, the County, land management agencies, and OTAC.

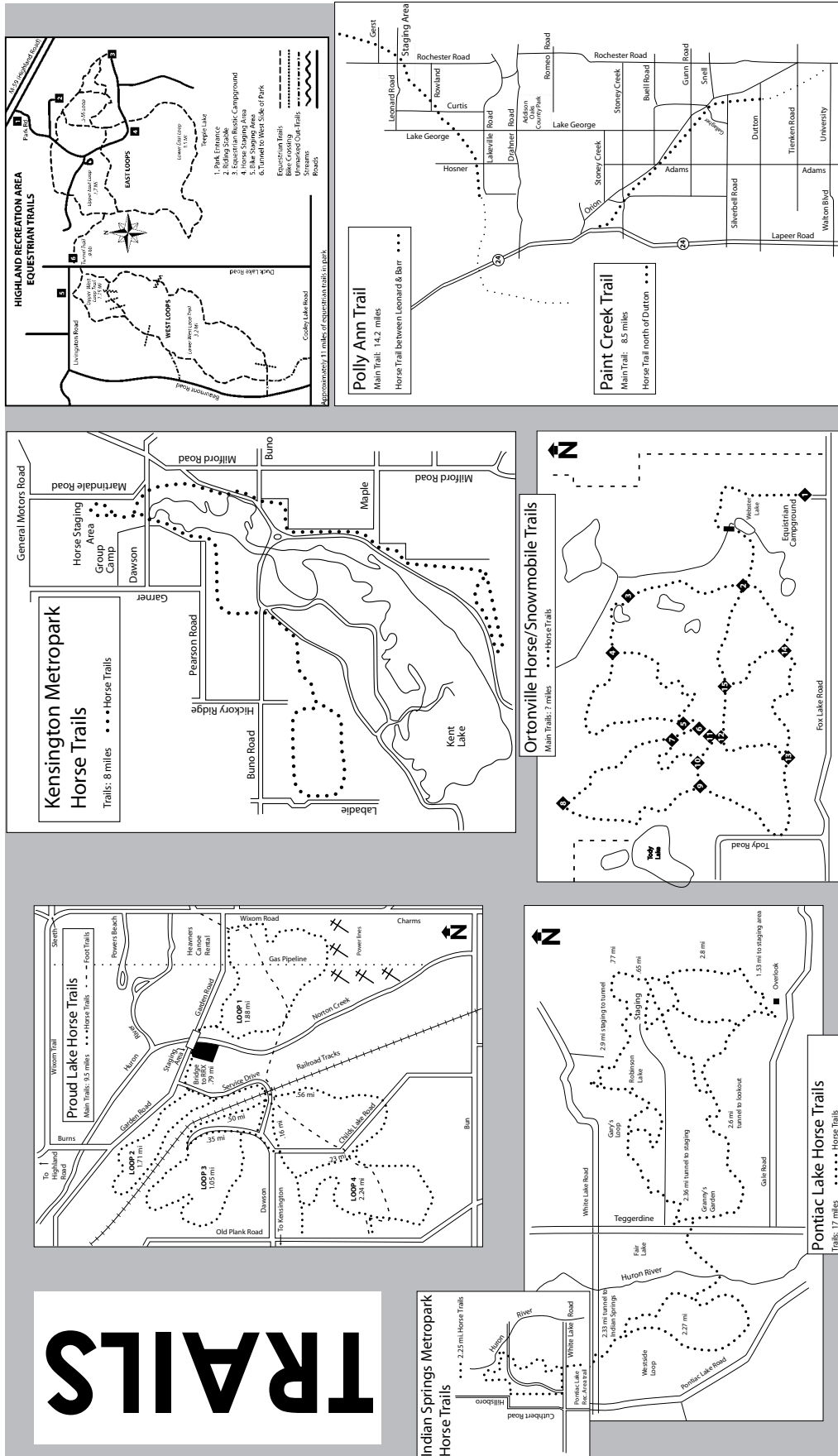
As is illustrated on the map on the following page, there are currently approximately 74

miles of public equestrian trails in Oakland County including trails at: Addison Oaks, Highland Oaks and Rose Oaks County Parks; Proud Lake and Highland Recreation Areas; Ortonville; Pontiac Lake; Indian Springs and Kensington Metroparks; Polly Ann Trail and the northern section of the Paint Creek Trail.

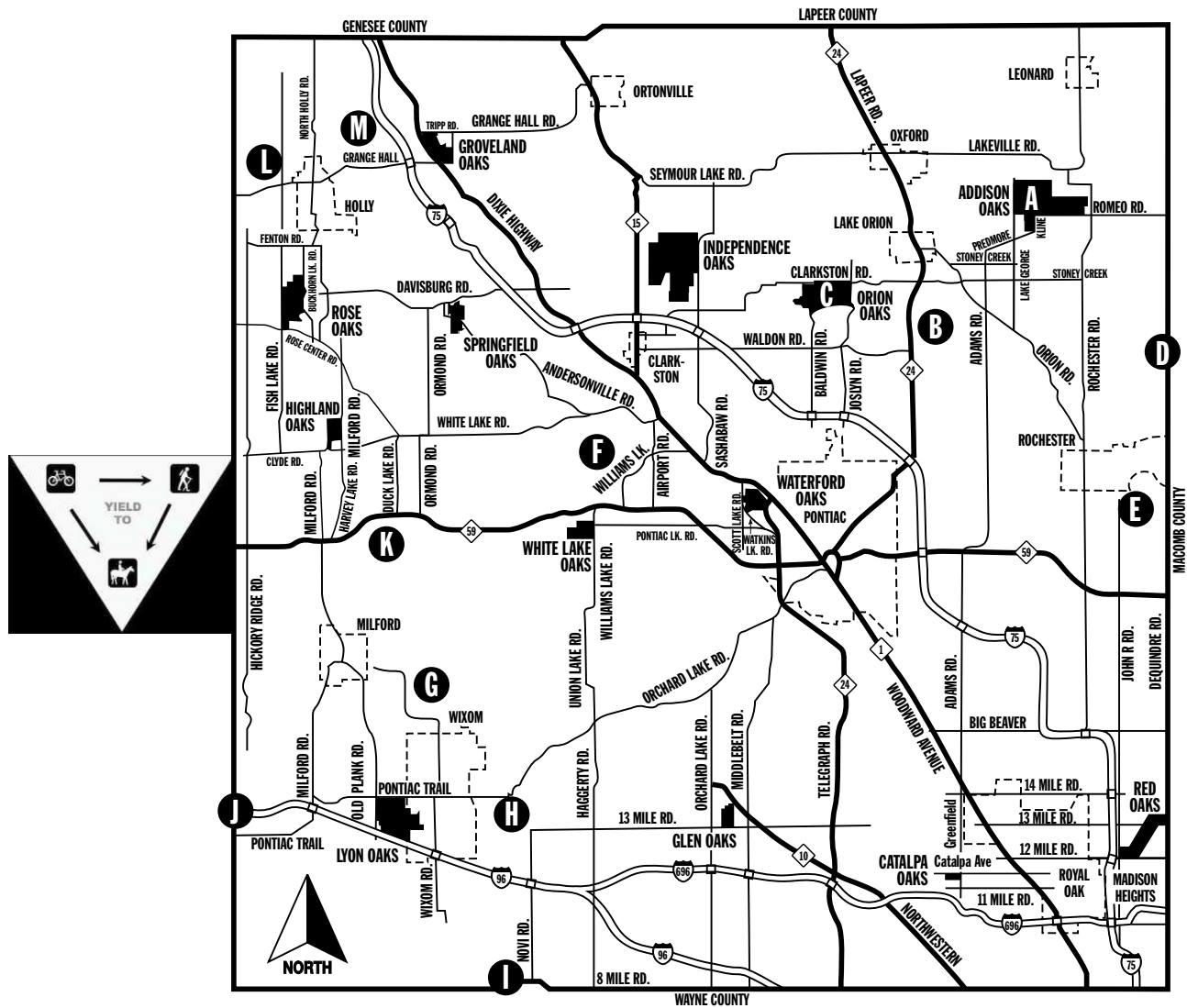
MOUNTAIN BIKE TRAILS

There are also approximately 134 miles of public mountain bike trails within Oakland County at various locations. The Michigan Mountain

Equestrian Trails in Oakland County



Mountain Bike Trails in Oakland County



Trail	City	Phone	Beg	Int	Adv	Camp	Trail miles
A	Addison Oaks	Leonard	248.693.2432	■	■	■	8
B	Bald Mountain	Lake Orion	248.693.6767	■	■		15
C	Orion Oaks	Orion Township	248.858.0906	■			10
D	Stony Creek	Shelby Township	810.781.4242	■	■		14
E	Bloomer	Rochester Hills	248.656.4753	■	■	■	8
F	Pontiac Lake	Waterford	248.666.1020	■	■	■	11
G	Hickory Glen	Commerce Township	248.926.0063	■	■		6.5
H	Lakeshore Park	Novi	248.347.0400	■	■	■	10
I	Maybury	Northville	248.349.8390	■	■		7
J	Island Lake	Brighton	248.229.7067	■	■		13
K	Highland State Rec	White Lake	248.685.2433		■	■	16
L	Seven Lakes	Fenton	248.634.7271	■		■	5
M	Holdridge	Holly	248.634.1758	■	■	■	31



OAKLAND COUNTY EQUESTRIAN TRAIL GROUPS:

- Oakland Equestrian Coalition
- Highland Equestrian Conservancy
- Addison Oaks Trail Riders
- Pinckney Trail Riders Association
- Pontiac Lake Horseman’s Association
- Highland Trail Riders
- Proud Lake Trail Riders
- Brighton Trail Riders
- Ortonville Recreation Equestrian Association
- Huron River Riders
- Waterloo Horseman’s Association
- Shiawassee Trail Riders
- Polly Ann Trail
- Rose Oaks Equine Adventurers
- Oakland County Schools Equestrian Teams
- Kensington Trail Riders

Biking Association (MMBA) is an advising member to OTAC with staff and members frequently providing updates, insights, and advice regarding mountain biking opportunities and issues. The Metro North Chapter and Metro South Chapter of MMBA specifically cover the Oakland County geographic area (dividing line is Woodward Avenue and M-59). As is illustrated on the map on the previous page, mountain bike trail opportunities are offered at multiple locations in Oakland County. In addition to those trails highlighted on the map, the MMBA also recently built mountain bike trails in Hubbell Pond Park in the Village of Milford.

2.4 RELATED EFFORTS AND INITIATIVES

Several significant planning efforts exist or are under development in the County that are closely correlated to the Oak Routes initiative and the emerging non-motorized system.

OAK RIVERS/GREEN RIVERS

The Oak Rivers (Green Rivers) grew out of the Rouge Green Corridor effort that began in 2004 in southeast Oakland County within Birmingham, Beverly Hills, and Southfield. The purpose of the Rouge Green Corridor effort is to provide local communities with tools to identify and facilitate the promotion, protection and enhancement of riparian green corridors as unique assets in the watershed. The Rouge Green Corridor effort included a public education poster, branding logo, and planning manual.

From the success and enthusiasm that resulted from the Rouge Green Corridor project, the Oakland County Environmental Stewardship Program initiated the OakRivers program in order to maximize Oakland County’s river corridors as community assets. Priority River Corridors were identified by 100 local stakeholders during two workshops in 2007. Priority River Corridors are those that feature all of the following community assets:

- Significant wildlife habitat and biodiversity protection
- Significant water quality protection
- Community amenity including recreational, scenic, historic, and/or cultural value





OAKLAND PROGRAM

The goal of Oakland County's Environmental Stewardship Program is to develop a network of linked natural areas throughout the County. In 2002, the Environmental Stewardship Program partnered with the Michigan Natural Features Inventory (MNFI) and created the first County-wide potential natural areas coverage. The companion report, the Oakland County Potential Conservation/Natural Areas Report (completed in 2004), identifies and ranks Potential Natural Areas remaining in the County.

"Potential Conservation Areas are defined as places on the landscape dominated by

2004 Oakland County



Potential Conservation/Natural Areas Report

Prepared by:
Michigan Natural Features Inventory
Prepared for:
Oakland County Planning & Economic Development Services

native vegetation that have various levels of potential for harboring high quality natural areas and unique natural features. In addition, these areas may provide critical ecological services such as maintaining water quality and quantity, soil development and stabilization, pollination of cropland, wildlife travel corridors, stopover sites for migratory birds, sources of genetic diversity, and floodwater retention." However, the actual ecological value of these areas can only be truly ascertained through on the ground surveys.

The report documents that Oakland County remains rich with high quality natural resource areas that still look and function the way they did 200 years ago. Some of these sites have the potential of harboring endangered, threatened, or special concern animal and plant species. With the high rate of development and its associated stresses on the natural environment, conservation of these remaining areas and their native plant and animal populations are vital if the County's diverse natural heritage is to be maintained.

The County utilized GIS to develop a map illustrating potential conservation sites. Emphasis was specifically placed on the intactness of the potential conservation area, wetlands and wetland complexes, riparian corridors, and forested tracts. The potential areas were then classified as Priority One, Two, or Three (by using natural break classification) based on the number of points they were given during the analysis.

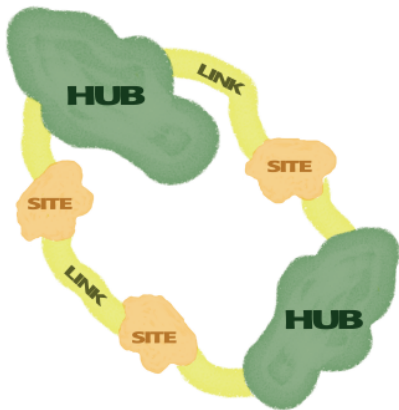
GREEN INFRASTRUCTURE VISION

The Potential Natural Area information serves as the foundation for Oakland County's Green Infrastructure Visioning effort. The Green

Infrastructure Vision focuses on identifying an interconnected network of green space that conserves natural ecosystem values and functions, guides sustainable development, and provides communities with associated economic and quality-of-life benefits.






Green Infrastructure Networks consist of the following components:

- **Hubs:** Hubs anchor the network and provide an origin or destination for wildlife. Hubs range in size from large conservation areas to smaller parks and preserves. Hubs provide habitat for native wildlife and help maintain natural ecological processes.
- **Sites:** Smaller ecological landscape features that can serve as a point of origin or destination or incorporate less extensive ecological important areas.
- **Links:** The connections that hold the network together and enable it to function. Links facilitate movement from one hub to another.



Oakland County Planning’s Environmental Stewardship Program provides green infrastructure capacity building assistance to local governments, businesses, work groups and individual citizens in both urban and rural areas. Embedded within the green infrastructure planning effort is the idea that all stakeholders should have the opportunity to create and implement their own unique piece of the overall County Vision.

At a series of work sessions being held across Oakland County, community participants inventoried existing green infrastructure features, established collaboration opportunities and considered how to set and achieve future conservation goals. Many of the identified hubs, sites, and links fall within public parkland. Trails can play a key role by linking the hubs and sites of the green infrastructure network.

Natural Resources	Parks & Recreation	Community Plans	Computer Technology	Local Knowledge
				

Green Infrastructure Vision
Oakland County, Michigan

OAKLAND COUNTY PARKS AND RECREATION MASTER PLAN - 2007

The Oakland County Parks and Recreation Department completed a Parks and Recreation Master Plan in March 2007. The purpose of the plan is to guide recreation and planning efforts through 2011 and to meet necessary MDNR standards for eligibility for grant programs. The Master Plan included an overall description of the County and overview of the administrative structure and financing for the department, an inventory of County Parks, a needs assessment and summary of public input, goals and objectives, as well as a capital improvement plan and implementation strategies.



OAKLAND COUNTY PARKS AND RECREATION MASTER PLAN GOALS:

- Acquire, preserve and manage parkland and natural resources.
- Provide outstanding facilities and programs.
- Provide the highest quality recreational and educational services.
- Enhance communications, cooperation and coordination with intergovernmental agencies, the private sector and other organizations.
- Sustain the financial stability and viability of parks system.

BLUEWAY WATER TRAIL EXPLORATORY COMMITTEE

Oakland County Planning & Economic Development Services is coordinating an effort to evaluate and promote five water trails including:

- Shiawassee River (Holly to Fenton)
- Huron River (Proud Lake State Recreation Area to Milford)
- Clinton River (Auburn Hills to Rochester)
- Clinton River (Waterford Township)
- Rouge River (City of Southfield)

With the assistance of Oakland County Parks, Riverside Kayak Connection, local communities, and other agencies, the Blueway Water Trail Committee will evaluate the current river status, existing gaps, enhancement needs, potential economic implications, and formulate



IMPORTANCE OF RIVERS IN OAKLAND COUNTY

- River corridors connect communities with their history and culture
- River corridor vegetation is the last defense for protecting the water quality of lakes, rivers, and streams
- River corridors provide critical wildlife habitat and movement pathways
- River corridors cross boundaries and tie communities together
- River corridors provide significant economic value for communities (Ecological Services, Recreational Value, Tourism value, Property Value)

a recommendation to OTAC regarding further action on the topic. Future activities for the Blueway Water Trail Committee and OTAC may include assisting with wayfinding signage, river guide/map, interpretive kiosks, and canoe/kayak events.

Water resources continue to be an essential component of Oakland County's natural heritage. The headwaters for five out of the six major rivers found in the County originate here and meander throughout the region and drain into Lake St. Clair, Lake Erie, or the Saginaw Bay. The County's lake and river systems also support a wealth of water-based recreational opportunities including fishing, boating, bird watching, and swimming.

SHIAWASSEE RIVER WATER HERITAGE TRAIL SIGNAGE MANUAL

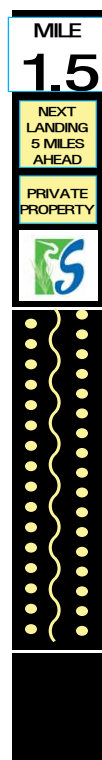
As an integral part of the development of the Top of the Shiawassee River Water Heritage Trail, a Trail Signage Manual was prepared in the spring of 2008 by Oakland County Planning & Economic Development Services and Headwaters Trails, Inc. This manual serves as a guideline for the effort to construct wayfinding signage along the seven mile water trail. Additionally, it is hoped that the signage manual will be used as a model for future water trail segments upstream.

Signage at the trailhead, Water Works Park in the Village of Holly, will provide general trail maps and safety information for canoeists, kayakers and other river users before beginning their journey.

Downstream messaging will include mile markers, safety markers, directional information and identification of natural features that are vital to building an understanding of watershed functioning. Installation of the signage is scheduled to be completed by the end of 2008. Funding for the Signage Manual and sign installation effort was provided through a grant awarded to Headwaters Trails, Inc. by the Saginaw Bay Watershed Initiative Network.

PLACE BASED ECONOMY INITIATIVE

Oakland County Planning & Economic Development is currently working on a new initiative related to "place-based economies". The initiative focuses on the establishment of identifiable "districts" within the County based on the distinct resources and opportunities those areas provide. The overall goal is to then be able to focus and coordinate marketing and tourism efforts based on the unique character and resources of the "district", as is illustrated by the examples on the following page.



Oakland County Michigan

L. BROOKS PATTERSON
OAKLAND COUNTY EXECUTIVE



Dynamic, Diverse, & Destined to be Your Home



Come Visit!
...and we'll show you

The Huron River Valley

A World of Outdoor Adventure and Small Town Charm

The Experience Awaits You

Oakland County Michigan

- Shop Main Street Boutiques
- Canoe & Kayak
- Learn of Historic Mills & Automobile Heritage
- Edsel Ford Haven Hill Retreat
- Study Glacial Landforms
- Boat Our Freshwater Lakes
- Back Roads Fall Color Tours
- Horseback Riding
- Historic Architecture
- Barn Tours
- Mitford Memories Festival
- Highland Station Concerts
- Detroit Symphony at the Lake
- 4th of July Festivals
- Natural Areas Tours
- Rattlesnake Roundup
- Underwater Habitat Bubbie
- Farm Days
- Osprey Viewing
- North American Flyway
- Cross Country Bike Trails
- Mountain Bike Bonanza
- Fishing & Hunting
- Outdoor Arts
- Candlelight Nature Walks
- Camp by the Fire
- Walk with Edison & Lindberg
- Explore Fine Restaurants
- Golf with Nature
- and Much, Much, More.....

Come Explore!

The Great Outdoors..... & Historic Landmarks

Featured: Edsel Ford Barn

Part of the Edsel Ford Haven Hill Estate located in Highland Station State Park. As a former residence of color and genius Ford, Haven Hill was never intended to last. Stunning Highland and Lower Michigan architecture, the historic mansion and its grounds are a testament to the nation's rich history and the power of the American dream. The historic mansion and its grounds are a testament to the nation's rich history and the power of the American dream. The historic mansion and its grounds are a testament to the nation's rich history and the power of the American dream.

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OAKLAND COUNTY PLANNING & ECONOMIC DEVELOPMENT SERVICES - WORK IN PROGRESS - PRELIMINARY DRAFT 4/16/08 LSF





3 MASTER PLAN VISION

THE PRIMARY VISION FOR A CONNECTED NON-MOTORIZED SYSTEM WITHIN OAKLAND COUNTY HAS BEEN CAPTURED OVER THE YEARS IN THE OAK ROUTES MAPS AND BROCHURES THAT HAVE BEEN PRODUCED BY OAKLAND COUNTY WITH ASSISTANCE AND INPUT FROM OTAC AND A VARIETY OF AGENCIES AND LOCAL COMMUNITIES.

The Oak Routes map has continually evolved as more and more non-motorized systems are being planned or implemented and more stakeholders, special interest groups, and communities have provided input regarding existing and potential connections. The Oak Routes Vision not only communicates the existing network for trail users, it is also intended to serve as a guide to non-motorized system planning, funding, design and construction into the future. The Master Plan represents a long-term vision for non-motorized facilities. Non-motorized systems and potential connections are at varying stages of planning or implementation. In many cases, significant amounts of work, further planning, public involvement, design, and implementation efforts are needed for the connections to come to fruition.

While Oakland County and OTAC anticipate continuing to serve in a leadership role in the

development of a connected non-motorized system, in many cases, the actual implementation of non-motorized systems and routes remains under the purview and responsibility of the various local agencies, property owners, trail commissions, etc. As work and efforts continue, additional information is collected, and the network evolves, it is highly likely that the networks and corridors will continue to change or move due to a variety of potential issues such as public opinion, funding, land use, and property ownership. The Oak Routes Master Plan Vision (map/brochure in pocket at back of this document) is a tool intended to serve as a guide and foundation for non-motorized connections within Oakland County. The Oak Routes Map will be in its third printing in 2008. To date, 33,000 copies have been distributed to local communities and trail enthusiasts.



Oakland County, the Oakland Trails Advisory Council, as well as numerous agencies and Friends Groups have worked together to implement a network of non-motorized systems that will crisscross Oakland County and connect into adjacent counties and regions. There are 95 miles of completed trails; 13 miles in the planning, design and development stage, and 146 miles under consideration.

--April '08

3.1 NON-MOTORIZED NETWORK TYPES

The County pathways system is comprised of a vision to link pathways and greenways throughout Oakland County and southeast Michigan. The County concept envisions a hierarchy of pathways. The primary corridors

OKLAHOMA COUNTY PATHWAY CONCEPT



- Trail
- Municipal Boundary
- County Parks
- HCMA Recreation Land
- State Recreation Land
- Complete
- Design/Development
- Under Consideration
- Under Review

*The county pathways system is comprised of a vision to link pathways and greenways throughout Oklahoma County and Southeastern Michigan. The county concept envisions a hierarchy of pathways consisting of primary and secondary pathways.

