



# MDOT UNIVERSITY REGION: REGIONAL NON-MOTORIZED PLAN

*JULY 2015*



## MDOT Mission

*Providing the highest quality integrated transportation services for economic benefit and improved quality of life.*

## MDOT Vision

MDOT will be recognized as a **progressive** and **innovative** agency with an **exceptional workforce** that inspires **public confidence**.

## MDOT Values

**Quality:** Achieving our best within our resources.

**Teamwork:** Effective involvement of people.

**Customer Orientation:** Knowing our customers and understanding their needs.

**Integrity:** Doing the right thing.

**Pride:** In MDOT and the importance of our work.



[WWW.MICHIGAN.GOV/MDOT](http://WWW.MICHIGAN.GOV/MDOT)

# Acknowledgements

*This document has been prepared by MDOT, in coordination with multiple agencies, communities, and regional stakeholders. MDOT would especially like to thank the individuals who participated in the Non-Motorized Plan Core Team for their assistance in the development of this Plan.*

Cynthia Krupp, Project Manager, MDOT  
Chris Gulock, Project Coordinator, MDOT  
Deb Alfonso, Intermodal Services Manager, MDOT  
Josh DeBruyn, Bicycle and Pedestrian Coordinator, MDOT

## **Non-Motorized Plan Core Team Members**

Kari Martin, MDOT University Region  
Chris Gulock, MDOT University Region  
Jack Rick, MDOT University Region  
Jason Pittman, MDOT Jackson TSC  
Ghazi Mustafa, MDOT Lansing TSC  
Craig Heidelberg, MDOT Brighton TSC  
Nancy Krupiarz, MTGA  
Brian Pawlik, SEMCOG  
Steven Duke, Region 2 PC  
Jon Dowling, City of Jackson  
Paul Hamilton, Tri-County Regional PC  
Andy Kilpatrick, City of Lansing  
Scott TenBrink, UMSI Citizen Interaction Design

Consultants:      livingLAB  
                         URS Corporation

Additional thanks goes to all those who participated in the Outreach sessions and provided review and comments during the Plan development.

July 2015

# Table of Contents

## Executive Summary

<b>Purpose, Process &amp; Overview.....</b>	<b>9</b>
Why Create A Regional Plan?.....	9
Why Is Non-Motorized Transportation Important? .....	10
Project Goals.....	12
Planning Process.....	12
National Context.....	15
How Does This Plan Fit Into MDOT's Bigger Picture?.....	15
University Region Setting and Profile.....	21

## **Existing, Proposed and Priority Facilities..... 26**

The 5 E's.....	27
Facility Types and Terminology.....	27
State and Regionally Significant Systems.....	29
Regional Corridors Described.....	33
University Region	
Existing and Proposed Facilities in Region.....	34
MDOT University Region Non-Motorized Strategies.....	36
Region-wide Non-Motorized Priorities.....	36
Clinton County Existing, Proposed Facilities and Priorities.....	39
Eaton County Existing, Proposed Facilities and Priorities.....	41
Hillsdale County Existing, Proposed Facilities and Priorities.....	43
Ingham County Existing, Proposed Facilities and Priorities.....	45
Jackson County Existing, Proposed Facilities and Priorities.....	49
Lenawee County Existing, Proposed Facilities and Priorities.....	53
Livingston County Existing, Proposed Facilities and Priorities.....	55
Monroe County Existing, Proposed Facilities and Priorities.....	57
Shiawassee County Existing, Proposed Facilities and Priorities.....	59
Washtenaw County Existing, Proposed Facilities and Priorities.....	61

<b>General Design Considerations.....</b>	<b>65</b>
Pedestrian Considerations.....	66
Bicycling Considerations.....	66
Universal Design.....	67
Paved Shoulders.....	70
Marked Shared Lanes.....	71
Bike Lanes/Buffered Bike Lanes.....	72
Protected/Separated Bike Lanes.....	73
Side Path.....	74
Shared Use Path.....	75
Funding Sources.....	76
<b>Appendix.....</b>	<b>78</b>
Outreach Meeting Notes	
Table of Existing Plans and Resources	

# Executive Summary

Non-motorized transportation, commonly referred to as bicycle and pedestrian travel, is vitally important to Michigan residents. Walking and biking serve as both a means of transportation, getting people to important places in their daily lives, and as a means of recreation, better connecting residents to nature and their community. Non-motorized transportation is important to the region and state because it contributes to increased mobility, safety, transportation choices, recreation, placemaking, economic development, and the health of our residents.

