



NON-MOTORIZED TRANSPORTATION PLAN

Washtenaw Area Transportation Study



2018

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ACKNOWLEDGMENTS - WATS would like to thank the members of the Non-Motorized Steering Committee for their assistance in developing this plan. WATS would also like to thank the members of the public for their comments and participation throughout this process. Additionally, WATS would like to thank attendees at the first youth transportation forum.

PHOTO CREDITS - Ann Arbor Downtown Development Authority, HWPI, Bryan Mitchell, Nancy Hedberg, Suzann Flowers, Bonnie Wessler, Larry Miller, Zach Michels

WATS financed the preparation of this document through grants from the U.S. Department of Transportation in cooperation with the Michigan Department of Transportation and contributions from local government, public transit, and education unit members of the Washtenaw Area Transportation Study. The views and opinions expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation.



EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

In Washtenaw County, non-motorized transportation is both a component of the region's high quality of life, and a critical strategy in addressing long term transportation and environmental goals. This plan establishes a vision of a non-motorized transportation system that supports and encourages safe, comfortable, and convenient ways for people to travel throughout Washtenaw County.

EXECUTIVE SUMMARY



SECTION 1, INTRODUCTION

Focuses on the importance of creating a connected non-motorized transportation system that enhances the quality of life for the residents of Washtenaw County. Key takeaways from this section include:

- Identification of major non-motorized transportation corridors that connect communities.
- An increasing population age 65 and older will comprise a much larger percentage of the demographic. This, coupled with fewer young people driving will result in an increased need for travel options beyond the single occupancy vehicle.
- Issues that will require further discussion such as the inclusion of complete streets countywide, enforcing existing non-motorized laws and ordinances, and how to maintain the current non-motorized system for users year round.

SECTION 2, CURRENT CONDITIONS

Discusses existing non-motorized facilities and needs in Washtenaw County:

- Today, there are 151 miles of bike lanes, 273 miles of sidewalks, and 105 miles of shared use pathways along the federal aid network in the county.
- Alternative mode choices in Washtenaw County are becoming more prevalent and continue to diversify, increasing from 11.8% (2006–2010) to 13.2% (2011–2015).
- Between 2004 and 2016 pedestrian crashes increased by 49% and bicycle crashes increased by 59% in Washtenaw County; this is likely due to a combination of factors, including an improving economy and a growing number of non-motorized trips.

EXECUTIVE SUMMARY

SECTION 3, PLANNING FOR THE FUTURE

Presents how WATS will move this plan forward. This section provides:

- The implementation strategy, which focuses on the incorporation of the Six E's of the Safe Routes to School Program, Evaluation, Engineering, Education, Encouragement, Enforcement, and Equity.

These E's must be a part of the planning, design, and construction of these much-needed facilities.

Challenges to creating this vision include shifting priorities by the State Department of Transportation, a move towards a performance based investment strategy, and differing opinions across the communities of Washtenaw County about the need to build and maintain these investments in a more uniform manner.

SECTION 4, MONITORING SUCCESS

Examines how WATS will monitor progress towards the goals on the WATS Data Dashboard in six areas:

- Safety and Security
- Promoting Access and Mobility
- Investing Strategically
- Protecting the Environment
- Engaging the Public
- Linking Transportation and Land Use

SECTION 5, PUBLIC OUTREACH

Outlines the public outreach efforts that WATS staff undertook:

- WATS collected 475 survey responses on identifying if people walk or bike to work and if not, why. Safety and distance are the most common reasons why people do not walk or bike to work.
- Social media provided an interactive platform during the plan development and garnered over 7,000 unique people seeing posts on Facebook, and 3,344 impressions on Twitter.
- The first youth transportation forum was held in May 2017, and was attended by 8 participants with numerous suggestions on how to continue the conversation with youth and suggestions on non-motorized transportation improvements needed.





SECTION 1

Introduction

VISION

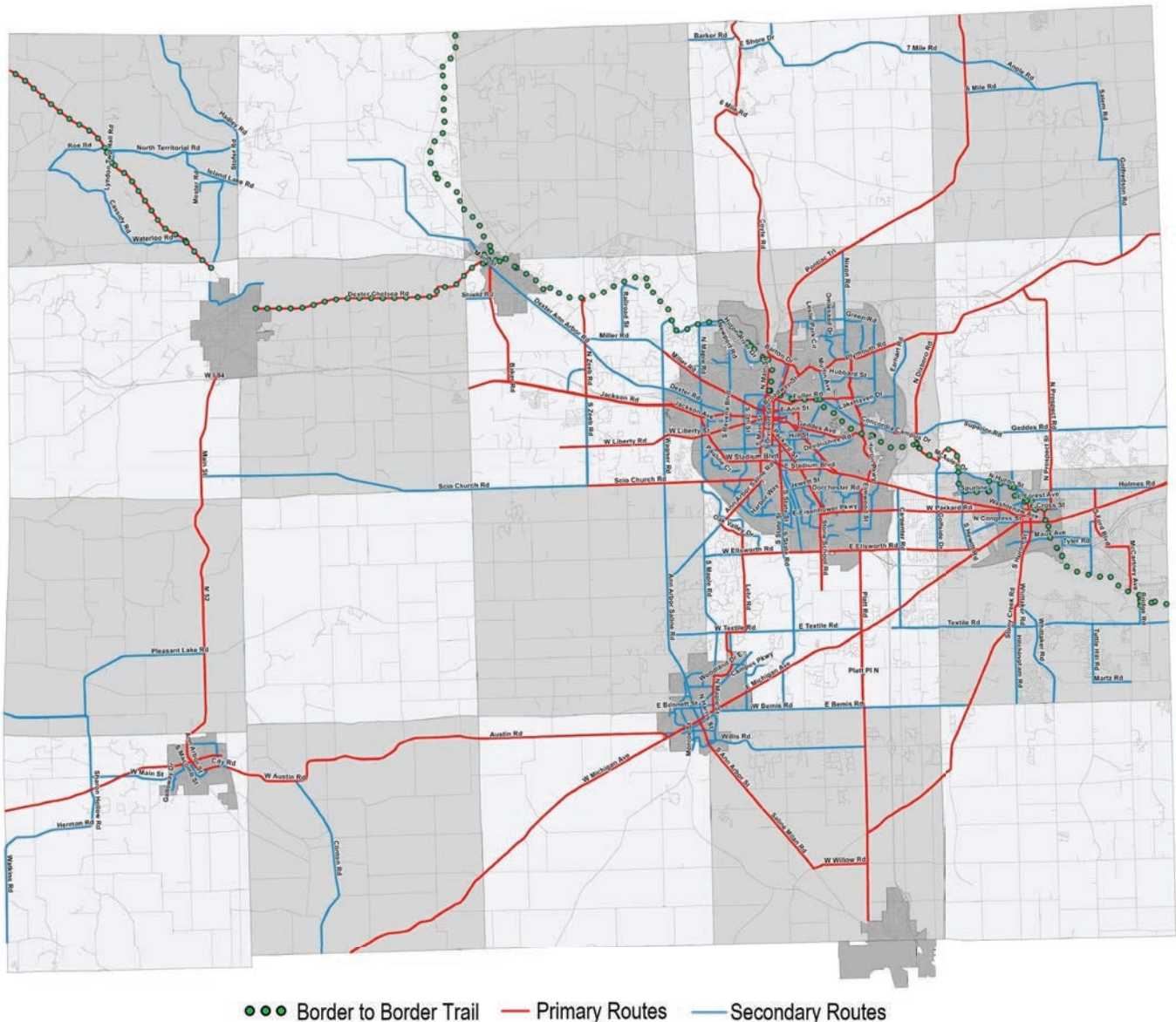
All trips, whether by car, foot, bike, bus, or mobility device begin and end as non-motorized trips, and depends on quality non-motorized infrastructure that enables them to reach their destinations. WATS believes that expanding mode choice options through a context sensitive expansion of the non-motorized system will improve the quality of life of all Washtenaw County residents.

By unifying planning efforts around the county, identifying priority corridors and establishing timely implementation strategies, WATS seeks to facilitate the creation of a safe and equitable, universally accessible regional active transportation system.



SECTION 1 Introduction

MAP 1 - PRIMARY AND LOCALLY IDENTIFIED ROUTES



These corridors will provide the backbone for non-motorized transportation connections to communities and neighborhoods across the region. The lines in red are the priority regional connections identified through the public comment process and Steering Committee guidance, and the blue is other routes identified in local community planning documents. As projects develop, the facilities may shift slightly to align with the larger regional systems that already exist, such as the Border to Border Trail.

BACKGROUND

As society and infrastructure developed towards a more automobile-focused transportation system, people were able to travel farther and farther away from the central downtown areas. The ability to walk and bike to destinations became more challenging as the transportation system was increasingly designed to move more cars quickly and further from urban core cities.

SECTION 1 Introduction

These investment choices have resulted in people living further away from jobs and key destination hubs, and children living too far from school to safely walk or bike. These changes cause long traffic backups and can result in costly freeway expansions to attempt to relieve congestion. This automobile centered transportation environment has led to physical inactivity and results in the steady rise in rates of obesity, diabetes, heart disease, stroke, and other chronic health conditions in the United States, according to the Centers for Disease Control (CDC).¹

Many Americans continue to view walking and bicycling within their communities as unsafe due to the lack of active transportation options such as transit, sidewalks, bike lanes, and trails. Improving these elements encourage active transportation and shift the transportation infrastructure to include all users.

The shift by transportation agencies to recognize and incorporate active transportation, defined by the CDC as “any self-propelled, human-powered mode of transportation, such as walking or bicycling” into the planning process, through policies and design standards has provided the framework for making the transportation network a place for all people.

FEDERAL BICYCLE AND PEDESTRIAN POLICY

Federal Legislation and Policy Direction

Transportation legislation beginning in 1991 enacted significant changes to Federal transportation policy and programs that expanded consideration of and eligibility for bicycling and walking. Broad consideration and eligibility for bicycling and walking are codified in titles 23 and 49 of the United States Code (U.S.C.). Currently, section 1404 of the Fixing America’s Surface Transportation (FAST) Act modified 23 U.S.C. 109 to require federally-funded projects on the National Highway System to consider access for other modes of transportation, and provides greater design flexibility to do so.

Bicycle and Pedestrian Policy

Bicycle and pedestrian needs must be given “due consideration” under Federal surface transportation law (23 U.S.C. 217(g)(1)), and this should include, at a minimum, a presumption that bicyclists, pedestrians, and persons with disabilities will be accommodated in the design of new and improved transportation facilities. In the planning, design, and operation of transportation facilities, bicyclists, pedestrians, and persons with disabilities should be included as a matter of routine, and the decision to not accommodate them should be the exception rather than the rule.

There must be exceptional circumstances for denying bicycle and pedestrian access either by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling (23 U.S.C. 217(g)(1)). Federal Highway Administration (FHWA) Design Guidance outlines exceptional circumstances in a Policy Statement and Supplementary Design Guidance. Even where circumstances are exceptional,

“The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems.

Because of the numerous individual and community benefits that walking and bicycling provide—including health, safety, environmental, transportation, and quality of life—transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.”²

SECTION 1 Introduction

and bicycle use and walking are either prohibited or made incompatible, States, Metropolitan Planning Organizations (MPOs), and local governments must still ensure that bicycle and pedestrian access along the corridor served by the new or improved facility is not made more difficult or impossible (23 U.S.C. 109(m) and 217(g)). For example, there may be ways to provide alternate routes on parallel surface streets that are safe and convenient, or to provide shuttle bus service on major bridge crossings.

At the Federal level, FHWA is working with the National Highway Traffic Safety Administration (NHTSA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and other agencies to implement the bicycle and pedestrian provisions of Federal surface transportation law. State and local agencies are expected to work together cooperatively with transportation providers, user groups, and the public to develop plans, programs, and projects that reflect this vision.

Design

FHWA position on design is to “support a flexible approach to bicycle and pedestrian facility design.”³ The primary design guide is the American Association of State Highway and Transportation Officials (AASHTO). Additional design guides include National Association of City Transportation Officials (NACTO). A brief description of the guides are presented in the Appendix of this document.

STATE OF MICHIGAN BICYCLE AND PEDESTRIAN POLICY

Michigan Complete Streets Policy

Public Act 135 of 2010 requires the development of a complete streets policy to promote safe and efficient travel for all legal users of the transportation network under the jurisdiction of the Michigan Department of Transportation (MDOT). Public Act 135 defines complete streets as “...roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle. A Complete Streets Advisory Council (CSAC) also was created by Public Act 135 of 2010 to advise the State Transportation Commission (STC) as it developed this policy. CSAC members were appointed by the Governor and represent a broad cross-section of transportation system owners, users, and stakeholders, including MDOT and the State Transportation Commission (STC). The STC is authorized by the Michigan State Constitution to set policy for MDOT, and in that role has enacted this Complete Streets policy.

MDOT is responsible for implementation of Commission policy for those portions of the transportation system that are under its jurisdiction. In addition, MDOT, in its role of administering the local federal-aid program in Michigan, can help local jurisdictions understand the provisions of this policy and work with them to further the development of complete streets.

Purpose

This policy provides guidance to MDOT for the planning, design, and construction or reconstruction of roadways or other transportation facilities in a manner that promotes complete streets as defined by the law, and that is sensitive to the surrounding context. MDOT will pursue a proactive and consistent approach to the development of complete streets, in keeping with its mission to provide the highest quality integrated transportation services for economic benefit and improved quality of life.

MDOT Design Context Sensitive Solutions

In 2003, Gov. Granholm issued an Executive Directive that requires MDOT to incorporate Context

SECTION 1 Introduction

Sensitive Solutions (CSS) into transportation projects whenever possible. The (CSS) approach to project development is to engage stakeholders and interdisciplinary teams to resolve transportation problems together. An understanding of the landscape and the community is essential in responding to the unique needs and qualities of individual communities. At each step, inclusiveness, flexibility, and creativity fuel development of fresh solutions and increase the prospects for success. In the end, stakeholders are generally more satisfied with both the process and the outcome.

This shift in creating transportation options is taking place. Today, In Washtenaw County, millions of dollars are being invested to provide residents with a choice in how they travel.

	NATIONWIDE		MICHIGAN		WASHTENAW COUNTY	
	2006–2010	2011–2015	2006–2010	2011–2015	2006–2010	2011–2015
Car, truck, or van	86.4%	85.9%	91.8%	91.4%	82.4%	80.3%
Public transportation	4.9%	5.1%	1.3%	1.4%	3.8%	5.4%
Bike	0.5%	0.6%	0.4%	0.5%	1.4%	1.9%
Walk	2.8%	2.8%	2.3%	2.2%	6.6%	6.2%

Creating mode choice has continued to make Washtenaw County a desirable location for people of all ages and has created communities that enhance the quality of life for its residents, as shown in **TABLE 1**. This purposeful level of investment has equated to significantly more people in Washtenaw County using transit, biking and walking as a mode to get to work than the Michigan statewide average.



SECTION 1 Introduction

BENEFITS OF NON-MOTORIZED TRANSPORTATION

Improving Quality of Life Through Transportation Investments

The US DOT, Michigan Department of Transportation (MDOT) and local transportation agencies play a critical role in connecting people and communities to economic opportunity. Transportation investments can strengthen communities, create pathways to jobs, and improve the quality of life for all. Safe and accessible transportation options improve the quality of life for residents as well as the experience of visitors in our county. Creating communities that emphasize mode choice have a variety of benefits.⁴



ACCESS FOR DISABILITY COMMUNITY



IMPROVE AESTHETICS OF TRANSPORTATION SYSTEM



PROVIDE TRANSPORTATION CHOICE



REDUCE NEED FOR CAR PARKING



ECONOMIC VITALITY



POSITIVE SOCIAL INTERACTIONS



IMPROVE SAFETY



REDUCE AIR AND NOISE POLLUTION

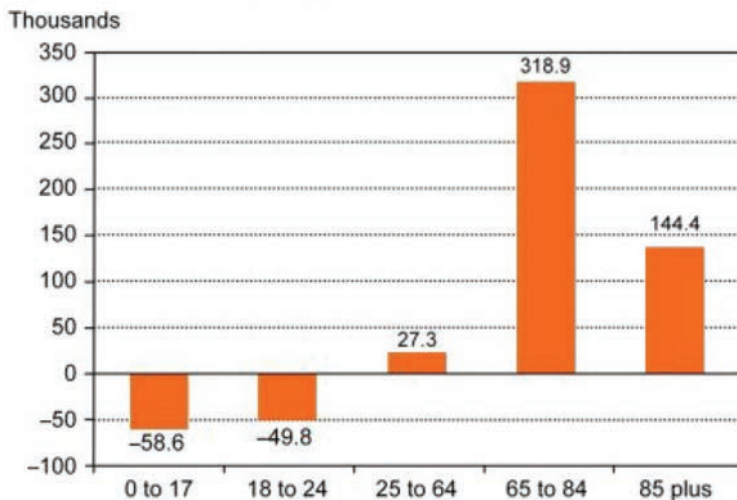


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SECTION 1 Introduction

CHANGING DEMOGRAPHICS

FIGURE 1 - POPULATION CHANGE BY AGE GROUP IN THE SEMCOG REGION, 2015-2045



Demographic shifts in the population will require a change in the way agencies plan for transportation and the options that people want. SEMCOG projects the population aged 65 and older will increase by more than 463,000 by 2045. During the same time, the population aged 85 and older will increase by 145%. This change in demographics will result in an increased number of people who are no longer able to drive but still require transportation. Greater transit needs from this population sector will make non-motorized connections, such as sidewalks and crosswalks, to and from bus stops and key destinations even more important.

FEWER YOUNG DRIVERS

Overall, fewer young people are obtaining driver's licenses. According to a 2016 study done by the University of Michigan's Transportation Research Institute, the top three reasons for not having a driver's license are:

1. "too busy or not enough time to get a driver's license" (37%),
2. "owning and maintaining a vehicle is too expensive"(32%), and
3. "able to get transportation from others" (31%).

The research shows that the percentage of people with a driver's license decreased between 2011 and 2014, across all age groups. For people aged 16 to 44, that percentage has been decreasing steadily since 1983.

Teens

It's especially pronounced for the teens in 2014, just 24.5% of 16-year-olds had a license, a 47% decrease from 1983, when 46.2% did. And at the tail end of the teen years, 69% of 19-year-olds had licenses in 2014, compared to 87.3% in 1983, a 21% decrease.

Young Adults

Among young adults, the declines are smaller but still significant 16.4% fewer 20-to-24-year-olds had licenses in 2014 than in 1983, 11% fewer 25-to-29-year-olds, 10.3% fewer 30-to-34-year-olds, and 7.4% fewer 35-to-39-year-olds.

SECTION 1 Introduction

Adults

For people between 40 and 54, the declines were small, less than 5%. Above 55, the story's a little different.

Older Adults

Older adults were more likely to have a driver's license in 2014 than in 1983 in the case of those 70 and older, 43.6% more likely. But these age groups, too, saw a modest decline from 2011 to 2014. Fewer teens and young adults getting a driver's license and the changing age demographic will lead to larger populations needing to use alternative modes of transportation (either by choice or inability to drive). Investing and connecting the non-motorized system can help address these increasing needs. Planning for this system is critical to addressing the mobility needs for people of all ages, abilities, and incomes.⁵

PROGRESS SINCE 2006

The 2006 WATS Non-Motorized Transportation Plan focused on identifying existing non-motorized facilities (primarily focused on walking and biking) deficiencies, and policy development. The plan provided a framework for communities to encourage the development of the non-motorized system. Since 2006 data sets have improved significantly, the system has expanded and is more connected, and policies to promote non-motorized transportation have taken effect.

As a result of those changes, the focus of this plan is to create a strategy to establish a physical and cultural environment that supports and encourages safe, comfortable, and convenient ways for people to travel throughout Washtenaw County. This environment will result in a greater number of individuals freely choosing transportation modes that include (walking, bicycling, mass transit), leading to healthier lifestyles, improved air and water quality, and a safer, more sustainable transportation system.

The continued efforts by communities throughout Washtenaw County to create accessible mode options can be seen all around Washtenaw County. Improvements to the non-motorized system include the expansion of the Border to Border Trail, development of the Lohr Textile Greenway in Pittsfield Township, the expansion of fixed route transit service into Pittsfield and Scio Townships, signifies the progress and change since 2006.

EXPANSION OF THE BORDER TO BORDER TRAIL

The Border to Border (B2B) Trail will span across Washtenaw County, roughly following the Huron River and also extend toward the northwest corner of the County. The pathway will connect communities, parks, and educational facilities, and be approximately 50 miles in length. Also, other facilities, such as bike lanes, will connect into the Border To Border trail, helping create a larger non-motorized network in the County, 24 miles of the B2B has been constructed. Recently, Washtenaw County Parks has teamed up

2018 NON-MOTOR SUMMARY

\$2.4 million Invested

Projects

Ann Arbor
Allen Creek Treeline

Ann Arbor Township
Huron River Drive Path

Pittsfield Township
Platt-Textile Greenway

Scio Township
Iron Belle Trail
Metropark connection

Added 3 miles of trails
to county

SECTION 1 Introduction

with the Huron Waterloo Pathways Initiative (HWPI) to expand the B2B. HWPI is a grassroots group that is working to connect Dexter, Chelsea, Stockbridge, and Pinckney (via the Lakelands Trail). Once complete, the addition of the Huron Waterloo Pathways will make nearly 70 miles of continuous, non-motorized pathway within Washtenaw County.

BIKE SHARE

Bike share programs offer free or low-cost bicycle options to connect destinations and provide “first and last mile” connections increasing the viability of the public transportation system. WATS helped secure a federal Congestion Mitigation and Air Quality (CMAQ) grant to assist in the creation of ArborBike in September 2014, which was the first publicly funded bike sharing system in Michigan.

As of October 2017, ArborBike has 13 stations and 125 bikes positioned throughout the downtown of Ann Arbor and University of Michigan campus areas, allowing students, residents, and visitors to conveniently and inexpensively get around Ann Arbor. The pilot program was started-up and operated by the Clean Energy Coalition for the first few years, with ownership transferring to TheRide for program sustainability moving forward and the Ann Arbor DDA joining as a partner in March 2018. While still a new service, usage increased from 13,980 trips in 2015 to 17,434 in 2016, a 19% increase.

MICHIGAN COMPLETE STREETS LAW

In August 2010, then Governor Jennifer Granholm signed the Complete Streets legislation into law. It encourages communities to develop a comprehensive, complete streets vision identifying road corridors that would benefit from complete streets principles. For example, when a road agency is planning significant construction work in a community with a complete streets vision, the agency can address the community’s concerns and desires to implement projects designed for all users.

In 2013 WATS and local agencies developed a [Complete Streets Toolbox for Washtenaw County](#) which identifies potential improvements for municipalities to consider.

REGIONAL COORDINATION

Southeast Michigan Council of Governments (SEMCOG), the Metropolitan Planning Organization (MPO) for southeast Michigan works in partnership with WATS in the coordination of transportation plans. SEMCOG has a separate non-motorized plan that works in tandem with the WATS plan. Key strategies from the SEMCOG plan include:

- Reduce the number and severity of pedestrian and bicycle crashes
- Educate bicyclists, pedestrians, motorists, transportation and planning professionals, and elected officials regarding non-motorized issues
- Enhance connectivity and reduce conflicts between automobile, transit, rail, and non-motorized modes of travel

SECTION 1 Introduction

ISSUES FOR CONTINUED DISCUSSION

Throughout the development of this plan, issues emerged from members of the public and from steering committee meetings that bear mentioning. This list is meant to highlight important issues that impact the development of non-motorized transportation facilities in Washtenaw County. The role for WATS is to continue to have discussions with communities and agencies that have the ability to impact these topics.

NEIGHBORHOODS

designed with a connected system, connect neighboring developments together

PARKING STANDARDS

consider alternative parking management strategies such as parking maximums and options to encourage non-motorized travel

WIDE SHOULDERS

preserves the roadways, allow agricultural vehicles more space, gives bicyclists a safe place to travel, allows vehicles to pass cyclists safely

MAINTENANCE

year round maintenance such as sidewalk buckling, debris removal and reliable plowing and ice removal during the winter months

FIRST/LASTMILE CONNECTION

creating seamless connectivity for people who walk, bike or use transit to complete their journey from beginning to end

CONSTRUCTION DETOURS

provide alternative routes for pedestrians and cyclists during construction projects

COUNTYWIDE TRANSPORTATION CHOICES

the lack of connected transportation between rural and urban communities limits access to quality of life amenities

SAFETY

enforcement of existing laws to protect vulnerable users of will enable the region to move the TZD vision forward

MODE SHIFT

encouraging people to get out of their SOV for trips

SECTION 1 Introduction

Prioritization - The corridors identified below were highlighted by the Non-Motorized Transportation Steering Committee, public input meetings, and survey responses as the corridors of highest priority. As WATS, local communities, and implementing agencies develop the 2045 Long Range Transportation Plan, projects should be planned to address needs on these high priority corridors, which are not in any particular order:

- Washtenaw Avenue Corridor
- US-12 Corridor
- State Street
- Ann Arbor-Saline Rd.
- Plymouth Rd.
- Huron/Jackson Rd.
- Pontiac Trail
- Scio Church Road
- Austin Rd.
- Michigan Ave
- Platt Rd.
- Prospect Rd

LONG RANGE TRANSPORTATION GOALS

As the agency responsible for transportation planning in Washtenaw County, WATS is tasked with creating a broad vision for the future transportation system in a Long Range Plan. Long Range Plan goals are intended to drive transportation investments. The vision of this plan supports the overarching goals of the Long Range Transportation Plan:

- Linking Land Use and Transportation
- Safety and Security
- Access and Mobility
- Invest Strategically
- Engage the Public
- Protect and Enhance the Environment
- Equity





SECTION 2

Present Conditions

SECTION 2 Present Conditions

Section 2 will focus on the current conditions in Washtenaw County; population and employment density, system deficiencies, mode share, funding, recent projects and regional connections.