June 2008



Sources
 Roads: Oklahoma County GIS, 2008
 Trail Network: Oklahoma County GIS, 2008
 Recreation Lands: Oklahoma County GIS, 2008



OKLAHOMA COUNTY TRAILS MASTER PLAN

in the pathways system include a Cross County Trail and a North County Trail Loop. Secondary pathways will provide links to features and resources at the local community level. The County concept seen on the Oak Routes map depicts not actual planned trail routes, but rather connections that have been identified as important or critical for linking the natural, cultural, historic and community amenities in Oakland County.

The hierarchical pathway system is comprised of a variety of path types, with each type exhibiting a unique purpose and design. This hierarchical pathway system will continue to be utilized by the County to support the development of a connected network. Each non-motorized pathway type is described in greater detail on the following pages along with a focus map of the City of Rochester Hills that graphically illustrates a community that utilizes a majority of the different non-motorized types to create a connected system.

1. TRAIL

Multi-use or shared use trails that are generally separate from roadways and range from 8' – 14' wide. Many times located in former railroad corridors, along streams and rivers, or within utility easements.

2. SAFETY/SIDE PATH

Safety/Side Paths are typically wider than sidewalks (6' – 8' on average). They include multi-use pathways which are generally located within a road right-of-way but separate from the roadway surface. It should be noted that a safety/side path is not a standard bicycle facility type as classified by the AASHTO Guide for the Development of Bicycle Facilities. The AASHTO guide states that the development of



SAFETY/SIDE PATHS

Several communities in Oakland County have programs to construct safety/side paths, such as this one in Highland Township, in order to provide non-motorized connections.

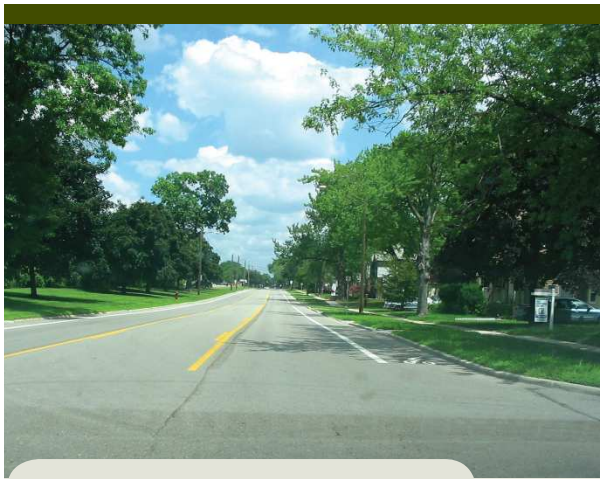
wide sidewalks does not necessarily add to the safety of bicycle travel, since wide sidewalks encourage higher bicycle speeds and increase potential for conflicts with motor vehicles at intersections.

3. SIDEWALK

Pedestrian pathways that are generally located within a road right-of-way, but separate from the roadway surface and are typically not as wide as safety/side paths. Multi-use is not recommended on sidewalks as they are typically found in areas with a high number of curb cuts and are 4' – 5' wide. Additionally, two-way bicycle traffic is typically not supported on sidewalks due to their reduced width.

4. BIKE LANE

An on-street bike lane is a portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists. Motor vehicles are not permitted to drive or park in the bike



BIKE LANES

On-street bike lanes have been implemented along several roads in the City of Ferndale.

lane. However, right turning vehicles can enter the bike lane at intersections to complete their turn.

5. BIKE ROUTE

Bike Routes are bicycle facilities located on or directly connected to the roadway surface, however, they have no treatment other than route signage. Bicycle routes are usually identified with a “Bicycle Route” sign and are designated as such in order to provide connectivity. Designation as a bike route indicates that there are particular advantages to using the route rather than an alternative.



6. PARK PATH

Pathways within an existing County, State, Municipal, or Metropark recreation area are referred to as Park Paths in the context of the Oakland County Trails Master Plan. These pathways may be designed and designated for specific user groups or seasonal activity.

7. WATER TRAIL

Waterways that will support established kayaking and canoeing trails. There are currently three designated water trails in Oakland County:

- Clinton River Water Trail
- Shiawassee River Water Trail
- Huron River Water Trail

Designating a water trail can assist in broadening awareness and education of navigated areas and natural resources. Completed water trails many times also include access points and signage.

BIKECLIST EXPERIENCE LEVELS

Although their physical dimensions may be relatively consistent, the skills, confidence and preferences of bicyclists vary dramatically. The following three bicycle user types are presented to assist in determining the impact of different facility types and roadway conditions on bicyclists. These varying user types demonstrate the need to provide a variety of non-motorized facilities to serve all potential users.

Advanced

Use their bicycles as they would a motor vehicle, riding for convenience and speed with a minimum of detours or delays. They are typically comfortable riding with motor vehicle traffic but need sufficient operating space on the roadway.

Basic or less confident

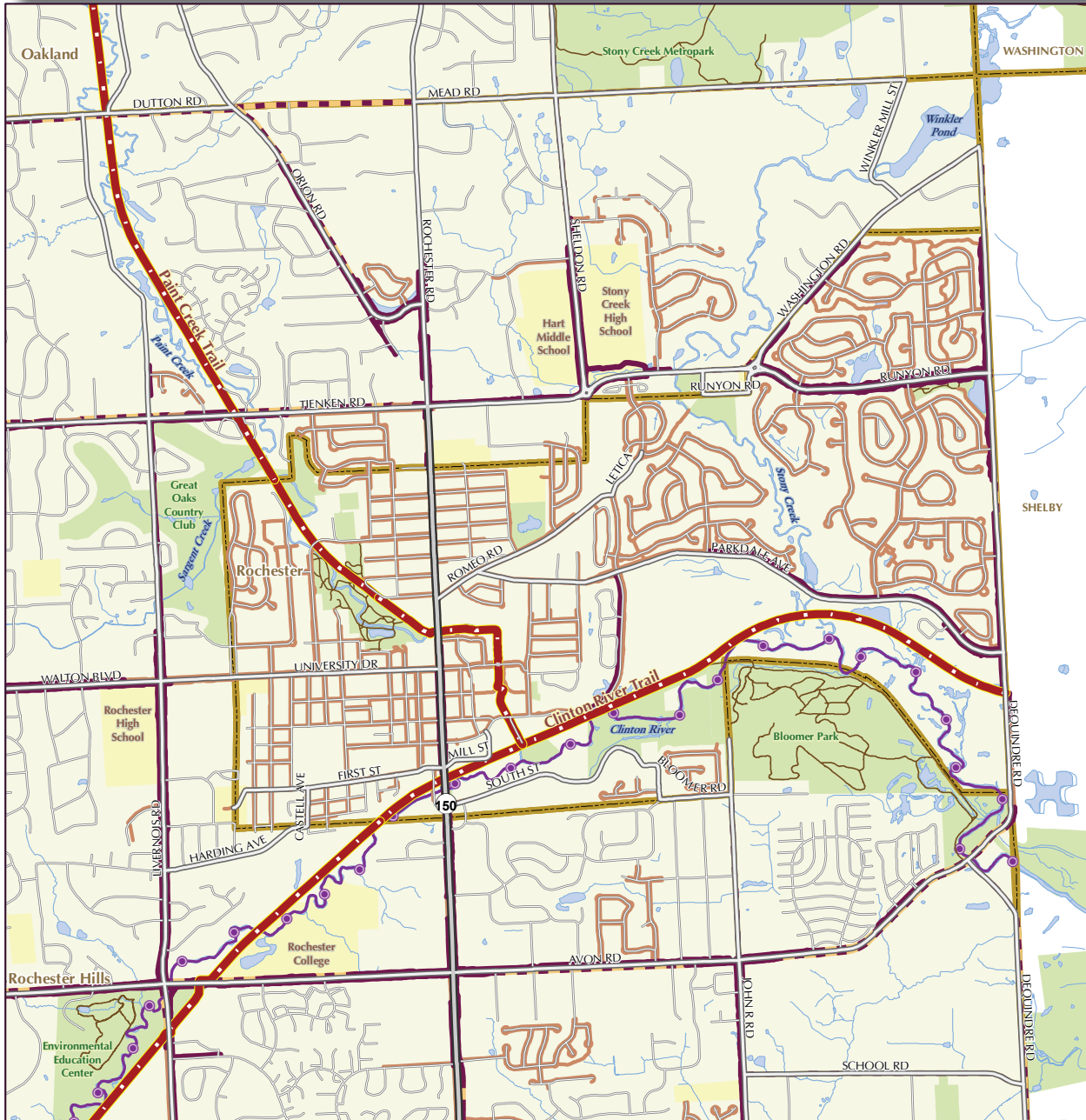
Prefer to avoid roads with fast and busy motor vehicle traffic without ample roadway width. These riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulders.

Children

Require access to key destinations such as schools and recreation facilities. Prefer residential streets with low motor vehicle speeds linked with shared use paths. Busier streets with well-defined pavement markings between bicycles and motor vehicles can accommodate children without encouraging them to ride in the travel lane of major arterials.

--- Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials, 1999.

NON-MOTORIZED NETWORK TYPES



Trail	Sidewalk	Municipal Boundary
Safety/Side Path	Park Path	Lakes & Ponds
Route	Water Trail	Rivers & Streams
Bike Lane	Proposed Pathway	Recreation Land
		School

June 2008

Sources:
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



EXISTING MILES OF VARIOUS NON-MOTORIZED TYPES

Bike Lane	8 miles
Park Path	268 miles
Bike Route	148 miles
Safety/Side Path	468 miles
Trail	95 miles
Water Trail	31 miles
Sidewalk	2,260 miles

--- Oakland Co
GIS April '08

3.2 GAP ANALYSIS PROCESS & RESULTS

When developing the Oakland County Trails Master Plan, the County also focused on 4 primary “gaps”, or critical missing links that exist in the major regional trail systems that have emerged over the past several years. While other gaps in the system exist, and should remain a priority, these 4 were selected due to the difficulties associated with implementation and efforts completed to date by the local stakeholders. These gaps were evaluated and discussed in greater detail during the development of the Master Plan to assist in ensuring implementation efforts continue in the coming months and years. The 4 gaps evaluated in greater detail included:

- Clinton River Trail (through Pontiac)
- Paint Creek and Polly Ann Trails
- West Bloomfield, Lakes Community, and Huron Valley Trails
- Urban Trail Network (SE Oakland Co)

EVALUATION PROCESS

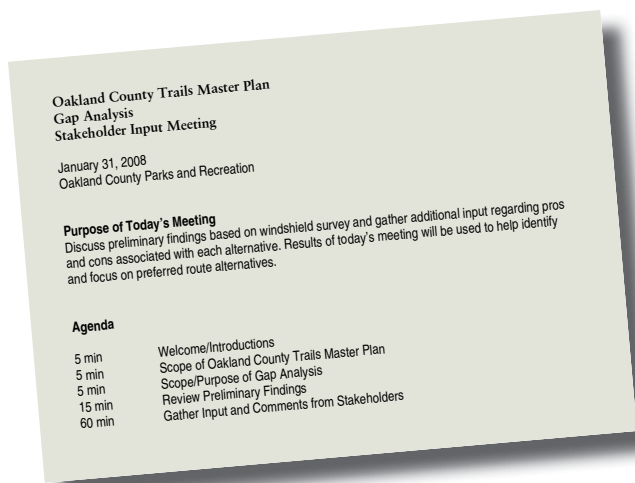
A windshield survey was conducted in November 2007 based on existing GIS data and information collected during previously held input sessions. The potential routes investigated were based on previously identified connections and/or discussions regarding possible connections. General items such as right-of-way conditions, accessibility issues, road crossings, user safety concerns, property issues, and general opportunities and constraints for construction were considered and noted during the windshield survey.



RELEVANT CRITERIA FOR ROUTE SELECTION

- Feasibility of Design, Construction, and Maintenance
- Directness for the Trail User
- User Safety
- Cost of Implementation
- Property Ownership
- Serves Multiple Destinations
- Surroundings

When reviewing the potential routes and connections, a qualitative evaluation was considered rather than a specific quantitative evaluation. Implementation of routes to connect the existing gaps remains under the purview and responsibility of the various local agencies, property owners, trail commissions, etc., all of whom have diverse and varying missions and concerns. While final decisions regarding route location, implementation, design, construction, maintenance, etc. will be in the hands of the



local stakeholders associated with each gap, this Master Plan identifies the wide range of decision-making criteria that will undoubtedly be important as implementation nears.

Once the windshield survey was completed and existing documents, studies, reports, and maps were reviewed, potential route alternatives to connect the gaps were graphically depicted on maps and the opportunities and constraints associated with each route were described in written text. These draft documents were then shared with the OTAC as well as targeted stakeholders associated with the implementation of connections between these major regional systems for review and further refinement.

A series of individual stakeholder meetings was held on January 31, 2008 with the targeted stakeholder groups associated with each Gap Analysis at the County Parks and Recreation office. Approximately 30 people attended the individual meetings including representatives from various County agencies, local communities, Friends groups, MDOT, MDNR, and Trail Commissions/Councils. The purpose of these meetings was to review the preliminary findings and gather any additional input regarding




GAP ANALYSIS PREFERRED ROUTES

This Master Plan recommends that each of the illustrated routes be studied in further detail by the local stakeholders with jurisdiction over implementation. It would be remiss to only implement one connection between the regional systems, when each of the illustrated routes would provide different benefits and experiences. Some routes will obviously be pursued and/or completed first, however, establishing multiple connector routes will only benefit the system users, owners, and communities.

the pros, cons, and preferences of each alternative. The results of the meetings were used to help identify and focus on preferred connector routes.

FINDINGS

The results of past efforts related to the various trail gaps, as well as the results from the windshield survey and input from OTAC and the stakeholder meetings were summarized and documented. For each Gap Analysis, multiple routes to connect the regional trail systems are highlighted. These should not necessarily be considered “alternatives” nor should it be interpreted to mean that only one of the routes is preferred. During the development of the Master Plan, it was clear that each of the gap areas includes a significant geographic area, various routes that could provide users with different trail experiences (i.e. urban vs. park-like), and routes that could provide connections to various destinations.



CLINTON RIVER TRAIL GAP

INITIAL EVALUATION

Three routes were initially evaluated and discussed with the local stakeholder group (see graphic below). These included:

- A northern route into downtown Pontiac, along the Clinton River, and former railroad corridor
- A central route within the former railroad corridor, and other public land
- A southern route primarily within the South Boulevard right-of-way

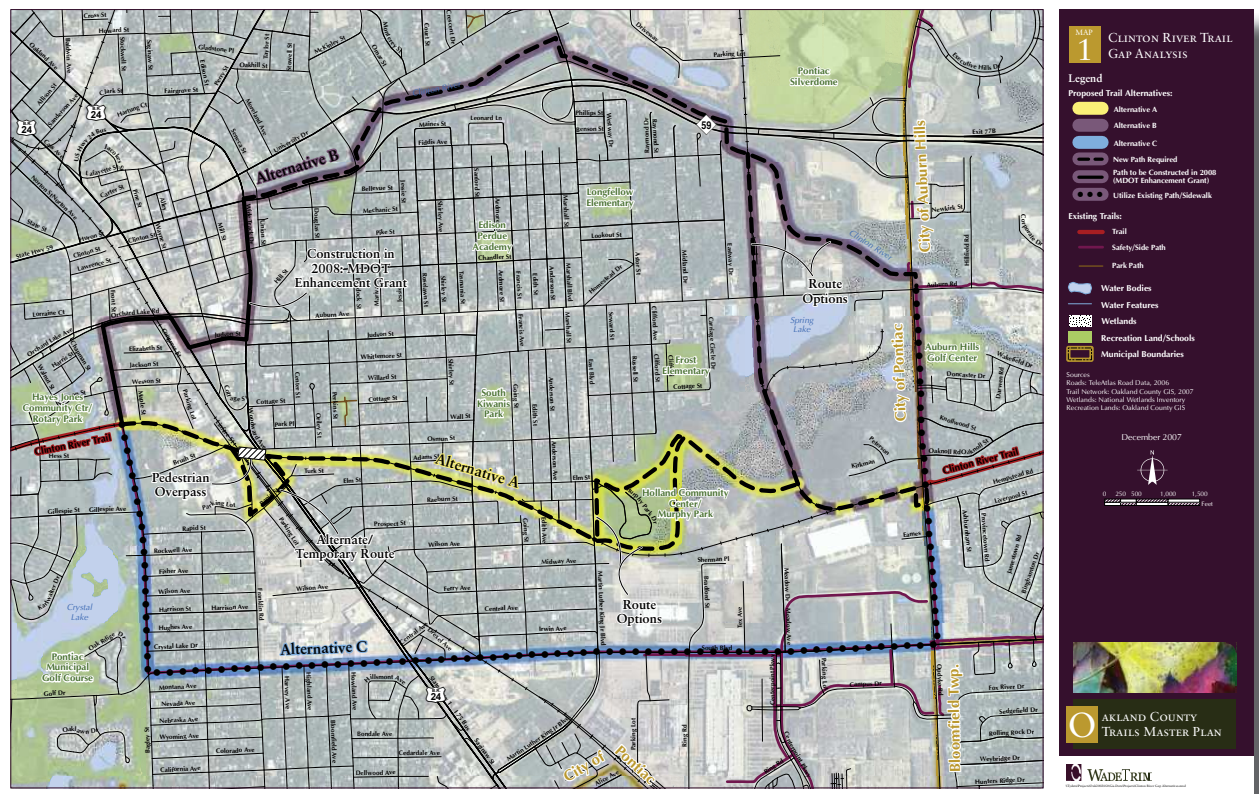
Based on discussions with the local stakeholder group, and particularly the City of Pontiac’s research regarding property ownership, the central route within the former railroad corridor was eliminated as a viable connector route.

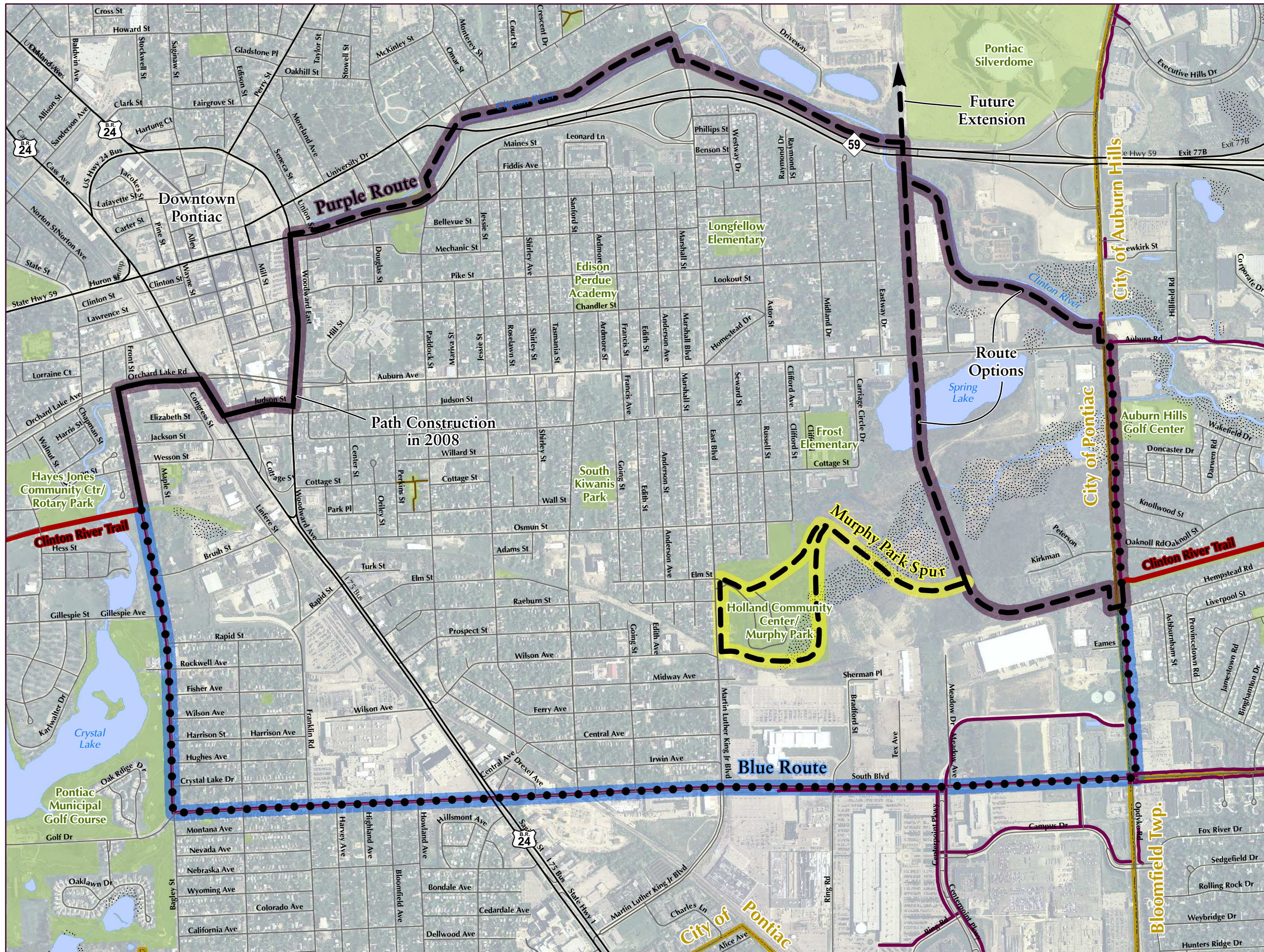
RECOMMENDATIONS

Based on the results of the initial evaluation and stakeholder input, two routes, and a trail spur, are proposed through the City of Pontiac as connector routes between the two existing sections of the Clinton River Trail. Each of these routes (identified as either the Purple Route or Blue Route on the following fold out map) has various opportunities and constraints associated with implementation as is further described below. See Chapter 5, Action Plan, for suggested next steps and timeline associated with this gap.

Purple Route – Approximate Length: 5.93 mi

This route would traverse to the north, through the downtown area, along the Clinton River, and Opdyke Road. A potential option for the eastern section of this route is to follow the currently vacant railroad between M-59 and the existing Clinton River Trail. *This route is identified in the Clinton River Trail Master Plan that*





MAP 1 CLINTON RIVER TRAIL GAP ANALYSIS

- Legend**
- Proposed Trail Routes:**
- Purple Route
 - Blue Route
 - Murphy Park Spur
 - New Path Required
 - Utilize Existing Path/Sidewalk
 - Path to be Constructed in 2008 (MDOT Enhancement Grant)

- Existing Trails:**
- Trail
 - Safety/Side Path
 - Park Path
 - Water Bodies
 - Water Features
 - Wetlands
 - Recreation Land/Schools
 - Municipal Boundaries

Sources
 Roads: TeleAtlas Road Data, 2006
 Trail Network: Oakland County GIS, 2008
 Wetlands: National Wetlands Inventory
 Recreation Lands: Oakland County GIS, 2008



was completed in 2003 and is the preferred primary connector route.

Blue Route –

Approximate Length: 3.54 mi

This route traverses to the south, within road right-of-way along Bagley Street, South Boulevard, and Opdyke Roads. While not ideal in terms of environment and infrastructure, there are currently safety paths and/or sidewalks in place and can serve as a temporary connection and/or southern connection in the future with some improvements.

Murphy Park Spur –

Approximate Length: 1.47 mi

Murphy Park and the Holland Community Center are a significant community asset and destination within Pontiac. The desire is to develop a trail spur from the Clinton River Trail utilizing the vacant railroad corridor, and the vacated Osmun Street right-of-way to provide trail users access to this natural jewel and its associated amenities.