The MDOT University Region encompasses the center of the southern portion of lower Michigan and includes 10 Counties: Clinton, Shiawassee, Eaton, Ingham, Jackson, Hillsdale, Lenawee, Monroe, Washtenaw and Livingston. While the plan includes information about all 10 counties, work was developed for Livingston, Monroe and Washtenaw Counties under the MDOT Metro Region/SEMCOG Non-Motorized Plan (2014) and incorporated into this document. The MDOT University Region: Regional Non-Motorized Plan was developed over a 12-month period from July 2014 – July 2015. The **primary goals** of the Plan are to:

- Document the existing and proposed network
- Identify opportunities to enhance non-motorized transportation
- Help prioritize non-motorized investment
- Foster cooperative planning across municipal/county boundaries and continue to coordinate these efforts

The focus of this document and associated GIS database is on **regional** facilities for bicyclists and pedestrians. Specifically, how a regional network of trails, paths and streets can provide connections between communities, counties, and adjacent regions.

## How Does This Plan Fit Into MDOT's Bigger Picture?

There are a significant number of pedestrian/bike research projects, initiatives and programs within MDOT that are cumulatively working toward increased safety, achieving greater connectivity, educating, documenting, and collaborating. They are contributing to understanding, growing and implementing context sensitive



solutions and complete streets throughout the state. The development of this Regional Non-Motorized Plan document is just one of those efforts and tools that can help to further ensure we are all working together toward a more livable, sustainable community.

***This plan is focused on the regional level.*** For MDOT, this document serves as a critical piece for context-sensitive planning and development along with guidance on filling gaps along or across MDOT-owned trunklines

and focusing resources, including the allocation of Transportation Alternatives Program (TAP) funds. At the community level, it is hoped that this plan provides tools, information and resources to assist in identifying and improving key corridors that serve both a local and regional need within the greater non-motorized network.

A significant amount of effort associated with this project was devoted to understanding and documenting the existing and proposed facilities within the Region. This Plan and the associated database are considered a first step at capturing the existing non-motorized conditions and agencies, organizations and community's plans for facilities in the future. The Region includes more than 1,200 miles of non-motorized facilities including 241 miles of shared use paths, 224 miles of bike lanes and 544 miles of paved shoulders. Another 1,500 miles of facilities are proposed by the various organizations and agencies within the region.

Agencies, cities and communities have made substantial investments in bicycle and pedestrian infrastructure, particularly in the last decade. The system and network are evolving at a rapid pace,

therefore, the maps and graphics included in this Plan represent a "snapshot" in time. ***It is fully realized that the database that has been created during this planning effort will need to be regularly and continually updated to reflect current conditions and plans.***

During the planning process, multiple non-motorized transportation routes were identified within each county. This plan highlights Regional Corridors on the maps. Regional Corridors illustrate desirable connections between existing non-motorized

transportation facilities (on-road and off-road), population centers, recreational areas and points of interest. They do not necessarily represent actual or planned routes – rather they reflect the desire for connectivity. In several cases, alternate, nearby routes, even though they are not as direct, may be a preference due to lower stress vehicle speeds, volumes or trucks. ***Further planning by a variety of agencies and stakeholders may be required to fully vet these systems and routes. The system and network are evolving at a rapid pace, therefore, the maps and graphics included in this Plan represent a “snapshot” in time.***