WASHTENAW COUNTY CONDITIONS



105 MILES
—
SHARED USE PATHWAYS

8-foot and above



151 MILES
—
BIKE LANES

defined by AASHTO



273 MILES
—
SIDEWALKS

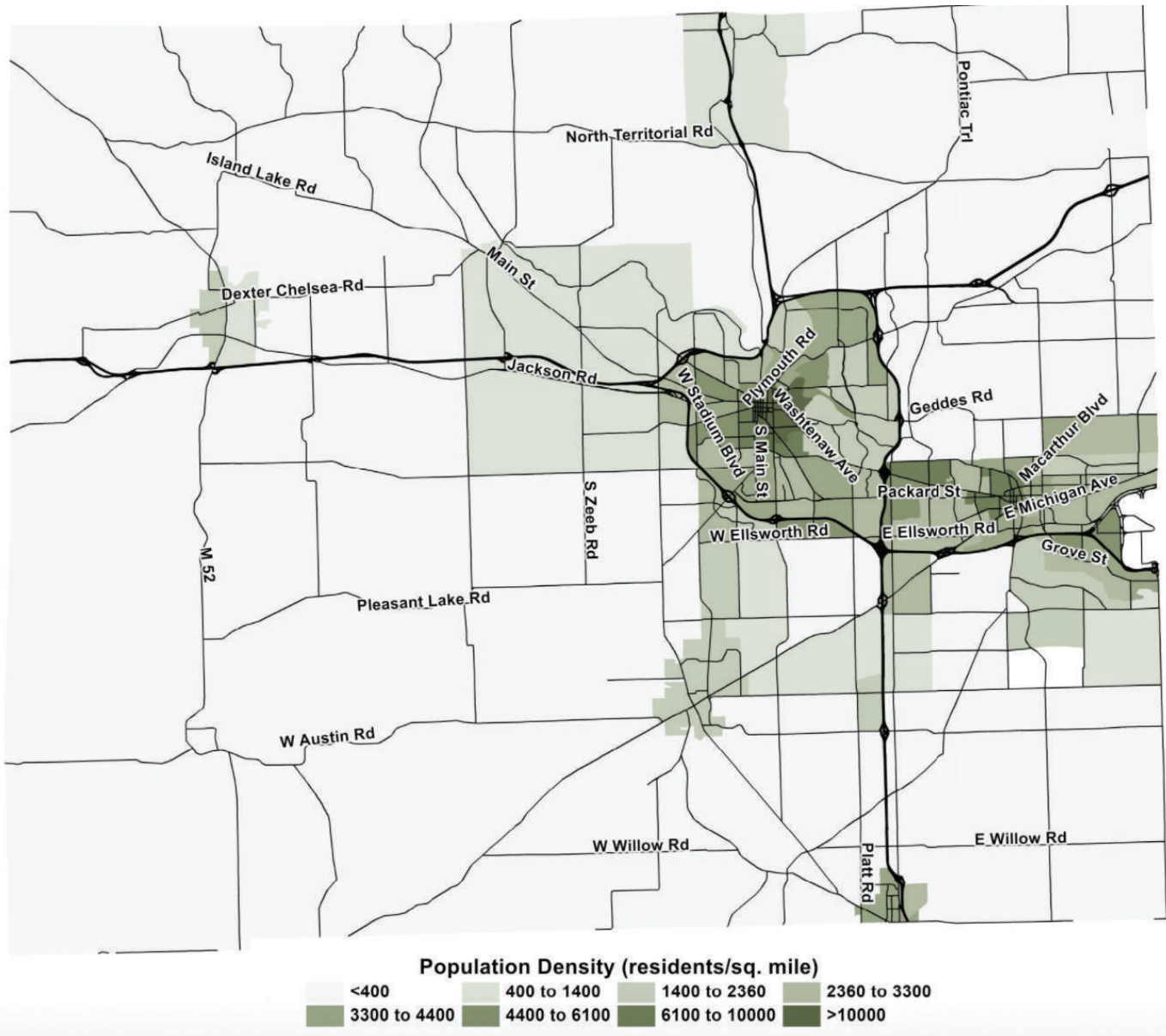
1 mile of sidewalk on one side of road is 1 mile, on both sides of 1 mile road that is 2 miles

**The calculation of the facilities noted above are based upon federal aid roads throughout Washtenaw County. Those roads that are eligible to have federal transportation funds spent on them. These roadways are anything besides a private or local roadway. This designation is important to note since some non-motor projects align with roadway improvements and therefore can use federal funds to support the expansion of the non-motor system.*

SECTION 2 Present Conditions

The following series of maps highlights existing conditions throughout the county. WATS utilized data sets from American Community Survey and WATS collected data to develop the following series of maps.

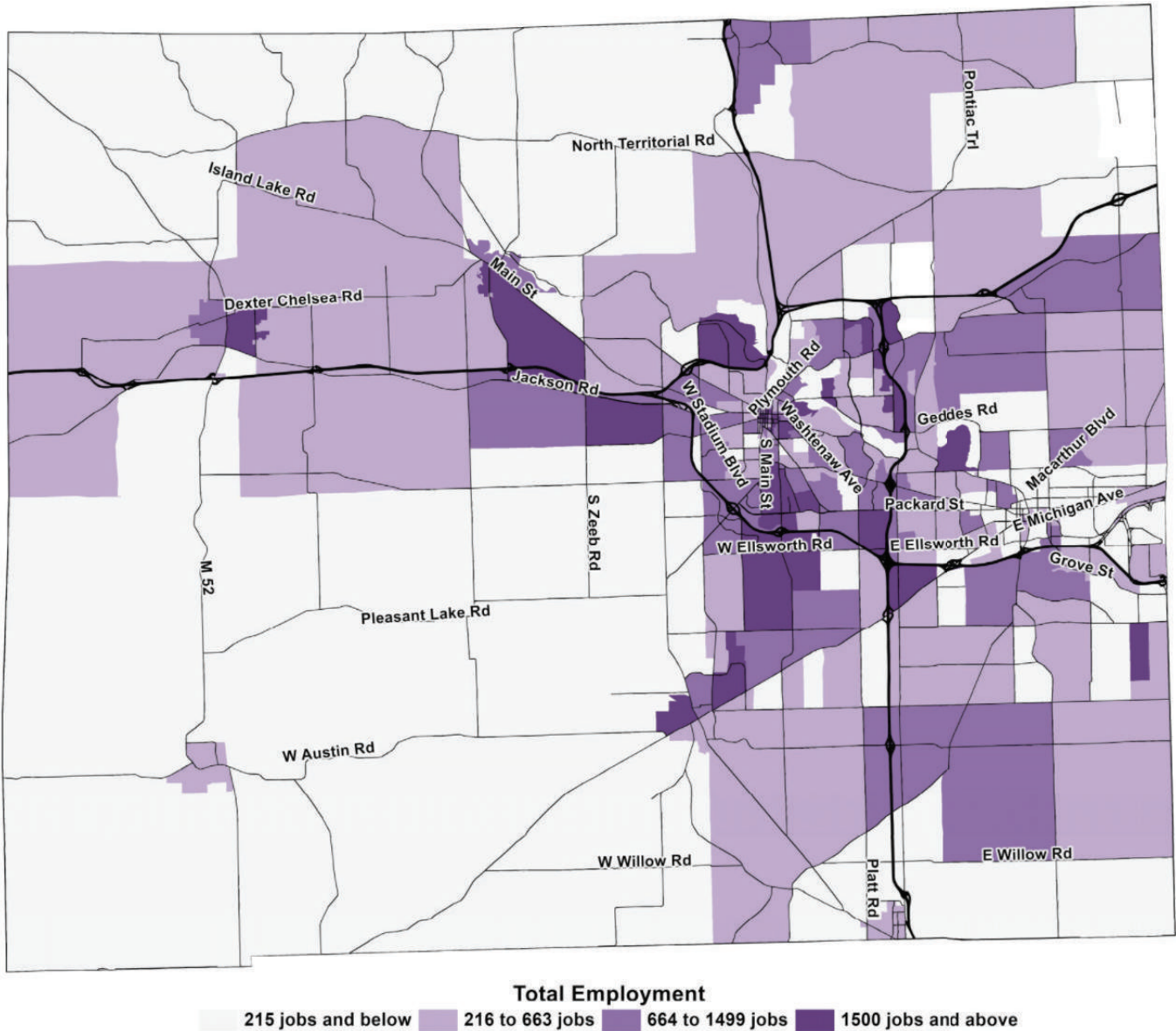
MAP 2 - POPULATION DENSITY



MAP 2 notes where populations are most concentrated. Transportation investments in dense areas are an efficient use of funds. It is critical not to overlook other areas where investments for safety and connectivity are needed.

SECTION 2 Present Conditions

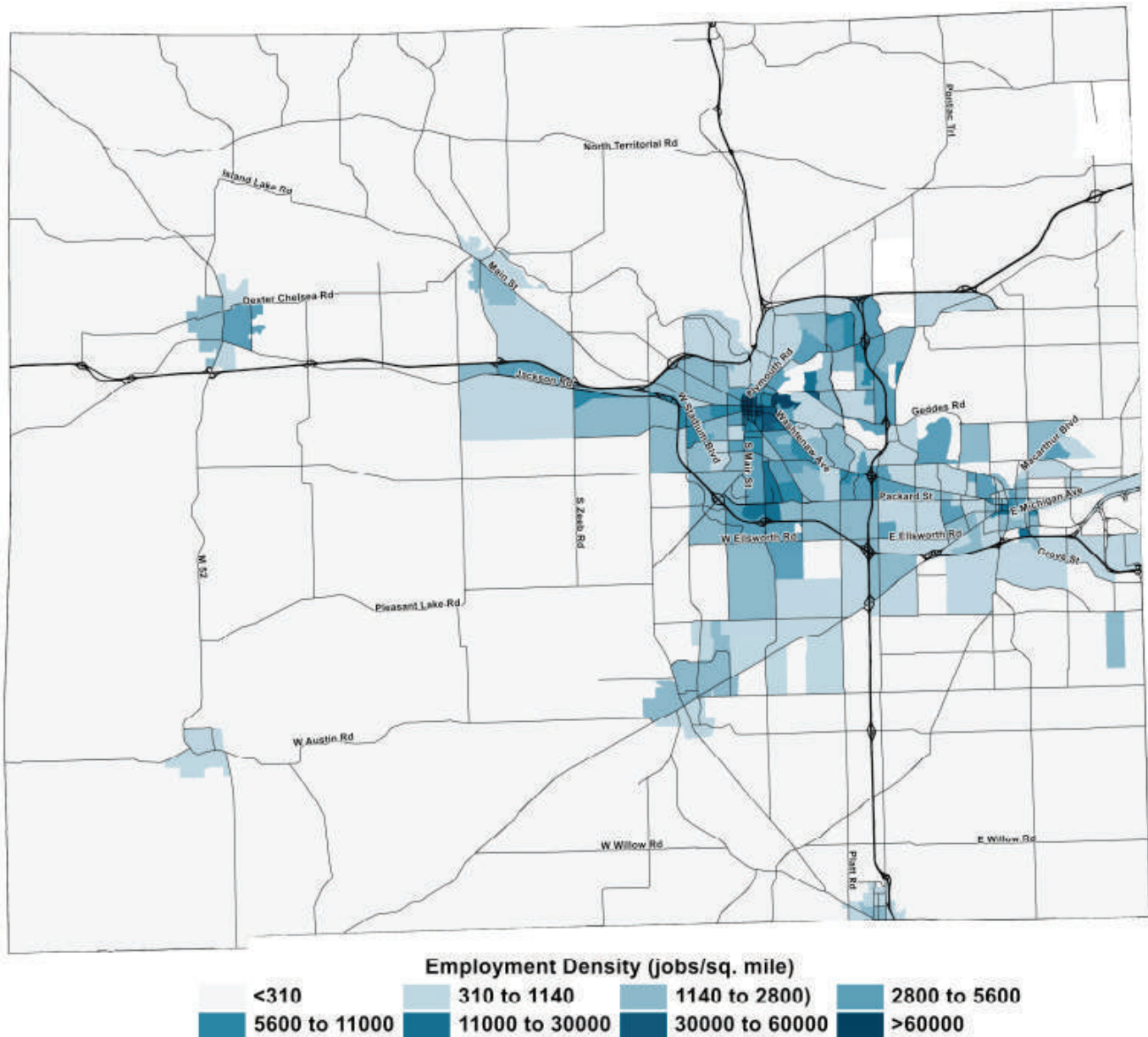
MAP 3 - DISTRIBUTION OF EMPLOYMENT IN WASHTENAW COUNTY



MAP 3 shows the total number of jobs across the county. The distribution of employment opportunities are less concentrated in the central urban area and are spread out in a much larger and broader context. The areas that have lower density may provide greater challenges when planning for non-motorized connections for commuters.

SECTION 2 Present Conditions

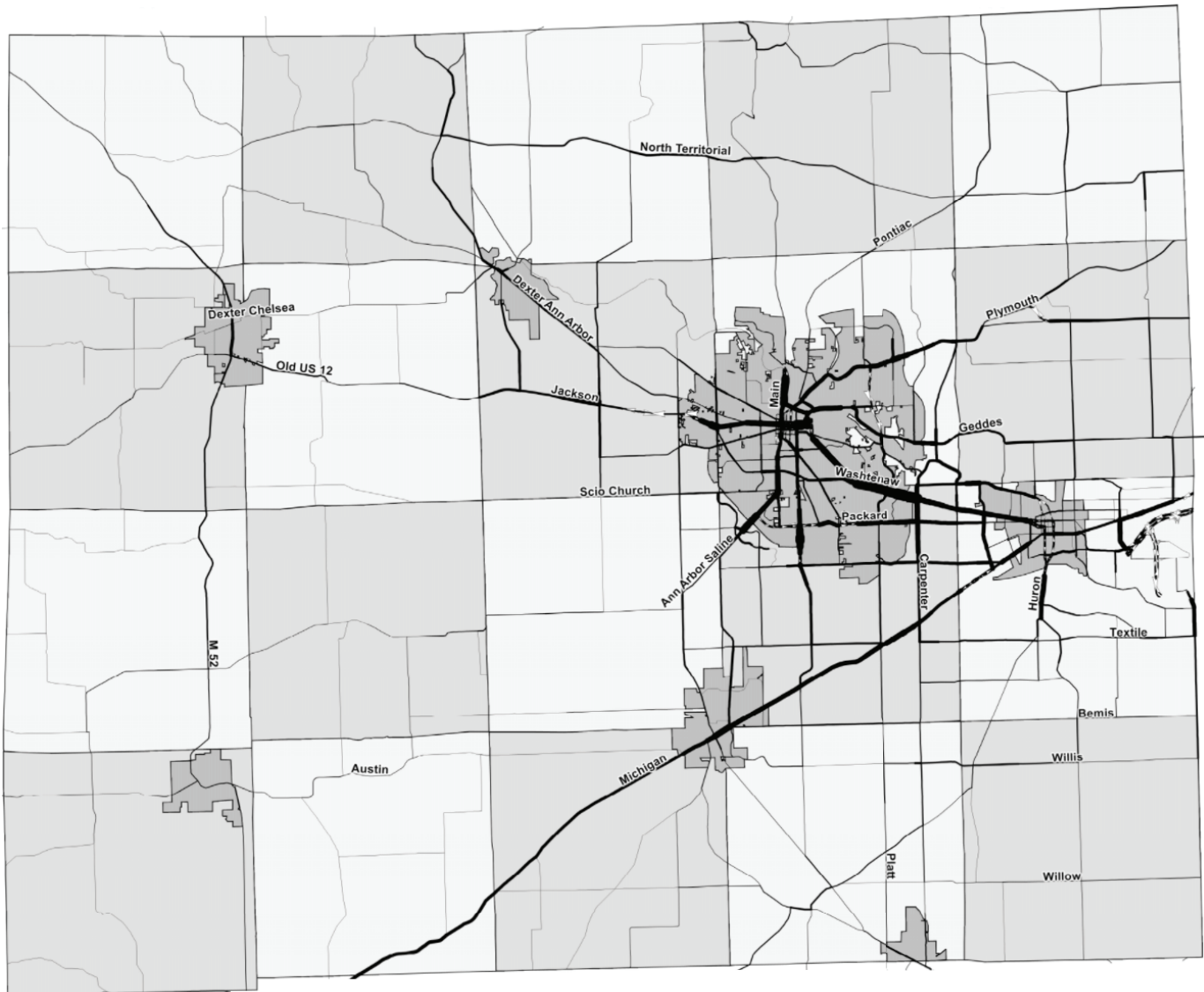
MAP 4 - EMPLOYMENT DENSITY IN WASHTENAW COUNTY



MAP 4 highlights the employment density across Washtenaw County. This indicates the distribution of jobs per square mile.

SECTION 2 Present Conditions

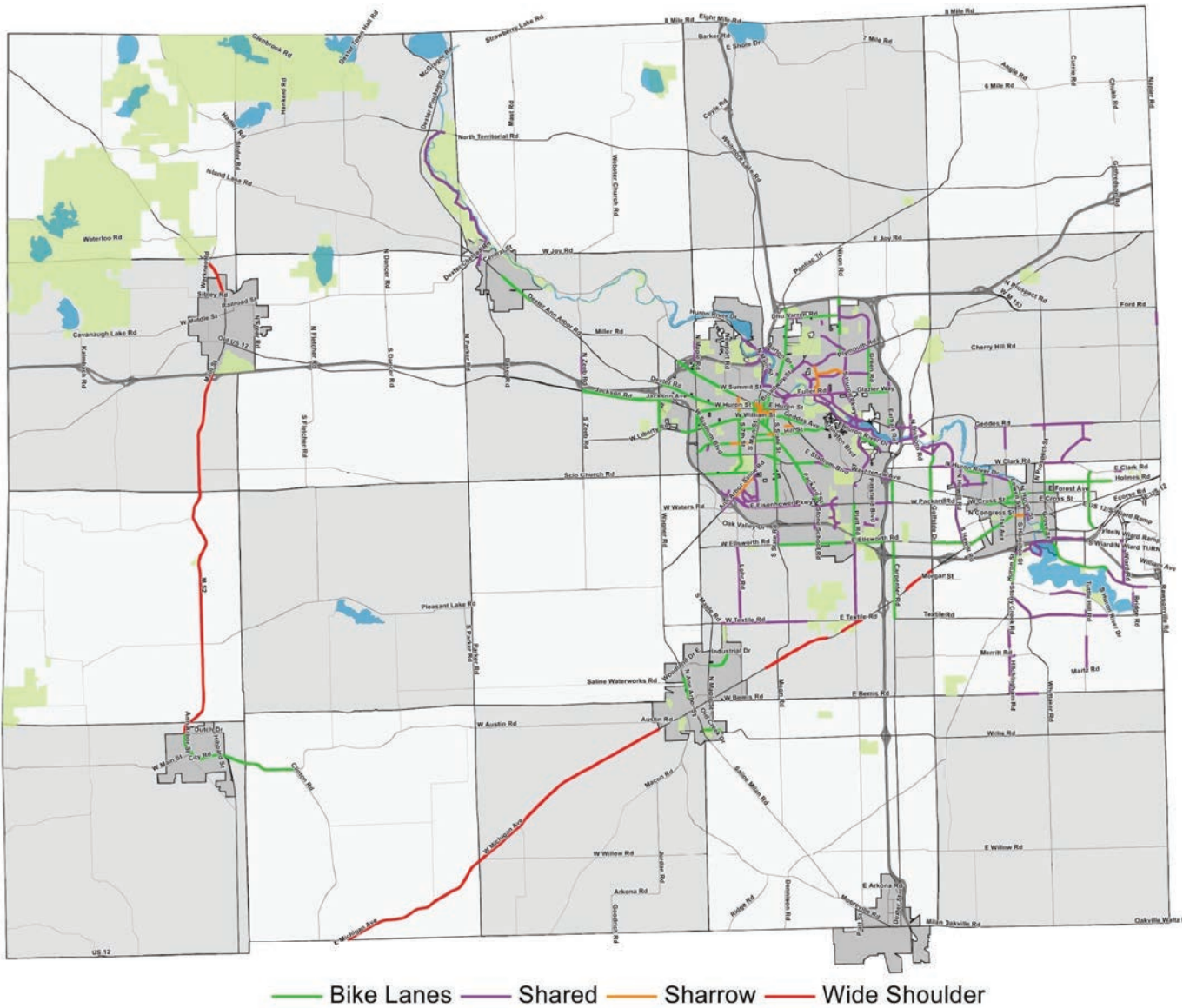
MAP 5 - MODELED TRAFFIC VOLUME ON NON-EXPRESSWAY NETWORK



MAP 5 highlights the demands of local traffic on the transportation network. Traffic flows from land use patterns, connecting individuals between home, work, and other destinations. These flows indicate the level of demand for travel between destinations in locations and can be used to understand the potential for non-motorized travel as well. Prioritizing the corridors for non-motorized facilities in the urban area mimics the demand of the traveling public. Where space is not available, parallel services addressing the transportation need would be acceptable alternatives.

SECTION 2 Present Conditions

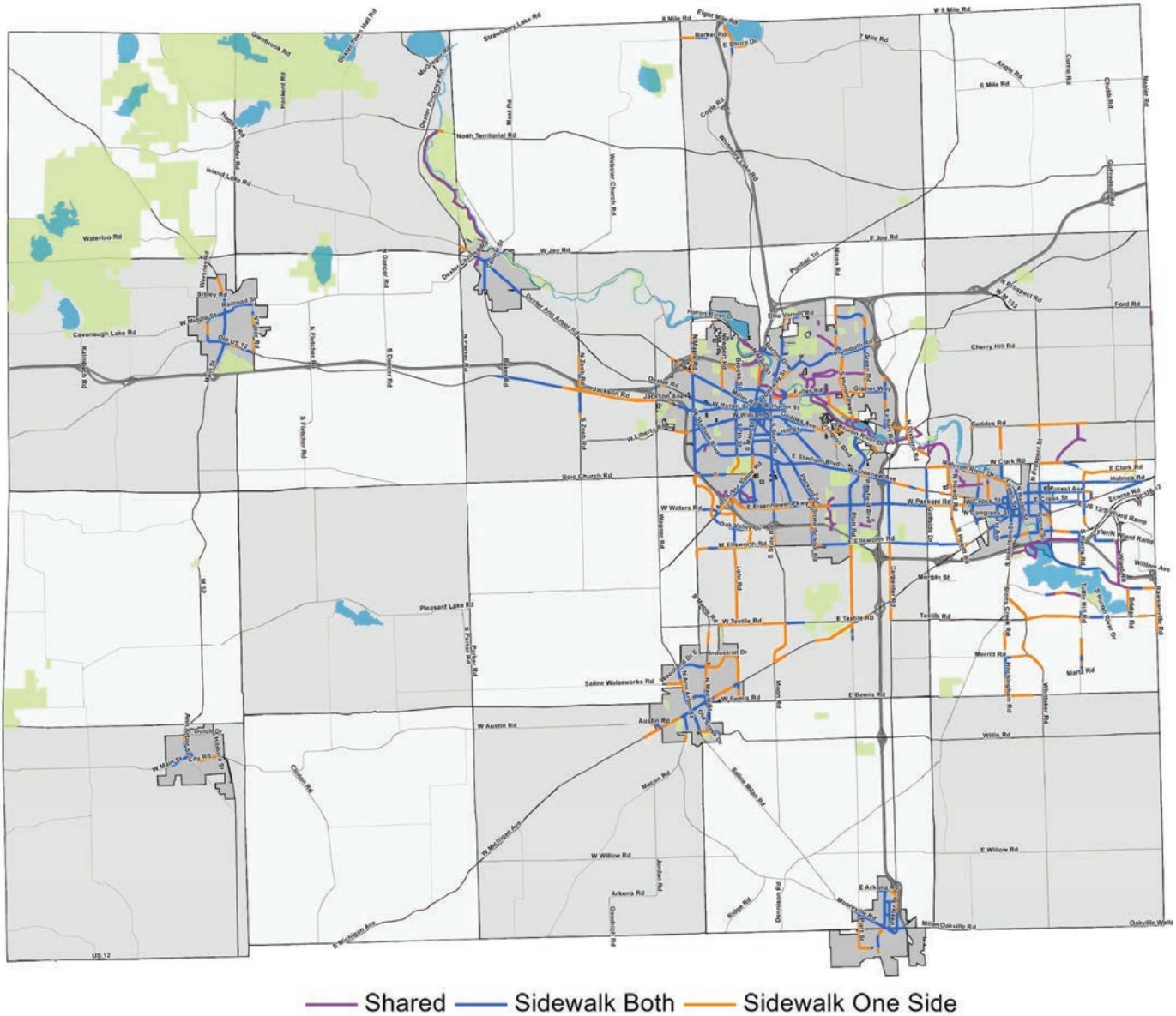
MAP 6 - BIKE FACILITIES



MAP 6 reflects the bike facilities on federal aid eligible roadways. The federal aid roadway system in the Ann Arbor Urbanized Area has numerous bicycling options while rural areas have relatively few. Safety and connectivity are critical considerations when considering bicycle enhancements in rural areas.