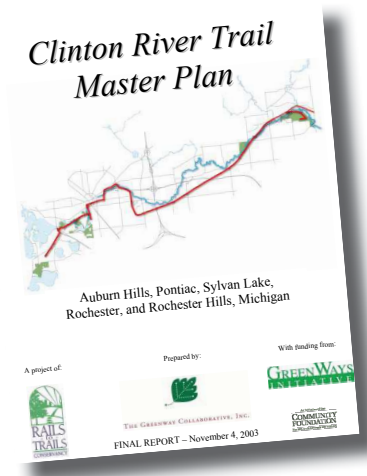
Opportunities and constraints associated with implementation of each Route have been documented as a tool for stakeholder agencies to consider, address and/or resolve as movement toward implementation continues. It is highly likely that progress on each of the routes will be worked on simultaneously as the various agencies proceed with implementation efforts.

Purple Route Opportunities and Constraints

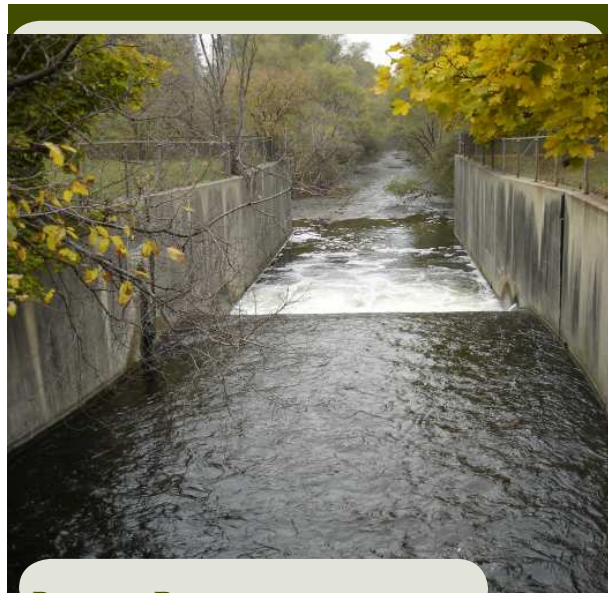
- The western segment of the northern route will be constructed in 2008 with funding from the MDOT Enhancement Program and the City of Pontiac. Design is complete and the 10' wide segment will traverse through

the downtown area from the Clinton River Trail north to Huron Street.

- For the most part, the property along the remainder of the proposed route is owned by either MDOT, the City of Pontiac, or the Oakland County Drain Commissioner's Office.
- Several sections could be constructed within the Clinton River riparian corridor, providing opportunities to be in "natural" settings within a highly urban context.
- The western section brings trail users into the downtown area for amenities and economic development opportunities.
- An opportunity may exist to utilize the vacated northern spur railroad corridor from approximately M-59 south to Opdyke Road.
- The scenic view along the route varies from the downtown built environment to a wooded river corridor with rolling terrain.
- This route is documented and detailed in the Clinton River Trail Master Plan which was completed in 2003 and is the preferred route of the stakeholders to connect the two existing sections of the Clinton River Trail.

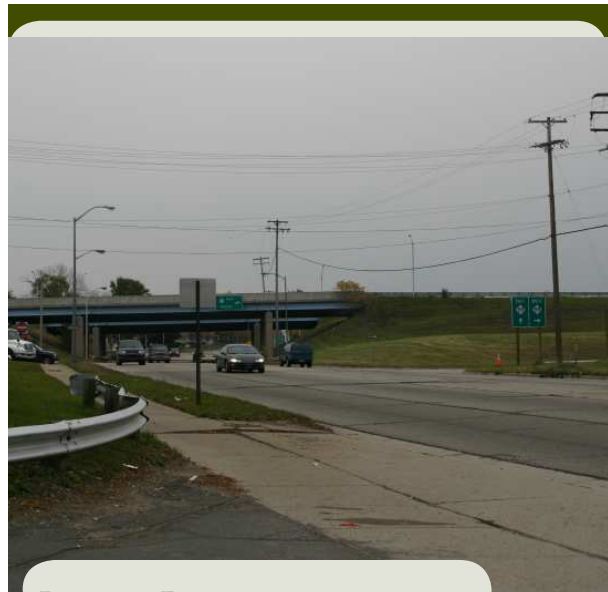


- Construction within the Clinton River riparian corridor may add environmental considerations and costs.
- The general rolling terrain of the route and some of the major cross streets have grade differentials which may add to construction costs.
- Several trail/road crossings exist with the majority being across high speed, high volume roads. In particular, the University Drive, M-59, Paddock Street area is of particular concern and difficulty.
- The route is proposed to include an underpass in the M-59/University Drive area. Underpasses may include design/construction challenges.
- A section of the proposed route traverses alongside the Waste Water Treatment Plant and close to M-59 creating odor and noise abatement issues/concerns.
- The vacated Northern Spur railroad corridor is elevated as it crosses M-59 and Auburn Avenue. Transitioning the trail from along the Clinton River onto the elevated vacant railroad may have design and construction challenges.
- The elevated Northern Spur railroad across M-59 is noted by the City of Pontiac to be in potentially poor condition. Rehabilitation and/or use of this structure may have design and construction challenges.
- Some remote sections of the trail along the river could provide a challenge for access by police and emergency services.



PURPLE ROUTE

The northern route is proposed to traverse alongside the Clinton River.

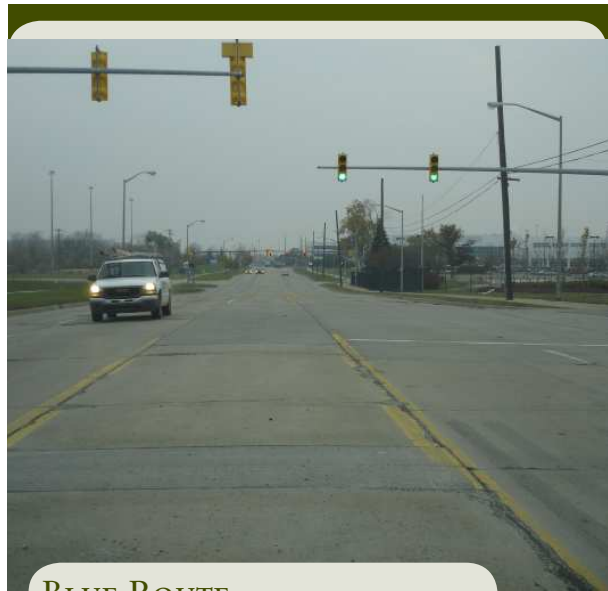


PURPLE ROUTE

Several road crossings are proposed at high volume, high speed intersections

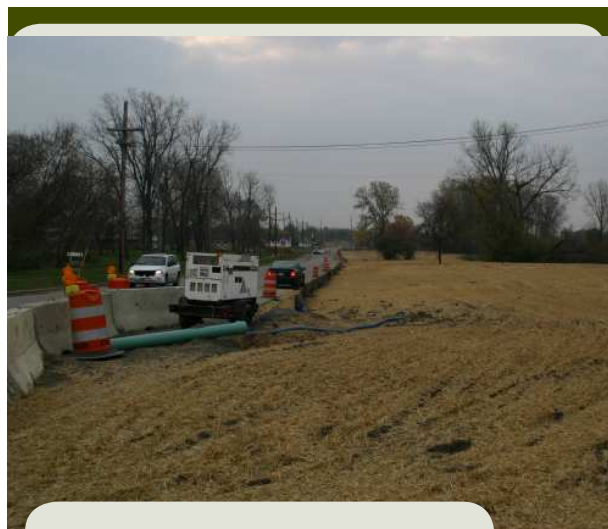
Blue Route Opportunities and Constraints

- The majority of the proposed route along Bagley, South Boulevard and Opdyke Road exists by using either safety paths and/or sidewalks.
- The route is entirely within road right-of-way, resulting in no major property ownership issues.
- Due to the proximity of the route to major streets, police and emergency services have easy access to all sections of the route.
- Trail users may feel their personal security is improved due to the large volume of traffic along the route and increased visibility.
- The setting for the southern route is very industrial feeling and looking. The large vehicle volumes along the route present a noisy urban environment. Personal safety concerns have also been noted by stakeholders.
- South Boulevard is a 5-lane, high volume, high speed thoroughfare including truck and industrial traffic.
- A number of trail/road crossings exist with several being across wide, high speed, high volume roads including B.R. 24, Martin Luther King Boulevard, and Opdyke Road.
- Some segments such as the three-lane section east of Bagley has little room for widening to accommodate the trail.



BLUE ROUTE

South Boulevard is a 5-lane, heavily travelled corridor with several industrial uses.



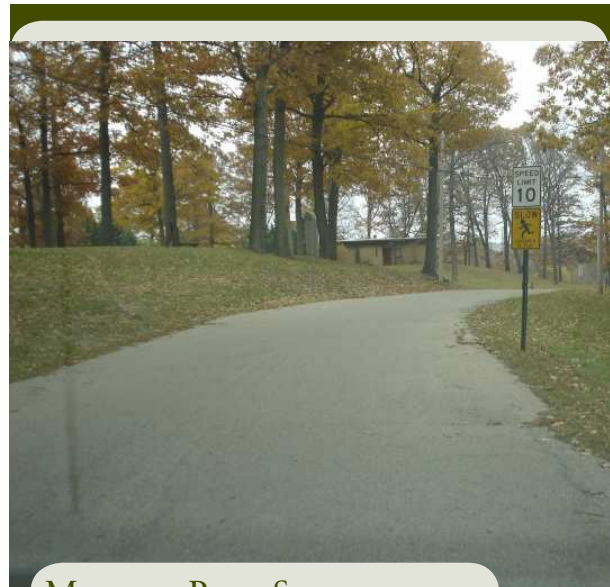
BLUE ROUTE

Sidewalk exists on the eastern side of Bagley Street, with right-of-way room on the western side for pedestrian facilities.

Murphy Park Spur

Opportunities and Constraints

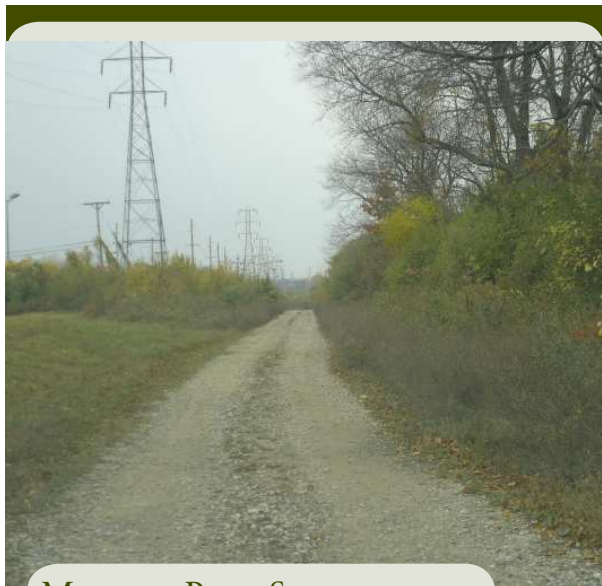
- Would connect users to Murphy Park and Holland Community Center providing additional recreation opportunities and amenities to trail users and affording greater use of the park.
- An 86' wide vacant road right-of-way (Osmun Street) exists between Murphy Park and the Grand Trunk Western Railroad (Northern Spur).
- From a scenic perspective, the route offers views and access to a rolling, wooded, and wetland area in an otherwise highly urbanized environment.
- The spur would provide direct access to the Clinton River Trail from nearby, densely populated, residential neighborhoods.
- Purchase of at least a portion of the Northern Railroad Spur is required for implementation.



MURPHY PARK SPUR

The Holland Community Center and Murphy Park is a primary destination.

- Construction of the trail within the vacant Osmun Street right-of-way includes environmental challenges with wetland and drain/creek crossings highly likely. This will increase the cost of design and construction.



MURPHY PARK SPUR

A portion of the Northern RR Spur would be necessary to connect to Murphy Park.



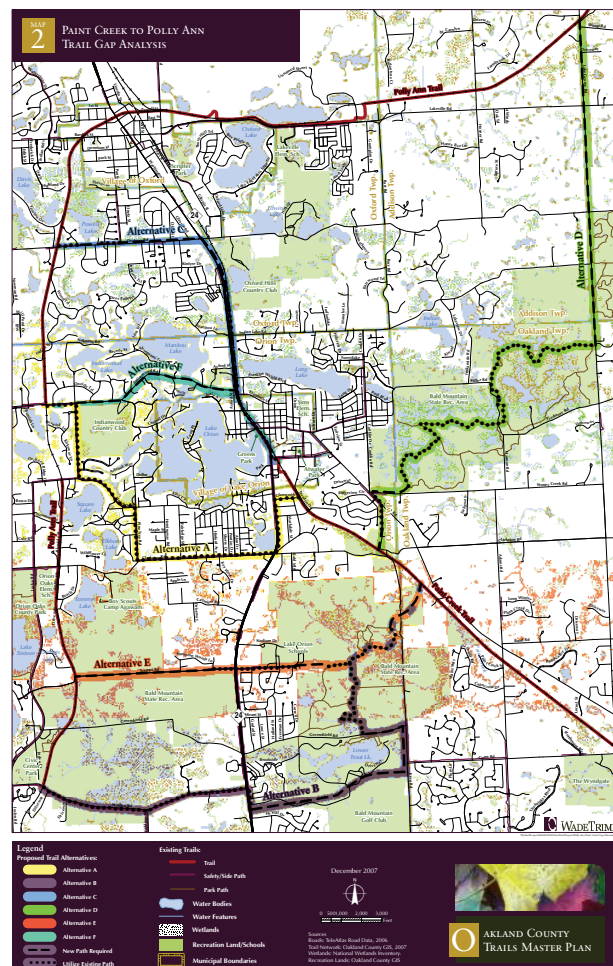
PAINT CREEK & POLLY ANN TRAILS GAP

INITIAL EVALUATION

Six routes were initially evaluated and discussed with the local stakeholder group (see adjacent graphic). These included:

- A route (depicted in yellow) that utilizes existing safety path from the Paint Creek Trail to Glanworth, M-24, along Clarkston Road, Pine Tree Road, Heights, and Joslyn Roads.
- A route (depicted in purple) that would traverse along existing unpaved trails in Bald Mountain State Recreation Area, to Greenshield Road, within the utility corridor, and along Waldon Road.
- A route (depicted in blue) that would traverse from the Paint Creek Trail, north along M-24 to Drahner Road and connect into the Polly Ann Trail.
- A route (depicted in green) traversing to the north from the Paint Creek Trail, Conklin Road, along existing unpaved trails within Bald Mountain State Recreation Area, to Lake George Road.
- A route (depicted in orange) that would lead from the Paint Creek Trail, utilize existing unpaved trails within Bald Mountain State Recreation Area, along the Lake Orion Schools property, and along Scripps Road.
- A route (depicted in teal) traversing to the north along M-24 and west along Indianwood Road.

Based on discussions with the local stakeholder group, several of the potential connector routes were modified and/or eliminated for designation as “primary” connectors due to feasibility and/or need.



RECOMMENDATIONS

Based on the results of the initial evaluation and stakeholder input, four routes are proposed as primary connector routes between the existing Paint Creek and Polly Ann Trails. Each of these routes (identified as either the Purple Route, Blue Route, Yellow Route, or Green Route on the following fold out map) has various opportunities and constraints associated with implementation as is further described below. See Chapter 5, Action Plan, for suggested next steps and timeline associated with this gap.

Purple Route –

Approximate Length: 6.00 mi

This route would traverse to the south, within and/or near Bald Mountain State Recreation Area, along Kern Road, Clear Creek Drive and utilize the existing safety path along Waldon Road.

Yellow Route –

Approximate Length: 4.33 mi

This route utilizes existing safety path from the Paint Creek Trail to Glanworth, M-24, along Clarkston Road, Pine Tree Road, Heights, and Joslyn Roads.

Blue Route –

Approximate Length: 3.65 mi

This route would traverse from the Paint Creek Trail, north along M-24 to Drahner Road and connect into the Polly Ann Trail.

Green Route –

Approximate Length: 6.81

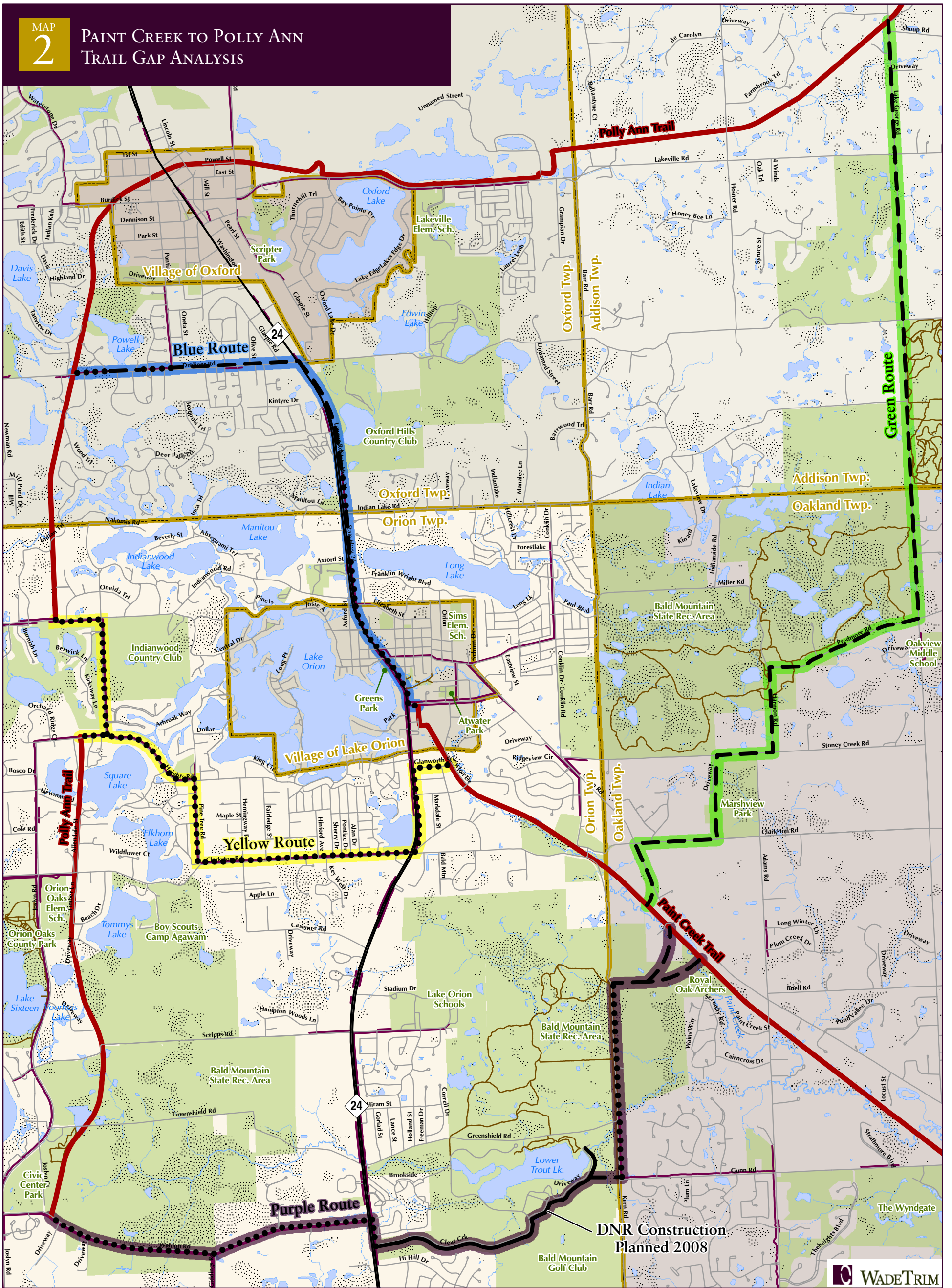
This route would traverse to the north from the Paint Creek Trail, along Orion Road and Clarkston Road, within Marshview Park, along

Bald Mountain State Recreation Area utilizing Stoney Creek, Harmon and Predmore Roads, to Lake George Road.

Opportunities and constraints associated with implementation of each Route have been documented as a tool for stakeholder agencies to consider, address and/or resolve as movement toward implementation continues. It is highly likely that progress on each of the routes will be worked on simultaneously as the various agencies proceed with implementation efforts.

Purple Route Opportunities and Constraints

- This route would take users along and through a portion of Bald Mountain State Recreation Area, providing a natural setting and experience.
- The MDNR is planning to construct a significant section of this route in 2008 between M-24 and Kern Road along the primary entrance to the Recreation Area providing the trail user with a route with few vehicular conflicts.
- Safety path is already constructed along the length of Waldon Road between M-24 and the Paint Creek Trail.
- This route would take trail users to the Orion Township offices and Civic Center Park complex, as well as Orion Oaks Elementary and Orion Oaks County Park.
- Continued discussions and/or negotiations are needed with the Royal Oak Archers and other private land owners to provide a connection to the Paint Creek Trail from Kern Road. This segment may include the need to cross the Paint Creek, adding potential design and construction challenges and costs.



Legend

Proposed Trail Routes:

- Yellow Route
- Purple Route
- Blue Route
- Green Route
- New Path Required
- Utilize Existing Path
- Path to be Constructed in 2008 (MDNR)

Existing Trails:

- Trail
- Safety/Side Path
- Park Path

Other Features:

- Water Bodies
- Water Features
- Wetlands
- Recreation Land/Schools
- Municipal Boundaries

September 2008

0 500 1,000 2,000 3,000 Feet

Sources:
 Roads: TeleAtlas Road Data, 2006
 Trail Network: Oakland County GIS, 2008
 Wetlands: National Wetlands Inventory
 Recreation Lands: Oakland County GIS, 2008

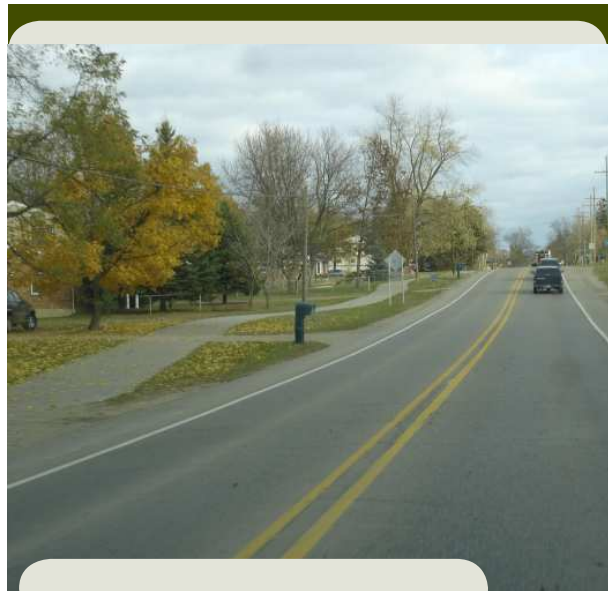
WADETRIM

AKLAND COUNTY TRAILS MASTER PLAN

- The proposed route is lengthy and may seem/feel “out of the way” to trail users.
- Coordination and cooperation with the MDNR will be necessary. Issues may also arise regarding the various number of different user groups and needs within Bald Mountain State Recreation Area.
- The former railroad corridor south of Heights Road in Orion Township (Polly Ann Trail Extension) is owned by the Township, however, much of it remains an unimproved surface. Improvements to this corridor would need to be made in order to make this route a viable connection.
- Several “turns” would be required by the user, making the need for wayfinding and directional signs to ensure users can find their way between the Polly Ann and Paint Creek Trails.
- The remote segments of the trail may provide access challenges for police and emergency services.