## Existing and Proposed Facilities University Region (June 2015)

*Rounded to nearest mile*

<b>Existing Facilities</b>	
Shared Use Path	241
Paved Shoulder (>4')	544
Side Path	199
Marked Shared Lane	8
Bike Lane	224
<b>TOTAL MILES</b>	<b>1,216</b>
<b>Proposed Facilities</b>	
Shared Use Path	668
Paved Shoulder (>4')	410
Side Path	82
Marked Shared Lane	9
Bike Lane	344
<b>TOTAL MILES</b>	<b>1,513</b>

# Purpose, Process and Overview

## Why Create a Regional Plan?

Agencies, community leaders, public health officials, residents, and businesses are recognizing the benefits of bicycle and pedestrian travel and are looking for ways to better accommodate people who travel this way – whether they do so by choice or by necessity. The benefits of safe and connected pedestrian and bicycle facilities are well researched and documented – whether they are related to the economy, the environment, increased mobility, health, recreation, livability, or social justice. This document and accompanying GIS database were developed in order to continue to support these overall goals and benefits.

In order to provide for non-motorized travel, many agencies and communities have adopted non-motorized and complete streets plans. These plans incorporate non-motorized elements into planning documents, such as recreation plans, transportation plans, corridor plans, or master plans. These documents can cover every scale, from the

neighborhood level, progressing to community or county level, and even up to the regional, state and national level. ***This plan is focused on the regional level.***<sup>1</sup> For MDOT, this document serves as a critical piece for context-sensitive planning and development along with guidance on filling gaps along or across MDOT-owned trunklines and focusing resources, including the allocation of Transportation Alternatives Program (TAP) funds. At the community level, this plan provides tools, actions, and recommendations to assist in identifying and improving key corridors that serve both a local and regional need within the greater non-motorized network.

### Less than 2 miles

According to a national travel survey, about 40 percent of trips are shorter than two miles—about a 30-minute walk or a 10-minute bike ride.

--Ped & Bike Information Center

## Why is Non-motorized Transportation Important?<sup>ii</sup>

Non-motorized transportation, commonly referred to as bicycle and pedestrian travel, is vitally important to Michigan residents. Walking and biking serve as both a means of transportation, getting people to important places in their daily lives, and as a means of recreation, better connecting residents to nature and their community. Non-motorized transportation is important to the region and state because it contributes to increased mobility, safety, transportation choices, recreation, placemaking, economic development, and the health of our residents. A few of these benefits are further described below.

### Increased mobility and equity.

Ensuring mobility options for all is paramount, particularly for our young people, seniors or those physically or financially unable to drive. The number of young drivers in the US has been decreasing steadily. In 1983, about 87% of 19-year-olds had drivers' licenses and in 2010, only 69.5% did.<sup>iii</sup> A 2014 Michigan Department of Transportation (MDOT) study showed that 39 percent of households in Michigan reported someone in their home used a bike for transportation in the last year. A connected non-motorized network provides an opportunity to meet multiple mobility needs. Pedestrian and bicycle facilities that are coordinated and connected to transit can increase the range that people can travel. Infrastructure that supports bicycling and walking expands transportation options.

### Recreation and health.

While some Michigan residents use the non-motorized system as a way to increase mobility, many use the system for recreational and health benefits. The correlation between land use patterns, transportation systems and public health are being recognized and studied by a number of agencies including the Centers for Disease Control and the National Institutes of Health. There is a

movement to integrate public health objectives in transportation decision-making because of the link to increased physical activity and reduction in air pollutants.

### Economic development and talent attraction.

Non-motorized transportation contributes to continued economic growth. The [2014 Community and Economic Benefits of Bicycling in Michigan](#) finds that bicycling provides an estimated \$668 million per year in economic benefit to Michigan's economy, including employment, retail revenue, tourism expenditure, and increased health and productivity. In order to maintain and enhance economic viability, communities are seeking to attract millennials and knowledge-based workers. According to research by the Rockefeller Institute, more than 50 percent of millennials surveyed said

they would consider moving to another city if it had more and better transportation options.