SECTION 2 Present Conditions

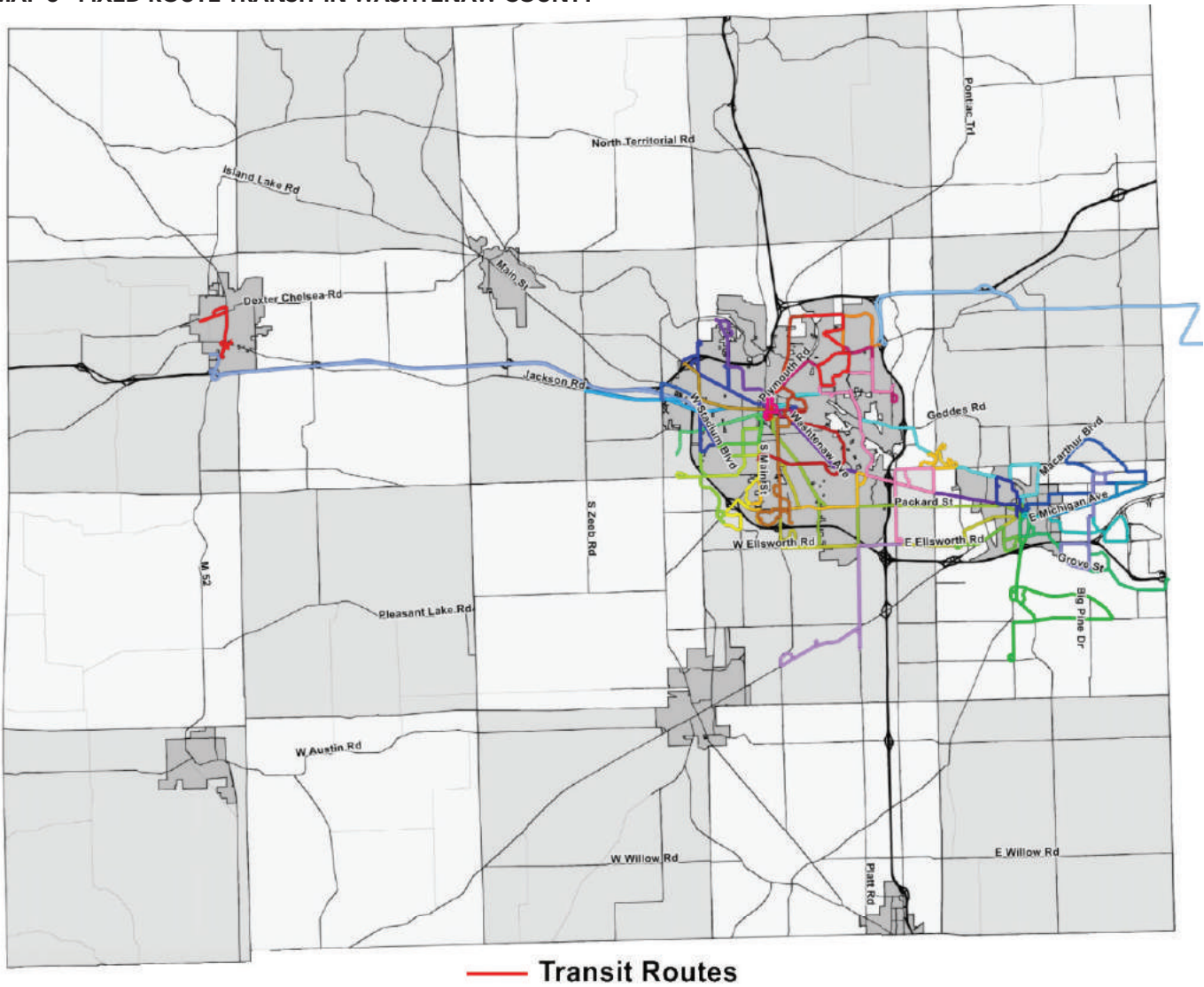
MAP 7 - SIDEWALK INVENTORY



MAP 7 highlights the facilities on the federal aid network. WATS updates this inventory regularly when the system is expanded.

SECTION 2 Present Conditions

MAP 8 - FIXED ROUTE TRANSIT IN WASHTENAW COUNTY



MAP 8 indicates the areas in the county that are currently served by fixed route transit service.

SECTION 2 Present Conditions

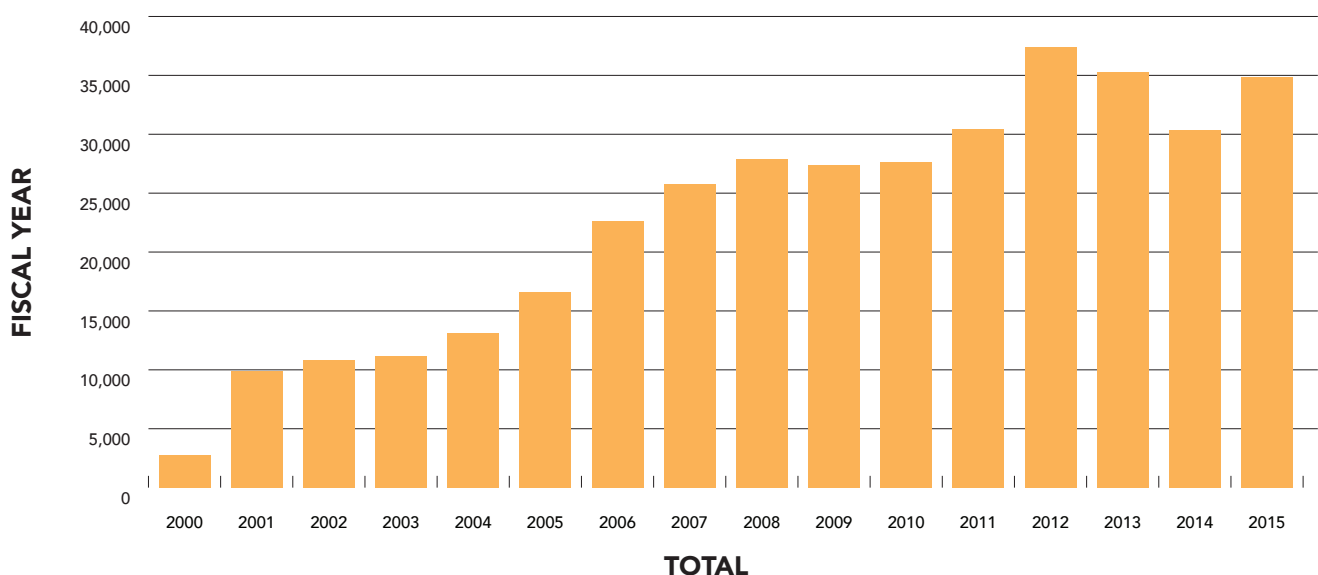


FIGURE 2 - BICYCLE'S ON THERIDE'S BUSES

Providing last mile connections is necessary to making transit a viable option for more people. The Ann Arbor Area Transportation Authority, also known as TheRide, provides a bike rack which can hold two bikes on the front of each of their fixed route buses.

In addition to the fixed routes provided by The Ride and Western Washtenaw Area Value Express (WAVE) has three buses that can accommodate bikes as well. Figure 2 indicates the total bicycles that have been carried by TheRide buses since 2000.

TOTAL VS. FISCAL YEAR

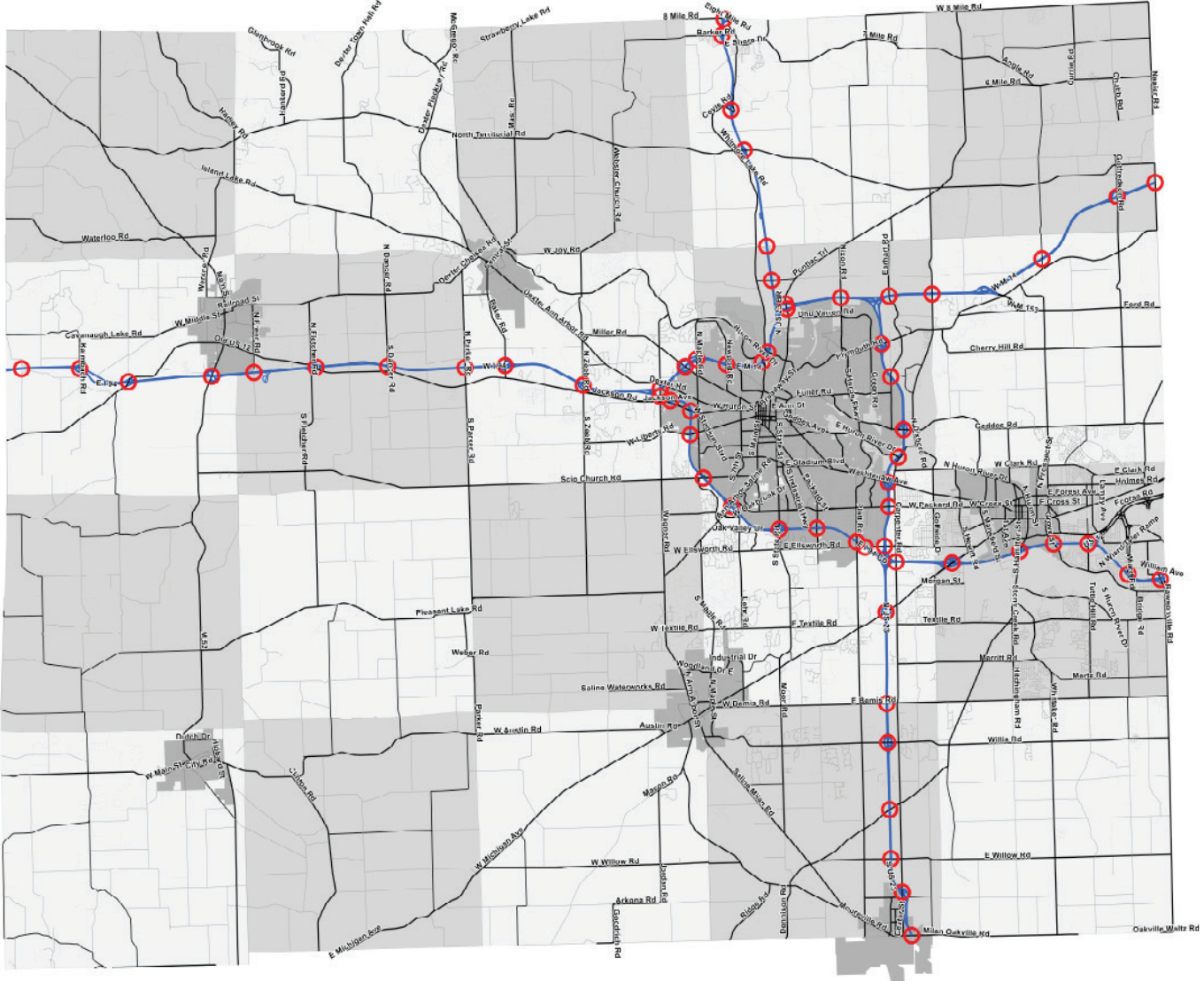


SECTION 2 Present Conditions

DEFICIENCY IDENTIFICATION

Based on updated data sets, public involvement, and establishing new criteria WATS created maps of deficiencies across the county. The criteria for identification varies significantly between urban and rural areas. The following series of maps shows each deficiency followed by a description of how they were identified.

MAP 9 - FREEWAY BRIDGES AND UNDERPASSES



The freeways and the bridges that are part of them, pose some of the biggest challenges to mobility for pedestrians and bicyclists. As bridges age out and are replaced, new structures should allow safe movement of pedestrians and bicyclists through context sensitive design and to enhance long term connectivity. The 2040 WATS Long Range Transportation Plan calls these barriers one of the biggest impediments to non-motorized transportation travel.

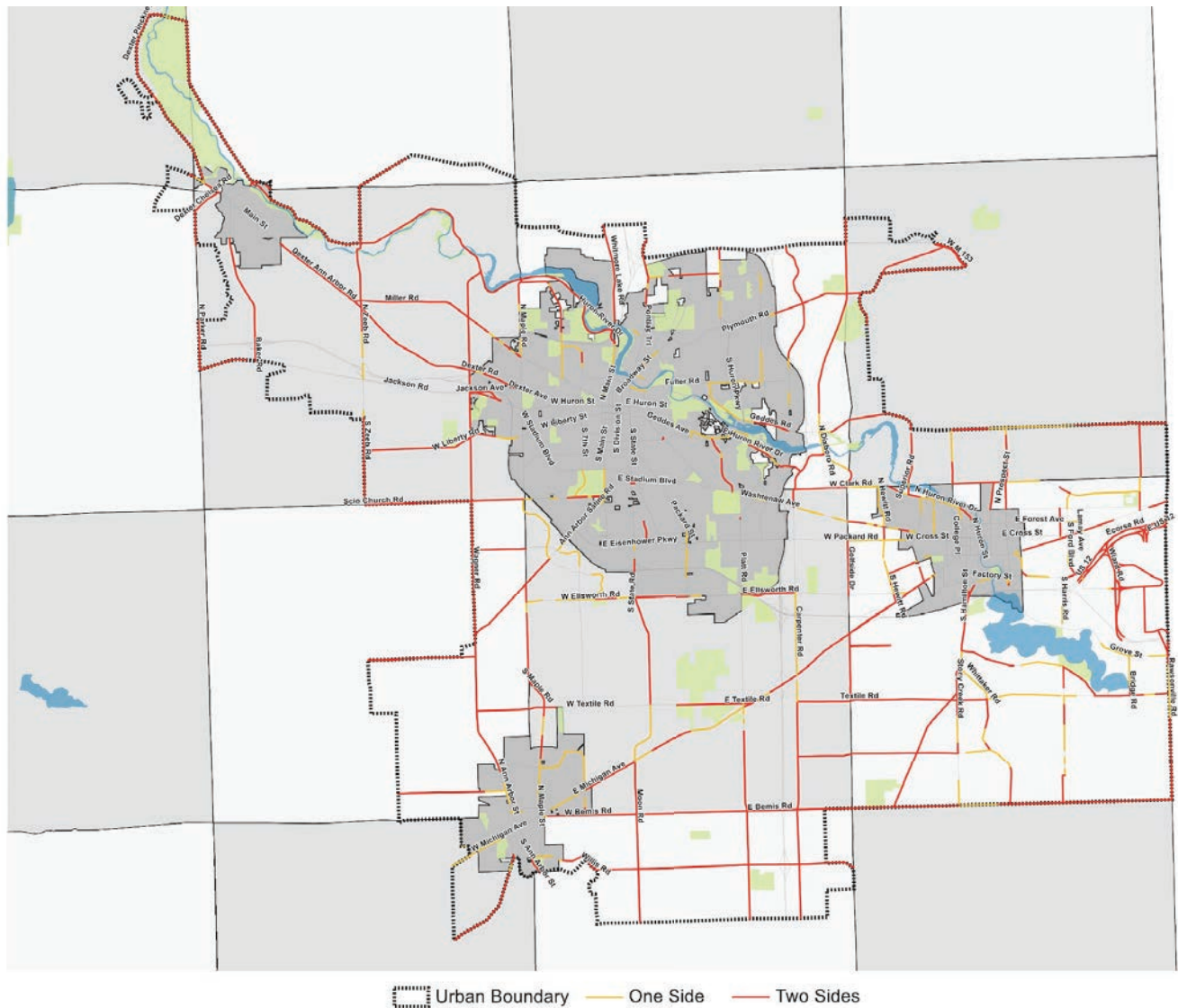
MDOT continues to make improvements to bridges and underpasses as part of planned projects. For example, as part of the recent US-23 Flex Route project, MDOT constructed sidewalks on the new 6 Mile Road and 8 Mile Road bridges over US-23. Additionally, MDOT provided the necessary earthwork for the local communities to build sidewalks up to the bridges once the communities identify funding. All three

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bridges over US-23 at North Territorial Road, 6 Mile Road, and 8 Mile Road have been reconstructed with wide shoulders that should act as a shared lane, to support the bicycling community. The reconstruction of these bridges can serve as an example of MDOT, local communities, and stakeholders working together to identify areas of deficiency and implement context sensitive solutions in fiscally constrained environments.

Additional areas of note include the inclusion of pedestrian and bicycle facilities along Ann Arbor-Saline Rd. and the creation of the non-motorized pathway under US 23 at Washtenaw Ave (M-17).

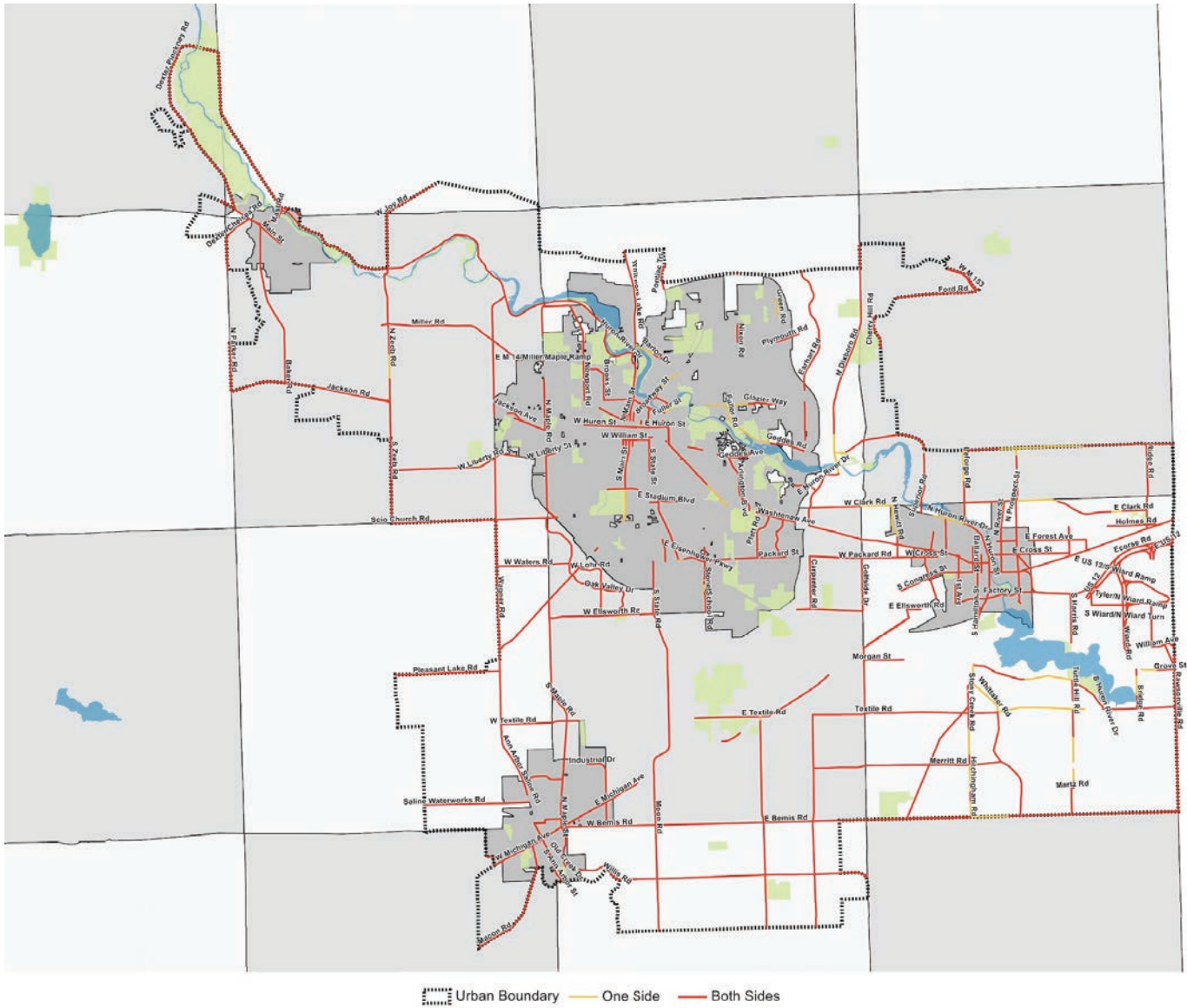
MAP 10 - URBAN PEDESTRIAN FACILITY DEFICIENCIES



MAP 10 highlights pedestrian facility deficiencies in the urban area of Washtenaw County. Federal Aid road segments are considered deficient where there is no sidewalk or shared use path in the urban area. Many segments have facilities on only one side of the road (those in orange). This map is meant as a high-level review of the presence of pedestrian facilities, and does account for the context of each road segment. For example, some of the facilities identified as deficient on one side may, in practice, be contextually appropriate for the level and pattern of pedestrian activity in those areas.

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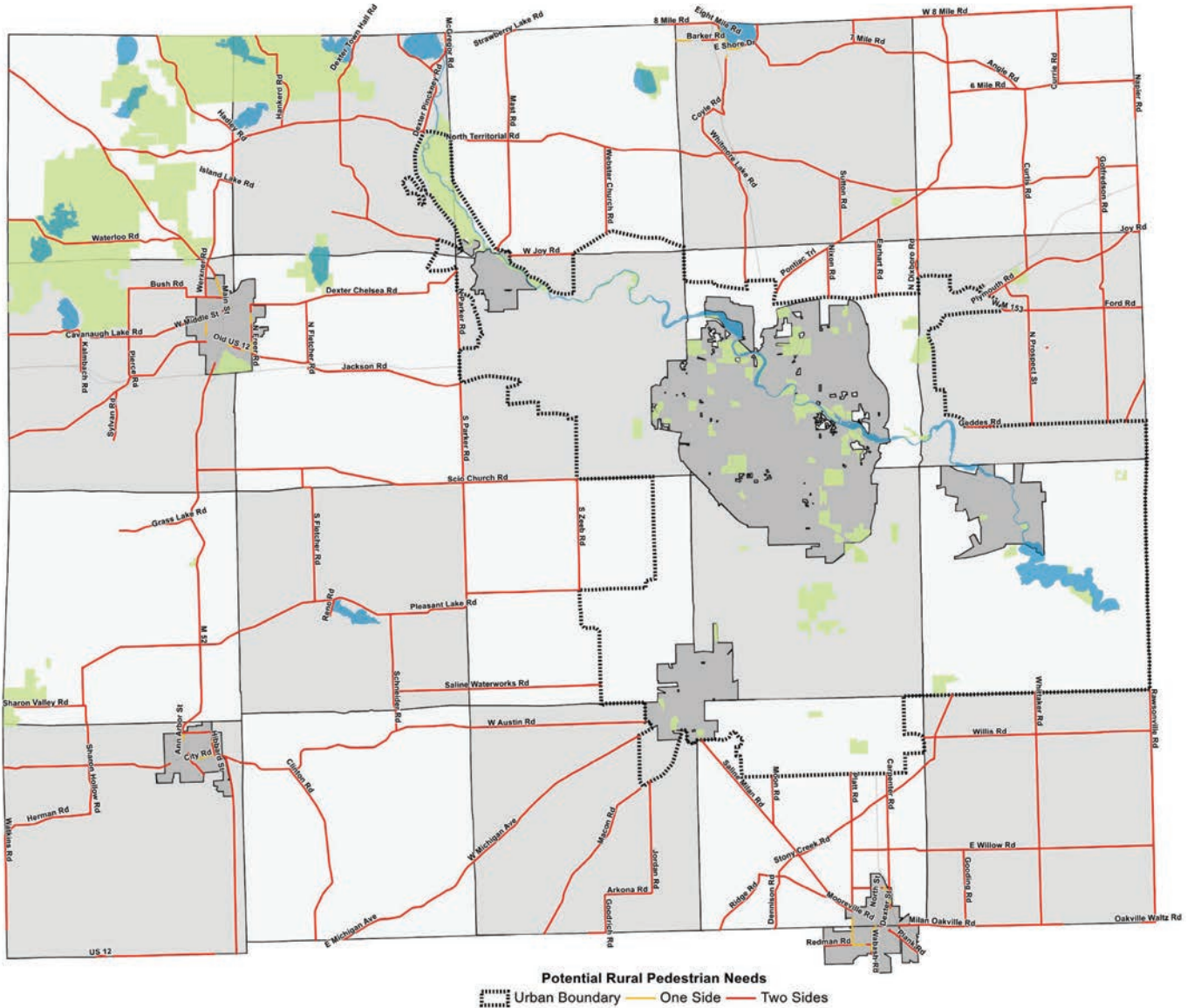
MAP 11 - URBAN BIKE FACILITY DEFICIENCIES



MAP 11 highlights bicycle facility deficiencies in the urban area of Washtenaw County. Federal aid road segments are deficient where there is no bike lane, shared use path, sharrow, or wide shoulder. Some segments have facilities on only one side of the road; shown in orange. This map is meant as a high-level review of the presence of bike facilities and does account for the context of each road segment. When projects are engineered, evaluating the amount of vehicle traffic, bike traffic, and land use of the adjoining areas should be noted.