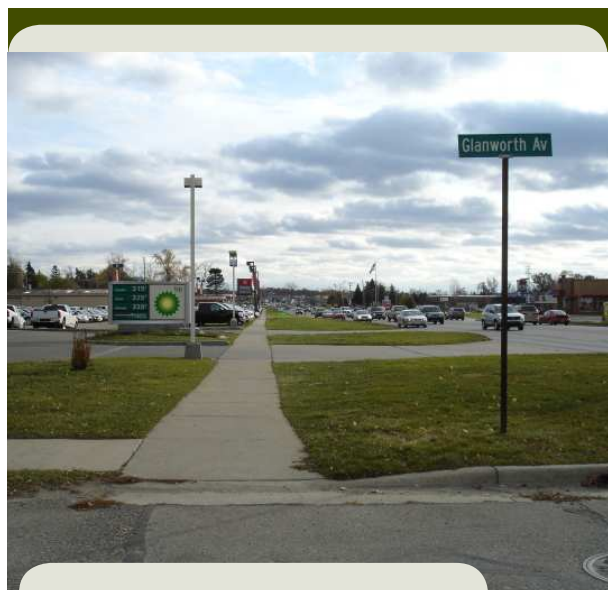
Yellow Route Opportunities and Constraints

- The route follows sidewalk and safety path that is already constructed. With the exception of narrow sidewalks along Glanworth, the remainder of the route would utilize 8’ wide safety path.
- This route is already useable. With signage, mapping, a short trail segment between Glanworth and the Paint Creek Trail, and minor road crossing treatment improvements, this route could be a desirable and heavily used connection.



YELLOW ROUTE

An 8’ wide Safety Path system is already constructed along the proposed route.



YELLOW ROUTE

M-24 between Glanworth and Clarkston Road would be utilized.

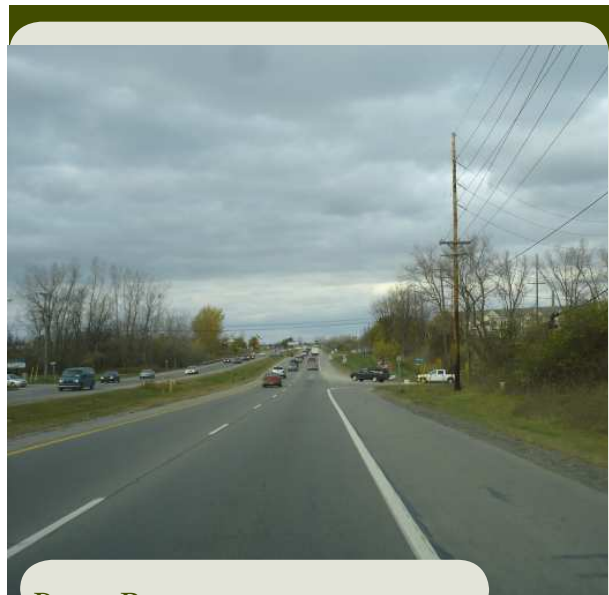
- The route length is relatively short and direct in comparison to the other alternatives.
- The road crossings are relatively safe and minor in terms of traffic volumes, speeds,

and crossing distance. The M-24 crossing at Clarkston Road is signalized with pedestrian push buttons and a median for refuge.

- The route passes through primarily residential areas and affords residents direct access to existing trails.
- Signage is necessary to indicate to users the direction, short distance, and opportunities available in nearby downtown Lake Orion.
- The route includes the need to cross multiple residential driveways, requiring the user to remain aware of vehicular traffic movements.
- A short connector segment is required between the existing Paint Creek Trail and the walkway along Glanworth Street.
- Several “turns” would be required by the user, making the need for wayfinding and directional signs to ensure users can find their way between the Polly Ann and Paint Creek Trails.
- Some horizontal and vertical alignment changes would be desirable to enhance bicycle travel.

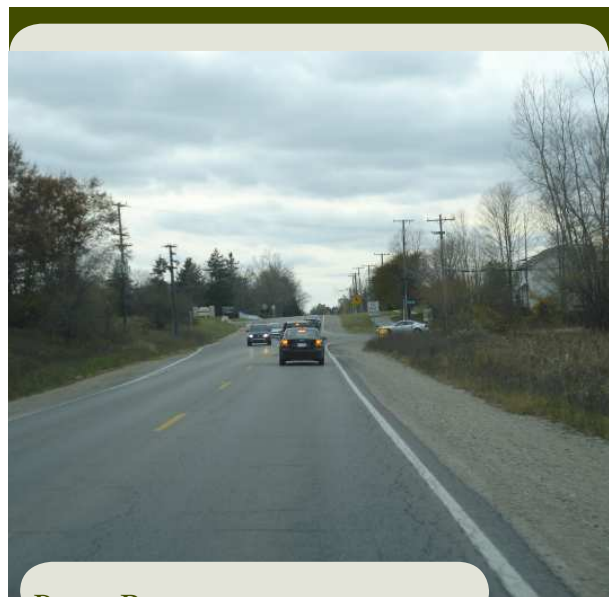
Blue Route Opportunities and Constraints

- This route would bring the trail users adjacent to downtown Lake Orion and along M-24, supporting economic activity in the area and providing access to amenities for trail users.
- This route would continue to generally follow the historic rail alignment where it remains intact.



BLUE ROUTE

M-24 right-of-way heading north toward Drahner Road.



BLUE ROUTE

Drahner Road right-of-way near Pontiac Road.

- Sections of sidewalk and safety path are in place along M-24 and Drahner Road.

- Major road crossings are limited to the intersection of M-24 and Drahner (if the route remains on the east side of M-24).
- Once the route reaches Drahner Road, the opportunity may exist for users to also utilize Oxford Lake Drive and Lake Edge Drive to access the Polly Ann Trail.
- This route follows M-24 for several miles. In the majority of areas, M-24 is commercial in nature with multiple curb cuts requiring the trail user to remain alert to heavy vehicular turning movements, and likely “starting and stopping” due to vehicular activity.
- In some areas along M-24, the right-of-way width does not provide for significant space for a trail/safety path and therefore the users are placed in close proximity to the road.
- M-24 is a 4-lane divided highway with additional turning lanes throughout. M-24 carries high volumes of high speed traffic adding to noise, safety, and “user experience” concerns.
- The water body at the Oxford Hills Country Club is in close proximity to M-24 with the edge of the right-of-way sloping down toward the water. This area may require the design and construction of a structure such as a bridge or boardwalk, adding to the overall cost of implementation.
- The intersection of M-24 and Drahner, where the connector route would potentially cross, is signalized and includes pedestrian push buttons and crosswalk markings. However, this intersection is a particularly dangerous crossing due to the skewed angle

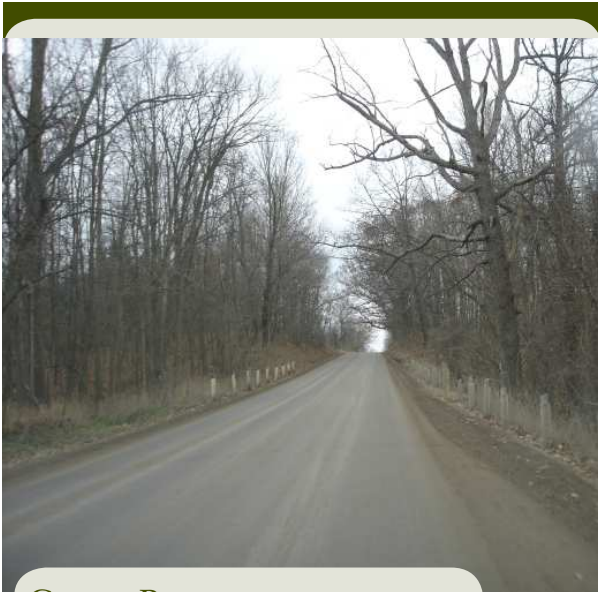
of the intersecting roads. This increases the distance trail users must cross, adding to their exposure to high-speed, high-volume traffic.

- Drahner Road is a two-lane paved road with gravel shoulders. Open swales provide drainage along sections of the roadway. To construct a trail connection within the right-of-way, swales may need to be replaced with enclosed storm sewers, adding to the design and construction costs.
- Oxford Township has put considerable effort into constructing safety path along Drahner Road, however, property ownership/easement issues must be resolved in order to complete this section of the Blue Route.

Green Route Opportunities and Constraints

- This route would take users through Oakland Township parkland, along the Bald Mountain State Recreation Area, and Addison Oaks County Park, providing a natural setting and experience as well as access to multiple destinations.
- The proposed route would not include many road crossings. Those roads that would be crossed are relatively low traffic, low speed, and rural in nature.
- The proposed route is lengthy and may feel like going “out of the way” to trail users.
- Coordination and cooperation with the MDNR will be necessary. Issues may also arise regarding the various user groups and needs.

- Lake George Road is a two-lane (paved and gravel) road with extensive, mature vegetation along the roadway edge in the majority of areas. Steep slopes at the road edge also exist in areas. This would likely add to the design and construction costs associated with implementation. The Road Commission for Oakland County has designated Lake George Road to have a 120' planned right-of-way.



GREEN ROUTE

Lake George Road right-of-way.

- Several “turns” would be required by the user, making the need for extensive wayfinding and directional signs to ensure users can find their way between the Polly Ann and Paint Creek Trails.



WEST BLOOMFIELD, LAKES COMMUNITY, & HURON VALLEY TRAILS GAP

INITIAL EVALUATION

Three routes were initially evaluated and discussed with the local stakeholder group (see graphic below). These included:

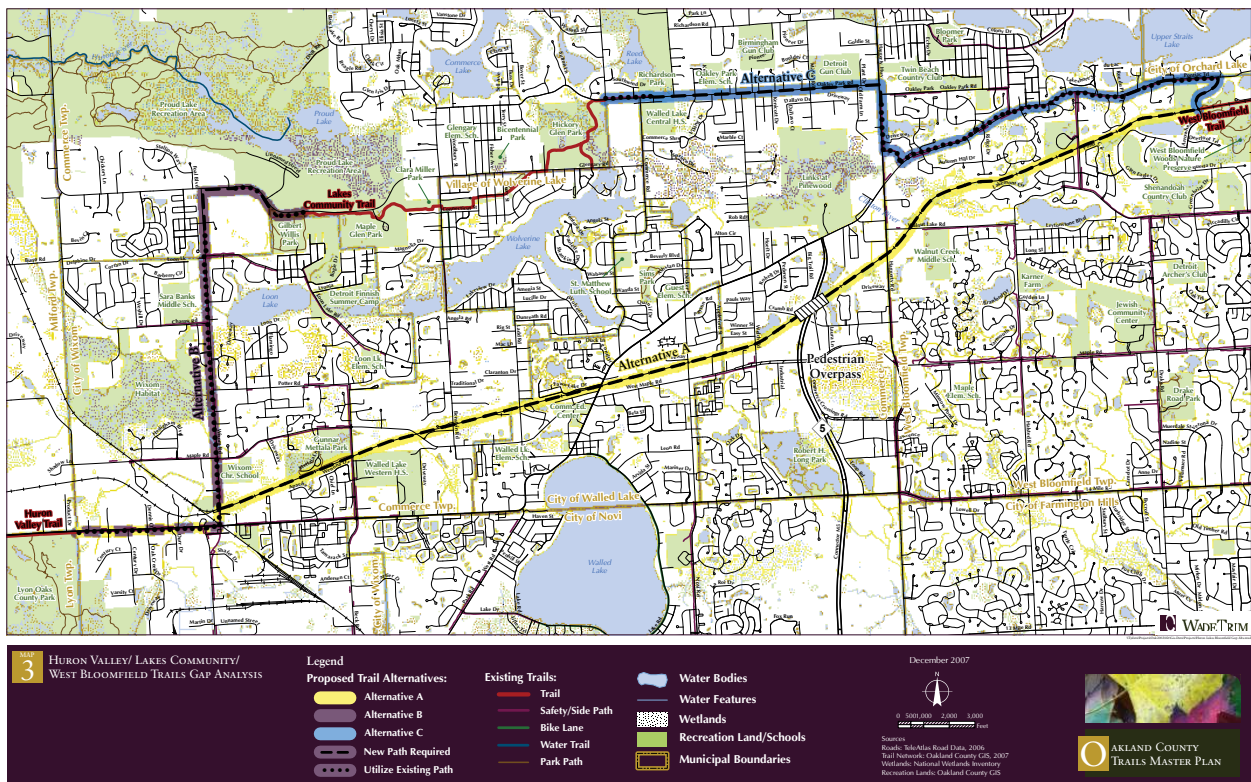
- A route (depicted in yellow) following the railroad corridor from the existing West Bloomfield Trail southwest to Wixom Road, along Wixom Road to Pontiac Trail and connecting to the existing Huron Valley Trail.
- A route (depicted in purple) connecting the existing Huron Valley Trail and continuing along Pontiac Trail Road, north along Wixom Road, and east on Glengary connecting to Proud Lake Recreation Area and the existing Lakes Community Trail.

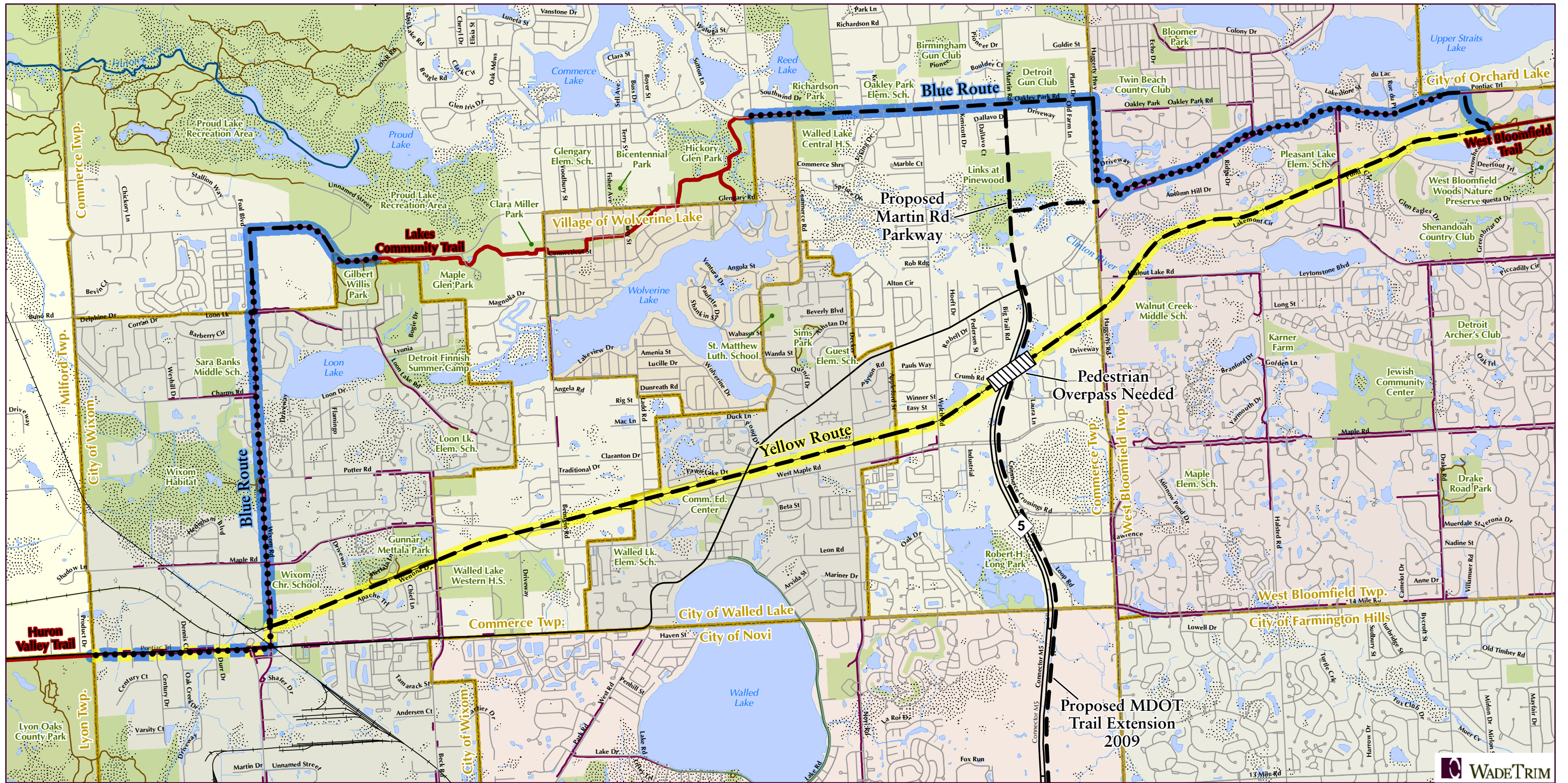
- A route (depicted in blue) connecting the existing Lakes Community Trail to the existing West Bloomfield Trail within the road right-of-way along Oakley Park Road to Haggerty and along Pontiac Trail Road.

Based on discussions with the local stakeholder group, the potential connector routes were modified and/or combined for designation as “primary” connectors between the existing regional systems.

RECOMMENDATIONS

Based on the results of the initial evaluation and stakeholder input, two routes are proposed as primary connector routes between the existing West Bloomfield, Lakes Community, and Huron Valley Trails. Each of these routes (identified as either the Blue Route or Yellow Route on the following fold out map) has various opportunities and constraints associated with implementation as is further described below.





MAP 3 HURON VALLEY/LAKES COMMUNITY/WEST BLOOMFIELD TRAILS GAP ANALYSIS

Legend

Proposed Trail Routes:

- Yellow Route
- Blue Route
- New Path Required
- Utilize Existing Path

Existing Trails:

- Trail
- Safety/Side Path
- Bike Lane
- Water Trail
- Park Path

- Water Bodies
- Water Features
- Wetlands
- Recreation Land/Schools
- Municipal Boundaries

September 2008



0 500 1,000 2,000 3,000 Feet

Sources
 Roads: TeleAtlas Road Data, 2006
 Trail Network: Oakland County GIS, 2008
 Wetlands: National Wetlands Inventory
 Recreation Lands: Oakland County GIS, 2008



AKLAND COUNTY
 TRAILS MASTER PLAN



\\Tdata\Projects\Oak\2002\2008\GIS\Map\Projects\Huron Lakes Bloomfield Gap_Alt.mxd

See Chapter 5, Action Plan, for suggested next steps and timeline associated with this gap.

Blue Route –

Approximate Length: 9.75 mi

This route would traverse to the north extending the West Bloomfield Trail west within Township property to Pontiac Trail, and utilizing existing and proposed safety path along Haggerty and Oakley Park Road to connect to the Lakes Community Trail at Hickory Glen Park. The Blue Route would utilize existing and planned safety path along Glengary, Wixom, and Pontiac Trail Roads to bring the trail into downtown Wixom and connect to the existing Huron Valley Trail at Lyon Oaks County Park.

Yellow Route –

Approximate Length: 9.19

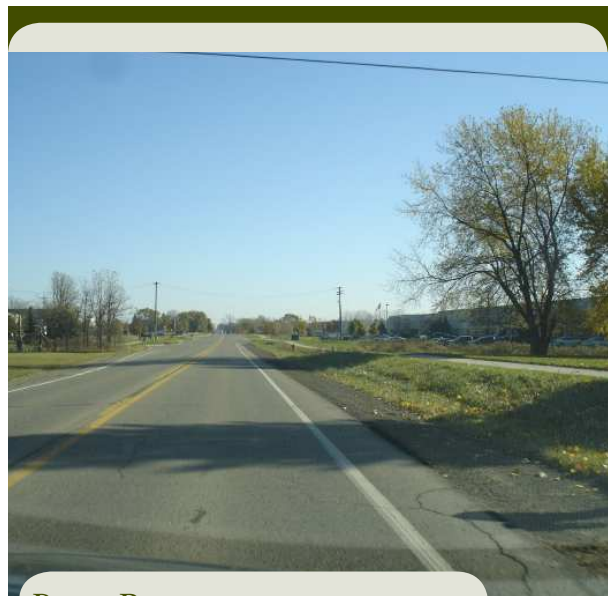
The Yellow Route would follow within the railroad corridor from the existing West Bloomfield Trail southwest to Wixom Road, and utilize existing and planned safety path along Wixom Road and 14 Mile to connect to the existing Huron Valley Trail.

Opportunities and constraints associated with implementation of each Route have been documented as a tool for stakeholder agencies to consider, address and/or resolve as movement toward implementation continues. It is highly likely that progress on each of the routes will be worked on simultaneously as the various agencies proceed with implementation efforts.

Blue Route Opportunities and Constraints

- Significant segments of the proposed route are already in place as safety paths have been constructed along 14 Mile, Glengary, Oakley Park, Haggerty, and Pontiac Trail.

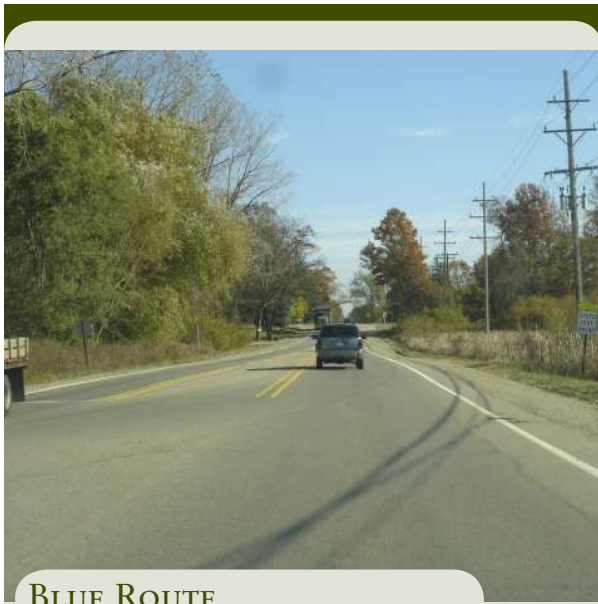
- The proposed route would provide a fairly direct connection between the Huron Valley Trail, Lakes Community Trail, and West Bloomfield Trail.
- The proposed route brings users through downtown Wixom and also provides connections to the Wixom Habitat, Sara Banks Middle School, Proud Lake State Recreation Area, the numerous parks and greenspaces connected by the Lakes Community Trail, Walled Lake Central High School, Oakley Park Elementary School, the Detroit Gun Club, and West Bloomfield Nature Preserve.



BLUE ROUTE

Existing Safety Path along 14 Mile Road, west of Wixom Road.

- Due to the proximity of the trail to the roadway system, there is direct access to the trail by police and emergency services.
- The route would intersect with the proposed Martin Parkway and associated development, providing a direct link to the M-5 and I-275 Trail systems.



BLUE ROUTE

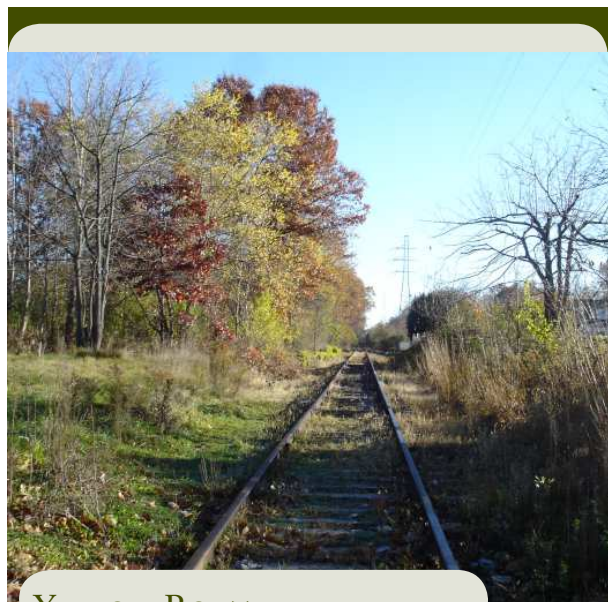
Oakley Park Road includes areas where wetlands are in close proximity.

- The route passes through downtown Wixom and the Pontiac Trail/Wixom Road intersection. This intersection is narrow and in close proximity to traffic in some areas.
- A few “gaps” in the route exist where safety path has not yet been constructed.
- The proximity of vehicular routes may diminish the experience of those users seeking a more natural setting.
- Some wetland areas and open swales exist in close proximity to Oakley Park Road that will likely increase design and construction costs.