### Improved safety.

Pedestrians and cyclists are the most vulnerable roadway users. While crashes involving pedestrians and cyclists make up only 1.4% of the University Region's total crashes, they account for

14.2% of fatal crashes and 10.2% of incapacitating injury crashes.<sup>iv</sup> Incorporating well-designed pedestrian and bicycle facilities encourages predictable behavior and alerts motorists to their presence, thus improving safety for all roadway users.

**1 out of 3 Michigan residents is unable to drive due to age, physical or financial limitations.**

--SEMCOG No Mo Plan 2014

## Bicycling in MICHIGAN



Population: 9,897,264

Total annual economic impact of bicycling  
**\$668 million**



Bicycling retail revenue  
**\$63 million**

**44%**

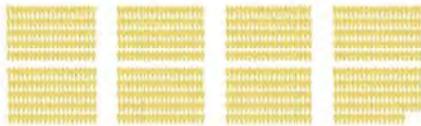
Residents who place an annual value of at least \$100 on the ability to use bicycle infrastructure

Total annual spending associated with bicycling events and vacations in Michigan  
**\$38 million**

**39%**

Households that reported that someone in their home used a bike for transportation in the last year

People employed by bicycling industry: 796



**28%**

Bicyclists who commute by bicycle at least twice a week

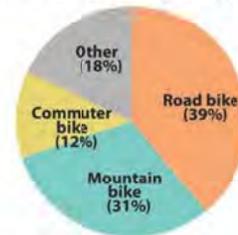
**4%**

Residents who participated in a bicycling event or bicycle-oriented vacation in Michigan in the past year

### Key barriers to bicycling



### Top primary bicycle types



Study funded by **MDOT**

For more information contact Josh DeBruyn, MDOT Bicycle and Pedestrian Coordinator at [debruynj@michigan.gov](mailto:debruynj@michigan.gov)

## Project Goals

The Michigan Department of Transportation (MDOT) has worked to develop the University Region: Regional Non-Motorized Plan that serves as a tool, not only for MDOT staff, but also for the vast number of stakeholders, agencies and organizations in the Region.

### The primary goals of the Plan are to:

- Document the existing and proposed network
- Identify opportunities to enhance non-motorized transportation
- Help prioritize non-motorized investment
- Foster cooperative planning across municipal/county boundaries and continue to coordinate these efforts

While the term “non-motorized” means active transportation and includes walking, bicycling, wheelchair travel, skates, skateboards, etc., the focus of this planning document is at the *regional* level. Specifically, how a regional network of trails, paths and streets can provide connections between communities, counties, and adjacent regions. The focus of this document is on *regional* facilities for bicyclists and pedestrians.

The MDOT University Region encompasses the center of the southern portion of lower Michigan and includes 10 Counties: Clinton, Shiawassee, Eaton, Ingham, Jackson, Hillsdale, Lenawee, Monroe, Washtenaw and Livingston. While the plan includes all 10 counties, work was developed for Livingston, Monroe and Washtenaw Counties under the MDOT Metro Region/SEMCOG Non-Motorized Plan and incorporated into this document. For the University Region Plan, the majority of data collection, outreach and identification of emerging Regional Corridors focused on the remaining 7 counties.

## MDOT University Region



## Planning Process

The MDOT University Region and Lansing staff facilitated the development of this Regional Non-Motorized Plan over a 12-month period from July 2014 – July 2015. The Plan development was also guided by a Non-Motorized Plan Core Team, and included a number of outreach efforts in order to gather input and feedback. The primary tasks associated with the development of the Plan included:

- Inventory and Data Gathering
- Outreach and Engagement
- Analysis
- Plan Development

### Non-Motorized Plan Core Team

A number of MDOT staff and non-motorized leaders were asked to be a part of the Non-Motorized Plan Core Team for this document. The purpose of the Core Team is to ensure this will be a useful tool for stakeholders in the Region and State. The Core Team met periodically during the development of the Plan and served as a:

- Peer review team
- A local knowledge base
- A resource for community contacts
- A means to raise awareness of the plan and project