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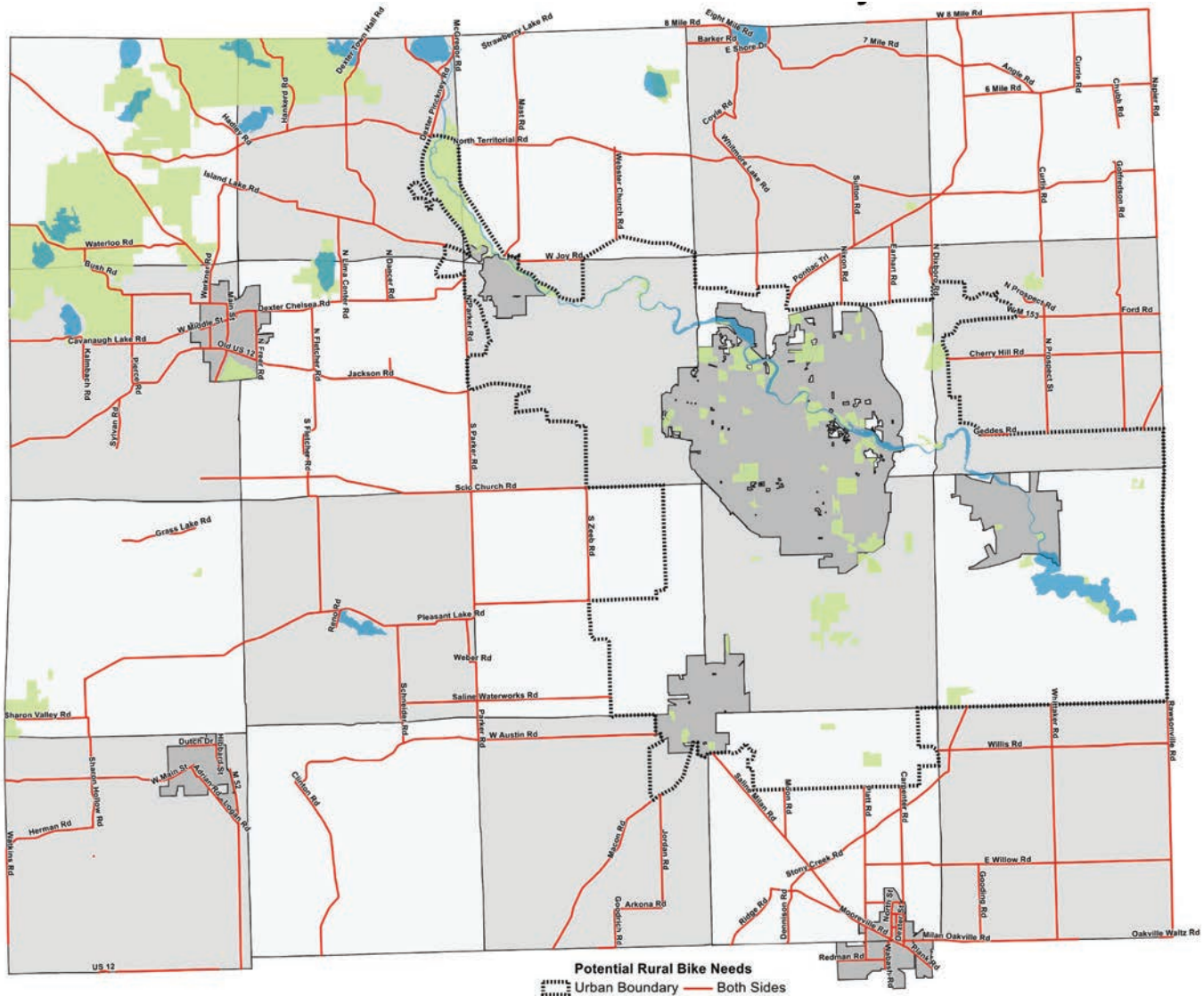
MAP 12 - POTENTIAL RURAL PEDESTRIAN NEEDS



MAP 12 highlights road segments without pedestrian facilities in the rural area of Washtenaw County. Rural Federal Aid road segments could be deficient where no sidewalk, shared use path, or wide shoulder is available. Since, in most segments, the level of pedestrian activity in the rural area is much lower than that of the urban area, additional evaluation for adding facilities is warranted. In many parts of the rural area, a trail targeting users over a broad area may be more appropriate. WATS includes prioritization of such regional connections on **MAP 1**, Primary and Locally Identified Routes.

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MAP 13 - POTENTIAL RURAL BIKE FACILITY NEEDS



MAP 13 highlights road segments without bike facilities in the rural area of Washtenaw County. Rural Federal Aid road segments could be deficient where there is no shared use path, or wide shoulders available. In the rural area, the various types of users for the facilities should be considered when evaluating improvements. Many touring and competitive cyclists use the County's rural roads and have different expectations for facilities compared to commuters or casual bikers. These touring cyclists may only expect a well-maintained surface on roads with low vehicle traffic, while casual cyclists prefer trails. WATS includes prioritization for facilities in the rural area on MAP 1, Primary and Locally Identified Routes.

Presently, the City of Ann Arbor is the only community in Washtenaw County to have crosswalks and mid block crossing locations mapped. Communities are encouraged to work with WATS to develop a more comprehensive inventory of existing crossings.

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MODESHARE

Mode share is defined as the percentage of trips which utilize a particular mode of transportation to get to their destination. This plan focuses on commute trips, most of which occur during peak periods in the morning and the afternoon. Prioritizing projects that make connections between places people live and work will help increase the non-motorized mode share, resulting in a more efficient transportation system for all users. The process of people changing modes over time is called mode shift.

According to the U.S. Census Bureau, “the number of US workers who traveled to work by bicycle increased from 488,000 in 2000 to 786,000 during 2008–2012” as aggregated by the American Community Survey. Likewise, “workers living in principal cities walked to work at a rate of 4.3% compared to workers in suburbs”.⁷

As previously discussed, **TABLE 1** notes the changes in non-motorized mode share since 2006. According to the American Community Survey (ACS) data from 2006–2015, mode share shift towards walking and biking is occurring locally and nationally. In Washtenaw County biking to work increased from 1.4% to 1.9% of commuters. While walking saw a slight decrease in Washtenaw County, the 6.2% mode share remains nearly three times the Michigan average. Some of the largest gains have been made in public transportation growing from 3.8% to 5.4%. The nation and state have also seen modest increases in transit and bicycle use.

TABLE 1 - MODESHARE 2006–2015

	NATIONWIDE		MICHIGAN		WASHTENAW COUNTY	
	2006–2010	2011–2015	2006–2010	2011–2015	2006–2010	2011–2015
Car, truck, or van	86.4%	85.9%	91.8%	91.4%	82.4%	80.3%
Public transportation	4.9%	5.1%	1.3%	1.4%	3.8%	5.4%
Bike	0.5%	0.6%	0.4%	0.5%	1.4%	1.9%
Walk	2.8%	2.8%	2.3%	2.2%	6.6%	6.2%

The shift towards biking and the continued high percentage of walkers seen locally matches studies that show when investments are made in safe facilities more people will use them. A 2016 NACTO report concluded adding these facilities improve safety for cyclists and increases users on the system. “NACTO collected data from seven cities across the U.S. on bike network mileage, number of cyclists killed or severely injured (KSI), and bicycle volume. The resulting analysis shows that cycling is on the rise in the U.S. and that there is a clear correlation between an increase in the number of cyclists on city streets, growth in the city’s bike lane network, and an improved safety rate for riders. In all seven cities studied, the risk per cyclist decreased as bicycling ridership increased, and the rate of growth in cycling far outstripped the rate of cyclist injuries or fatalities.

Municipal policies that increase cycling, like implementing a large scale bike share system, when combined with significant enhancements to bike infrastructure, are associated with large decreases in the risk of injury or death borne by each person cycling”.⁶

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FIGURE 3 - BICYCLE RIDING PREFERENCES

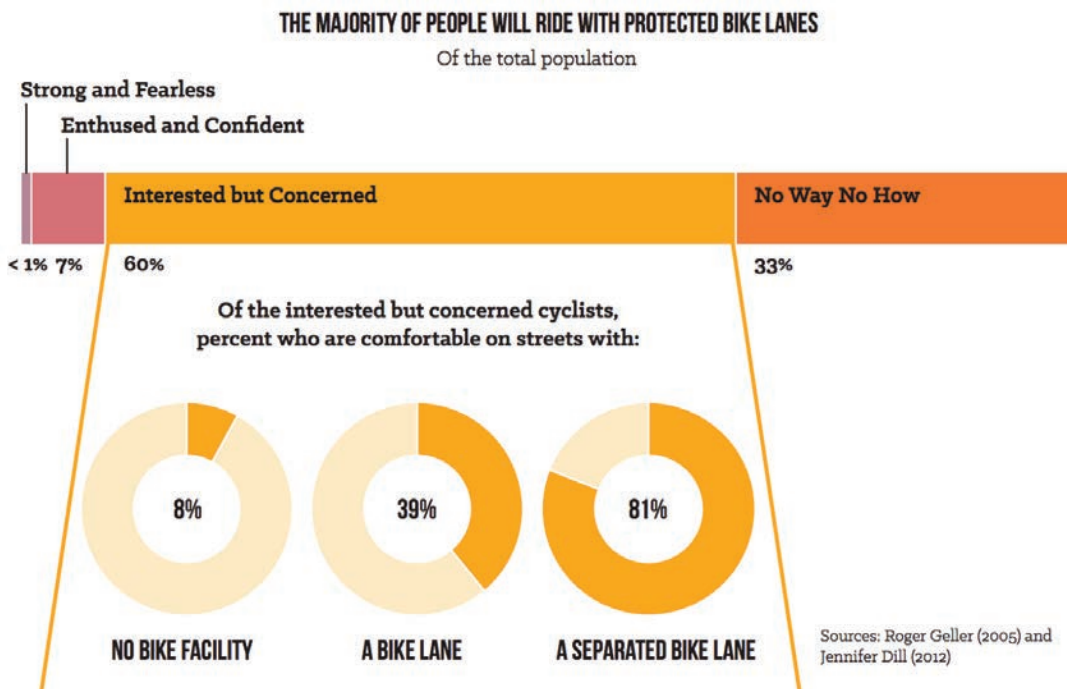


FIGURE 3 furthers this research stating when safe infrastructure is built more people are willing to use non-motorized transportation as an option. People who are “Interested but Concerned” about cycling, which makes up around 60% of the total population, are strongly influenced by bike lane type. Fewer than 5% reported feeling comfortable or very comfortable on streets without a bike lane; in contrast, over 80% reported being comfortable and willing to ride on streets with separated or protected lanes”.⁸

Towards the end of the development of this plan the 2016 1-year American Community Survey (ACS) data for the City of Ann Arbor revealed a modest decline in the percentage of modeshare from 31.3% in 2015 to 28% in 2016, this measurement included bicyclists, walking, and transit. The bicycle commute share has been between 3.1% in 2010 to 3.6% in 2016 (the peak was in 2013 with 5.5%). The walking commute share started at 15.5% in 2010 to 14.4% in 2016. The biggest change that was seen was the change in transit commute mode share, 2010 was 9% and by 2016 it was 10%, with the peak occurring in 2015 at 14%. This may not point to a long term trend but is important to monitor this data during the implementation of this plan.

FUNDING

Non-motorized projects utilize a variety of funds to make the project a reality. While this is not an exhaustive list of all the funding sources, this list represents the most common sources.

FEDERAL

Surface Transportation Program Funds (STP) - These funds provide the most flexible funding source for state and local transportation agencies. These funds can be spent on any public road and for pedestrian and bicycle infrastructure. Washtenaw County receives approximately \$4.5 million dollars a year in urban STP funds. Local agencies regularly use STP funds in Washtenaw County for the inclusion of complete streets as a part of a road construction project, as standalone non-motorized transportation projects, and as part of road projects such as filling sidewalk gaps or adding bike lanes during a road diet.

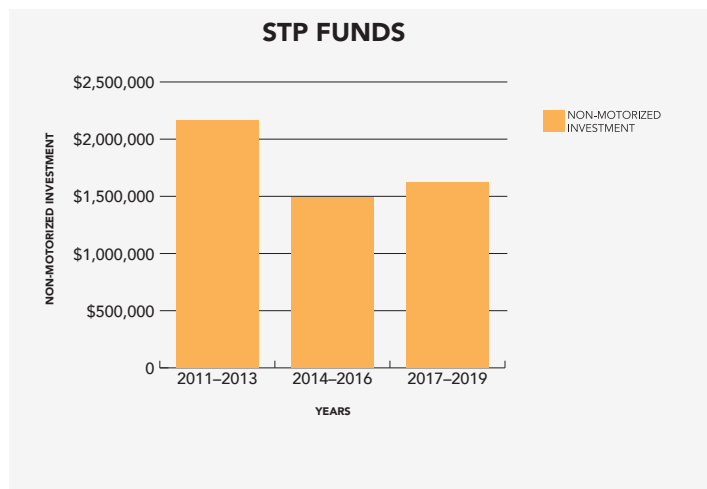
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FIGURE 4 highlights the amount of STP funds spent on non-motorized facilities and how much is planned through 2019. The data from 2011–2013 was collected from [Obligation Reports from the WATS website](#) that tracked the investment made after projects were completed. For 2014–2016, staff reviewed application materials and also used program details from Federal Aid Committees to determine the investment made. 2017–2019 data was collected directly from TIP applications.

Non-motorized investments can fluctuate from year to year if other funding sources are secured and given the scale of particular investments. These investments show the WATS Policy Committee commitment to using federal STP funds to build and expand the non-motorized network.

WATS uses a “front end” assessment to track investments over time. Cross Street in Ypsilanti, will use a total of \$250,000 of federal funds. Based on the the planned non-motorized improvements the City of Ypsilanti estimates 25% of the project cost, or \$62,500, will be invested. WATS uses the agency estimates for all projects funded with STP funds and reports on whether or not the Policy Committee is meeting its goal of investing at least 10% of the STP program on non-motorized improvements.

FIGURE 4 - STP FUNDS



Congestion Mitigation and Air Quality (CMAQ)

- CMAQ funds provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Southeast Michigan collectively receives 18 million dollars a year in CMAQ funds that are spent in Wayne, Washtenaw, St. Clair, Oakland, Monroe, Macomb, and Livingston counties. For non-motorized transportation projects to receive these funds, they have to demonstrate how the project will replace car trips with biking or walking trips and take cars off the roadways and improve air quality. Stand alone non-motorized projects are generally less competitive in the SEMCOG region, however, CMAQ funded projects often include non-motorized components such as sidewalks, crosswalks or bike lanes.

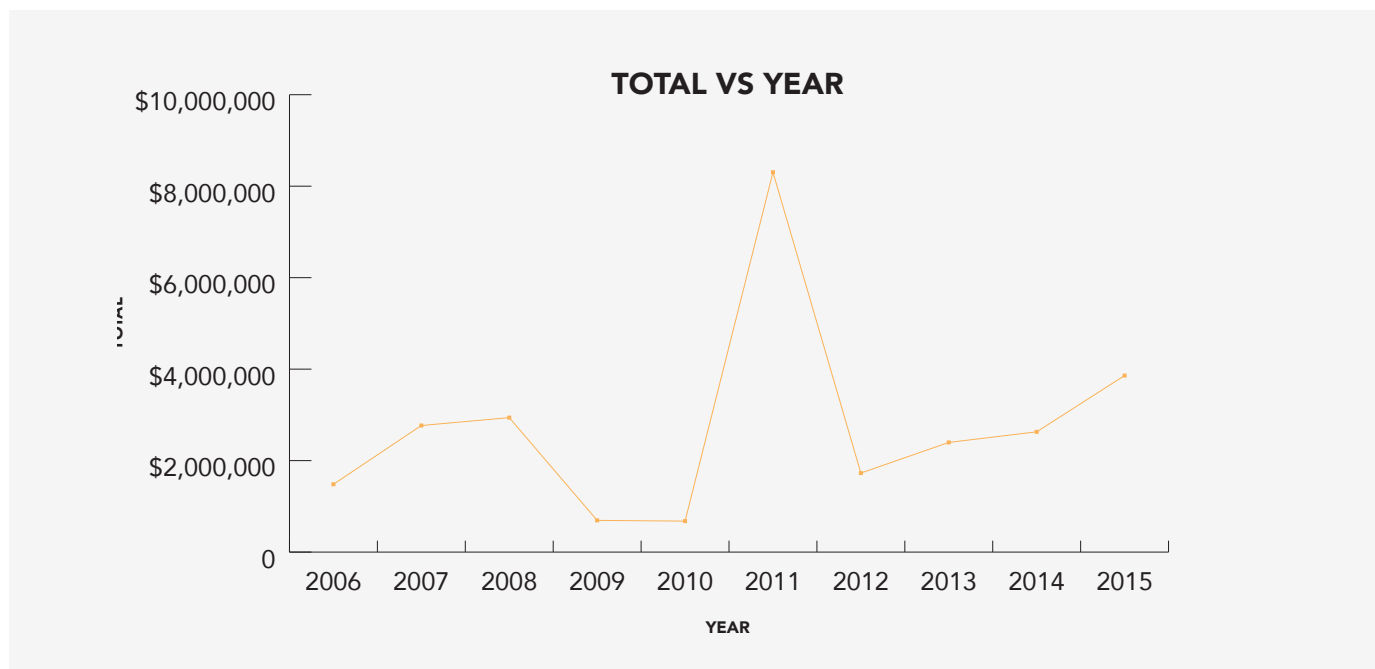
Transportation Alternative Program Funds (TAP) - TAP is a competitive grant program that funds projects, such as bicycle facilities, shared-use paths, streetscape improvements that improve pedestrian safety, transportation-related environmental mitigation including green infrastructure, and safe routes to school. SEMCOG receives \$5 million per year to be spent in Wayne, Washtenaw, St. Clair, Oakland, Monroe, Macomb, and Livingston counties. TAP is one of the most common forms of federal funds used to support the development of non-motorized facilities.

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STATE

Michigan Transportation Funds - In Michigan, transportation funds are derived from state user fees, such as gas taxes and vehicle registration fees that are deposited in the Michigan Transportation Fund (MTF). Roughly one-third of transportation revenue comes from road-user fees applied to gasoline and diesel fuels, another one-third from Michigan vehicle registration, and another one-third from federal aid.

The system for the distribution of the state funds come from Public Act 51 of 1951 (Act 51). Section 10k of Act 51 requires that a minimum of 1% (based on a ten-year average) of MTF funds distributed to Act 51 agencies (county road agency, cities, and villages) be used for non-motorized transportation facilities. Road agencies in Washtenaw County have far exceeded the 1% minimum set by Act 51. Figure 6 tracks the non-motorized investments by Act 51 agencies in Washtenaw County since 2006.



Department of Natural Resources - Trust Fund (DNRTF) - The DNRTF pays for the acquisition and/or development of non-motorized recreational facilities. Development grants are funded up to \$300,000. Since 2014, Washtenaw County has received over \$2 million dollars from the trust fund that has funded the Hudson Mills Metropark property acquisition, Gallup Park upgrades, Border to Border Trail, and Huron Waterloo Phase 1 development. While the funds are to create recreational amenities, they form important connections for all non-motorized users and trips.

LOCAL

City of Ann Arbor - Ann Arbor has taken a more active approach in the funding of its active transportation system. The City applies 5% of their total Michigan Transportation Funds to active transportation per year instead of the 10 year average that the law describes. Additionally they have a .25 mill sidewalk maintenance and construction millage dedicated to active transportation.

Washtenaw County Road Commission (WCRC) - In 2016, Washtenaw County residents approved a four-year .5 mill tax that provides \$3.3 million per year to the WCRC to fund road work in the county's twenty townships; cities and villages receive \$2.5 million per year with specific allocations based on the amount

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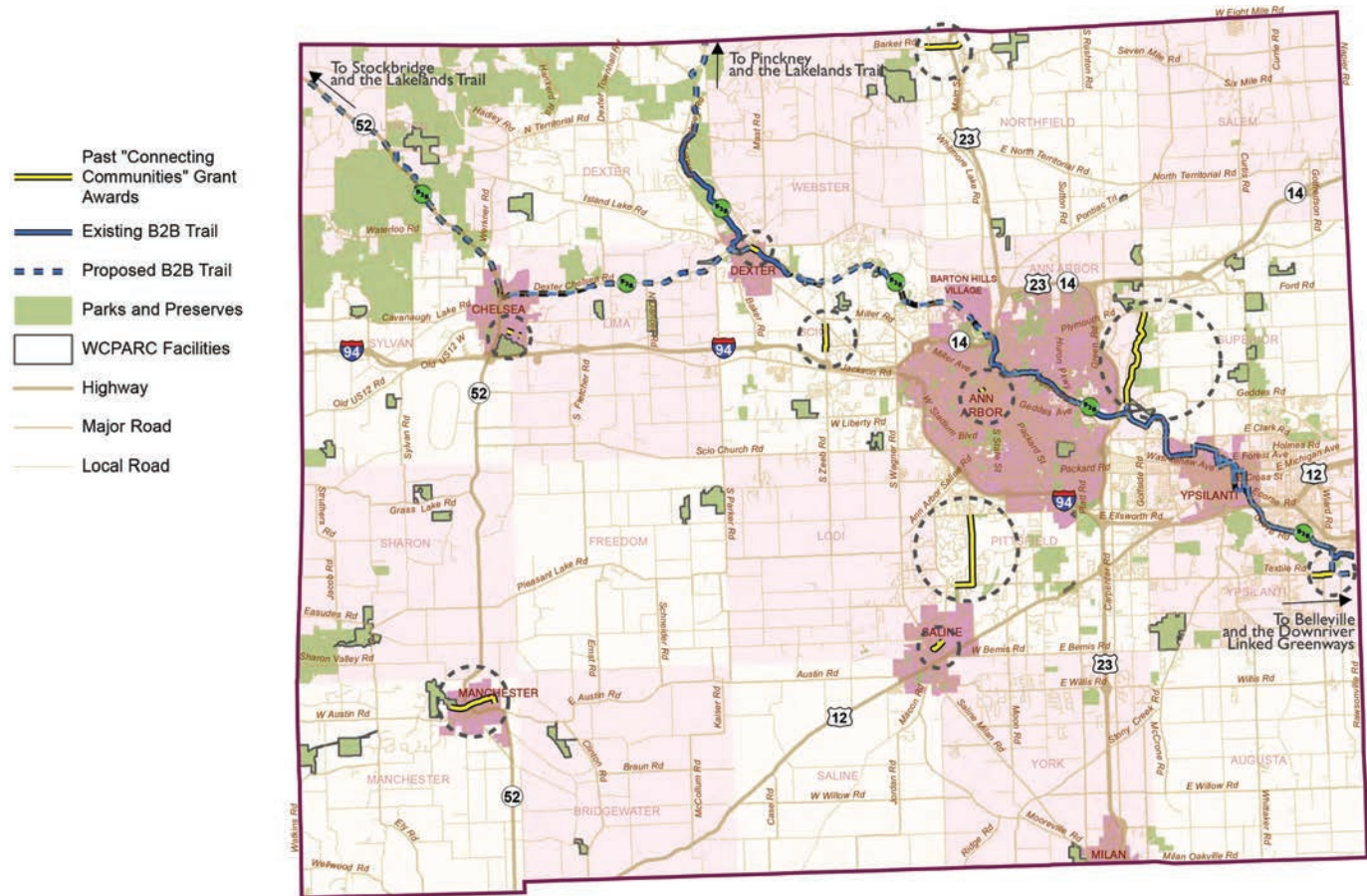
raised within the municipality's borders. Over the four years, 200 miles of roads will see improvements. These upgrades also improve the surface for bicyclists riding on the roadways around the county and the funds can be used for non-motorized improvements within the cities. The millage also provides dedicated funding to the Washtenaw County Parks and Recreation Commission.

Washtenaw County Parks and Recreation Commission - Washtenaw County Parks has spent \$3million dollars from 2010–2015 to fund 7 miles of projects across 7 communities. This program will continue due to the millage for non-motorized transportation beginning in 2017–2020. \$6 million will be generated; \$4 million is dedicated to the Border to Border Trail development, and \$2 million will go to the Connected Communities grant process. The Connecting Communities grants program helps fund smaller projects that will connect to the B2B. The Zeeb Road Pathway project has utilized this grant program.



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MAP 14 - PAST CONNECTING COMMUNITIES GRANT AWARDS



There are various sources of funding available to Washtenaw County communities to support the development of the non-motorized system. However, identifying long term dedicated maintenance funds for these projects continues to be a challenge.

SAFETY

Safety is a top priority at all levels of transportation planning. Outlined below are some national policy movements which aim to prioritize safety through improved design.

Dangerous By Design - is an annual report produced by Smart Growth America, National Complete Streets Coalition, American Association of Retired Persons, American Society of Landscape Architects, and Nelson Nygaard Consulting Associates. It examines the Pedestrian Danger Index (PDI), which is a calculation of the share of local commuters who walk to work and the most recent data on pedestrian fatalities. This report calls out states and metropolitan areas where PDI is the highest and lowest. The main takeaway from the report is that we must use every tool available to improve safety for pedestrians.

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Vision Zero - Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.

TABLE 2 - VISION ZERO VS. TRADITIONAL APPROACH

TRADITIONAL APPROACH	VISION ZERO
Traffic deaths are inevitable	Traffic deaths are preventable
Perfect human behavior	Integrate human failing in approach
Prevent collisions	Prevent fatal and severe crashes
Individual responsibility	Systems approach
Saving lives is expensive	Saving lives is not expensive



Vision Zero is a significant departure from the status quo in two major ways:

1. Vision Zero acknowledges that traffic deaths and severe injuries are preventable and sets the goal of eliminating both in a set time frame with clear, measurable strategies.
2. Vision Zero is a multidisciplinary approach, bringing together diverse stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration has not been the norm. Vision Zero acknowledges that there are many factors that contribute to safe mobility—and sets clear goals to achieve the shared goal of zero fatalities and severe injuries.

Toward Zero Deaths (TZD) - is the United States’ traffic safety vision. MDOT and the Michigan State Police have also adopted the Toward Zero Death approach, the campaign is based on the National Strategy (TZD) on Highway Safety intended to influence driver behavior and improve safety.

Roadway safety remains one of the most challenging issues facing Michigan, and the nation. The ultimate vision is Toward Zero Deaths on Michigan’s roadways.