Yellow Route Opportunities and Constraints

- Provides a “direct”, off-road link between the West Bloomfield and Huron Valley Trails primarily utilizing a railroad corridor.

- Segments of the railroad corridor are no longer in use and/or are used periodically for low speed rail activities. The Michigan Star Clipper Dinner Train utilizes portions of the rail on a periodic basis and 2-3 businesses utilize a short segment for occasional shipping operations. Although not ideal, an opportunity may exist for a “rail with trail” situation.
- The trail is environmentally compatible with and similar to the features along the existing West Bloomfield and Huron Valley Trails.
- Trails within a rail corridor can prove to be a more enjoyable experience and setting in comparison to road rights-of-way. In general, users will be away from high volume vehicular corridors.
- The route would connect a variety of destinations including the West Bloomfield



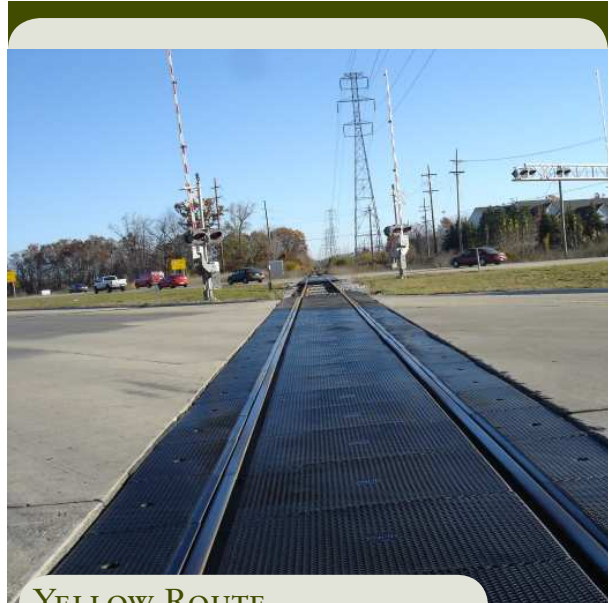
YELLOW ROUTE

Existing semi-active railroad corridor.

Nature Preserve, Pleasant Lake Elementary School, Walnut Creek Middle School, Walled Lake Western High School, Gunnar Mettala Park, and downtown Wixom.

- The route would intersect with the MDOT proposed trail extension along M-5 which is slated for construction by 2009 and will traverse from Pontiac Trail south to the I-275 Bike Path.
- North of Pontiac Trail Road is a proposed development that will include the Martin Parkway and is planned to include multiple non-motorized trail systems and public amenities.
- Purchase of the corridor, and/or easement/use agreements would be needed for design and implementation to occur.
- Wetlands and a narrow railroad corridor along portions of the route may increase design and construction challenges and costs if the “rail with trail” alternative is pursued.
- Due to various procedures related to how railroads are taxed and deeds are registered, it may prove difficult to fully understand current ownership, parcel boundaries and descriptions.
- Adjustments in trail alignment may be necessary where the rail corridor crosses roads in order to provide a safe crossing for non-motorized users.
- A significant grade separated pedestrian overpass would likely be necessary where the corridor crosses M-5. This may present challenges.

- A high transmission electrical corridor also exists along much of the railroad corridor. Easements and property ownership research will likely be necessary.
- Some segments of the trail are in more remote areas and direct access by police and emergency services may be challenging.



YELLOW ROUTE

Crossing M-5 would likely require a grade separated pedestrian overpass for continuity and safety.



WOODWARD CORRIDOR GREENWAY MASTER PLAN

In 2002, the Woodward Corridor Greenway Coordinating Committee (WCGCC) began a process aiming to develop an urban greenway trail linking the cities of Ferndale, Pleasant Ridge, Huntington Woods, Royal Oak, Berkeley and Birmingham in the densely populated Southeastern portion of Oakland County. Contributing to the need was the lack of any non-motorized link between the cities that, in combination, total more than 125,000 residents.

Woodward Avenue, which extends from Downtown Detroit to Downtown Pontiac, runs through the heart of these six cities and thus, was chosen as the logical corridor to study the feasibility of an urban greenway. Additionally, the Woodward Corridor possesses significant historical and cultural benefits and was recently designated as a Michigan Heritage Route and National Scenic Byway.

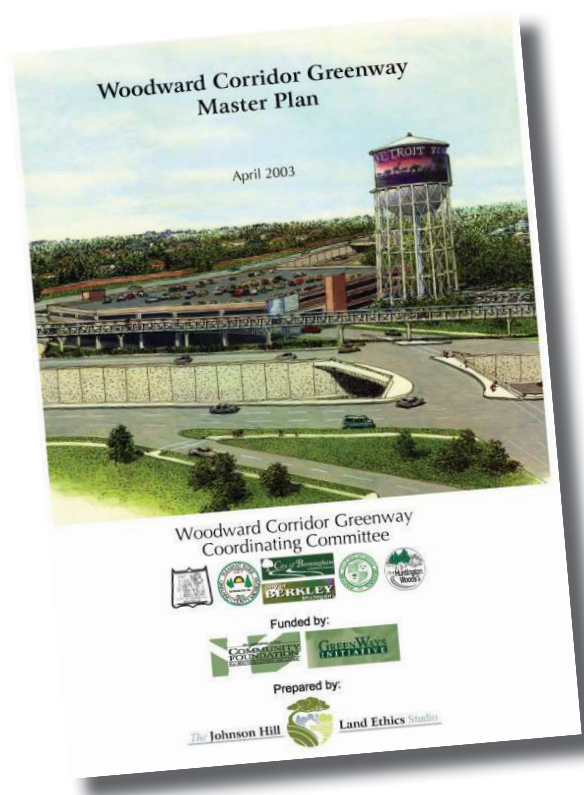
With funding secured by the Community Foundation for Southeastern Michigan, the WCGCC hired a consultant team to develop the Woodward Corridor Greenway Master Plan. The initial planning effort consisted of a detailed feasibility analysis of the study area to identify potential routes, opportunities and constraints. Several route options were evaluated including within the CN Railroad Right-of-Way, along Woodward Avenue and through adjacent neighborhoods. Ultimately, constructing a trail along Woodward Avenue was selected as the

most feasible and advantageous option. A series of four public design workshops were then facilitated to assess how pedestrians and bikes navigated the Woodward Corridor, to identify key destinations and to outline potential trail route alignments and design alternatives.

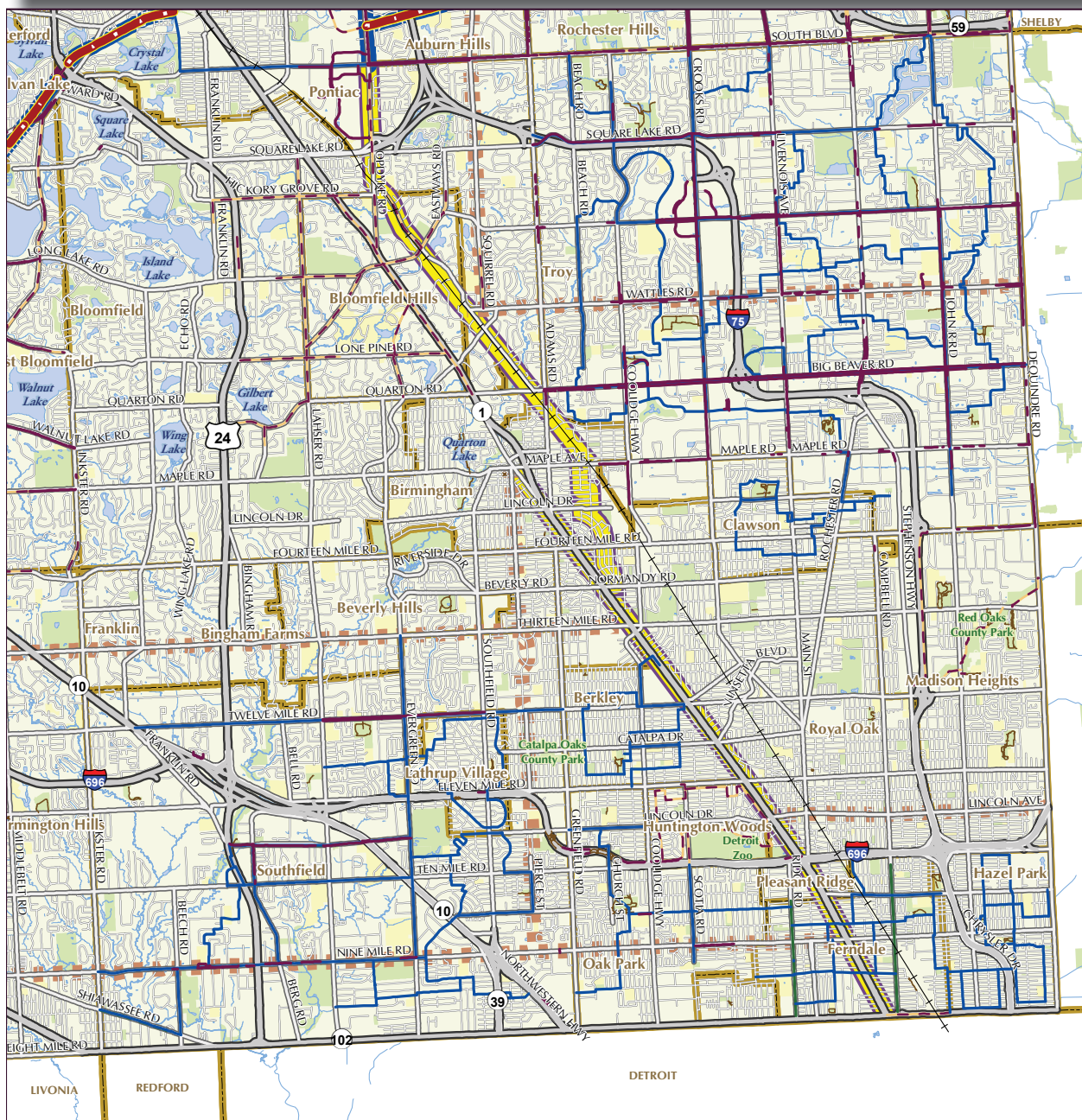
Plan Recommendations

The planning process culminated in the preparation of preferred trail alignments, design concepts and facility improvements along Woodward Avenue. Along the corridor, a combination of four trail designs are proposed to form a continuous trail system, based upon space constraints, the character of the particular road segment, and other considerations:

- Trail Alternative 1 - Where no parking exists within the right-of-way and where ample right-of-way width is available. Recommendation for multi-use trail separate from sidewalk and featuring a wide landscape buffer from the principal traffic lanes.



WOODWARD CORRIDOR



Legend

- | | | |
|----------------------------|---------------------|--------------------|
| County Trail Concept | Clinton River Trail | Municipal Boundary |
| Proposed Woodward Corridor | Trail | Lakes & Ponds |
| Complete | Safety/Side Path | Rivers & Streams |
| Design/Development | Route | Recreation Land |
| Under Review | Bike Lane | School |
| | Water Trail | |
| | Park Path | |
| | Proposed Pathway | |

June 2008



Sources
 Roads: Oakland County GIS, 2008
 Trail Network: Oakland County GIS, 2008
 Recreation Lands: Oakland County GIS, 2008



OAKLAND COUNTY
TRAILS MASTER PLAN

- Trail Alternative 2 - Where parking exists within the right-of-way but ample right-of-way width is available. Recommendation for multi-use trail in combination with a new parallel parking lane and service drive, all separated by a small vegetated strip from the principal traffic lanes.
- Trail Alternative 3 - Where on-street parking is necessary but minimal right-of-way width is available. Recommendation for multi-use trail separated by a wide landscape buffer from a new parallel parking lane that will be adjacent to the principal traffic lanes.
- Trail Alternative 4 - Where corridor conditions prevent the incorporation of a multi-use trail. Recommendation for an “airway” or elevated trail located predominantly within the Woodward Avenue boulevard median.

The Plan recommendations were approved by the WCGCC and presented to the councils of all six participating communities. The Woodward Corridor Greenway Master Plan was finalized in April of 2003. Since the adoption of the Plan, implementation efforts have been ongoing, but the project has not gone beyond the conceptual design phase.

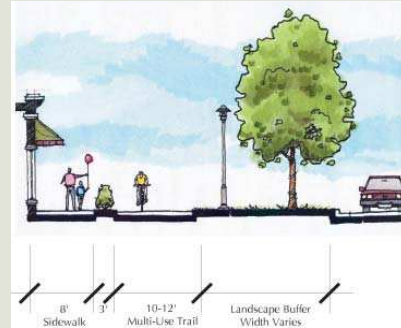
URBAN TRAIL INITIATIVE

In March 2008, Oakland County Parks & Recreation and Oakland County Planning & Economic Development Services hosted a meeting for communities in the southeast quadrant of Oakland County to discuss the concept of an Urban Trail Network. The southeast quadrant of Oakland County is arguably the most developed area within the county and is also heavily used by bikers and pedestrians for travel and recreation, demonstrating the desire for non-motorized facilities that are safe and con-

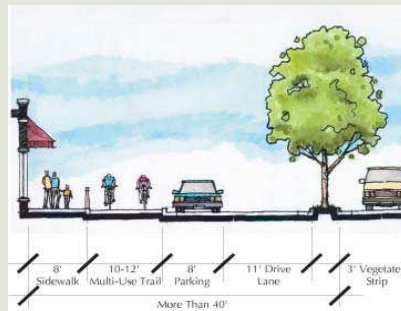


WOODWARD CORRIDOR TRAIL ALTERNATIVES

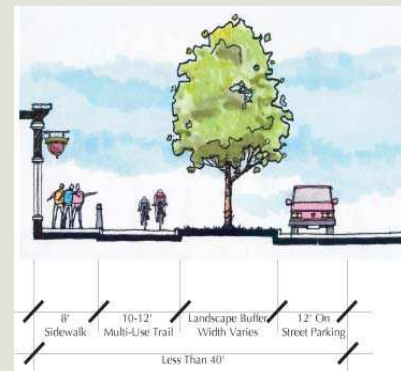
ALTERNATIVE 1



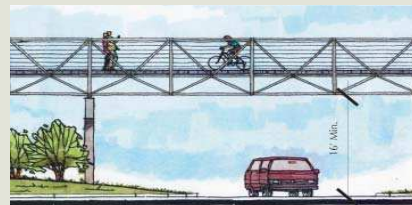
ALTERNATIVE 2



ALTERNATIVE 3



ALTERNATIVE 4



Source: Woodward Corridor Greenway Master Plan

nected. The goal of the meeting was to highlight some of the ways that this quadrant of the county could build upon the existing infrastructure and work together to promote the area as a hub for bicycle and pedestrian activity.

Most of those in attendance expressed similar concerns and interests regarding trails and pathways in this area, including: safety, cost, improving the roads for pedestrians and bicycles, road crossings, hosting community events, signage and public outreach and education.

It was determined that further assistance would be desired from Oakland County Parks & Recreation and Oakland County Planning & Economic Development Services in order to accomplish some of the goals and ideas outlined at the meeting. A service grant program (or similar assistance program) is being planned by Oakland County staff.



URBAN TRAILS NETWORK MEETING PARTICIPANTS

- Berkley
- Beverly Hills
- Bingham Farms
- Birmingham
- Bloomfield Hills
- Bloomfield Township
- Clawson
- Ferndale
- Franklin Village
- Hazel Park
- Huntington Woods
- Lathrup Village
- Madison Heights
- Oak Park
- Pleasant Ridge
- Royal Oak
- Royal Oak Township
- Southfield
- Troy





4

DESIGN CONSIDERATIONS

VARIOUS DESIGN CONSIDERATIONS ARE SUMMARIZED ON THE FOLLOWING PAGES IN ORDER TO PROVIDE INITIAL GUIDANCE RELATED TO NON-MOTORIZED PLANNING, DESIGN, AND CONSTRUCTION.

Although the content for the Design Considerations is based on established principles, all mandated design standards, such as those dictated by the American Association of State Highway and Transportation Officials (AASHTO), and other state, county, and local agencies, should be referenced at the time of design as they may change or be updated. This Master Plan provides guidance and examples of several of the “typical” non-motorized systems planned or desired within Oakland County.

Designing and constructing non-motorized systems is a process complicated by existing conditions, public sentiment, ownership and jurisdiction, as well as financing and political will. With nearly every proposed non-motorized project, there will be a number of agencies, user groups, and departments that will need to remain involved during planning, design, and construction. An important first step in designing and implementing a non-motorized system is the involvement of the various stakeholders and agencies with jurisdiction or interest in the project.

4.1 USER GROUPS

The types of non-motorized trail users in Oakland County are diverse, and many times each has their own view of what comprises a great trail design and experience. Various user groups can have differing opinions as to where trails should be located, how they should be designed, and what material they should be constructed of. At times, this can create conflicts, however, where limited resources (in terms of land and financing) must be shared, cooperation and tolerance among user groups is key to continuing to successfully implement the Oak Routes system.

General preferences of primary trail user groups are described. In addition to the various user groups, trail systems are also utilized by people of all ages and abilities, adding to design and maintenance considerations.

MOUNTAIN BIKERS

Desire for solitude and to explore new areas while challenging one’s ability. Natural surface, single direction trails are favored with a variety of obstacles and challenges.

CYCLISTS

Desire safe routes while covering a significant number of miles at a fair pace, well kept roads, minimal and respectful vehicles. Asphalt or compacted gravel/limestone are preferred.

EQUESTRIANS

Routes free from unexpected surprises, variety of scenery and terrain. Natural trail surfaces are preferred with day-use trail lengths of 5 to 25 miles.

WALKERS/RUNNERS

Chance for exercise and the ability to get from one place to another without dealing with a significant amount of vehicular traffic. A network of urban and rural trails that offer access to businesses, schools, neighborhoods, and parks.

INLINE SKATERS

Prefer smooth, asphalt surface that is well-maintained and free of debris. Need adequate width and sight distance due to increased speeds.

CROSS COUNTRY SKIERS

Favor loop trails over linear trails with connector trails and cutoffs to allow different lengths and permit easy return access. Groomed trail lengths ranging from 4 to 8 miles are desired.

CANOE/KAYAKERS

Provide access/launch points at fairly frequent intervals (5 miles). Carefully locate portages to ensure the shortest, easiest route. Include information kiosks and brochures at each access to orient users, provide emergency numbers, etc.

4.2 GENERAL DESIGN GUIDELINES

Typical design principles and strategies that are most likely to apply to situations within Oakland County have been extracted from a variety of references and resources. It's important to note that nearly every design guideline has exceptions, necessitated by local conditions, ownership, jurisdiction, funding source, community desire, user groups accommodated, changing trends, intensity of use, and many other factors.

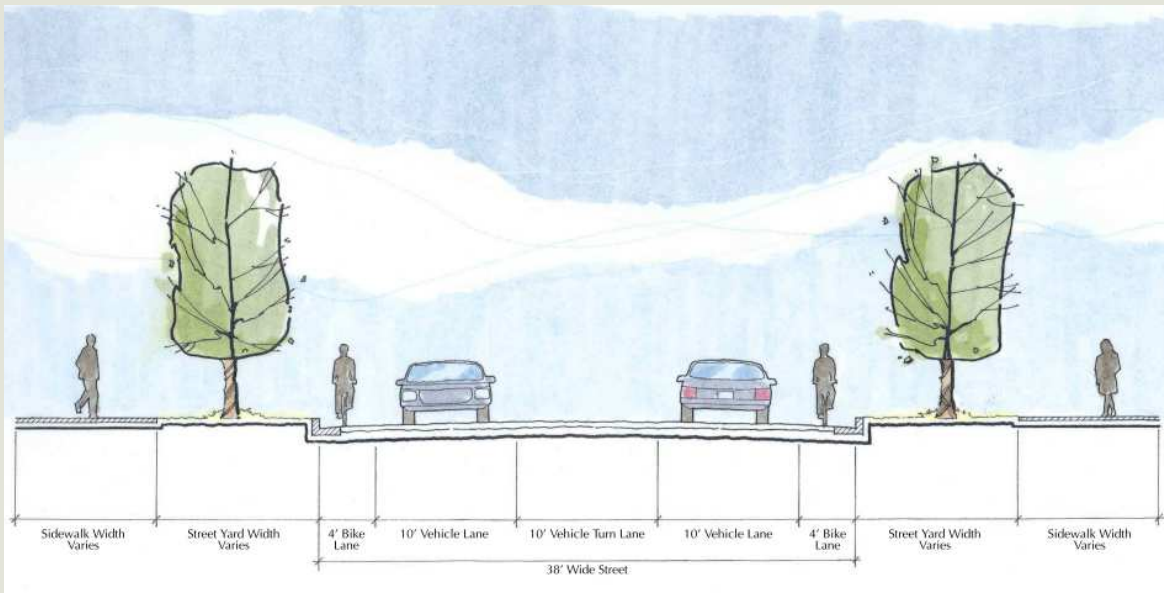
BIKE LANE

Bike lanes can be utilized when it is desirable to delineate available road space for preferential use by bicyclists and motorists, and to provide for more predictable movements by each. As is detailed in the AASHTO standards, bike lane markings can increase a bicyclists' confidence in motorists not straying into their path of travel. Likewise, passing motorists are less likely to swerve to the left out of their lane to avoid bicyclists on their right.

Bike lane striping should not be installed across any pedestrian crosswalks, or railroad crossings, and, in most cases, should not continue through street intersections.

At signalized or stop-controlled intersections with right-turning motor vehicles, the solid bike lane striping to the approach should be replaced with a broken line. The length of the broken line section is usually 50 to 200 feet. If there is a bus stop or high right-turn volume, the 6-inch solid white line should be replaced with a broken line for the length of the bus stop.

Bike lanes sometimes complicate bicycle and motor vehicle turning movements at intersections. Because they encourage bicyclists to keep to the right and motorists to keep to the left, both operators are somewhat discouraged from merging in advance of turns. At intersections, bicyclists proceeding straight through and motorists turning right must cross paths. Striping and signing configurations that encourage crossings in advance of the intersection, in a merging fashion, are preferable to those that force the crossing in the immediate vicinity of the intersection.