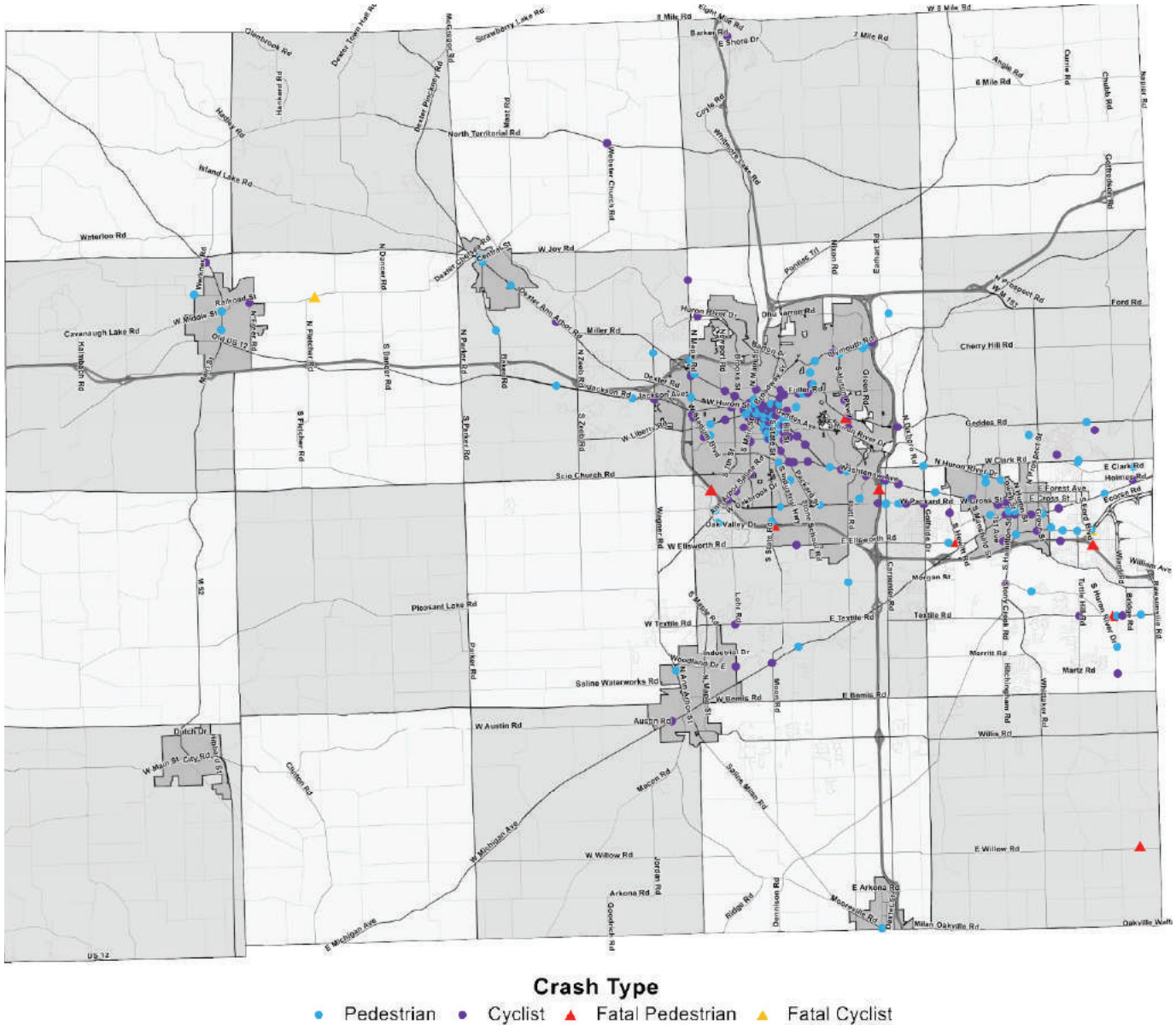
MDOT has worked with MPOs and Regions around the state to develop safety plans in line with the TZD policy initiative.

This is also the case for SEMCOG region. SEMCOG has identified their regional effort to reduce traffic fatalities by 5% by 2019 and reduce serious traffic injuries by 10% by 2019.

The Southeast Michigan Traffic Safety Task Force prioritized four emphasis areas based upon traffic crash data frequency, rates, and/or severity was higher than the statewide average. The areas identified are: Intersection, Lane Departure, Pedestrian, and Drivers age 24 and younger. The SEMCOG regional safety plan efforts are intended to provide a unifying approach to safety improvements region wide.

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MAP 15 - WASHTENAW COUNTY CRASH LOCATIONS 2016



MAP 15 shows the location of crashes involving pedestrians or bicyclists in 2016. The collection of crash data is important in understanding the locations that should be targeted for improvements in preventing injuries and saving lives in Washtenaw County. The data is collected through reported crashes through UD-10 reports; stored by the Office of Highway Safety Planning Michigan Traffic Crash Facts website. WATS uses this collection of data to report on the number and different classification of crashes in the annual publication of Crash Reports. The data points help planners and engineers work together to find appropriate solutions to crash locations. This may be in the form of a design review, education, and outreach, or working with enforcement agencies.

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FIGURE 6 - WASHTENAW COUNTY VEHICLES MILES TRAVELED (VMT)

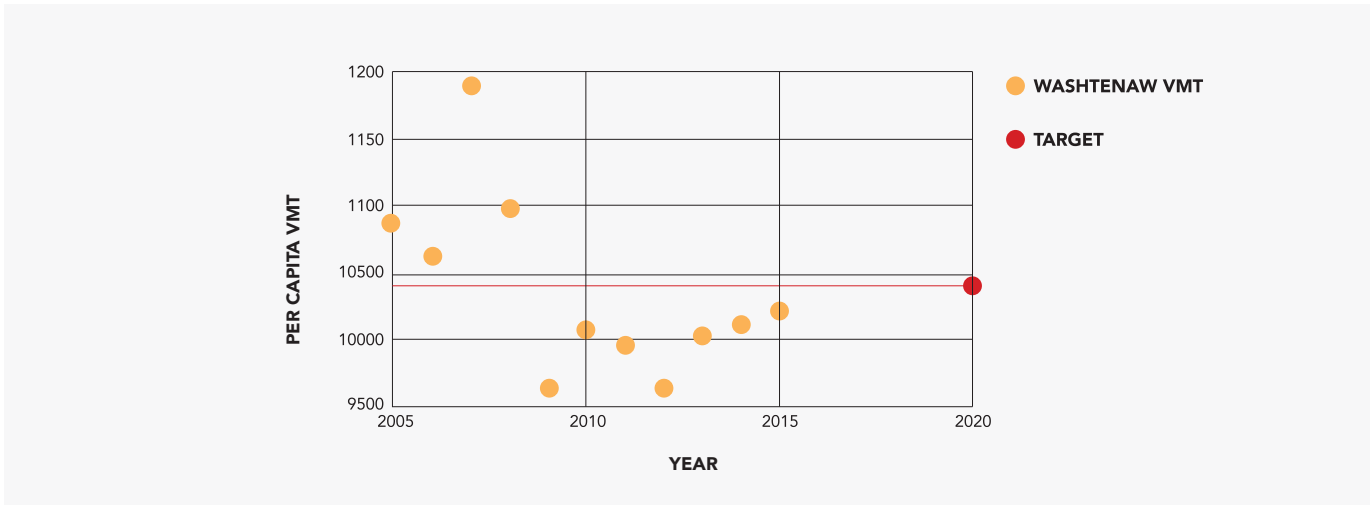
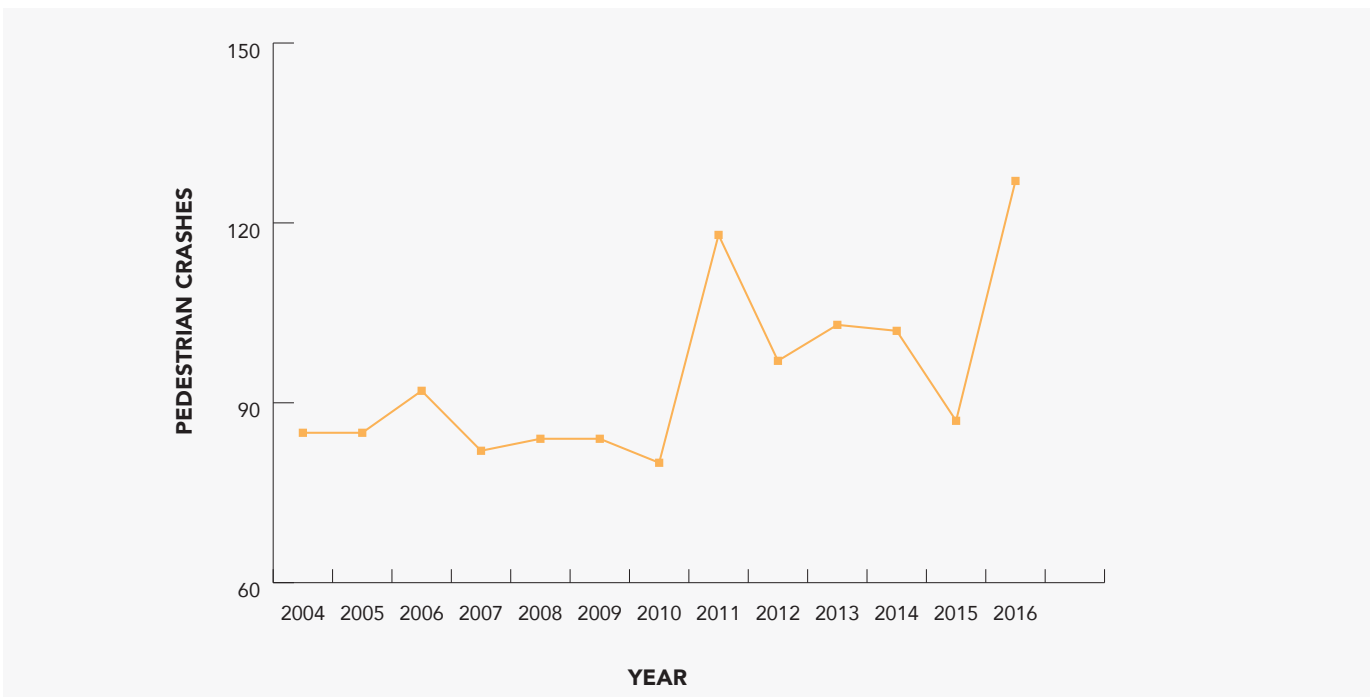


FIGURE 6 highlights the number of Vehicle Miles Traveled (VMT) by residents of Washtenaw County on an annual basis. The overall trend shows that driving peaked around 2006-2007. There was a decline in the VMTs of motorists during the Recession of 2008 and then a gradual increase. VMT growth is expected to remain low out to 2020. Fewer people were commuting by single occupancy vehicles and the possibility of more people using transit, walking, biking as an option for commuting trips to work.

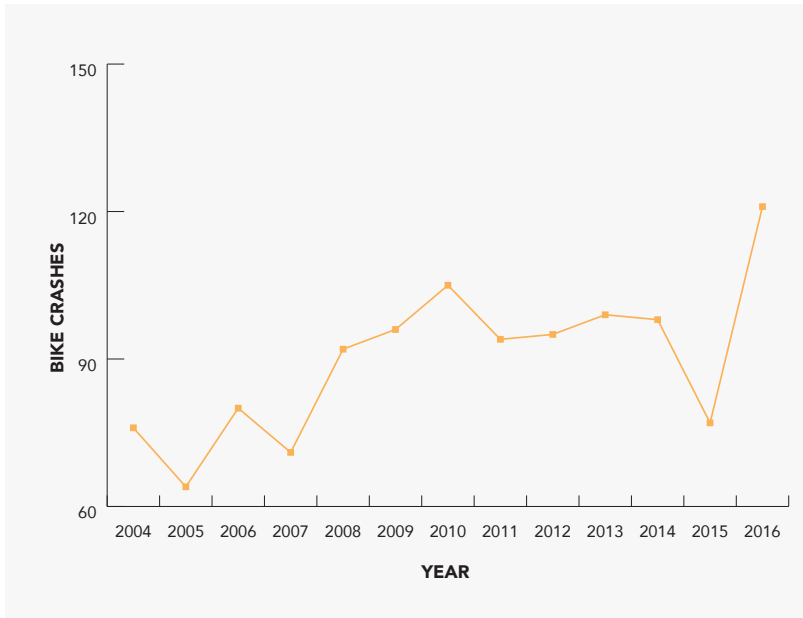
FIGURE 7 - WASHTENAW COUNTY PEDESTRIAN CRASHES



Pedestrian crashes have increased since 2004, as shown in **FIGURE 7**. This is likely due to a combination of factors including an improving economy, a larger number of walking trips, and annual fluctuations.

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FIGURE 8 - WASHTENAW COUNTY BICYCLE CRASHES



Bicycle crashes have also increased since 2004. This is likely due to a combination of factors including an improving economy, a larger number of biking trips, and annual fluctuations.

As walking and biking increase, it is critical to invest in a safe non-motorized transportation system that reduces the opportunity for conflicts between non-motorized traffic and the motoring public.

TABLES 3 AND 4 provide the proportional share of total crashes, fatalities, and serious injuries for pedestrians and bicyclists by county, and how that compares to the region and to the state overall.

TABLE 3 - PERCENTAGE DISTRIBUTION OF PEDESTRIAN CRASHES BY COUNTY AND INJURY, 2012-2016

COUNTY/REGION	PROPORTION OF ALL CRASHES THAT INVOLVED PEDESTRIANS	PROPORTION OF ALL FATAL CRASHES THAT INVOLVE A PEDESTRIAN	PROPORTION OF ALL SERIOUS INJURY CRASHES THAT INVOLVED A PEDESTRIAN
Livingston	0.30%	10.60%	3.80%
Macomb	0.80%	23.20%	8.60%
Monroe	0.60%	17.90%	3.20%
Oakland	0.60%	23.10%	8.00%
St. Clair	0.70%	9.70%	6.40%
Washtenaw	0.90%	16.50%	9.90%
Wayne	1.40%	30.10%	11.10%
SEMCOG Average	0.90%	24.40%	9.10%
Michigan Average	0.80%	16.00%	7.00%

KEY OBSERVATIONS

- While pedestrian crashes are much less frequent than vehicle crashes, they comprise a much larger share of traffic fatalities and injuries
- Nearly a quarter of all traffic fatalities in Southeast Michigan involved a pedestrian
- Washtenaw County’s proportion of pedestrian fatalities is near the statewide average, and 10% lower than the SEMCOG proportion

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TABLE 4 - PERCENTAGE DISTRIBUTION OF BICYCLISTS CRASHES BY COUNTY AND INJURY, 2012–2016

COUNTY/REGION	PROPORTION OF ALL CRASHES THAT INVOLVED BICYCLISTS	PROPORTION OF ALL FATAL CRASHES THAT INVOLVE A BICYCLIST	PROPORTION OF ALL SERIOUS INJURY CRASHES THAT INVOLVED A BICYCLIST
Livingston	0.20%	2.40%	1.70%
Macomb	0.80%	3.00%	3.90%
Monroe	0.60%	2.60%	1.10%
Oakland	0.50%	2.50%	3.50%
St. Clair	0.60%	3.20%	3.50%
Washtenaw	0.90%	5.80%	5.10%
Wayne	0.80%	3.10%	3.20%
SEMCOG Average	0.70%	3.10%	3.40%
Michigan Average	0.60%	2.90%	2.90%

KEY OBSERVATIONS

- While bicyclists crashes are much less frequent than vehicle crashes, they comprise a much larger share of traffic fatalities and injuries
- Washtenaw County's proportion of bicycling fatalities and serious injuries is nearly double the statewide average

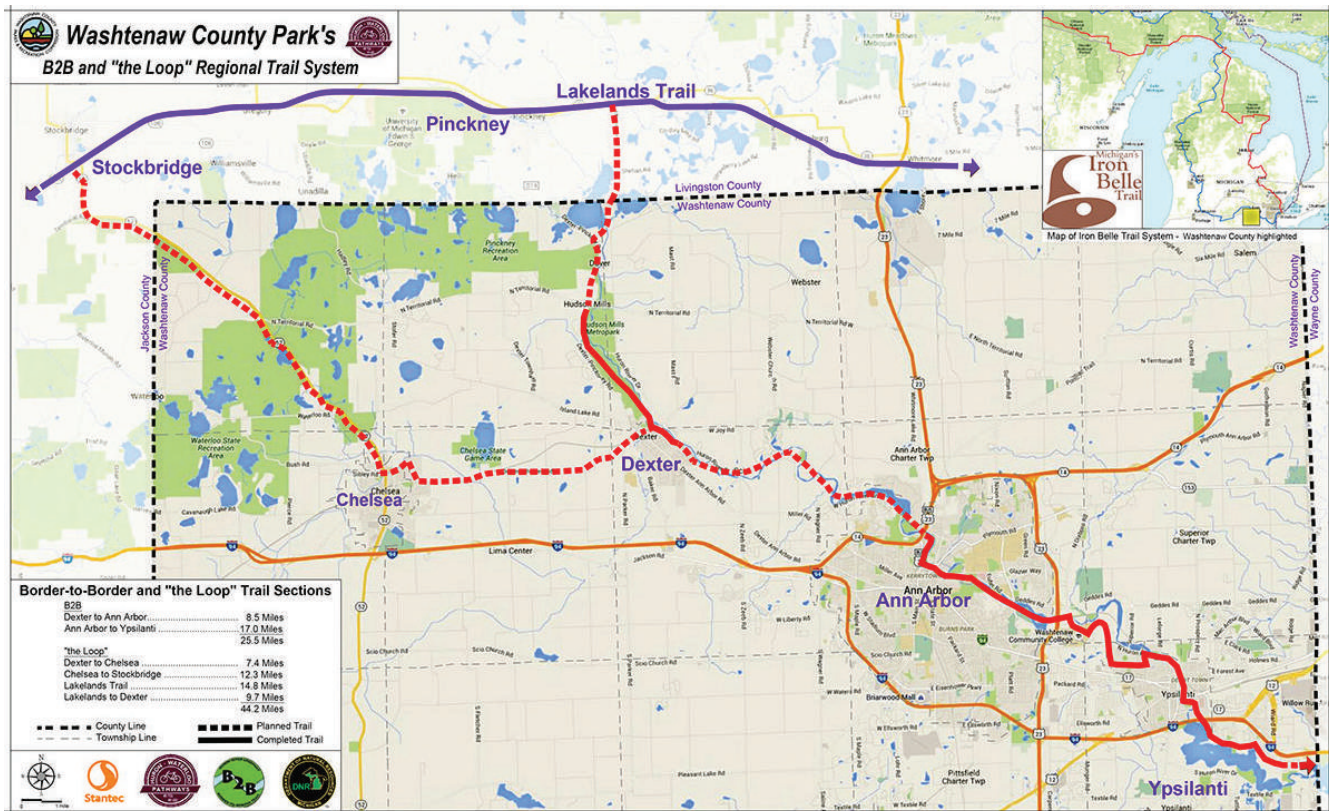


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REGIONAL NON-MOTORIZED EFFORTS

There are many ongoing local non-motorized planning efforts in Washtenaw County, Southeast Michigan, and the state, while some of these efforts may be recreationally focused, commuters will also benefit. This list is not meant to be exhaustive but provides details on some high profile projects.

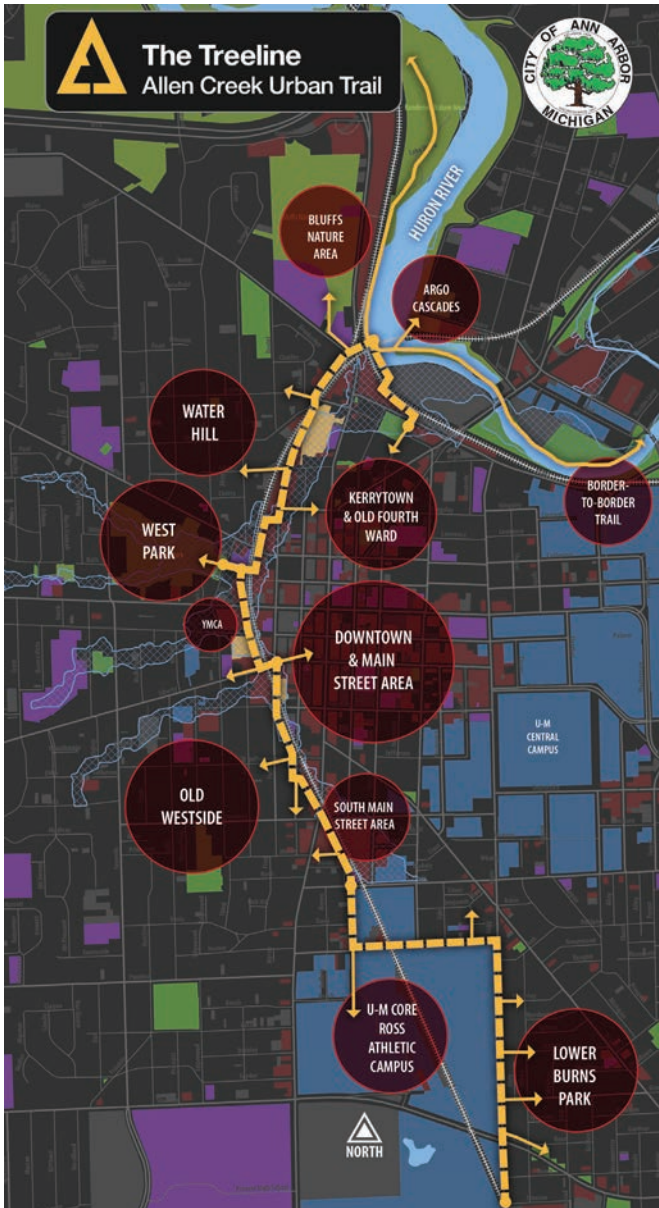
MAP 16 - BORDER TO BORDER TRAIL AND HURON WATERLOO PATHWAYS



Recently, Washtenaw County Parks teamed up with the Huron Waterloo Pathways Initiative (HWPI) to expand the Border to Border (B2B) trail. HWPI is a grassroots group working to connect Dexter, Chelsea, Stockbridge, and Pinckney (via the Lakelands Trail). Once complete, the addition of this new section of B2B will connect nearly 70 miles of continuous, non-motorized pathways in Washtenaw County.

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MAP 17 - THE TREELINE: ALLEN CREEK URBAN TRAIL



“The Treeline—a planned urban trail through the heart of Ann Arbor—is a proposed system that will connect people and places across Ann Arbor. Previously referred to as the Allen Creek Greenway, the idea for an urban trail and improvements to the Allen Creek floodplain have been discussed for decades within the community. The Treeline will connect City-owned properties, neighborhoods, and downtown businesses while linking to the Huron River and the regional Border-to-Border trail (B2B Trail). The project extent connects to the B2B Trail along the Huron River at the north end of the study, and connects to the South State Street and Stimson Street intersection on the south end. The length of the project corridor from the B2B Trail at Long Shore Drive south to State Street and Stimson Street, roughly following the railroad tracks, is approximately 2.6 miles”. More detailed zone maps can be found on the [City of Ann Arbor’s website](#).

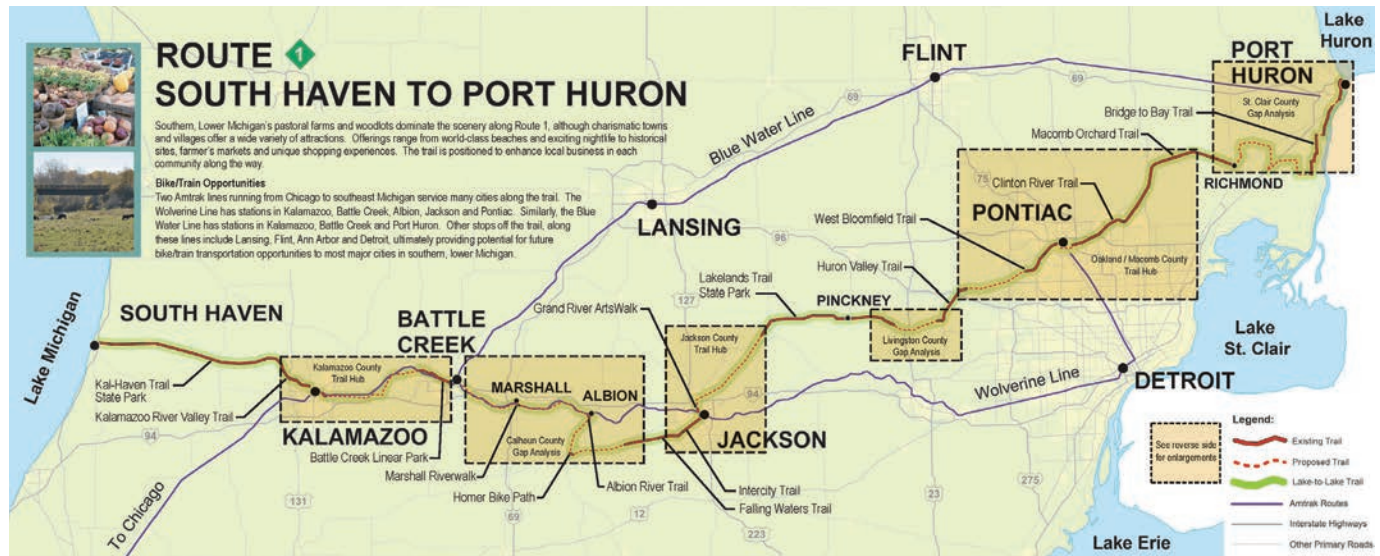
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MAP 18 - IRON BELLE TRAIL



The Iron Belle Trail is Michigan's showcase trail that touches hundreds of municipalities and crosses through 48 different Michigan counties. Using existing trails, networks and some new connections, the trail extends more than 2,000 miles from the far western tip of the Upper Peninsula to Belle Isle in Detroit on a biking trail and hiking trail. The biking route utilizes many of the state's existing bike paths, bike lanes, and signed, designated biking routes as it travels up the east side of the state, while the hiking route utilizes sidewalks, trails, and the 1,000-mile plus North Country National Scenic Trail traveling up the west side of the lower peninsula.