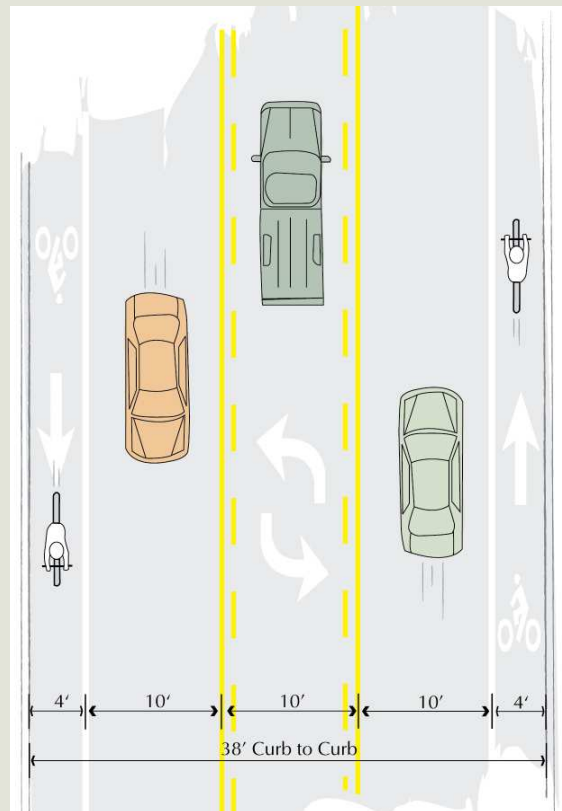


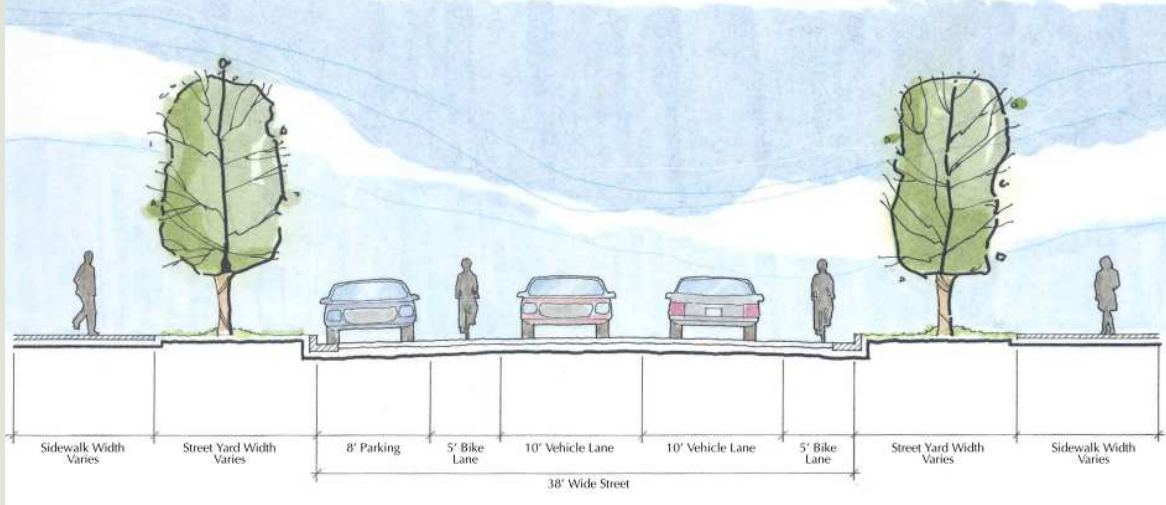
EXAMPLE ON-STREET BIKE LANES

Bike lanes should be one-way facilities and carry bike traffic in the same direction as adjacent motor vehicle traffic.

The recommended width of a bike lane is 4 - 5 feet from the face of a curb to the bike lane stripe. Five feet should be sufficient in cases where a 1-2 foot wide concrete gutter pan exists, given that a minimum of 3 feet of rideable surface is provided. In general, on-road bike lanes greater than 6-feet wide should be avoided as they tend to be used as vehicle driving or parking lanes.

Right-of-way widths, vehicular travel lane widths, etc. will vary depending on jurisdiction, agency, and existing conditions.



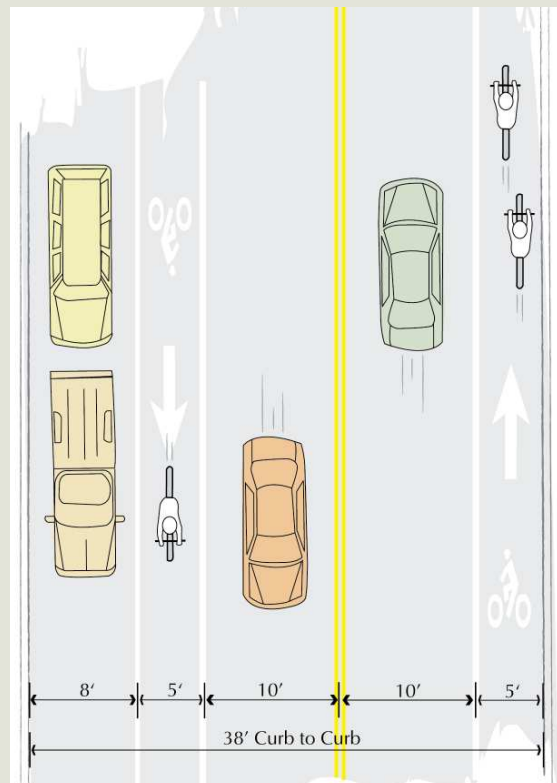


EXAMPLE ON-STREET BIKE LANES WITH PARKING

If parking is permitted, the bike lane should be placed between the parking area and the travel lane and have a minimum width of 5 feet. In no instance should a bike lane be placed between the parking lane and curb.

A bike lane should be delineated from the motor vehicle travel lanes with a 6-inch solid white line. An additional 4-inch solid white line can be placed between the parking lane and the bike lane. This second line will encourage parking closer to the curb, providing added separation from motor vehicles, and where parking turnover or usage is light, can discourage motorists from using the bike lane as a through travel lane.

Right-of-way widths, vehicular travel lane widths, etc. will vary depending on jurisdiction, agency, and existing conditions.



A bike lane should be painted with standard pavement symbols to inform bicyclists and motorists of the presence of the bike lane. The standard pavement symbols are a bicycle symbol and a directional arrow (white and reflectorized 2005 MMUTCD).

Some roads can accommodate bike lanes with the addition of striping and traffic signs, while others require pavement widening and/or reconstruction.

Drainage Inlet Grates

Drainage grates within roadways should be bicycle-safe. Parallel bar drainage grates can trap the front wheel of a bicycle, causing the bicyclist to be pitched over the handlebars. Parallel bar drain grates can be replaced with modern bicycle-safe and hydraulically efficient models, such as the “vane” or “honeycomb” grates.



DRAINAGE GRATE

Inlet grates within roadways are an important consideration when designing on-street non-motorized facilities. --PBIC Image Library

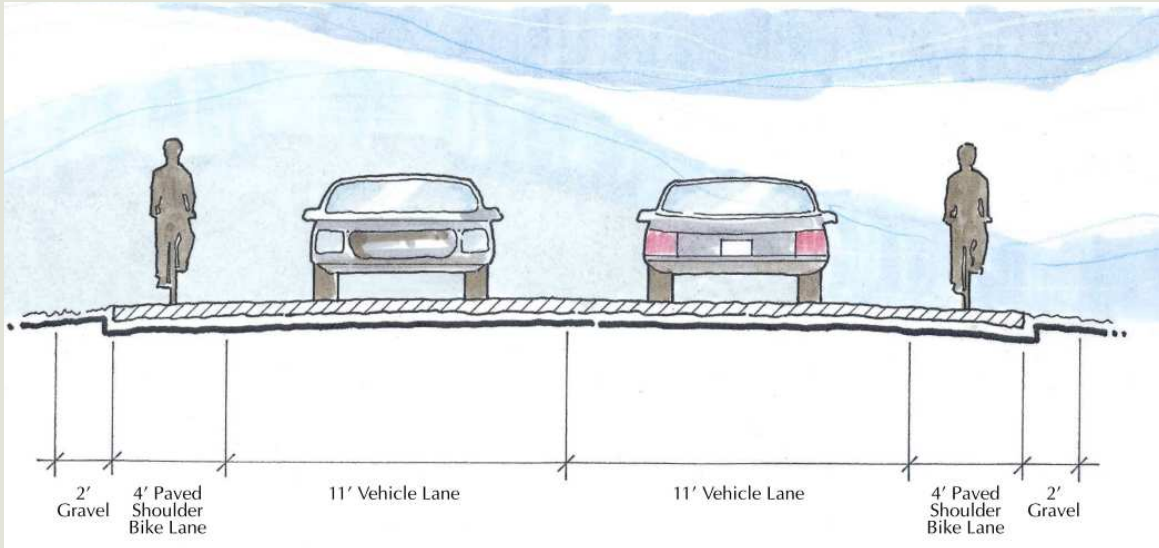
Eliminating drainage grate and utility cover hazards for bicyclists can be accomplished by:¹

- Replacing parallel bar drainage grates with bicycle-safe models.
- Adjusting grates or utility covers that are above or below the level of the surrounding roadway.
- Adopting bicycle-safe design standards for drainage grates on all new construction.
- Adopting bicycle-safe standards for leveling utility covers and drainage grates.
- Encouraging the location of utilities away from the normal path for bicyclists.

PAVED SHOULDER

Adding or improving paved shoulders often is the best way, particularly in more rural areas, to accommodate bicyclists and benefit motor vehicles. Paved shoulders can also extend the service life of the road surface since edge deterioration is significantly reduced. Paved shoulders also provide a break-down area for motor vehicles.

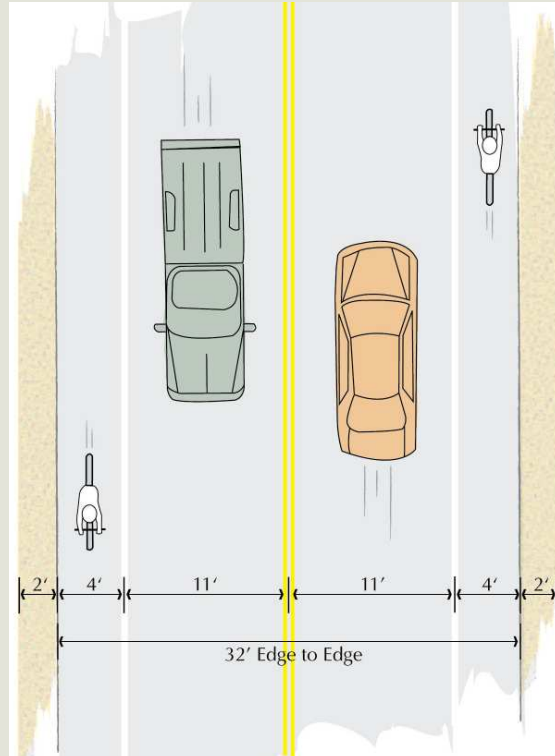
Rumble strips or raised pavement markers are not recommended where shoulders are used by bicyclists unless there is a minimum clear path of 1 foot from the rumble strip to the traveled way, 4 feet from the rumble strip to the outside edge of paved shoulder, or 5 feet to adjacent guardrail, curb or other obstacle. Sufficient right-of-way is needed to accommodate the addition of the paved shoulders and, if necessary, to relocate drainage ditches that run parallel to the roadway. The paved shoulder should be of adequate width, smoothly paved, and have adequate strength and stability to support vehicle loads without rutting.



EXAMPLE PAVED SHOULDERS

AASHTO suggests that paved shoulders be at least 4-feet wide to accommodate bicycle travel. However, where 4-foot widths cannot be achieved, any additional shoulder width is better than none at all. The measurement of “usable” shoulder width should not include the width of a gutter pan. A five-foot shoulder is recommended measured from the face of guardrail, curb or other roadside barriers. Additional shoulder width is desirable if motor vehicle speed exceeds 50 mph, or the percentage of trucks, buses, etc. is high.

Right-of-way widths, vehicular travel lane widths, etc. will vary depending on jurisdiction, agency, and existing conditions.

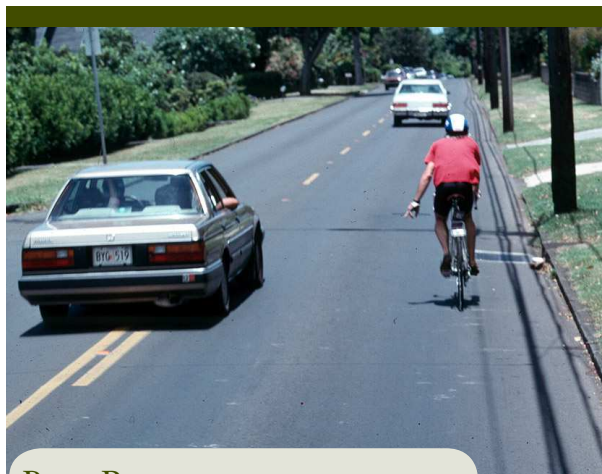


BIKE ROUTE

Signed shared roadways are designated by bike route signs, and serve either to:

- Provide continuity to other bicycle facilities; or,
- Designate preferred routes through high-demand corridors.

Signing of shared (bike and vehicle) roadways for bike routes should indicate to bicyclists that particular advantages exist to using these routes compared with alternative routes. Signing also serves to raise the level of awareness to vehicular drivers that bicyclists are present.



BIKE ROUTES

Designated bike routes are facilities where both bikes and vehicles “share the road” with little treatment other than signage.

--PBIC Image Library

The AASHTO guide recommends considering a number of factors before signing a route:

- The route provides through and direct travel.
- The route connects discontinuous segments of shared use paths or bike lanes.
- Bicyclists are given greater priority on the signed route than on the alternate route.
- Street parking has been removed or limited to provide more width.
- A smooth surface has been provided.

- Regular street sweeping and maintenance is assured.
- Wider curb lanes are provided compared to parallel roads.
- Shoulders are at least four feet wide.

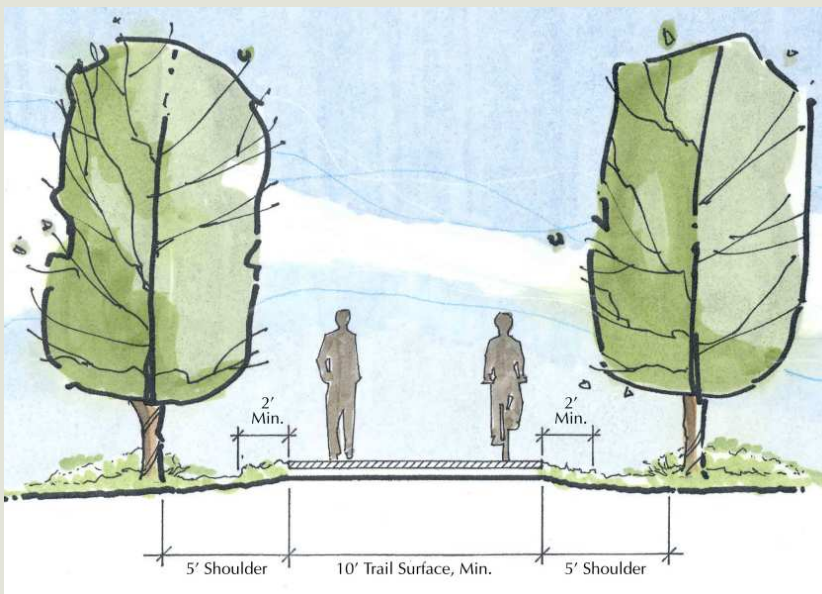
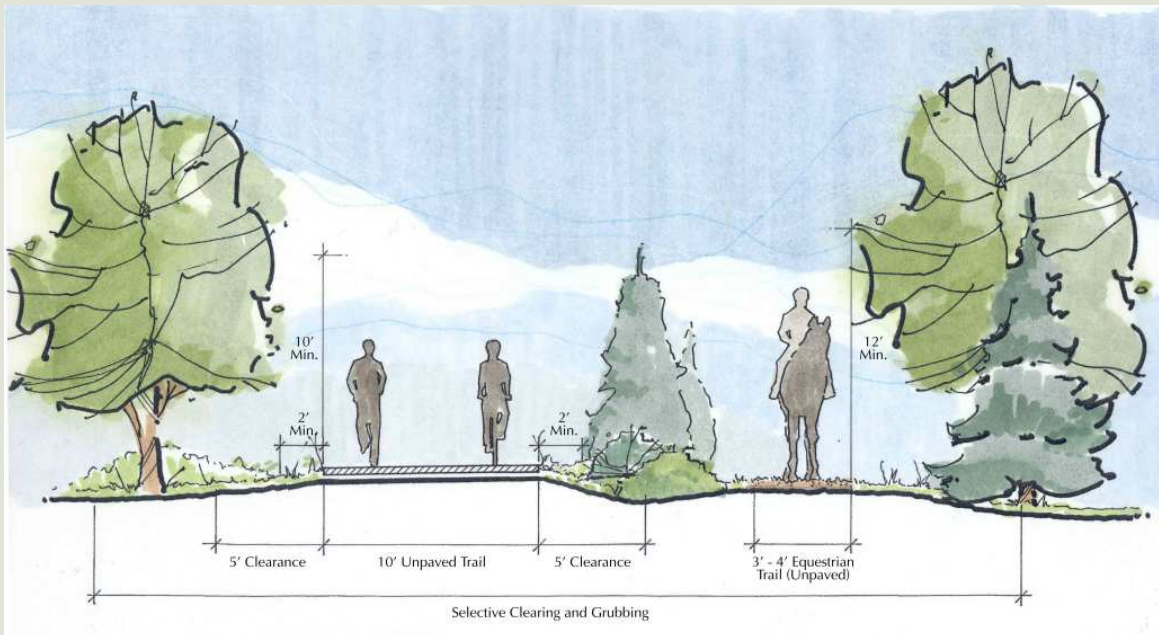
In all cases, shared use roadway signing should include information on distance, direction and destination, and should not end at a barrier such as a major intersection or narrow bridge.

SHARED USE TRAIL

Users of multi-use or shared use trails and trail corridors may include bicyclists, in-line skaters, wheelchair users, runners, pedestrians, and equestrians. These facilities are designed for two-way travel and serve a variety of purposes. Shared use trails can be located along rivers, creeks, railroad and utility rights-of-way, limited access freeways, within parks, etc.

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.
- Two feet minimum clear zones 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.



EXAMPLE SHARED USE TRAILS

The minimum width of a shared path is 10 feet with a 12-foot minimum desirable in more heavily-used sections. Where equestrian accommodations are located within the same trail corridor, the preference is for 5 - 10 feet of buffer between the ped/bike trail and equestrian trail to reduce the potential for bike/equestrian conflicts. If space is limited, equestrians can safely utilize a 4 - 5' wide clear area to one side of an asphalt trail.

- Use directional signing.
- It is recommended to sign and mark a four-inch wide solid yellow line at the center of the path as well as edge lines when curves with restricted sight distances are experienced.
- The desired vertical clearance to obstructions should be a minimum of 8 feet (10-foot is desirable), however, vertical clearance may need to be greater to permit passage of maintenance and emergency vehicles. In undercrossings and tunnels, 10-foot of vertical clearance is desirable.
- Selective clearing and grubbing a width of 5 feet on each side of the trail is desired so as to reduce the amount of vegetation encroachment and minimize the frequency of needed maintenance trimming.

EQUESTRIAN TRAIL

As previously described, equestrian activity and interest in the provision, expansion, and maintenance of trails that permit equestrians exists in Oakland County. Equestrian trails can be provided either as separate trails or as part of a Shared Use Trail provided there is adequate space, as well as appropriate design and signage. The greatest potential for conflict exists between equestrians and bicycles due to the speed of bike travel and the potential for horses to be spooked if “surprised” by another trail user. In terms of specific design, local equestrian groups should be consulted to ensure adequate setbacks, signage, and considerations.

Trails for horses have some flexibility in design. One of the most important considerations for equestrian trails is that the surface minimizes injuries to animals and riders. Avoid using asphalt or concrete as both may injure horses’ hooves. Equestrian requirements should also be



PREFERRED EQUESTRIAN TRAIL GUIDELINES

Trail Width	3 - 4 feet
Clear Zones	3 feet on each side
Vertical Clearance	10 - 12 feet
Surface	Dirt, grass, crushed limestone, wood chips
Desirable Grade	0% - 10%
When Adjacent to Asphalt Trail	4 feet on one side of asphalt permits safe passing

--- Iowa Trails 2000;
Oakland Co
Equestrian Info CD
Dec. '03

considered when designing crossings, bridges and tunnels. 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.

MOUNTAIN BIKE TRAIL

Mountain bike trails are more rugged, off-road facilities with less stringent guidelines. Mountain bike trails are typically “single track”, narrow pathways with hills and sharp turns. Mountain bike trails can vary greatly in difficulty.

In terms of specific design, state and local mountain bike associations and users should be consulted to discuss routes, challenges, obstacles, construction, and maintenance.



PREFERRED MOUNTAIN BIKE TRAIL GUIDELINES

Trail Width	2 - 3 feet
Clear Zones	3 feet
Vertical Clearance	8 - 10 feet
Surface	Compacted earth

--- Iowa Trails 2000

WATER TRAIL

A water trail is a stretch of river, stream, or lake that has been mapped out with the intent to create an educational, scenic, and challenging experience for recreational canoers and kayakers. Designation as a water trail educates users as to the location of navigable waters and natural resources in the County.

A map is a key element to a water trail. The map should identify paddling routes, describe levels of difficulty, identify public lands, warn of hazards and communicate rules and regulations. It is a critical guide to provide 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. ²

Guiding Principles for Water Trails³

Water trails follow three guiding 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

Design guidelines for launches that are safe and easy to access for paddlers while accommodating the topography and environmental characteristics of the location have been developed by the National Park Service. (Logical Lasting Launches, 2004)



WATER TRAILS

Designation as a water trail educates users as to the location of navigable waters and natural resources such as the Huron River.

4.3 OTHER DESIGN CONSIDERATIONS

In addition to the general design guidelines, desirable widths, setbacks, and clear zones, there are a variety of elements to take into consideration when designing a non-motorized facility. A few of the more frequently encountered situations and potential solutions are described in greater detail on the following pages.

TYPICAL TRAIL CROSS SECTIONS

When planning, designing, and building a shared use/multi-use trail, there are a wide variety of cross sections that may be utilized. The selected design, material, and construction method is highly dependent on the existing conditions, soils, funding agency, user group(s), etc. A professional engineer or landscape architect should provide assistance in the design of the typical trail cross-section.

The following page provides graphic illustrations of “typical” cross-sections for two different situations. The top graphic illustrates a typical cross-section for the construction of a newly constructed multi-use trail. The cross-section illustrates the use of asphalt, however, limestone or recycled asphalt may be preferred by the trail owner. The bottom two cross-sections illustrate different treatments for an abandoned railbed that has sufficient ballast material in place to be utilized as a base material for new construction. The use of recycled asphalt on a former railbed was utilized by the City of Auburn Hills in 2003 and again by the City of Rochester Hills in 2007. For all trail design and construction, drainage, compaction, and material selection are key design considerations.



NON-MOTORIZED DESIGN RESOURCES

Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO), 1999.

Michigan Manual on Uniform Traffic Control Devices, 2005 Ed.

Bike Lane Design Guide. Pedestrian and Bicycle Information Center. www.bicyclinginfo.org.

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

Recommendations for Accessibility Guidelines: Outdoor Developed Areas, US Architectural and Transportation Barriers Compliance Board (US Access Board), 1999.

Designing Sidewalks and Trails for Access: Part II of II: Best Practices Design Guide, Federal Highway Administration (FHWA), 2000.

Selecting Roadway Design Treatments to Accommodate Bicycles, Federal Highway Administration, 1994.

Michigan Non-Motorized Transportation Facilities Best Practices CD, MDOT Intermodal Policy Division, 2002.

Innovative Bicycle Treatments. An Informational Report. Institute of Transportation Engineers. May 2002.

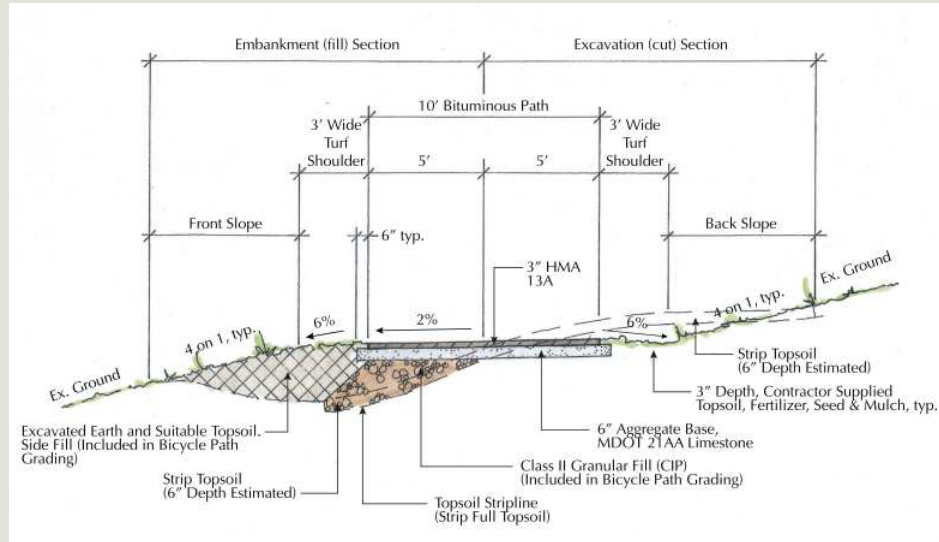
Universal Access to Outdoor Recreation: A Design Guide, USDA Forest Service.

PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System, FHWA, September 2004.

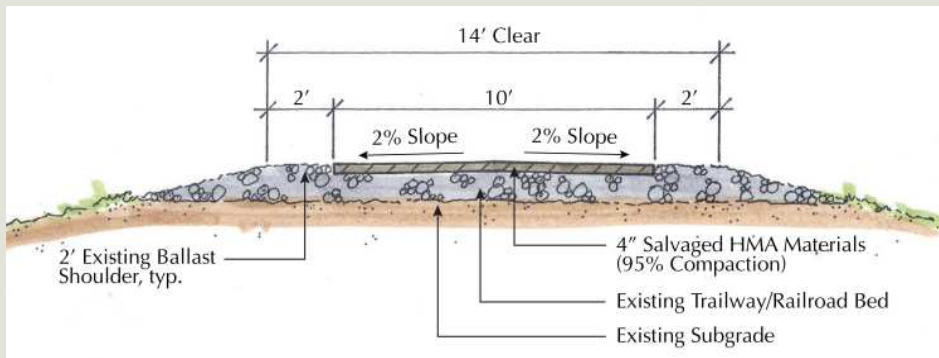
Design Guidelines for Active Michigan Communities, 2006.

Trail Planning, Design, and Development Guidelines, Minnesota DNR, 2006.

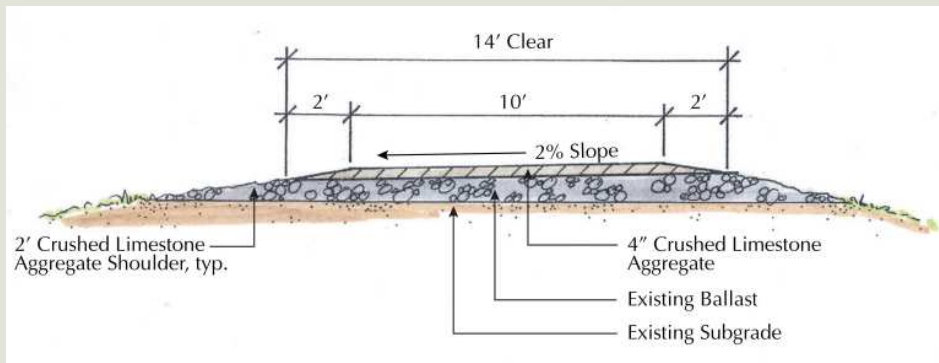
Typical Asphalt Trail Cross-Section
(modified from Huron Clinton Metroparks)



Typical Recycled Asphalt Trail Cross-Section
(introduced by City of Auburn Hills and cross-section modified from City of Rochester Hills)



Typical Limestone Trail Cross-Section



For railbeds with sufficient ballast remaining

The illustrations above are for planning purposes and discussion only. The cross-section for a shared use trail is heavily dependent on existing conditions including soils, slope, potential user groups, funding agency, environment, etc. A landscape architect or engineer should design a trail cross-section that meets the needs of the trail and will be appropriate for the existing conditions of the land.

UNIVERSAL DESIGN

“Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.” (Ron Mace)

Universal design benefits people of all ages and abilities and goes beyond designing and building to only meet ADA requirements. It is recommended to consider universal design when planning, designing, and building non-motorized systems within Oakland County. In addition, many funding agencies and grantors respond more favorably to projects that incorporate universal design.

ROAD CROSSINGS

Each time a non-motorized user must cross a vehicular roadway, a potential conflict is created. Some intersections or crossings prove to be more problematic than others. During design and construction of road intersections and crossings, there are multiple solutions that can be utilized to provide for a friendly environment for non-motorized users. The two most common types of non-motorized crossings are those that occur mid-block and those that occur at existing road intersections.

Mid-Block Crossings

These types of crossings should be far enough away from existing road intersections to be clearly separate from the activity that occurs as motorists approach the intersections. Non-motorized systems should be at 90-degree angle as much as is possible. Other considerations include traffic control devices, sight distance for both non-motorized users and motorists, refuge island use, access control, and pavement markings.



UNIVERSAL ACCESS DESIGN CONSIDERATIONS FOR TRAILS

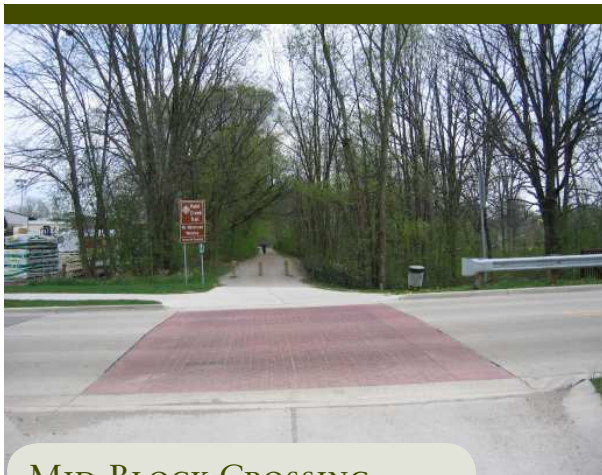
Trails and Paths

- Wider width so two people can walk side by side or people can pass
- Unitary surface like concrete, boardwalk or asphalt, crushed aggregate that has been “stabilized” or natural soils enhanced with soil stabilizers
- Transition plates between trail and pedestrian bridges and decks
- Contrasting color treatment of the surface and textured surface treatments such as brushed concrete at intersections or interpretive stations to cue people who have vision impairments
- Close to level cross slopes and very gentle running slopes, no steep sections, larger level areas at all turns and intersections
- Thoughtfully laid out on the site to maximize the experience with minimal difficulty
- Accessible amenities such as benches, restrooms, drinking fountains, etc.

Boardwalk

- Wider width so two people can walk side by side or people can pass
- Edge treatment to prevent roll/step off
- If side rails, all lowered for easy viewing
- Interpretive information in a variety of alternative formats such as auditory, large print, Braille, pictures, etc.

--- MDNR Michigan Natural Resources
Trust Fund 2008 Application Guidelines



MID-BLOCK CROSSING

A road crossing treatment along the Paint Creek Trail utilizes material, color change, and signage to clearly indicate crossing location.

Intersection Crossings

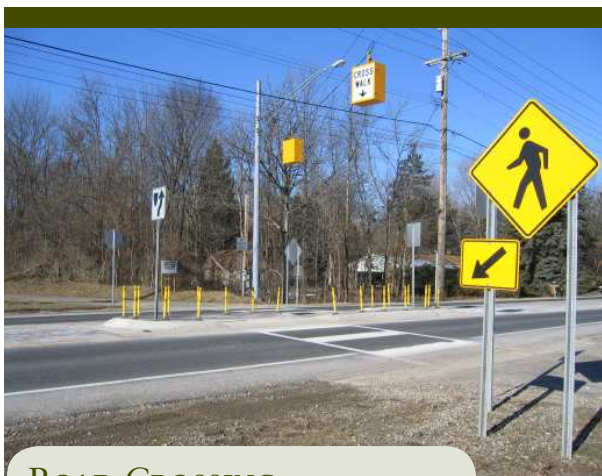
Where non-motorized facilities cross at an existing road intersection, it must be integrated close to the intersection in order to allow motorists and non-motorized users to recognize each other as intersecting traffic.

Traffic control devices and separation distance between the road and path are also important considerations. Clear sight lines are especially important to reduce the possibility of conflicts between trail users and motorists.



CROSSING AT INTERSECTION

Landscaping, lane reduction, marked crosswalks, revised signal timing, and other traffic management devices reduce vehicle speeds and improve pedestrian safety.



ROAD CROSSING

A road crossing treatment along the Clinton River Trail provides a designated crosswalk and refuge area for trail users.

SIGNAGE

Traffic, regulatory, warning and directional signs provide important information to all road users. Care should be given to follow the guidelines and standards in the Manual on Uniform Traffic Control Devices - 2003 Edition, to ensure that the proper messages are given to the users. Also be aware that overuse of signs can breed noncompliance and lead to visually obstructing the most important messages.

BIKE RACKS AND PARKING

Bicycle parking is an important part of non-motorized facilities. Long-term bicycle parking is needed at residences, worksites, schools and transit centers to safely store bicycles for several hours at a time. It must be protected from



BIKE STORAGE

Long-term bicycle parking is ideal at residences, worksites, schools and transit centers to safely store bicycles for several hours at a time. ---PBIC Image Library



BIKE PARKING

Short-term parking that is highly visible and close to entrances is needed at commercial, retail, and recreation centers. ---PBIC Image Library

weather and enclosed in a secure space. This can include lockers, storage rooms and fenced areas with restricted access.

Short-term parking is needed at commercial, retail, and recreation centers. It should be as close to entrances as possible in a highly visible area to discourage theft and vandalism. Ideally, at least some short-term parking should be covered. Bike racks should be well anchored to the ground and located where there is adequate clearance, they are visible, conveniently located, and secure.

Bike racks should support the bicycle upright by its frame in two places; prevent the wheel of the bicycle from tipping over; and, enable the frame and one or both wheels to be secure. Vandal-resistant fasteners can be used to anchor a rack in the ground. The rack should provide easy, independent bike access. Inverted



“U” rack elements mounted in a row should be placed on 30” centers to allow for two bicycles to be secured to each rack element.⁴

The location of the rack area in relationship to the building or facility it serves is very important. The best location for a rack area is immediately adjacent to the entrance it serves. Racks should not be placed so that they block the entrance or inhibit pedestrian flow in or out of the building. Racks that are far from the entrance, hard to find, or perceived to be vulnerable to vandalism will not be used by most cyclists.

RAILROAD CROSSINGS

When at grade railroad crossings are necessary, the non-motorized crossing should be at a right angle to the tracks as much as possible by either a separate path or a widened shoulder. The greater the crossing deviates from 90 degrees, the greater the potential for a bicyclist’s front wheel to be trapped in the flangeway, causing loss of steering control. If a right angle crossing 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 (MMUTCD). A warning sign with an appropriate subpanel message (e.g., Bike Cross at Right Angle) may provide sufficient warning for bicyclists.

SAFETY AND SECURITY

Careful consideration for safety and security is an essential component in the planning and design process 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-mo-



RAILROAD CROSSING

At grade railroad crossings should be at a right angle to the tracks.

torized 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, sign 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.

A security plan to ensure the health/safety of trail users and discourage illegal activities (i.e., the use of the trail by motorized vehicles) is another important consideration for a trail system. In addition to policing, a trail system must be flexibly designed to allow access by emergency vehicles but discourage access by unauthorized vehicles. In the Oakland County Trail/Path Network Study (described in detail earlier in this report), three recommendations for security on the County's non-motorized trail system were offered:

- Local jurisdictions should be responsible for policing and patrolling local trails and the sections of County trails that pass through each municipality;
- OTAC should consider providing County policing on County trails; and,
- OTAC should study the possibility of implementing a volunteer citizen patrol force for County trails.

Finally, proper and regular maintenance of non-motorized systems is essential when it comes to providing a safe and enjoyable system. This topic is addressed below.

MAINTENANCE

Developing maintenance guidelines, standards, and policies will be essential in assuring a safe, well-used non-motorized system. Common maintenance concerns and solutions for on-road bike lanes and off-road multi-use trails are presented below.

On-Road Bike Lanes⁵

- *Surface Problems* - For potholes and other surface irregularities, patch to a high standard, paying particular attention to problems near bicyclists' typical travel alignments. Require other agencies and companies to patch to a similarly high standard; if repairs fail within a year, require remedial action.
- *Debris (sand, gravel, glass, auto parts, etc.) near the right edge of the road* - Sweep close to the right edge. If necessary, use vacuum trucks to remove material, especially if it accumulates adjacent to curbs. Pay particular attention to locations such as underpasses, where changes in lighting conditions can blind bicyclists to surface hazards. For debris or surface irregularities on curves or at intersections, pay special attention to the areas between the typical paths of turning and through motor vehicle traffic; often these fill with debris and are in typical bicyclist trajectories. In addition, areas where debris washes across the paved surface should receive special attention; for example, eliminating the source of the problem by providing better drainage is ultimately a more cost-effective solution than increased sweeping.
- *Chip Seal Gravel* - Many local agencies use chip seal to extend the lives of their roadways. However, the technique, which involves laying down a coating of oil and a layer of crushed rock, often leaves deep piles of gravel just to the right of the typical travel paths of motor vehicles. To reduce the impact on bicyclists, remove excess gravel as soon as possible and suggest alternative routes as detours.
- *Ridges or Cracks* - These should be filled or ground down as needed to reduce the chance of a bicyclist catching a front wheel and crashing. Pay particular attention to ridges or cracks that run parallel to the direction of travel. One common location to check is where a merging lane is provided just beyond an intersection. Because traffic must merge left to continue traveling straight, the bicyclist will be crossing the joint between the merge lane and the through lane at a very shallow angle.
- *On-Road Bicycle Signs* - Special bicycle signs (regulatory, warning, or information) should be maintained in the same way that other roadway signs are. Pay particular attention to bike route signs at decision points, warning signs at special hazard locations, and regulatory signs on popular bike-lane streets.

- *On-Road Bicycle Markings* - Bicycle lane striping should be renewed at the same time that other stripes are painted. The same goes for bike-lane pavement markings. Some markings may suffer from more wear-and-tear than others and deserve special attention.

Off-Road Multi-Use Trails⁶

- *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.
- *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.

4.4 LIABILITY

The operation of publicly accessible parks and recreation facilities, including non-motorized trails, brings legal responsibility for safety and maintenance and exposes the facility owner to liability. Concerns relating to liability are often an obstacle to the development and/or management of non-motorized trails, as public agencies, trail groups, and private landowners fear lawsuits from trail users. However, general legal protections afforded to trail operators significantly reduce liability risks. Coupled with the implementation of sound risk management practices, these legal protections should offset the liability concerns associated with non-motorized trail development and/or management.

Most states have recreational use statutes that substantially limit public landowner liability as long as fees are not charged for facility usage. If not protected by recreational use statutes, public agencies are often protected by governmental immunities. The recreational use statutes also protect private landowners who want to open their land to the public for free. Private landowners who have land adjacent to a trail are protected by trespassing laws.⁷

In Michigan, liability for landowners, tenants or lessees for injuries to persons on property for the purpose of outdoor recreation and trail use is limited by Part 733 of Public Act 451 of 1994 (Natural Resources and Environmental Protection Act). The Section generally states that such trail operators are only liable if the injuries were caused by gross negligence or willful and wanton misconduct on the part of the operator.

Therefore, it is important to implement a sound trail management and risk management

strategy. The following recommended risk management action items can be employed to minimize the possibility of injuries on the non-motorized trail and to protect the trail owner in the event they are sued:⁸

- Design the trail for safety.
- Use prominent signage to warn users of potentially dangerous areas.
- Regularly inspect the trail and correct any unsafe conditions; keep records of inspections and remedial changes.
- Prominently post hours of operation and other rules and regulations, along with emergency contact information.
- Develop procedures for handling medical emergencies.



WARNING SIGNS

Signs alerting users of safety hazards, park rules and guidelines, and emergency information help minimize the threat of liability.

- Incorporate, which may limit the personal liability of principals.
- Purchase insurance or place the trail in public ownership, where it can be covered by the overall insurance policy of the city, county or state.
- Understand the state recreational use statute and other pertinent laws.

Another means of liability protection is insurance. According to a Michigan Trail Maintenance Survey conducted by the Michigan Trails & Greenways Alliance in 2006, approximately two-thirds of trail operator respondents carry liability insurance, with identifiable coverage ranging from \$1 to \$15 million.

Liability issues were addressed in the Oakland County Trail/Path Network Study. The Study concluded that liability for non-motorized trails should remain the responsibility of the local municipalities with jurisdiction, in the same manner that local parks are covered. The Study further recommended that OTAC should study the possibility of assisting local governments as they secure liability insurance.

FOOTNOTES

- ¹ Drainage Grates and Utility Covers. Implementing Bicycle Improvements at the Local Level.
- ² Case Studies of Water Impacts on Rural Communities. L. Johnson, Sept. 2002.
- ³ www.nps.gov.
- ⁴ Bicycle Parking Guidelines. Association of Pedestrian and Bicycle Professionals.
- ⁵ USDOT Federal Highway Administration. Bicycle Facility Maintenance.
- ⁶ Fairfax County, VA, Trail Maintenance Standards.
- ⁷ Rail-trails and Liability: A Primer on Trail-Related Liability Issues & Risk Management Techniques. Rails-to-Trails Conservancy, September 2000.
- ⁸ Liability and Rail-Trails in Pennsylvania. Rails-to-Trails Conservancy, May 2007.





5 ACTION PLAN

THE OAKLAND COUNTY TRAILS MASTER PLAN SETS FORTH A LONG-TERM VISION FOR A COUNTY-WIDE NON-MOTORIZED NETWORK. WORKING TOWARD THIS END, THIS CHAPTER SUMMARIZES NON-MOTORIZED NETWORK PRIORITIES, RECOMMENDED ACTIONS, COST ESTIMATES FOR IMPLEMENTATION AND POTENTIAL FUNDING SOURCES.

Implementation of this vision will require extensive effort on the part of multiple agencies, departments and organizations, as the development of trails and greenways is not a quick and easy process. This Master Plan, however, is intended to provide a foundation and vision for the County, local communities, and trail organizations to reference as they continually work toward the creation of a connected, non-motorized system.

It is likely that over time the particulars and details of this plan, the proposed corridors, and the types of systems may change due to development patterns, funding opportunities, public opinion, etc. Because of this fact, this chapter of the Master Plan, in particular, should be reviewed and updated on a regular basis as priorities shift, segments are implemented, and funding opportunities and sources change.

5.1 OAKLAND COUNTY AND OTAC PRIORITIES

A series of non-motorized network priorities have been introduced to provide focus and guide the overarching activities of the Oakland County Parks and Recreation Department, Oakland County Planning and Economic Development Services and the Oakland Trails Advisory Council. These priorities are listed in the table on the following page. Each priority is given an estimated timeline of completion, being designated as either short-term (0-2 years), intermediate (3-5 years), long-term (5+ years) or on-going.

5.2 GAP ANALYSIS IMPLEMENTATION STRATEGY

The “Gap Analysis Suggested Next Steps and Timeline” table on the following pages outlines the necessary tasks identified during the development of the Master Plan to bridge the three critical gaps in the County’s non-motorized trail network. Each task includes a listing of the agencies that would likely be involved or would need to review and approve the particular task. Additionally, an estimated timeline of completion is provided that classifies each task as short-term, intermediate, long-term or ongoing. In its role as a coordinating agency, the Oakland Trails Advisory Council should continually monitor the status of the implementation tasks and provide assistance to the state agencies, local municipalities and trail groups with jurisdiction.

These are not the only “gaps” or priorities within the Oakland County system, however, these were the portions of the trail system gaps considered and evaluated during the development of the Master Plan.

Oakland County and OTAC Priorities

Estimated Timeline of Completion

Priority	Short-Term (0-2 yrs)	Intermediate (3-5 yrs)	Long-Term (5 yrs+)	On-Going
Place framed Oak Routes maps at public areas throughout the County.	○			
Explore the possibility of a service grant program to assist in trail development activities	○			
Develop "Fact Sheet" series regarding non-motorized issues that get sent out on a regular schedule to local staff and local officials to assist with education and awareness process. Include talking points that can easily be referenced during public meetings and discussions.	○			○
Develop an Annual Award to be given to extraordinary non-motorized efforts in the County	○			○
Outline process for local communities/activists to develop a trail master plan and trail implementation process. Different steps for rail trails vs. urban trails.	○	○		
Implement a state-of-the-art trail demonstration project to set a standard for non-motorized facilities.	○	○		
Develop a Marketing Plan for the Oakland County Trail Network (Oak Routes) to promote and advocate the mission and benefits of the trail network. Include promotional materials such as brochures, videos, template letters to the editor, template press releases, template powerpoint for local community use, media kit with current trail information for distribution at events.	○	○		
Develop a Branding and Wayfinding Manual for the Oak Routes trail network including signage for bike routes and bike lanes. Also include branding, logo, etc. for OTAC. (OTAC sign committee)	○	○		
Develop greenways endowment fund for acquisition and trail development			○	
Review Master Plan in 5 years and consider update and/or addendum to reflect current happenings, standards, and priorities.			○	○
Encourage, coordinate, support and promote trail programs, agencies, and events in Oakland County.				○
Organize and hold Annual or Bi-Annual Oakland County Trail Summit.				○
Be a resource for technical information on design, development and maintenance. Create toolkit for local communities regarding trail design standards/recommendations, funding, and maintenance				○
Develop Annual Report to summarize accomplishments and set goals for upcoming year.				○
Maintain up-to-date information on trail network facilities and track progress.				○
Coordinate with adjacent counties in order to establish and improve cross-jurisdictional links.				○
Continue to facilitate and encourage collaboration between communities and agencies.				○
Maintain Oak Routes Map and reprint every 2 years.				○

Gap Analysis Suggested Next Steps and Timeline

Estimated Timeline
of Completion

Task	Approximate Length	Coordinating Agencies	Estimated Timeline of Completion			
			Short-Term (0-2 yrs)	Intermediate (3-5 yrs)	Long-Term (5 yrs+)	On-Going
Clinton River Trail Connections [see page 62]						
Construct Non-Motorized Trail from Bagley north through Pontiac to Huron Street (MDOT Enhancement project)		City of Pontiac MDOT Friends of Clinton River Trail	○			
Incorporate proposed connections into local Master Plans and identify as priorities		City of Pontiac	○			
Design and Construct Segment of Purple Route from Huron Street east to former Silverdome property	1.78 miles	City of Pontiac Oakland County Drain Comm. MDOT Friends of Clinton River Trail	○	○		
Design and install Wayfinding Signage along Blue Route and Purple Route to direct trail users to various destinations and amenities	N/A	City of Pontiac Friends of Clinton River Trail	○	○	○	
Design and Construct final section of Purple Route between M-59 and existing Clinton River Trail (using the Northern Spur RR or along Clinton River to Opdyke)	Along River - 0.82 mi Along RR - 1.63 mi	City of Pontiac Oakland County Drain Comm. MDOT CN Railroad Auburn Hills Friends of Clinton River Trail		○	○	
Design and Construct Murphy Park Spur	1.95 miles	City of Pontiac CN Railroad Friends of Clinton River Trail			○	
Continue discussions and negotiations with Railroad regarding interest in purchase of Northern Spur for use as non-motorized trail	1.63 miles	City of Pontiac Oakland Trails Advisory Council CN Railroad Legislators Friends of Clinton River Trail				○
Paint Creek to Polly Ann Trail Connections [see page 67]						
Design and Construct connector trail between Paint Creek Trail and M-24 (Glanworth) and implement road crossing improvements/ markings along "Yellow Route"	Glanworth Connection ~ 200 feet	Orion Township Paint Creek Trailways Commission MDOT	○			
Develop and Install Wayfinding signage system to direct trail users along the "Yellow Route" to connect between the Paint Creek and Polly Ann Trails		Orion Township Paint Creek Trailways Commission Polly Ann Trail Mgt. Council MDOT Orion Township	○			
Construct Trail from M-24 to Kern Road within the Bald Mountain State Recreation Area (Purple Route)		MDNR Orion Township Oakland Township	○			

Gap Analysis Suggested Next Steps and Timeline (cont.)