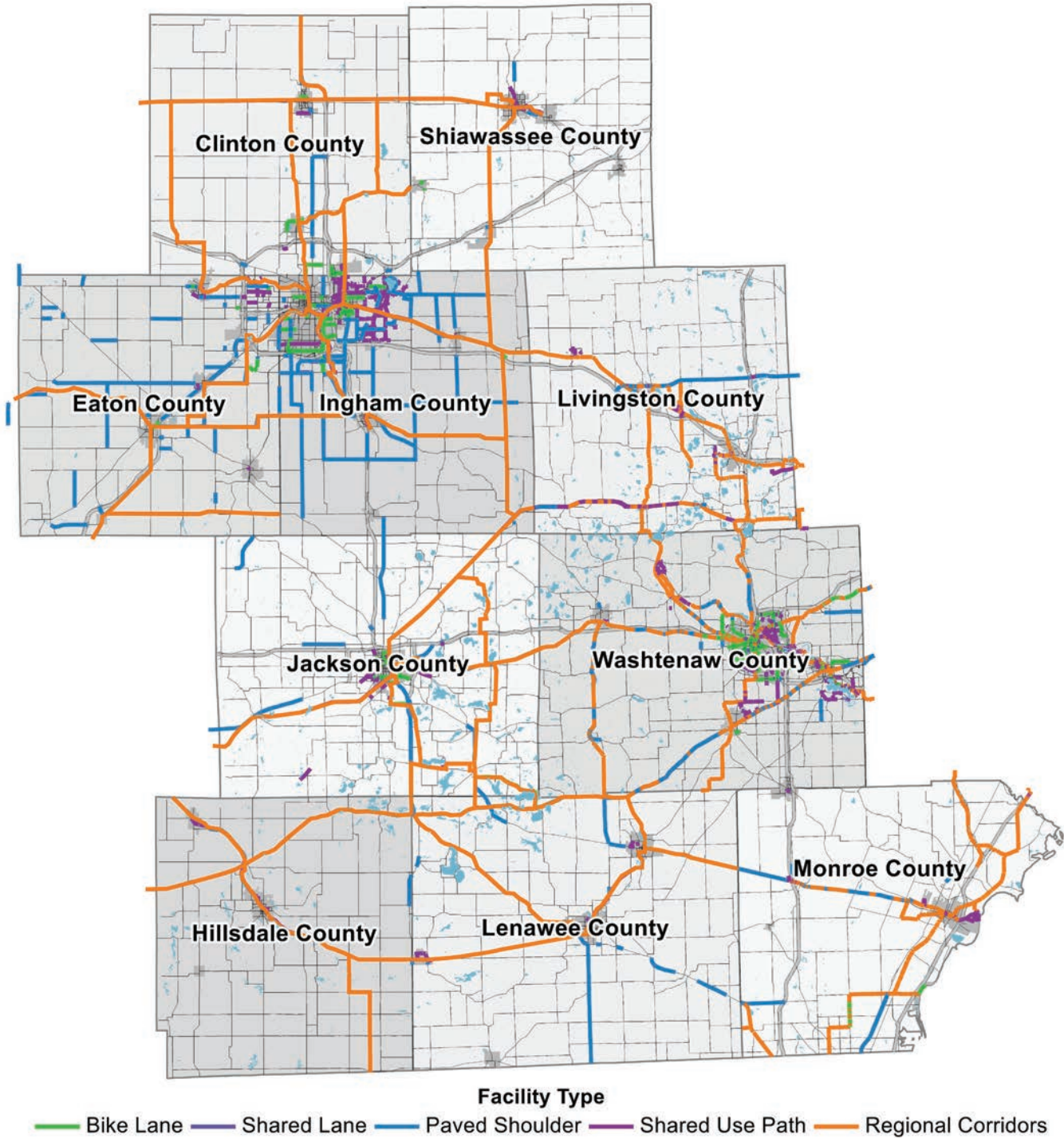
MAP 19 - GREAT LAKE TO LAKE TRAIL ROUTE 1



The Great Lake to Lake Trail connects South Haven on Lake Michigan to Port Huron on Lake Huron, and will be 240 miles long. While the trail does not specifically run through Washtenaw County, the Border to Border Trail is moving forward to connect to the Lakelands Trail in Pinckney, which would also connect to this cross state facility.

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MAP 20 - MDOT UNIVERSITY REGION BIKE FACILITIES



MDOT created regional non-motorized transportation plans and maps that highlight existing and proposed non-motorized facilities. The orange corridors highlight planned corridors that would link together the region's communities. These longer connections will enable much longer bike travel for commuting or recreational purposes.

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LOCAL PLANNING EFFORTS

TABLE 5 outlines local plans that discuss in some way the non-motorized transportation policy direction of the community. An X in the column indicates the presence of non-motorized transportation language in the plan.

TABLE 5 - LOCAL PLANNING EFFORTS

COMMUNITY	MASTER PLAN	RECREATION PLAN	OTHER PLAN
Ann Arbor	X	X	X
Ann Arbor Township	X	X	
Augusta Township	X		
Village of Barton Hills			
Bridgewater Township			
Chelsea	X	X	
Dexter	X	X	
Dexter Township	X	X	
Freedom Township	X		
Lima Township			
Lodi Township	X		
Lyndon Township	X	X	
Manchester	X	X	
Manchester Township	X	X	
Milan	X	X	
Northfield Township	X	X	
Pittsfield Charter Township	X	X	
Salem Township	X	X	
Saline	X	X	X
Saline Township	X		
Scio Township	X	X	X
Sharon Township	X		
Superior Township	X		
Sylvan Township	X		
Ypsilanti	X	X	
Ypsilanti Charter Township	X	X	
Webster Township			



SECTION 3

Planning for the Future

SECTION 3 Planning for the Future

The focus of this plan is to create a strategy to establish a physical and cultural environment that supports and encourages safe, comfortable and convenient ways for people to travel throughout Washtenaw County. Each community should work with the local implementing agency to select the appropriate pedestrian and bicycling solution.

The proposed corridors only provide an initial concept of where the connections can be, specific projects creating additional connection may change slightly when major facilities such as the Border to Border Trail and Huron Waterloo Pathways are completed. This section will focus on moving the county towards the vision of a connected non-motorized transportation county.

IMPLEMENTATION STRATEGY

Implementing the policies and strategies outlined in this plan will facilitate successful expansion and connection of the non-motorized transportation system around the county. As WATS progresses into this stage of the planning process, the "6Es", adopted from the Safe Routes To School Program should be consulted as each task moves forward. This section will discuss the 6Es, implementation time frame, and local WATS policies.⁹

ENCOURAGEMENT

Special events have been proven effective in inspiring people of all ages to try something new, which often results in the development of ongoing programs to encourage walking and bicycling. These include activities such as the Ann Arbor DDA Commute Challenge, Walk and Bike to School day events during May, safety campaigns for vision zero, safe routes to school.

EVALUATION

Long-term programs should kick-off with a thorough evaluation of existing conditions and progress towards existing plans. This should include both a review of the physical environment as well as surveys of the perceived environment. Additionally, policies should be reviewed during this part of the analysis.

EDUCATION

Education is always an important component for programs that seek to alter cultural norms. Many programs focus on educating people who walk and bike and that only offers half of the picture. Both the motoring and non-motoring public should not be overlooked in this category. This is especially true for Washtenaw County as many people travel into Washtenaw County every day and may be less familiar with how to interact with non-motorized travelers.

ENFORCEMENT

Partnering with local law enforcement to ensure that traffic laws and local ordinances are obeyed (this includes enforcement of speeds, yielding to or stopping for pedestrians in crosswalks depending on local law and proper walking and bicycling behaviors) is one way to ensure the safe passage of all travelers. Additionally, enforcement increases awareness and reduces the frequency of traffic safety problems.

SECTION 3 Planning for the Future

ENGINEERING

Physical infrastructure is the most visible sign of a community's dedication to a comprehensive non-motorized system. Such a system can consist of sidewalks, bike lanes, trails, and quiet neighborhood streets, key elements to allow pedestrians efficient access their destinations.

A community first approach to engineering, such as walking and biking audits, can help identify problems and build support for capital improvements. Short-term improvements might include landscaping maintenance, altering the timing of traffic lights, painting crosswalks or installing stop signs are immediate fixes which can be done on a small budget within a short time frame, often through the use of a community's general funds. Long-term needs such as installing sidewalks, pathways, bridges and reconstructing intersections should be prioritized as part of the capital improvement plan for the community.

EQUITY

Equity works to support the safe, active, and healthy opportunities for people in low-income communities, communities of color, and beyond. Incorporating equity concerns throughout the other E's to understand and address obstacles, create access, and ensure safe and equitable outcomes.

DESIGN

A component to creating more inviting pedestrian and bicycle systems is the design of that network. Designs of projects should incorporate the best solutions for creating complete streets that are safe and enjoyable for pedestrians and bicyclists. The National Association of City Transportation Officials (NACTO) has produced four guidebooks which describe design treatments developed by cities, for cities. These guidebooks should be referenced as part of project development along with the American Association of State Highway and Transportation Officials (AASHTO) "Green Book," which contains the current design research and practices for highway and street geometric design.

IMPLEMENTATION TASKS

Based on feedback from the public, the WATS non-motorized transportation plan steering committee and the WATS Technical and Policy Committee, WATS developed a list of activities to help implement this plan. The coordination of these activities will be done in partnership with the existing Steering Committee members and through community partnerships, with a focus on the 6Es and designs that are pedestrian and bicyclist focused.

WATS defined the implementation activities as follow:

Task - This is the activity that the WATS staff will undertake for the implementation of the plan.

Stakeholders - The stakeholders are the responsible party for completing the task.

Deliverable - The product or outcome

SECTION 3 Planning for the Future

NEAR TERM

Tasks are considered to be worked on over the next three years.

TASK	STAKEHOLDERS	DELIVERABLE
Track non-motorized projects seeking funding for construction around Washtenaw County	WCRC, County Parks, Metroparks, communities of Washtenaw County	1 page summary of funds secured, miles, built, and map locations of the projects
Monitor and analyze changes in pedestrian and bike crash locations and frequency	Act 51 agencies, SEMCOG safety team	WATS annual crash report
Monitor the movement of pedestrians and bicyclists around Washtenaw County	Act 51 agencies, County Parks, Metroparks, communities of Washtenaw County	Publish an annual pedestrian and bicycle count report to reflect data collected
Track the percentages of federal funds being spent on transit and non-motorized facilities throughout the TIP	WATS Policy Committee members	Review the existing STP 10% for transit and non-motorized funding policy and bring to Policy Committee for review
Monitor the adoption of the crosswalk design guidelines, track the building and retrofitting of new and existing crosswalks	WCRC, MDOT, City of Ann Arbor, Pittsfield Township, Ypsilanti Township	Report annually on the building and retrofitting of crosswalks
Schedule meetings with communities that are not presently on the WATS Technical or Policy Committees to discuss their priority for non-motorized transportation development	Communities across Washtenaw County, WCRC, County Parks, School districts	Tally the total number of meetings
Analyze and inventory current non-motorized systems around schools around Washtenaw County	Washtenaw County public schools, private schools, WISD	Tally the total number of maps developed and meetings with schools

MID TERM

Tasks are considered to take place over the next four to six years.

TASK	STAKEHOLDERS	DELIVERABLE
Track the number of complete streets projects created or retrofitted	WCRC, communities of Washtenaw County	Publish a report on complete streets investments(miles and funding) being spent on the federal aid system in Washtenaw County
Track the availability of bicycle parking/storage facilities near transit stops	AAATA, WCRC, communities of Washtenaw County, Metroparks, Washtenaw County Parks	Report the results of bicycle parking availability for the fixed route transit system

SECTION 3 Planning for the Future

LONG TERM

Taking place over the next 7–10 years.

TASK	STAKEHOLDERS	DELIVERABLE
Monitor the inclusion of non-motorized facilities on the federal aid bridge system	WCRC, cities, villages, MDOT	Report on the bridges that have added context appropriate non-motorized facilities
Work with local agencies and MDOT to develop an asset management plan that includes non-motorized facilities	MDOT, LMB, MTGA, SEMCOG	Multi-modal Asset Management Plan

SECTION 3 Planning for the Future

CONTEXT SENSITIVE SOLUTIONS

Non-motorized improvements should be implemented in a flexible manner that prioritizes a variety of factors such as project scope, built and natural environment, community values and desires. As part of the project development staff will work with communities across the county to find the appropriate non-motorized elements for their community. This flexible approach to design is known as context sensitive solutions and it allows for community and need-based facility design.

The Federal Highway Administration (FHWA) defines context sensitive solutions (CSS) as an approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions. Below are examples around Washtenaw County that show context sensitive solutions.¹⁰



NON-MOTORIZED PATHWAY

PITTSFIELD TOWNSHIP



TRANSIT ACCESS WITH SIDEWALKS

YPSILANTI TOWNSHIP



BIKE LANE

ANN ARBOR



BIKE PARKING

ANN ARBOR



CROSSWALKS AND WALK SIGNS

ANN ARBOR



RURAL PEDESTRIAN CROSSING

SHARON TOWNSHIP

SECTION 3 Planning for the Future

CREATIVE FUNDING SOLUTIONS

A variety of funding sources will be necessary to implement the vision of this plan. Participation by private partners, local communities, businesses, and foundations, is critical to supplement the inadequate amount of federal and state funding currently available.

PUBLIC-PRIVATE PARTNERSHIPS (PPP)

Public Private Partnerships (PPP) maximize the traditional funding sources at the federal and state level by leveraging private funds to help complete a project. PPPs benefit both the business community and the public.

COMMUNITY FUNDED

Some citizens have decided to raise private funds for projects that will make an immediate impact. This was the case in Dexter Township, photo below. Supervisor Harley Rider stated that the Township was approached in December, 2015 by a resident from Island Hills Estates, the residents wanted to put in approximately 500 feet of sidewalk from Island Hills Site Condo along the south side of Island Lake Rd. to connect to The Cedars, where the Dexter City sidewalk starts. The project estimate at that time was between \$24,000 and \$30,000. The homeowners in Island Hills would provide some funding, along with all long-term maintenance. The 5 Healthy Towns (5HT) provided the majority of the funding, and the Township funds that were requested were not needed. The residents put in around \$2,500 toward project expenses. The Township was the fiduciary for the project, holding, then disbursing the funds for the project, which was done by a private contractor, selected by Island Hills home owners association (HOA), through a WCRC permit.

These type of public-private partnerships and citizens working with their local community to fund projects that may not be at the top of the list for other more traditional funding sources, is an important step in filling small gaps that may exist. This strategy may not be ideal for large-scale projects but can make a big impact in the everyday lives and connectivity for all users.



SECTION 3 Planning for the Future

WATS FUNDING POLICIES

The 2006 WATS Non-Motorized Transportation Plan formalized six policies that focused on adding non-motorized facilities based upon the National Functional Classification, compliance with the Americans with Disabilities Act, the inclusion of non-motorized facilities in private and public developments, provision to include non-motorized facilities in the rural road shoulder, and maintenance.

As part of plan development, WATS reviewed, consolidated, and created the following updated policies on the use of federal funds on federal aid eligible roadways. These policies are focused on implementing agencies and their commitment in the development of a complete and accessible transportation system.

URBAN POLICY

1. Reconstruction Projects

Reconstruction projects using federal funds in the urban area will include context appropriate non-motorized facilities within the project limits.

The following exception applies:

- *If including non-motorized facilities is environmentally infeasible.*

2. Resurface, Restore, and Rehabilitate (3R)

3R projects using federal funds in the ACUB will include context appropriate non-motorized facilities within the project limits. Local communities should work with the implementing agency to identify appropriate sources of funding for non-motorized facility development alongside resurfacing projects.

The following exception applies:

- *If the cost of establishing appropriate non-motorized facilities would be excessively disproportionate to the scope the project, the need, or probable use.*



**CARPENTER RD.
(PACKARD TO WASHTENAW)**

PITTSFIELD TOWNSHIP

This roadway reconstruction project included sidewalks on both sides of the street, a mid block crossing with a Rectangular Rapid Flash Beacon (RRFB) along with reconstruction of the roadway.



**ELLSWORTH RD.
(CARPENTER TO GOLFSIDE)**

PITTSFIELD TOWNSHIP

This project went from 12 ft lanes to 11 ft lanes with the addition of 3ft paved shoulders on both sides, from no paved shoulders, and the inclusion of ADA sidewalk ramps, in addition to improving the surface pavement.

SECTION 3 Planning for the Future

3. Preventative Maintenance Facility Policy

Preventative maintenance projects (as identified by MDOT Local Agency Programs) using federal funds in the ACUB will evaluate context appropriate non-motorized facilities within the project limits. If facilities are identified, the local community should work with the implementing agency to identify appropriate sources of funding for non-motorized facility development.

RURAL POLICY

Rural Non-Motorized Facility Policy

Construction projects using federal funds outside the adjusted census urban boundary (ACUB) will evaluate context appropriate non-motorized facilities within the project limits. If facilities are identified, the local community should work with the implementing agency to identify appropriate sources of funding for non-motorized facility development.

WATS 10% POLICY

Since 2009, WATS has a policy goal for 10% of federal STP funds to be spent on non-motorized transportation investments. Given the current project listing for the 2017–2020 Transportation Improvement Projects (TIP) at least 20% of total funds will be invested in the non-motorized system over the next four years. WATS will continue to track the progress through this policy enacted by the WATS Policy Committee.

Local STP Funds on State Owned Trunkline Facilities

In 2017, WATS Policy and Technical Committee members discussed the potential use of local Surface Transportation Program (STP) funds for improvements on state-owned roadway. This Policy was formally adopted in October of 2017.

WATS may consider the use of Surface Transportation Program - Urban funds on trunkline roads for projects that are multi-modal in nature and will facilitate access, mobility and safety. An improvement can be fully funded or meant as seed funding to encourage MDOT or other agency financial participation to complete the project, but should not exceed \$100,000. Conditions which must be met are:

- The project must be identified in the Long Range Transportation Plan as a Regional Priority
- The project must be located in the Urban Area defined by the most recent Adjusted Census Urban Area
- At least two WATS member agencies must provide a letter of support of the project in writing to the WATS Policy Committee
- The Local Unit(s) of Government must support the funding request through letter of support or other official action.
- An Act 51 Agency must agree to sponsor the project
- The project must not be in the MDOT 5 year plan
- The project sponsor must have requested funding from MDOT and been denied
- MDOT must provide a letter of support for the project

SECTION 3 Planning for the Future

WATS Federal Urban and Rural Program Eligibility

WATS has worked with local implementing agencies and the Policy Committee to develop eligibility guidance that allocates the limited federal funds received in Washtenaw County to activities that benefit the county wide transportation system. The WATS Committees will review these policies periodically. WATS Director or any WATS Policy member may request a review of these policies.

The list below indicate WATS' STP-Urban and STP-Rural federal funds may be used:

- Construction Engineering - **15%**
- Preliminary Engineering - **15%**
- Right of Way - **15%**
- Project overages
- Active Transportation
- Construction
- Preventative Maintenance
- Capital Purchases
- Environmental Reviews
- Environmental Assessment
- Environmental Impact Statement



SECTION 3 Planning for the Future

INCONSISTENCIES ACROSS THE COUNTY

WATS seeks to develop consistent policies and practices for the use of federal aid on the transportation network. However, each community has their own system for long term transportation planning on the locally owned transportation system. While priorities may differ between various jurisdictions and communities, consistency in as many facets of planning as possible will help facilitate the development of a well-maintained and reliable non-motorized system. This section outlines impediments to implementing the vision of this plan.

MAINTENANCE

Some communities perform winter maintenance on paths and trailways as a matter of policy, while others do not. Some communities require property owners to keep sidewalks clear of snow and ice in the winter, while others don't. Consistency in routing and winter maintenance facilitates the continued expansion of a countywide network.

POLICY

Many people and disciplines are involved in the development, operation, and maintenance of the non-motorized transportation system. MDOT, WCRC, cities, villages, townships, and county parks, are all involved in varying capacities, and each views their primary responsibility differently. There is not universal acceptance across the county that the inclusion of non-motorized transportation options are necessary. According to the Michigan Complete Streets Coalition only four communities in Washtenaw County that have passed a resolution, plan, policy or guidance regarding the concept of Complete Streets: the City of Dexter, City of Ypsilanti, Pittsfield Township, and the City of Ann Arbor.

FUNDING

This lack of uniformity exists in local funding support as well. Three communities have passed local funding taxes to aid in the development of these facilities including Ann Arbor, Chelsea, Dexter, and Saline, other communities commit funds from their general fund, while others choose not to invest in the non-motorized transportation system.



SECTION 4

Measuring Success

SECTION 4 Measuring Success

IMPORTANCE OF MONITORING SUCCESS

FEDERAL

Moving Ahead for Progress in the 21st Century Act (MAP-21) created a performance-based and multi-modal program to strengthen the U.S. transportation system. These measures were later reaffirmed in the current transportation Fixing America's Surface Transportation Act (FAST Act). By focusing on national goals, increasing accountability, and improving transparency, these changes were designed to improve decision-making through better-informed planning and programming. However, the roll-out of these federally mandated measures has been slow.

FHWA defines Transportation Performance Management (TPM) as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals. In short, TPM:

- Is a systematically applied, regular ongoing process
- Provides information to help decision makers to understand the consequences of investment decisions across transportation assets or modes
- Improves communications between decision-makers, stakeholders and the traveling public.
- Ensures targets and measures are developed in cooperative partnerships and based on data and objective information

LOCAL GOALS AND PRIORITIES

In the spirit of this performance-based planning framework, WATS staff recommended the Policy Committee adopt a comprehensive set of performance measures and targets. This locally adopted set of measures, adopted in 2015, predate the federal performance measures and define success within the values of WATS Long Range Plan Goals:

- Safety and Security
- Promote Access and Mobility
- Invest Strategically
- Protect the Environment
- Engage the Public
- Link Transportation and Land Use

MONITORING PROGRESS ON THE GOALS

WATS will monitor progress towards the goals on the WATS Data Dashboard. The dashboard is accessible on the [WATS website](#). The dashboard presents a description of the performance measures developed to measure progress alongside existing conditions and 2020 targets. The measures related to the non-motorized system are explored further in this section of the plan.

SECTION 4 Measuring Success

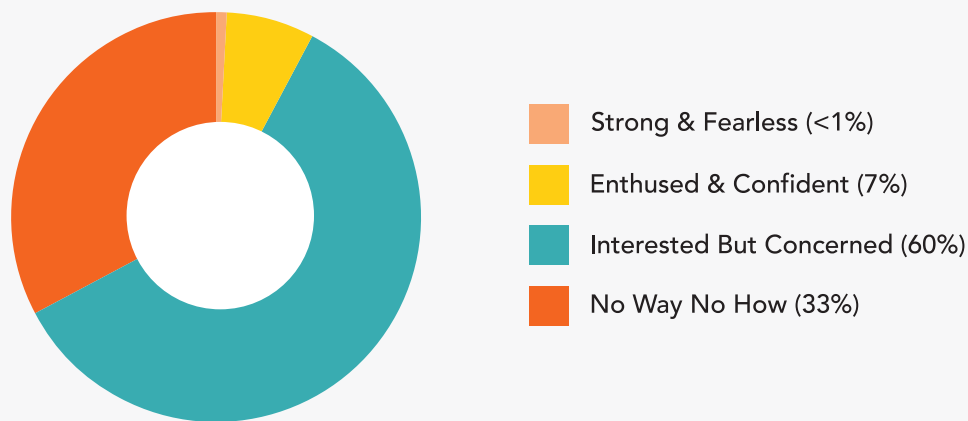
RELATIONSHIP BETWEEN THE GOALS AND THE NON-MOTORIZED TRANSPORTATION SYSTEM

Safety and Security

Research into cyclist behavior has revealed several typologies that are valuable for understanding the motivations of system users. [A 2006 paper](#) published a now widely used description of the four types of cyclists:

- Strong and Fearless - Very comfortable without bike lanes
- Enthused and Confident -Very comfortable with bike lanes
- Interested but Concerned - Comfortable on paths, not very comfortable with bike lanes, interested in biking more
- No Way No How - Physically unable or very uncomfortable on paths

Four Types of Cyclists By Proportion of Population



Source: *Portland, OR DOT*

SECTION 4 Measuring Success

This grouping of cyclists reveals the relationship between safety and perceived safety on cyclist behavior. The 'Strong and Fearless' and 'Enthused and Confident' account for a relatively small proportion of potential bicyclists. In Portland, where the study was conducted, they account for only 17% of potential cyclists. The majority of those surveyed categorized themselves as 'Interested but Concerned'. The presence of traffic-separated facilities was critical for these cyclists to feel comfortable making non-motorized trips.

This generalization of the types of users can be extended to pedestrians as well. While a minority of pedestrians will make trips without consistent or appropriate facilities, the lack of sidewalks and crossings excludes those who do not feel comfortable or are physically unable to use the system. Without dedicated infrastructure that addresses their needs, it will be unlikely for them to make walking trips.

Encouraging people to take non-motorized trips depends on both the actual and the perceived safety of the non-motorized system. Tracking the number and severity of crashes over time will provide a high-level indication of the safety of the non-motorized system. However, as facilities are added to the system, more people may feel comfortable making non-motorized trips. The induced trips could cause the number of crashes to increase. A measure of crash rate, normalized to the percentage of commuters who walk or bike to work, can contextualize the total number of crashes with system usage.