Estimated Timeline of Completion

Task	Approximate Length	Coordinating Agencies	Short-Term (0-2 yrs)	Intermediate (3-5 yrs)	Long-Term (5 yrs+)	On-Going
Paint Creek to Polly Ann Trail Connections (cont.)						
Incorporate proposed connections into local Master Plans and identify as priorities		Orion Township Oakland Township Addison Township Oxford Township Paint Creek Trailways Commission Polly Ann Trail Mgt. Council	○			
Design and Construct remaining Safety Path along M-24 and former railroad corridor between Atwater and Polly Ann Trail (Blue Route)	Village and Orion Twp - 0.3 mi Oxford Twp - 1.68 mi	Village of Lake Orion Orion Township Oxford Township MDOT Paint Creek Trailways Commission Polly Ann Trail Mgt. Council	○	○		
Coordinate with property owners to design and construct trail connection from Kern Road east to the Paint Creek Trail (Purple Route)	~0.6 miles plus creek crossing	MDNR MDEQ Oakland Township Paint Creek Trailways Commission		○		
Develop and Install Wayfinding signage system to direct trail users along the "Purple Route" to connect between the Paint Creek and Polly Ann Trails		MDNR Orion Township Oakland Township Paint Creek Trailways Commission		○		
Develop and Install Wayfinding signage system to direct trail users along the "Blue Route" to connect between the Paint Creek and Polly Ann Trails		Village of Lake Orion Orion Township Oxford Township Village of Oxford MDOT Paint Creek Trailways Commission Polly Ann Trail Mgt. Council		○		
Design and Construct connector trail between Paint Creek and Polly Ann Trails along Orion and Clarkston Roads, within Marshview Park, and along Stoney Creek, Predmore and Lake George Roads (Green Route)	Oakland Twp - 4.0 mi Addison Twp - 2.81 mi	Oakland Township Addison Township Polly Ann Trail Mgt. Council Paint Creek Trailways Commission MDNR Oakland Trails Advisory Council		○	○	
Develop and Install Wayfinding signage system to direct trail users along the "Green Route" to connect between the Paint Creek and Polly Ann Trails		Oakland Township Addison Township Paint Creek Trailways Commission Polly Ann Trail Mgt. Council MDNR Oakland Trails Advisory Council			○	

Gap Analysis Suggested Next Steps and Timeline (cont.)

Task	Approximate Length	Coordinating Agencies	Estimated Timeline of Completion			
			Short-Term (0-2 yrs)	Intermediate (3-5 yrs)	Long-Term (5 yrs+)	On-Going
West Bloomfield, Lakes Community, Huron Valley Trails Connections [see page 73]						
Design and Construct trail connection from existing West Bloomfield Trail, through Nature Preserve property and complete Pontiac Trail and Haggerty Safety Path segments	0.7 miles	West Bloomfield	○			
Develop and Install coordinated Wayfinding signage system to direct trail users along the "Blue Route" to connect between the West Bloomfield, Lakes Community, and Huron Valley Trails	N/A	Oakland Trails Advisory Council West Bloomfield Township Commerce Township Wolverine Lake Wixom	○			
Coordinate proposed trails in and around the Martin Road Parkway development to ensure connections to Oakley Park Road, Haggerty Road, Pontiac Trail and the proposed M-5 trail.	N/A	Oakland Trails Advisory Council MDOT Commerce Township	○			
Incorporate proposed connections into local Master Plans and identify as priorities		West Bloomfield Township Commerce Township Walled Lake Wixom	○			
Design and Construct remaining Safety Path segments along Haggerty, Oakley Park, Glengary, and Wixom Roads	2.43 miles	Commerce Township	○	○		
Design and Construct trail within railroad corridor from existing West Bloomfield Trail southwest to the Huron Valley Trail	W Bloomfield - 2.5 mi Commerce - 2.56 mi Walled Lake - 1.62 mi Wixom - 3.71 mi Bridge Over M-5 - 550 ft	Oakland Trails Advisory Council MDOT West Bloomfield Township Commerce Township Walled Lake Wixom			○	
Continue efforts and discussions with the current railroad property owner(s) to evaluate options for use of the corridor as a non-motorized trail.	N/A	Oakland Trails Advisory Council Legislators Trust for Public Land West Bloomfield Township Commerce Township Walled Lake Wixom				○

5.3 COSTS

The implementation of the envisioned Oakland County non-motorized trail network will require extensive resources and a multi-year planning effort. A major consideration for the trail implementation effort will be cost, which will undoubtedly influence the phasing of the improvements and examination into 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. However, the costs indicated are a starting point in planning for the cost of implementation, as 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.



ESTIMATED COST FOR NON-MOTORIZED TRAIL DEVELOPMENT

Surface Material	Cost Per Mile	Longevity
Granular Stone	\$60-100K	7-10 Years
Asphalt	\$210-270K	7-15 Years
Concrete	\$300-500K	20+ Years
Boardwalk	\$1.5-2 Million	7-15 Years
Resin Stabilized	Varies based on application	7-15 Years
Wood Chips	\$65-85K	Short-term 1-3 Years
Miscellaneous		Cost
Pre-Fab Pedestrian Bridge (15 ft wide, 45 ft long, steel truss)		\$70,000 ea

--- "Trails for the 21st Century", Rails-to-Trails Conservancy, 2001; PEDSAFE Manual and Wade Trim



COST ESTIMATES FOR RETROFITTING EXISTING ROAD SECTIONS FOR BIKE PATHS

Type	Cost
Paved Shoulder Per Mile 4 feet each side	\$70,000
Bike Lanes Per Mile (Added) 5 feet each side with curb and gutter	\$281,000
Wide Curb Lane Per Mile 2 feet each side	\$50,000
Painted Bike Lanes Per Mile	\$5,000 - 30,000
Painted Shoulders to Reduce Lane Width Per Mile	\$1,000

--- Adapted from Virginia Department of Transportation, 2000; PEDSAFE Manual and Wade Trim.



TYPICAL ANNUAL MAINTENANCE COSTS FOR ONE-MILE PAVED TRAIL

Task	Cost
Drainage and storm channel maintenance	\$500
Sweeping/blowing debris off trail	\$1,200
Pick-up/removal of trash	\$1,200
Weed control and vegetation management	\$1,000
Mowing of grass shoulder	\$1,200
Minor repair to trail furniture/safety features	\$500
Maintenance supplies for work crews	\$300
Equipment fuel and repairs	\$600
Total Estimated Cost Per Mile	\$6,500

--- "Trails for the 21st Century", Rails-to-Trails Conservancy, 2001.

5.4 FUNDING

Non-motorized trail funding opportunities and sources have continually evolved over the past number of years. While some funding programs have been reduced or discontinued, new initiatives have been introduced. Similarly, the priorities of funding programs continually change over time based on a variety of factors. This section provides a synopsis of potential funding sources from outside entities for non-motorized trail projects. Understanding available funding programs, their requirements, priorities and deadlines requires continuous monitoring. A few of the more common funding sources have been detailed here as a reference and resource for local municipalities and trail organizations within Oakland County. These are in addition to traditional funding methods such as the general tax revenues, dedicated millages, bond issues, etc.

TRANSPORTATION ENHANCEMENT FUNDS (MDOT)

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

- Provision of facilities for pedestrians and bicycles. Includes new or reconstructed sidewalks, walkways, curb ramps, bike lane striping, wide paved shoulders, bike parking, bus racks, off-road trails, bike and pedestrian bridges and underpasses.
 - Paved shoulders (4) four or more feet wide
 - Curb lane width greater than 12 feet
- Bike lanes
- Pedestrian crosswalks, sidewalks
- Shared use paths 10 feet wide or greater
- Path/trail user amenities
- Grade separations
- Bicycle parking facilities
- Bicycle accommodations on public transportation
- Provision of safety and educational activities for pedestrians and bicyclists.
- Programs designed to encourage walking and bicycling by providing potential users with education and safety instruction through classes, pamphlets and signage.
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails).
- Acquiring railroad rights-of-way; planning, designing and constructing multi-use trails; developing rail-with-trail projects; purchasing unused railroad property for reuse.

A minimum 20% local match is required for proposed projects and applications are accepted online on an on-going basis.

MICHIGAN NATURAL RESOURCES TRUST FUND

The MNRTF provides funding for both the purchase of land (or interests in land) for recreation or protection of land because of its environmental importance or scenic beauty and the appropriate development of land for public outdoor recreation use. Goals of the program are to:

1. Protect Michigan's natural resources and provide for their access, public use and enjoyment;
2. Provide public access to Michigan's water bodies, particularly the Great Lakes, and facilitate their recreation use;

3. Meet regional, county and community needs for outdoor recreation opportunities;
4. Improve the opportunities for outdoor recreation in Michigan's urban areas; and,
5. Stimulate Michigan's economy through recreation-related tourism and community revitalization.

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 (only) for development projects. A recent focus for the MNRTF has been the implementation of non-motorized trails as well as universally designed facilities.

LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund (LWCF) is a federal appropriation to the National Park Service, who distributes funds to the Michigan Department of Natural Resources for development of outdoor recreation facilities. The focus of the program in recent years is on trailway systems, community recreation, green technology, coordination and communication, and universal design. Minimum grant requests were \$30,000 and maximum grant requests were \$75,000. The match percentage must be 50% of the total project cost. In 2008, applications were due in March.

BIKES BELONG COALITION

The Bikes Belong Coalition is sponsored by members of the American Bicycle Industry. Their mission is to put more people on bikes more often by funding projects that leverage federal funding and build momentum for bicycling in communities across the U.S. Requests for funding can be up to \$10,000. Applications are reviewed on a quarterly basis. More information can be found at www.bikesbelong.org.

DTE ENERGY TREE PLANTING

The DTE Energy Tree Planting program is conducted in partnership with the MDNR. The program began as DTE Energy joined the US Department of Energy's voluntary Climate Challenge Program to address greenhouse gas emissions.

Cost-share funds are available to municipalities in DTE Energy's service area on a competitive basis. In 2008, a total of up to \$3,000 was granted to selected tree planting projects on public and school property with a 100% local match. Applications are typically due in the Fall and could be sought for landscaping along trail routes.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY: NON-POINT SOURCE POLLUTION CONTROL GRANTS – CLEAN MICHIGAN INITIATIVE AND 319 PROGRAM

The mission of the Department of Environmental Quality (DEQ), Non-point Source (NPS) Program is to:

1. Proactively reduce and prevent non-point sources of pollution in order to provide for healthy and diverse aquatic ecosystems, protect public health, and enhance environmentally compatible recreation opportunities;

2. Develop public recognition of the value of Michigan's lakes, streams, wetlands and groundwater; and,
3. Encourage stewardship of these resources.

The CMI and 319 programs are water quality grants offered by the Environmental Science and Services Division (ESSD) of the MDEQ utilizing funding from Section 319(h) of the federal Clean Water Act, and from the Clean Michigan Initiative Non-point Source Pollution Control Grants and Clean Water Fund. Completed proposals for funding are typically due to the MDEQ in October. Many Watershed Management Plans include restoration and water quality improvements along, near, or within public greenways and parks and may be able to be coordinated with trail projects.

ACCESS TO RECREATION

Launched in 2006, Access to Recreation is a three-year initiative to strengthen communities by unifying community foundations, parks and recreation departments at the local, regional and state level, and other recreation organizations in common actions to achieve its mission. Access to Recreation projects will provide universal access for people of all abilities to a wide variety of recreation opportunities, such as nature viewing and photography areas, hiking trails, scenic outlooks, waterfalls and water activities of all kinds, beaches, fishing and boating, playgrounds, picnic areas, campgrounds, and much more. For up to date information regarding the program and funding availability go to www.accesstorecreation.org.

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 to succeed. In Michigan, the program is sponsored by the Michigan Governor's Council on Physical Fitness and has gained momentum over the past few years. With the passage of the federal transportation legislation in 2005, Michigan's SR2S program makes schools eligible for transportation enhancement funds, providing for infrastructure improvements and education campaigns. The purpose of the program as defined in the federal legislation is:

1. To enable and encourage children, including those with disabilities, to walk and bicycle to school;
2. To make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; and
3. To facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

The program authorized \$612 million over the 5 fiscal years beginning with 2005. The Michigan Department of Transportation estimates that Michigan's total apportionment over the 5 years will be roughly \$19 million. Schools must be registered, attend a day long training session, and develop a Walking Audit in order to be eligible to apply. SR2S funding is 100 percent federal; no match is required. 70% of the funding must be used for infrastructure projects, 10% for non-infrastructure projects, and 20% for either. www.saferoutesmichigan.org

RECREATIONAL TRAILS PROGRAM/ RECREATION IMPROVEMENT FUND

The Recreational Trails Program/Recreation Improvement Fund is administered by the MDNR for trails on DNR land or linked to a trail on DNR land. The DNR division must always be the applicant, but can be developed as a joint application with a local unit of government. Applications are typically due in June of each year. Additional information can be found on the MDNR-Grants website.

CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)

The CMAQ program was created to reduce congestion on local streets and improve air quality. Funds are available to urban communities designated as “non-attainment” areas for air quality. Pedestrian and bicycle projects are eligible for CMAQ funding. In this region, CMAQ funding and applications are managed by SEMCOG.

ACT 51 FUNDS

Act 51 creates a fund into which specific transportation taxes in Michigan are deposited, and prescribes how these revenues are to be distributed and the purposes for which they can be spent. Act 51 establishes jurisdictional road networks, sets priorities for the use of transportation revenues, and allows bonded indebtedness for transportation improvements and guarantees repayment of debt.

Of the funds allocated from the Michigan Transportation Fund to the State Trunk Line Fund and to the counties, cities, and villages, the law states that “a reasonable amount, but not less than 1% of those funds” must be expended for “construction or improvement of non-motorized transportation services and

facilities”. An improvement in a road, street, or highway that facilitates non-motorized transportation by “the paving of unpaved road shoulders, widening of lanes, the addition or improvement of a sidewalk in a city or village, or any other appropriate measure shall be considered to be a qualified non-motorized facility”.

ZONING REQUIREMENTS/DEVELOPMENT FEES

The opportunity may exist to require developers to contribute through construction or the escrowing of monies for non-motorized connections that benefit their project but also provide a community-wide benefit. For example, if a development is occurring in close proximity to the communities planned non-motorized system, the developer may be required to assist in the implementation of that portion of the non-motorized system that directly abuts their development.

Development Design Standards or Overlay Districts may be tools to consider within a zoning ordinance requiring the construction of non-motorized facilities that are part of your local non-motorized plan or vision. Language could detail construction, width, material and specifications per local community desires.

TAX INCREMENT REVENUES

Special district authorities, such as Downtown Development Authorities, Brownfield Redevelopment Authorities, and Business Improvement Districts, may consider supporting non-motorized trail connections and projects located within their boundaries through the expenditure of tax increment revenues. Such non-motorized projects must provide a direct benefit and promote economic development within the district. Throughout Michigan, these au-

thorities have used tax increment revenues to construct sidewalks, pedestrian improvements, trails and trail amenities, wayfinding signage and other similar projects.

CDBG FUNDS

Community Development Block Grant (CDBG) funds are provided to communities from the U.S. Department of Housing and Urban Development (HUD) for a range of eligible activities that benefit low and moderate income citizens and/or promote community and economic development. Eligible activities must meet one of the following national objectives of the program:

1. Benefit low and moderate income persons;
2. Prevent or eliminate slums or blight; and,
3. Address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available.

Started in 1974, this program provides annual grants on a formula basis to 1,180 general units of local government and the States. The annual grants are allocated between the States and local jurisdictions called “non-entitlement” and “entitlement” communities. Entitlement communities each receive an annual grant allocation and are comprised of central cities, metropolitan cities (with populations of at least 50,000) and qualified urban counties (with a population of 200,000 or more). Non-entitlement communities do not receive an annual grant allocation but may receive CDBG funds through the States.

Oakland County is an entitlement county and receives annual CDBG funds. Administered by

the Oakland County Community and Home Improvement Division, the County’s CDBG funds are utilized for a variety of community development purposes including revitalization projects within the local municipalities of the County. Additionally, the Cities of Farmington Hills, Pontiac, Royal Oak, and Southfield and Waterford Township each qualify as entitlement communities and receive their own CDBG allotment.

As long as projects meet eligibility criteria as determined by HUD, CDBG funds could be used for non-motorized trail projects. For example, a sidewalk improvement project within a predominantly low to moderate income neighborhood within Oakland County would likely qualify as CDBG eligible. More information can be found on HUD’s website at www.hud.gov.

CONVENTIONAL FUNDING SOURCES

Even with the plethora of programs outlined above, conventional financing methods such as general tax revenues, bonds and private donations form the core source of funding for non-motorized trail projects. For most of the grant programs outlined above, some amount of local match, in the form of general funds or private donations, is required. In the absence of grants or alternative funding options, conventional funding sources are the only option to implement trail improvements.

A more detailed description of the types of conventional funding sources is provided below:

- General tax revenues - the funds received by municipalities from ad valorem property taxes to support general operations. Ad valorem taxes are levied based on the local property tax rate or millage rate. At the

municipality's discretion, these funds may be used for recreational purposes.

- Dedicated millages - some local municipalities levy a dedicated tax for recreation purposes. Because the levying of a new or increased millage typically requires a popular vote, a community marketing campaign is often necessary to demonstrate the benefits to the community.
- Special assessments - a unique tax local municipalities may levy for certain public projects to be completed within special assessment districts. These taxes may only be levied against properties that will receive a direct benefit from the particular project.
- General obligation bonds - bonds issued by a municipality or other public body that are backed by the "full faith and credit" of that body. The municipality usually pledges its taxing ability, and therefore future tax revenues, to repay the bonds over time. A general obligation bond could be issued for non-motorized trail improvements.
- Private donations - obtained from local citizens, businesses, philanthropic foundations, and other groups and may be in the form of cash donations, material donations, technical services, advertising, etc.

5.4 POTENTIAL FUNDING PROGRAMS

The Oakland Trails Advisory Council and/or Oakland County departments should consider developing their own funding and/or technical assistance programs to facilitate the improvement of the non-motorized trail network. As a regional recreation facilitator with an extensive base of contacts, staff knowledge and technical resources, Oakland County is well suited to provide enhanced assistance to local municipalities and trail groups. Potential programs are outlined below:

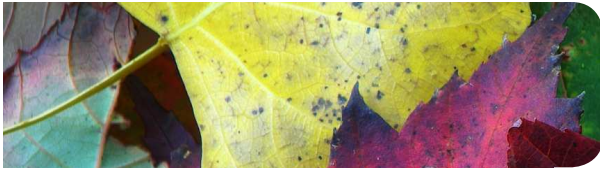
OAKLAND COUNTY GREENWAYS ENDOWMENT FUND

The OTAC should consider establishing a greenways or trail endowment fund, which would implement the Business Roundtable recommendation to "explore options to establish a greenways fund that would provide seed monies to secure available grants for greenway implementation". The grant application process can be costly for local municipalities and trail groups, as most applications require background research, field work, lengthy project narratives, and detailed cost estimates. In the absence of a staff person with available time and grant writing expertise, many local municipalities and trail organizations pass on potential grant opportunities. Such a program would facilitate trail development within Oakland County by offsetting the costs of staff time spent preparing a grant application or the hiring of a grant writing professional.

OAKLAND COUNTY PLANNING/PARKS AND RECREATION SERVICE GRANT PROGRAM

The staff of the Oakland County Planning and Economic Development Services and Parks and Recreation Department can lend their professional and technical expertise and partner with local groups in various trail initiatives. The process could be similar to a traditional grant program, where local municipalities and/or trail groups would apply to Oakland County for assistance with a particular project. Oakland County staff would pick one or two projects a year to focus on and provide assistance.





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APPENDIX: CONTACTS

OAKLAND COUNTY PARKS AND RECREATION

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Melissa J. Prowse, Trails Coordinator
Joe Figa, Chief of Design & Development
888.627.2757
www.oakgov.com/parksrec

OAKLAND COUNTY PLANNING & ECONOMIC DEVELOPMENT SERVICES

Bret Rasegan, Planning Supervisor
248.858.5445
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OAKLAND COUNTY ENVIRONMENTAL STEWARDSHIP PROGRAM

Larry S. Falardeau, Program Coordinator
248.858.5438
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OAKLAND COUNTY BOARD OF COMMISSIONERS

Bill Bullard, Jr., Chairperson
248.858.0100
www.oakgov.com/boc

OAKLAND COUNTY BUSINESS ROUNDTABLE

248.858.1248
www.oakgov.com/brt

OAKLAND COUNTY DRAIN COMMISSION

John P. McCulloch, Drain Commissioner
248.858.0958
www.oakgov.com/drain

ROAD COMMISSION FOR OAKLAND COUNTY

Brent O. Bair, Managing Director
David Evancoe, Director of Planning and Development
248.858.4804
www.rcocweb.org

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Southfield Operations Service Center
248.359.9040
www.michigan.gov/dnr

MICHIGAN DEPARTMENT OF TRANSPORTATION

Jeff Edwards, Metro Region Office
248.483.5100
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HURON-CLINTON METROPOLITAN AUTHORITY

Susan Nyquist, Chief Park Planner
800.477.2757
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COMMUNITY FOUNDATION FOR SOUTHEASTERN MICHIGAN

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313.961.6675
www.cfsem.org

MICHIGAN TRAILS AND GREENWAYS ALLIANCE

Nancy Krupiarz, Executive Director
517.485.6022
www.michigantrails.org

MICHIGAN RECREATION AND PARK ASSOCIATION TRAILS, GREENWAYS, BLUEWAYS AND OPEN SPACE COMMITTEE

Anita Twardesky, Committee Chair
734.285.2925
www.mrpaonline.org

CLINTON RIVER TRAIL ALLIANCE (CLINTON RIVER TRAIL)

Brian Marzolf, Parks & Recreation Director,
City of Auburn Hills, OTAC Member

City of Auburn Hills - 248.370.9353
City of Sylvan Lake - 248.682.1440
City of Pontiac - 248.758.3000
City of Rochester - 248.651.9061
City of Rochester Hills - 248.656.4600

**FRIENDS OF THE CLINTON RIVER TRAIL
(CLINTON RIVER TRAIL)**

Dan Keifer
248.652.1434
www.clintonrivertrail.org

PAINT CREEK TRAILWAYS COMMISSION (PAINT CREEK TRAIL)

Kristen Myers, Trail Manager
248.651.9260
www.paintcreektrail.org

HEADWATERS TRAILS INC. (HEADWATERS TRAIL)

Sue Julian, President
248.634.3513
www.headwaterstrailsinc.org

HURON VALLEY TRAIL

Chris Doozan,
Lyon Township Planning Consultant
248.437.2240
www.oakgov.com/parksrec/program_service/trails_huron.html

LAKES COMMUNITY TRAIL

Deanna MaGee, Community Services Director,
City of Wixom
248.624.2850
www.oakgov.com/parksrec/program_service/trails_intro.html

**POLLY ANN TRAILWAY MANAGEMENT COUNCIL,
INC. (POLLY ANN TRAIL)**

Linda Gierak, Interim Trail Manager
248.969.8660
www.pollyanntrailway.org

WEST BLOOMFIELD PARKS AND RECREATION (WEST BLOOMFIELD TRAIL)

Dave Burley, Deputy Director
248.451.1900
www.westbloomfieldparks.org

WOODWARD CORRIDOR TRAIL

Todd Scott,
Michigan Trails and Greenways Alliance
todd@michigantrails.org

MICHIGAN MOUNTAIN BIKING ASSOCIATION

Marne Smiley, Executive Director
info@mmba.org (e-mail)
www.mmba.org (website)

LEAGUE OF MICHIGAN BICYCLISTS

Rich Moeller, Executive Director
888.642.4537
www.lmb.org

OAKLAND EQUESTRIAN COALITION

Merle Richmond, Coordinator
248.624.1409
www.oaklandequestrians.org

HIGHLAND EQUESTRIAN CONSERVANCY

Sharon Greene, Coordinator
248.887.3970
www.highlandequestrians.org

HIKING MICHIGAN

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