TABLE 6 - SAFETY AND SECURITY MEASURES

INDICATOR	DESCRIPTION	VALUE	TARGET
Number of Serious Non-Motorized Crashes	5 year rolling average of the total number of fatal or incapacitating bicycle and pedestrian crashes	23.8	22
% of Serious Non-Motorized Crashes in the Environmental Justice Area (% of all Crashes)		38.4 (23.0)	N/A
Pedestrian Crashes to Commute Volume Index	Relative measure of the safety of the transportation system for pedestrians. This benchmark allows comparison with other communities, and has been used by Transportation for America in their Dangerous by Design Reports.	2.5	Decline
Bike Crashes to Commute Volume Index	This is relative measure of the safety of the transportation system for cyclists. This benchmark allows comparison with other communities, and has been used by Transportation for America in their Dangerous by Design Reports.	7.65	Decline

SECTION 4 Measuring Success

PROMOTE ACCESS AND MOBILITY

There are two components to providing users of the system with the means to reach their destinations, access and mobility. Access is a measure of the number of destinations that individuals can reach, while mobility is an indicator of the speed at which users travel. For example, a dense downtown may provide high access to many destinations, with relatively low mobility for vehicles. On the other hand, a remote rural area may provide high mobility, but relatively low access to destinations.

The non-motorized system should be understood within the context of access and mobility as well. All trips either begin or end as non-motorized trips. Transit riders, in particular, depend on a system of sidewalks, curb cuts, and crosswalks to access bus stops. The lack of these facilities is a major impediment to access transit, and often has the most negative impact on seniors, people with disabilities, and people with low incomes; these are the people who depend on the system the most.

Additionally, each individual who chooses to walk or bike to work, frees up additional space on the roadway for others who drive, reducing the total congestion in the transportation system. The ability for users to make these choices depend on the presence of facilities that allow them to make direct trips between their origin and destination. The more dense the non-motorized transportation network, the more mobility it provides to potential users by reducing the time and distance to access their destinations.

Lastly, the benefits of non-motorized transportation extend to health and equity, both priority issues in Washtenaw County. Every 5 years, the Washtenaw County Public Health Department conducts a Health Improvement Plan survey, which takes a snapshot of the health of the county. Sadly, poor and minority neighborhoods in Washtenaw County often have worse health outcomes than white middle to upper-income neighborhoods. These low-income neighborhoods often lack non-motorized infrastructure that could help residents improve their health through biking and walking. In 2015, 18.1% of low-income respondents indicated a lack of walkable areas in their neighborhoods.

TABLE 7 - PROMOTE ACCESS AND MOBILITY MEASURES

INDICATOR	COUNTYWIDE VALUE	EJ AREA MEASURE	10TH PERCENTILE EJ AREA	2020 TARGET
County-wide pedestrian network coverage	40.8%	54.1%	46.6%	Growth
County-wide bike network coverage	29.2%	22.5%	16.3%	Growth

SECTION 4 Measuring Success

INVEST STRATEGICALLY

Current transportation funding for all modes needs a significant increase to keep up with the needs of the system. Managing and prioritizing those needs is critical as agencies develop strategies to maximize the impacts of their investments. For WATS, investing strategically addresses two needs related to the non-motorized system: total investment and system condition.

WATS participates in a state-mandated Asset Management program involving the collection of road condition data for all federally-eligible roadways. Road agencies can use this data to develop Asset Management Plans, which develop strategies to maximize the benefit of funding spent on roadways. This process helps prioritize Preventive Maintenance, small-scale treatments to the surface of a roadway, which are intended to maximize the life of that roadway. As roads deteriorate and require Reconstruction, improvements become increasingly expensive, far exceeding the costs of multiple Preventive Maintenance treatments over the life of the facility.

Similarly, agencies should adopt Asset Management strategies for non-motorized facilities. While developing an actual performance measure would be resource intensive due to the amount of data needed, the principle of preventive treatments remain relevant. Trails and sidewalks require maintenance to prevent deterioration; preventing tree roots from breaking the pavement surface, filling cracks, resurfacing; these small-scale fixes can prevent reconstruction of these facilities, freeing up future resources for investment in new facilities.

The second aspect of Strategic Investment is total investment in the system. Based on the recommendation in the 2006 Non-motorized Plan, WATS established its first performance targets, investing 10% each in transit and non-motorized improvements. WATS has actively tracked that investment since that time, and, on average, has met the target. Currently, WATS tracks the target through its Surface Transportation Program (STP) application. This allows the Policy Committee to review the amount of investment in the non-motorized system prior to adopting a funding program, rather than review progress in hindsight.

TABLE 8 - INVEST STRATEGICALLY MEASURES

INDICATOR	DESCRIPTION	VALUE	TARGET
% of funds invested in Active Transportation	Combined measure of WATS investment in non-motorized and transit projects	20.70%	20%

SECTION 4 Measuring Success

PROTECT THE AND ENHANCE THE ENVIRONMENT

Each additional non-motorized trip furthers the goal of Protecting the Environment in Washtenaw County. With a wealth of natural resources and parks, the county prides itself on its environmental stewardship and policy. As the conversation related to transportation and the environment has moved from preventing pollution towards addressing climate change, the policy response remains the same, to encourage travelers and commuters to leave their car behind and commute by transit, walking, or biking.

The average car emits more than 4.5 tons of CO2 per year and is one of the largest portions of a household’s carbon footprint. Choosing to walk, bike or use transit prevents those emissions, while saving money and improving health.

Education is a necessary component of shifting people to non-motorized commutes. The Get Downtown program, part of TheRide, encourages employees in Downtown Ann Arbor to choose alternative commutes through its Commuter Challenge. The annual program gives out prizes and awards to incentivize people to walk, bike, carpool, or use transit, helping commuters overcome the initial hurdle of shifting modes.

Transit trips also reduce household carbon footprints and depend on a robust non-motorized system. Without appropriate sidewalks, paths, and crosswalks, commuters are less likely to choose transit. Seniors and people with disabilities, who are often dependent on transit, are the most likely to suffer when these facilities are missing.

TABLE 9 - PROTECT AND ENHANCE THE ENVIRONMENT MEASURES

INDICATOR	DESCRIPTION	VALUE	TARGET
Alternative Transportation Mode Share	The percentage of countywide commuters using non-single occupancy vehicle modes for their commute. This is a good indicator of the effectiveness of the mix of alternatives that the county affords.	20.7%	22%
Per Capita Non Commercial VMT	The per person driving miles of Washtenaw County residents. MDOT produces this number annually for every county. It is comparable across jurisdictions, and is based in part on actual counts. Vehicle emissions are proportional to VMT, vehicle/engine type, and vehicle speed.	10,210.84	10,400
Per Capita Transit Ridership	The average annual transit trips per Washtenaw County resident. This measure isolates transit ridership growth from population growth as an indicator of total propensity to use fixed route transit over time.	38.9 trips per capita	Upward Trend

SECTION 4 Measuring Success

LINK TRANSPORTATION AND LAND USE

The mode choices that travelers make depend directly on the land use patterns of their origins and destinations. Driving is critical for accessing numerous destinations over relatively long distances, while non-motorized trips are most important for access in more dense areas. New bike paths have extended the distance that cyclists can ride safely as seen in the growth mode-share of bike commutes in the county’s urban townships.

Land use decisions should be made in context of the transportation network. Schools, for example, serve students, who are largely too young to drive. However, even driving age students are now less likely to pursue a driver’s license than they were 30 years ago, possibly caused by technology replacing cars in young people’s ability to create social networks. If communities would like more students to walk to school, siting decisions should be made in the context of land use and travel patterns. This can help alleviate peak hour congestion near schools, reduce transportation costs, and improve student health. Additions to the sidewalk and bike lane network can help non-motorized access to schools and reconnect land use and transportation.

The principle of connecting land use and transportation applies to all types of destinations, but WATS is focusing on several for the purposes of performance measurement: access to employment, access to healthy food, and access to schools.

TABLE 10 - LINK TRANSPORTATION AND LAND USE MEASURES

INDICATOR	COUNTYWIDE VALUE	EJ AREA MEASURE	10TH PERCENTILE EJ AREA	2020 TARGET
% of Households within 30 minutes walking distance of healthy food	47.9%	55.2%	49.7%	Growth
% of Households within 30 minutes walking distance of parks	81.1%	99.7%	99.5%	Growth
% of Households within 30 minutes walking distance of schools	59.4%	83.9%	73.9%	Growth
% of Work Trips by accessible within 30 minutes by walking	93.9%	Not available	Not available	No Mode specific target
% of Work Trips accessible within 30 minutes by bike	81.9%	Not available	Not available	No Mode specific target



SECTION 5

Public Outreach

SECTION 5 Public Outreach

Public engagement is an essential component of quality planning. WATS continues to challenge itself by expanding and experimenting with various types of engagement as outlined in the agency's [Public Participation Plan](#). The various engagement efforts throughout the planning and development of this plan are described below.

NON-MOTORIZED PLAN STEERING COMMITTEE

WATS formed a steering committee of stakeholders early in the development of this plan to utilize the knowledge of local experts. WATS also invited members of the public to participate on the committee. The Steering Committee included representatives from:

- Cities of Ann Arbor and Chelsea
- Washtenaw County Road Commission
- Washtenaw County Water Resources
- Michigan Department of Transportation
- Southeast Michigan Council of Governments
- WATS Technical Committee People with Disabilities Representative
- Huron Waterloo Pathways
- Washtenaw Bicycling and Walking Coalition
- Ypsilanti Non-motorized Committee
- WATS Technical Committee Non-Motorized Representative
- Washtenaw County Parks
- AAATA

The steering committee worked with WATS staff throughout the plan development process. Four meetings were held to discuss policy formation, public engagement efforts, responses from the public, and additional issues. The Steering Committee was instrumental in guiding policy formation and assisting staff throughout this planning process.

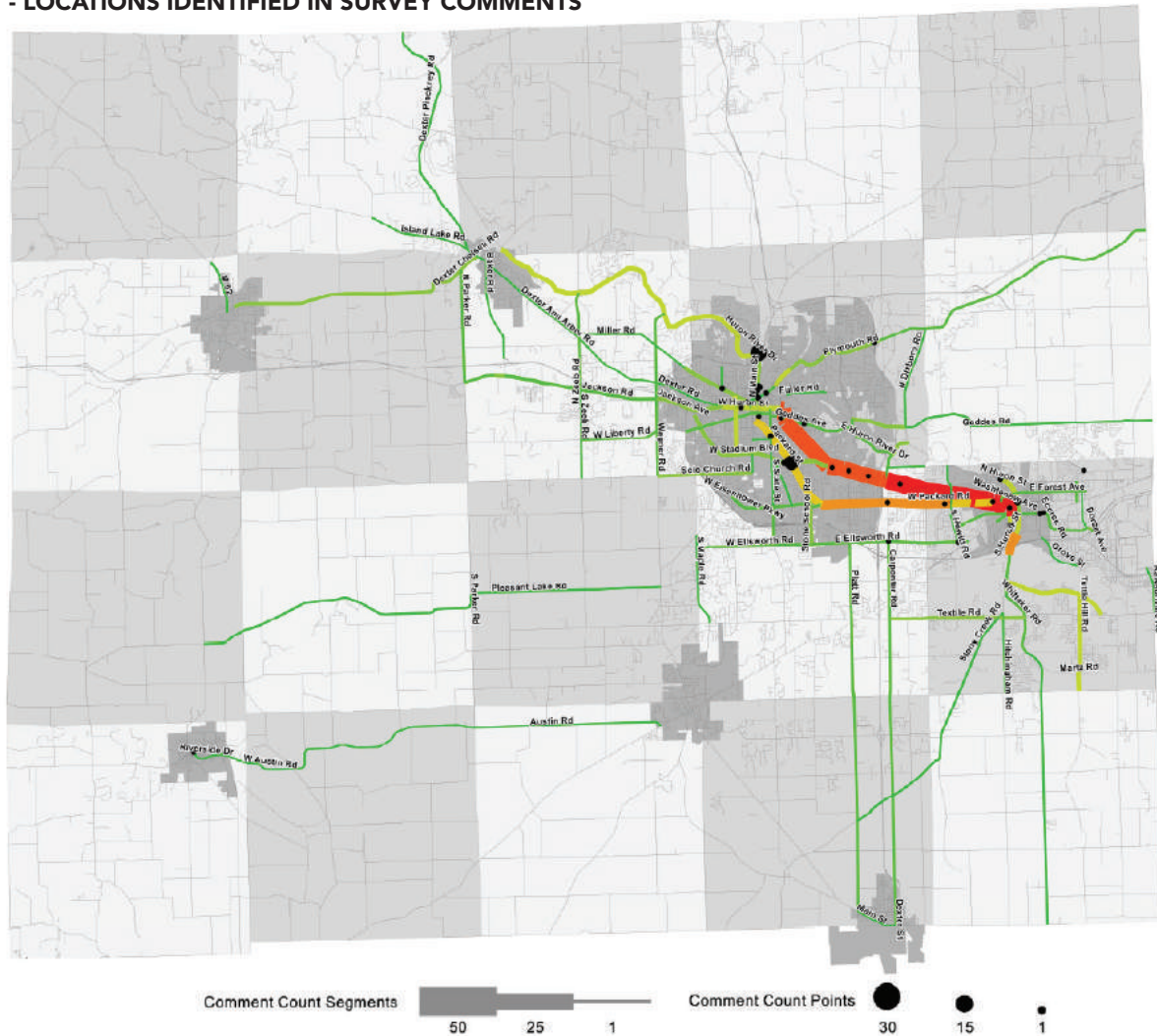
SURVEYS

Community Survey

In 2016, WATS asked people to fill out a four-question survey to examine the barriers to biking and walking to work. In the survey, respondents could indicate what barriers prevented them from biking and walking more, and they could identify specific locations that they see in the community. Below is a review of the information collected highlighting the specific locations first and responses to the survey second.

SECTION 5 Public Outreach

MAP 21 - LOCATIONS IDENTIFIED IN SURVEY COMMENTS



MAP 21 shows the specific locations survey respondents reported a need for improved non-motorized facilities. Line and dot thickness is based on the frequency those corridors and locations were mentioned in survey responses.

Corridors with the highest survey response rate include:

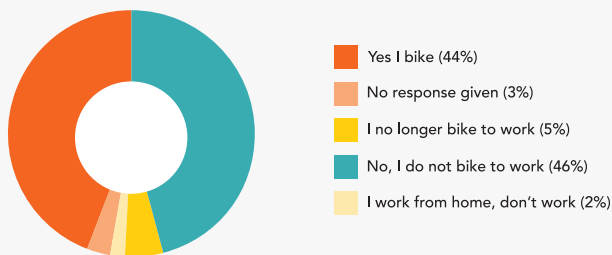
HURON STREET YPSILANTI	PACKARD STREET	HURON STREET ANN ARBOR
WASHTENAW AVENUE		HURON RIVER DRIVE

These corridors are some of the most critical roadways in Washtenaw County. These high-volume roadways offer numerous housing and employment options, regional transit connections, and other destinations within walking distance for those along the corridor. However, the level of pedestrian and biking infrastructure does not reflect the need or level of activity.

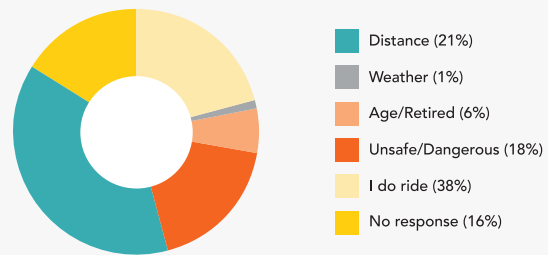
SECTION 5 Public Outreach

BIKING

Do you bike to work?

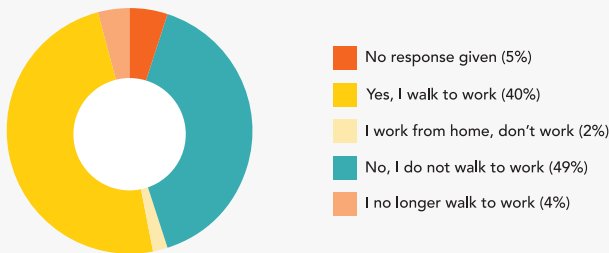


Why don't you bike to work?

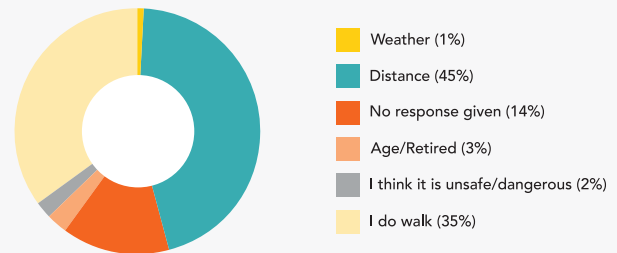


WALKING

Do you walk to work



Why don't you bike to work?



Survey Summary

WATS collected responses from more than 20 communities across Washtenaw County. Out of the 475 survey responses collected, distance and safety were most frequently cited as the primary obstacle to non-motorized commuting.

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Distance - 21% of survey respondents cited distance as why they do not bike to work and 44% cited this reason as why they don't walk to work. Walking and biking are not a viable transportation option for all people who simply live too far from their work. Many enjoy this commute by car, preferring to live further from large population centers in suburban or rural settings. However, for others, there is a lack of both lack of non-motorized facilities and affordable housing closer to their work.

Safety - 18% of survey respondents cited safety as the primary reason why they do not travel by bicycle. For some of these respondents, no level of infrastructure would address their concerns, but for others, working to add appropriate bike lanes or trails would improve the perceived safety issues so they might consider biking. WATS can work with road organizations to define needs on corridors and develop projects to address known safety issues.

Community Practices

WATS also surveyed the communities of Washtenaw County to collect information regarding how they plan for non-motorized transportation. These questions were sent to community Supervisors, Clerks, and to the WATS Technical and Policy Committee members. The questions were:

1. Does your community have a policy or practice to include shoulders, bike lanes or sidewalks as part of road projects?
2. Does your community have a policy or practice to include crosswalks or mid block crossings as part of road projects?
3. Has your community provided funding for non-motorized transportation? If you have please provide details.
4. Would your community participate in cost sharing for the inclusion of non-motorized transportation facilities as part of road projects?
5. Does your community have a Capital Improvement Program and does that include projects that address non-motorized transportation?
6. Does your community have a maintenance policy for non-motorized transportation facilities, such as snow removal ordinance or sidewalk repairs?

Out of 29 communities, WATS received 18 responses which are summarized below.

INCLUDE SHOULDERS, BIKE LANES, SIDEWALKS	INCLUDE CROSSWALKS, MIDBLOCKS	COMMUNITY FUNDED NON-MOTOR	COST SHARING	CIP THAT INCLUDES NON-MOTOR	MAINTENANCE POLICY
10 yes 6 no 1 pending 1 unknown	9 yes 7 no 2 N/A	8 yes 9 no 1 grants	5 yes 7 no 6 maybe	8 yes 9 no 1 yes	9 yes 8 no 1 N/A

Many communities are actively investing in non-motorized improvements. More than half of the responding communities stated they include non-motorized facilities when developing road projects. While this is encouraging, more work needs to be done to ensure context sensitive connections are made for pedestrians and bicyclists.

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SOCIAL MEDIA

Social media has proven to be an effective way to reach large groups of people that may not already be connected to WATS. The results of WATS social media efforts are shown below.



**20 POSTS
REACH OF 7,821**

578 POST CLICKS

123 REACTIONS



15 TOTAL ENGAGEMENTS

3,344 IMPRESSIONS

14 POSTS

PUBLIC INPUT MEETINGS

#1

In October 2016 public input meetings were held at the Ann Arbor District Library in downtown Ann Arbor and the Ypsilanti District Library - Whittaker Road branch. Staff interacted with more than 25 individuals, answering questions, discussing their needs, and handing out information on plan development and the public survey.

#2

Chelsea Area Planning Team/Dexter Area Regional Team (CAPT/DART)(May 10, 2017)

CAPT/DART is a consortium of stakeholders from the cities of Chelsea and Dexter, and Lyndon, Dexter, Scio, Sylvan, Lima, and Webster Townships. The board discussed a variety of regional issues, including land use, transportation, and housing services. WATS presented (November 2016 and March 2017) to the group to discuss the purpose and vision of the non-motorized transportation plan. The comments received were positive and resulted in shifting of bicycling corridors to accommodate local plans and recommendations.

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#3

Southwest Washtenaw Council of Governments (SWWCOG) (December 2016, June 2017)

Similar to the Capt/DART group, there is a group of stakeholders in southwest Washtenaw County comprised of stakeholders from Freedom Township, Bridgewater Township, Manchester Township, Sharon Township, the Village of Manchester, and Manchester Community Schools.

Comments collected included:

- History of past non-motorized efforts and the importance of working with SWWCOG to be sure that citizens desire these projects
- Connecting the new state park to the Village of Manchester
- Roadways that are most and least appropriate for bicycling
- Austin Road and Clinton Road were added to the network given the comments from the meetings

#4

Youth Transportation Forum (May 12, 2017)

WATS hosted its first ever youth transportation forum in Ypsilanti at the Parkridge Community Center, Ypsilanti in May of 2017. There were eight attendees who provided a rich discussion about WATS, non-motorized transportation, and the improvements they would like to see. Highlights from the meeting include:

- Use social media tools and move beyond just Facebook and Twitter. Younger people tend to use Instagram and SnapChat
- Attend school fairs and festivals
- Interview students on the bus
- The students expressed concerns regarding the lack of sidewalks, bus shelters and lighting
- When asked about improvements that would make them feel safer:
 - Improving bike lanes that end without directing cyclists to a safe place to ride
 - Widen sidewalks if space isn't available for bike lanes
 - Some people just don't feel safe walking or biking
 - Require cars to give cyclists more space when passing
- Sidewalks are not always well-maintained, and there is often glass and trash which is difficult to see at night
- Walkways to bus stops

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Specific locations identified:

- Huron River Drive at Whittaker - need a bus shelter
- Ecorse at Ford Blvd
- Crosswalks along Tyler to get to parks
- Washtenaw Ave - no curb cuts, not comfortable to bike, lots of trash and debris
- Need lighting near Washington Square area
- Prospect from Clark to Michigan, no place for your bike
- Lighting near West Willow, Martz, Wiard, McCarthey (no lighting)
- Geddes from Carpenter to Ridge
- Prospect at Ridge
- Harris Rd
- Grove Road area

Another issue discussed was the inability for students to take a picture of their student ID and show that to the driver from their phone. They also identified the need for a transit route from Textile to the Lincoln School Campus.

The students were encouraged to participate in this and future discussions.

As WATS considers the engagement efforts done for this project, the balance of hosting in person meetings, utilization of social media platforms along with regional collaborative groups provided a broader base of information collection throughout the plan. WATS should continue to reach out to youth around the county to allow for greater participation from this demographic group.

CONCLUSION

As WATS and its member agencies move towards implementing this plan, its success will require continued conversations with community leaders, citizens, and stakeholders as we work towards developing mode choice that leads to a safe and equitable transportation system.



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There are many resources available to anyone that would like to learn more about non-motorized transportation design, rules, best practices, and what other areas surrounding Washtenaw County are doing. The following resources are intended to be a resource tool, any specific questions about the implementation of specific designs or standards should be directed to your local road organization.

RESOURCE GUIDES

[Americans with Disability Act \(ADA\)](#)

The primary purpose of the Federal Highway Administration's (FHWA) Americans with Disabilities Act (ADA) program is to ensure that pedestrians with disabilities have opportunity to use the transportation system in an accessible and safe manner.

[Michigan Department of Transportation Local Agency Programs Guidelines for Geometrics](#)

This manual provides information and guidelines upon which to base the design of federal and state funded local agency road and bridge projects administered through Local Agency Programs (LAP) of the Michigan Department of Transportation (MDOT). Depending upon the type of project work, these guidelines allow some latitude from the road and bridge geometrics required by the American Association of State Highway and Transportation Officials (AASHTO).

A project may be designed based upon one of two different guidelines which have been adopted and approved by the Michigan Division of the Federal Highway Administration:

1. The AASHTO current edition of *A Policy on Geometric Design of Highways and Streets*, or applicable MDOT guidelines for new construction/reconstruction; or
2. Michigan Department of Transportation Local Agency Programs *Guidelines for Geometrics*.

AASHTO national guides remain the standard for planning and designing Michigan roadways and multi-modal facilities.

[Michigan Manual on Uniform Traffic Control Devices \(MUTCD\)](#)

This guide's purpose is to promote highway safety and efficiency by providing for the orderly movement of all road users on streets, highways, bikeways, and private roads open to public travel throughout the nation.

[AASHTO Guide for the Development of Bicycle Facilities](#)

This guide provides information on how to accommodate bicycle travel and operations in most riding environments. It is intended to present sound guidelines that result in facilities that meet the needs of bicyclists and other highway users. Sufficient flexibility is permitted to encourage designs that are sensitive to local context and incorporate the needs of bicyclists, pedestrians, and motorists. However, in some sections of this guide, suggested minimum dimensions are provided. These are recommended only where further deviation from desirable values could increase crash frequency or severity.

[AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities](#)

The purpose of this guide is to provide guidance on the planning, design, and operation of pedestrian facilities along streets and highways. Specifically, the guide focuses on identifying effective measures for accommodating pedestrians on public rights-of-way. Appropriate methods for accommodating pedestrians, which vary among roadway and facility types, are described in this guide. The primary

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audiences for this manual are planners, roadway designers, and transportation engineers, whether at the state or local level, the majority of whom make decisions on a daily basis that affect pedestrians. This guide also recognizes the profound effect that land use planning and site design have on pedestrian mobility and addresses these topics as well.

[Designing Walkable Urban Thoroughfares: A Context Sensitive Solution \(CSS\)](#)

The objectives of this report is to:

1. Identify how CSS principles can be applied in the processes (for example, network, corridor, project development) involved with planning and developing roadway improvement projects on urban thoroughfares for walkable communities;
2. Describe the relationship, compatibility and trade-offs that may be appropriate when balancing the needs of all users, adjoining land uses, environment and community interests when making decisions in the project development process;
3. Describe the principles of CSS and the benefits and importance of these principles in transportation projects;
4. Present guidance on how to identify and select appropriate thoroughfare types and corresponding design parameters to best meet the walkability needs in a particular context; and;
5. Provide criteria for specific thoroughfare elements, along with guidance on balancing stakeholder, community and environmental needs and constraints in planning and designing walkable urban thoroughfare projects.

[National Association of City Transportation Officials \(NACTO\)](#)

The purpose of the NACTO Urban Bikeway Design Guide is to provide cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists.

The NACTO Urban Bikeway Design Guide is based on the experience of the best cycling cities in the world. The designs in this document were developed by cities for cities, since unique urban streets require innovative solutions. Most of these treatments are not directly referenced in the current version of the AASHTO Guide to Bikeway Facilities, although they are virtually all (with two exceptions) permitted under the Manual on Uniform Traffic Control Devices (MUTCD). The Federal Highway Administration has posted information regarding MUTCD approval status of all of the bicycle related treatments in this guide and in August 2013 issued a memorandum officially supporting use of the document. All of the NACTO Urban Bikeway Design Guide treatments are in use internationally and in many cities around the US.

[A Guide for Maintaining Pedestrian Facilities for Enhanced Safety](#)

A Guide for Maintaining Pedestrian Facilities for Enhanced Safety provides guidance for maintaining pedestrian facilities with the primary goal of increasing safety and mobility. The Guide addresses the needs for pedestrian facility maintenance; common maintenance issues; inspection, accessibility, and compliance; maintenance measures; funding; and construction techniques to reduce future maintenance.

[United States Access Board - Proposed Guidelines for Pedestrian Facilities in the Public Right of Way](#)

The Architectural and Transportation Barriers Compliance Board is proposing accessibility guidelines for the design, construction, and alteration of pedestrian facilities in the public right-of-way. The guidelines ensure that sidewalks, pedestrian street crossings, pedestrian signals, and other facilities for pedestrian circulation and use constructed or altered in the public right-of-way by state and local governments are readily accessible to and usable by pedestrians with disabilities. When the guidelines are adopted, with

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or without additions and modifications, as accessibility standards in regulations issued by other federal agencies implementing the Americans with Disabilities Act, Section 504 of the Rehabilitation Act, and the Architectural Barriers Act, compliance with the accessibility standards is mandatory.

[Michigan Trails and Greenways Alliance Toolkit](#)

The purpose of this toolkit is to compile the best trail development and maintenance resources — and make them readily available. The toolkit centers around the following major topics:

- Accessibility and ADA
- Law Enforcement
- Liability and Risk Management
- Railroads
- Trail Councils in Michigan
- Trail Funding
- Trail Operations and Maintenance
- Trail Planning and Design
- Trail Promotion and Programming
- Trail Towns
- Utilities

[Pedestrian and Bicycle Information Center \(PBIC\)- Facility Design](#)

Designers and engineers have a diverse array of design elements and ever-developing technologies at their disposal. Use this section of the website as a source for basic information on design that promotes walkability and bikeability.

[NCHRP Report 803 - Pedestrian and Bicycle Transportation Along Existing Roads—ActiveTrans Priority Tool Guidebook](#)

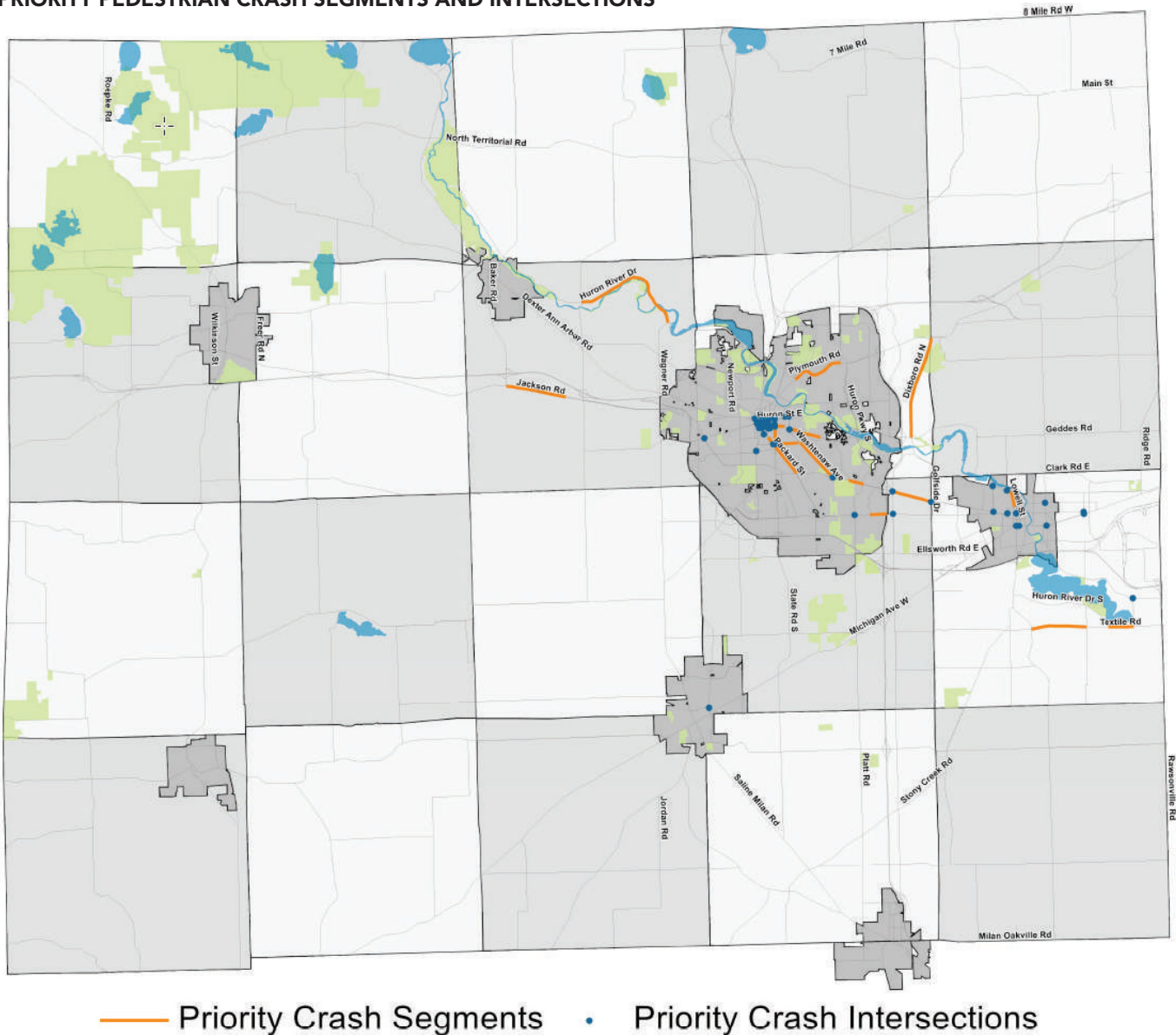
This guidebook presents the “ActiveTrans Priority Tool (APT),” a step-by-step methodology for prioritizing improvements to pedestrian and bicycle facilities, either separately or together as part of a “complete streets” evaluation approach. The methodology is flexible, allowing the user to assign goals and values that reflect those of the agency and the community. It is also transparent, breaking down the process into a series of discrete steps that can be easily documented and communicated to the public.

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RESOURCE MAPS

The maps provided in this section are intended for members of the public or elected officials as a resource as decisions are made regarding the development and expansion of non-motorized transportation facilities.

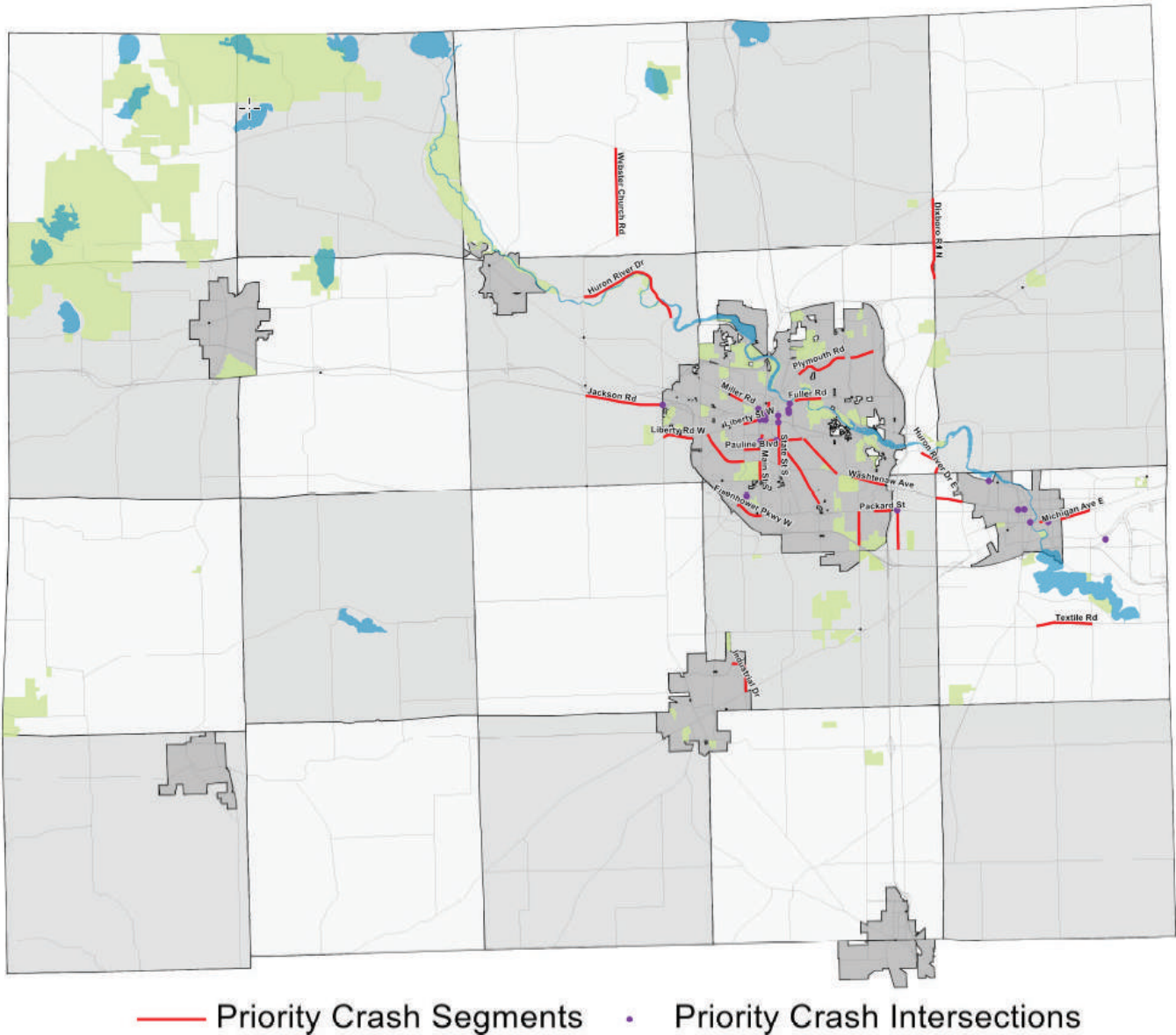
PRIORITY PEDESTRIAN CRASH SEGMENTS AND INTERSECTIONS



These crash segments were collected from SEMCOG on the federal aid roadway system for the years 2011-2015. Crash information is collected by WATS on an annual basis and published in its Crash Report. Anyone who is interested in locating crash data can go to the Michigan Traffic Crash Facts website to locate more specific details on the crash data and you can visit SEMCOG's website to learn more about the High Priority Safety Locations.

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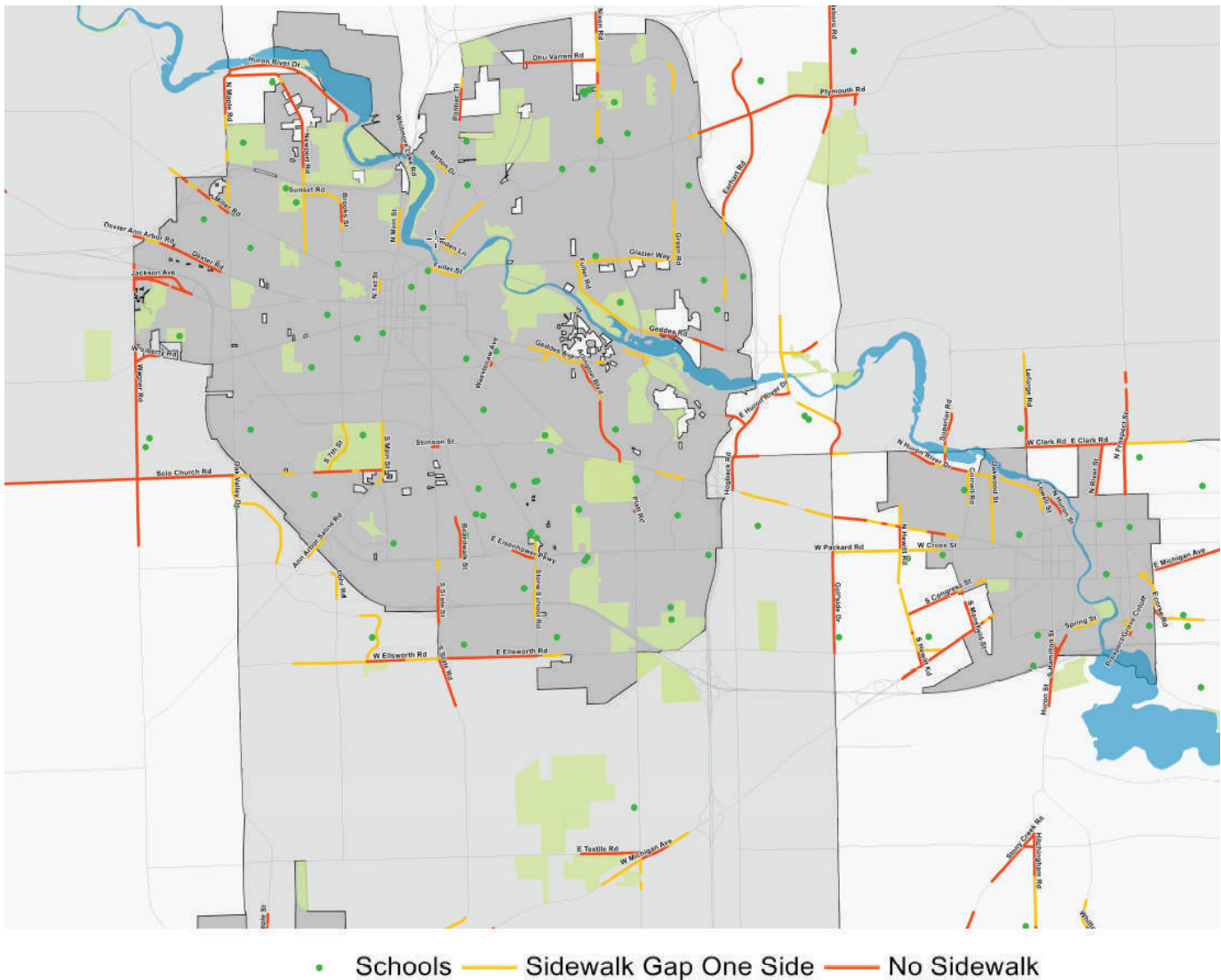
PRIORITY BIKE CRASH SEGMENTS AND INTERSECTIONS



These crash segments were collected from SEMCOG on the federal aid roadway system for the years 2011-2015. Crash information is collected by WATS on an annual basis and published in its Crash Report. Anyone who is interested in locating crash data can go to the Michigan Traffic Crash Facts website to locate more specific details on the crash data and you can visit SEMCOG's website to learn more about the High Priority Safety Locations.

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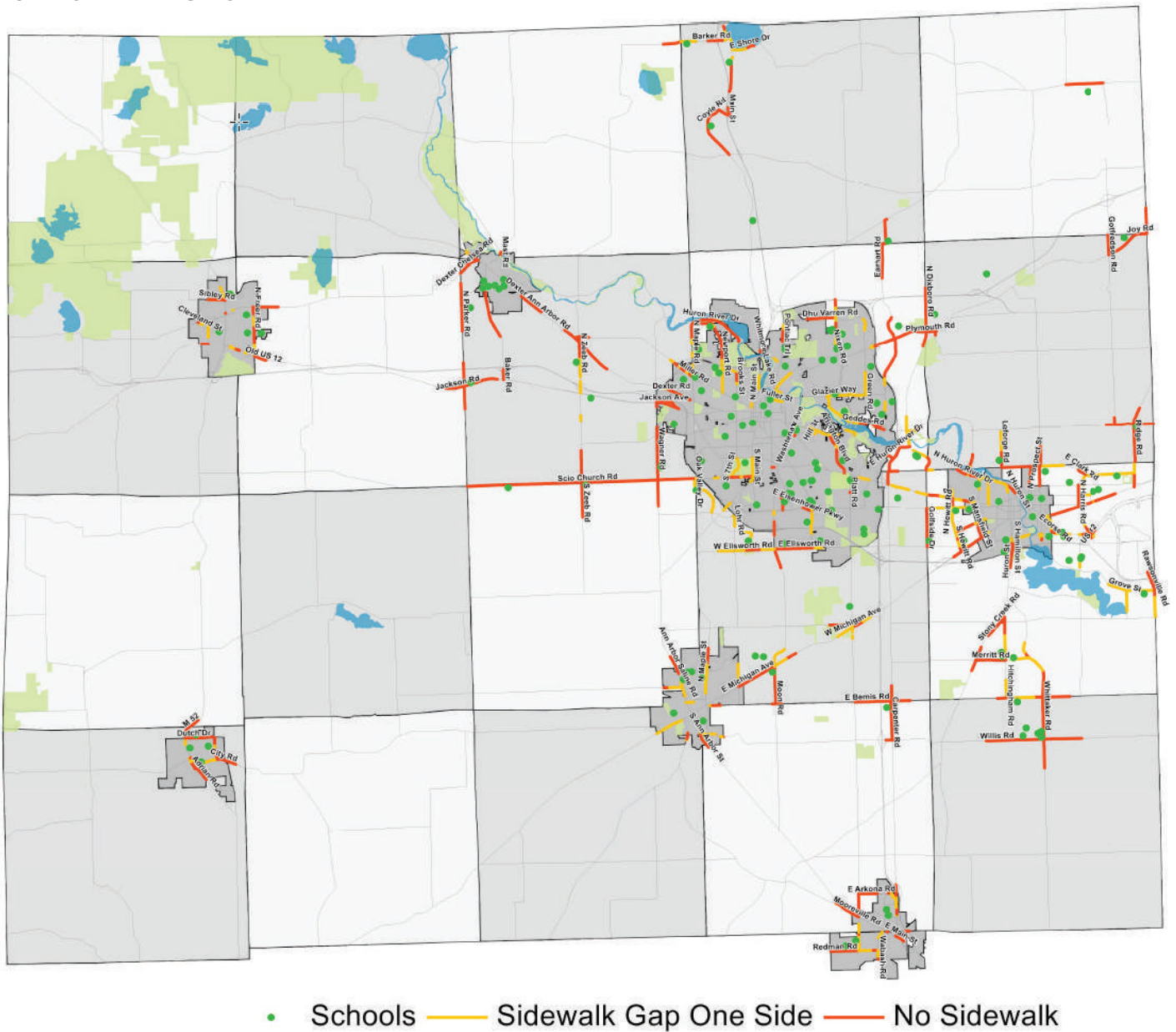
URBAN SIDEWALK GAPS



The Urban Sidewalk Gap highlights the urban federal roadways where sidewalks are not present within $\frac{3}{4}$ of a mile to a school. This is a network based selection which shows the actual distance walked if a person were to use the network adjacent to the roadways. This inventory was performed by WATS and a gap is defined if a facility is present or not.

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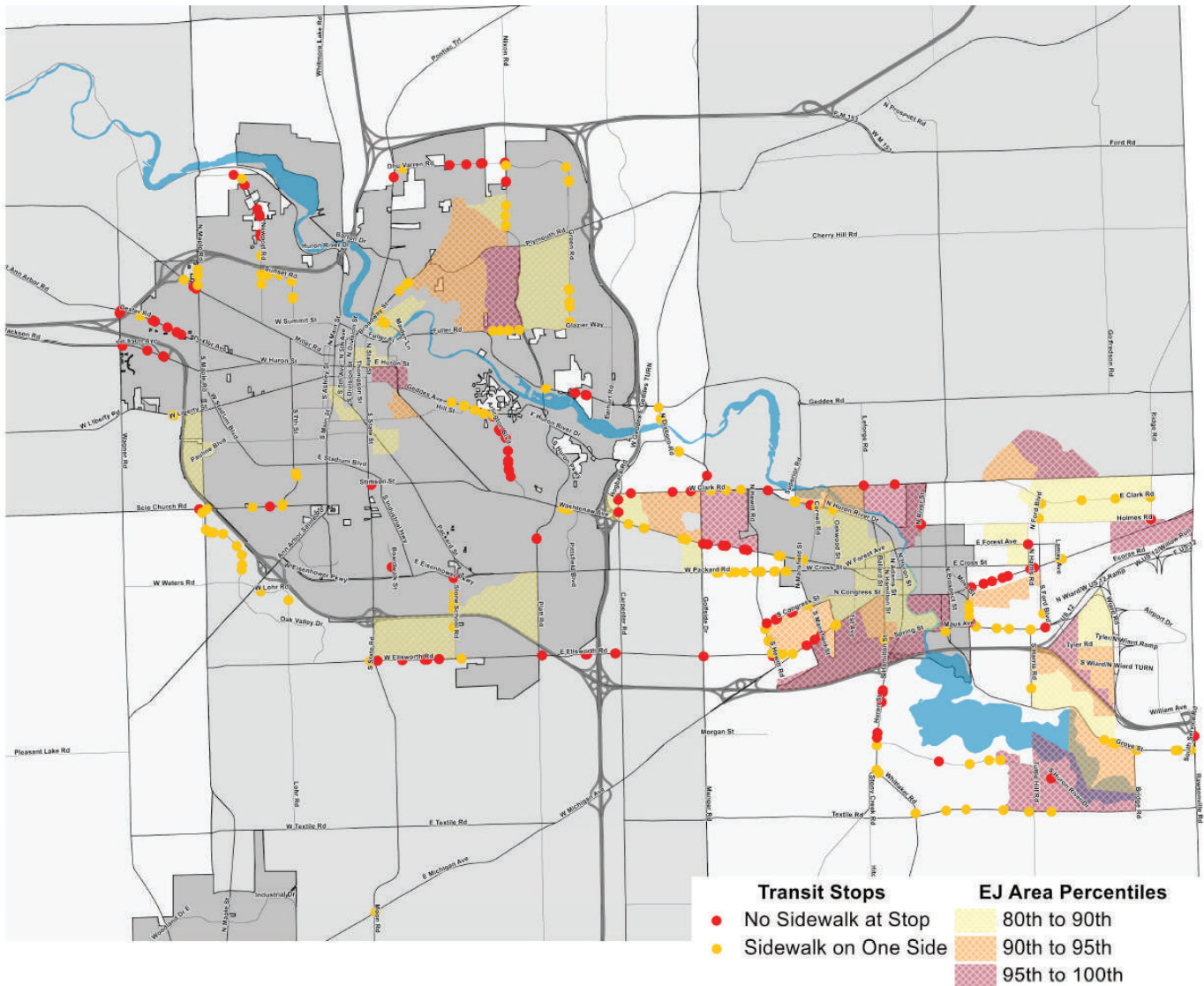
RURAL SIDEWALK GAPS



The Rural Sidewalk Gap highlights the rural federal roadways where sidewalks are not present within $\frac{3}{4}$ of a mile to a school. This is a network based selection which shows the actual distance walked if a person were to use the network adjacent to the roadways. This inventory was performed by WATS and a gap is defined if a facility is present or not. The map indicates the lack of connectivity for school age students to get to school safely.

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TRANSIT STOPS WITHOUT SIDEWALKS



The sidewalk gaps map indicate all the fixed route transit lines and if those stops have sidewalks or not. Sidewalk gaps along transit lines do not keep people from walking or using transit. Filling these gaps will ensure barrier free access and mobility freedom for users of the system.

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ENDNOTES

- 1 https://www.cdc.gov/healthyplaces/transportation/promote_strategy.htm
- 2 <https://www.fhwa.dot.gov/policy/2015cpr/chap11.cfm>
- 3 https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_flexibility.cfm
- 4 <http://www.uniontownshipmi.com/Portals/0/Documents/Community%20Information/bike%20walk/Reduced%20Greater%20Mt%20Pleasant%20Area%20Non-Motorized%20Plan.pdf>
- 5 <https://www.theatlantic.com/technology/archive/2016/01/the-decline-of-the-drivers-license/425169/>
- 7 <https://www.census.gov/hhes/commuting/files/2014/acs-25.pdf>
- 6 <https://nacto.org/2016/07/20/high-quality-bike-facilities-increase-ridership-make-biking-safer/>
- 8 https://nacto.org/wp-content/uploads/2016/07/NACTO_Equitable_Bikeshare_Means_Bike_Lanes.pdf
- 9 <http://www.saferoutespartnership.org/healthy-communities/101/6Es>
- 10 https://www.fhwa.dot.gov/planning/css/what_is_css/