## Non-Motorized Plan Core Team Members

Kari Martin, MDOT University Region  
Chris Gulock, MDOT University Region  
Jack Rick, MDOT University Region  
Jason Pittman, MDOT Jackson TSC  
Ghazi Mustafa, MDOT Lansing TSC  
Craig Heidelberg, MDOT Brighton TSC  
Nancy Krupiarz, MTGA  
Brian Pawlik, SEMCOG  
Steven Duke, Region 2 PC  
Jon Dowling, City of Jackson  
Paul Hamilton, Tri-County Regional PC  
Andy Kilpatrick, City of Lansing  
Scott TenBrink, UMSI Citizen Interaction Design

### Outreach

In addition to the input gathered at the Plan Team meetings, 3 additional primary means of gathering input were utilized to develop this document.

### Project Website

A website was developed in conjunction with the Plan development at [www.uregionnomoplan.com](http://www.uregionnomoplan.com). The website was active from Fall 2014 through 2015. The primary purpose of the site was to serve as an informational portal to describe the project, announce meeting dates/times, post draft maps and documents for review and provide contact information.



### Email Distribution

An email list was created in conjunction with the development of the Plan that grew to approximately 250 people, including a large cross-section of agencies, advocacy groups, trail organizations, bike clubs, health care agencies, etc. The distribution list also included all attendees of the Outreach Meetings. Emails were sent throughout the project to gather input, announce meetings, and ask for review of draft documents.

### Outreach Meetings

A series of Outreach Meetings were held during the development of the Plan. The first set of Outreach Meetings were held in November and December 2014 – one in each of the 7 Counties. The goals for the Outreach Meetings were to learn more about the project, view and confirm data that had been collected, help the team understand what's happening in each geographic area, and provide input related to major connections, gaps, priorities and concerns. Over 100 people attended this initial series of meetings.



## Outreach Meeting

### Locations and Attendance

Location	Date	Attendees
Shiawassee County Owosso City Hall	11/6/14	12
Hillsdale County Hillsdale City Hall	11/10/14	4
Jackson County Jackson City Hall	11/13/14	23
Eaton County ALIVE (Charlotte)	11/17/14	12
Clinton County AgroLiquid (St. Johns)	11/19/14	16
Lenawee County Lenawee District Library (Adrian)	12/2/14	12
Ingham County Foster Center (Lansing)	12/4/14	24
Draft Plan Presentations		
Ingham County	4/16/15	19
Jackson County	4/13/15	12

General observations regarding the first series of Outreach Meetings were that:

- A broad cross-section of groups, communities and organizations attended
- Overall, attendees were supportive and enthusiastic
- Attendees were looking forward to continuing to provide input and ensure connections
- A lot of “new” existing facilities and plans were collected to add to the database and maps
- The handful of concerns heard at the meetings focused on:
  - Long-term maintenance of facilities
  - Use of tax dollars for “higher” priority items
  - Understanding how projects are funded, why MDOT would be involved in discussing non-motorized issues that aren’t along their roads
  - the use of consistent terminology to describe the various facility types

The second series of Outreach Meetings were held in April 2015 in Jackson County and Ingham County. The purpose of these meetings was to discuss the draft Plan and gather additional input prior to finalizing the document and associated database.

MDOT University Region:  
Regional Non-Motorized Plan

Approximately 31 people attended the April 2015 Outreach meetings. Input gathered at the two meetings primarily focused on recent developments, refining existing and proposed linework, and confirming priorities.

### Data Sources and Database Basics

Development of a Geographic Information Systems (GIS) database and related mapping was a crucial and extensive part of the planning process. The inventory and data gathering process combined online research of existing plans and data on non-motorized facilities with feedback from community agencies, outreach meetings, on-line public input, and MDOT staff themselves. Both existing and proposed non-motorized facilities along with other existing data sets related to bicycle and pedestrian travel were synthesized into the GIS to form the basis for an understanding of existing and planned non-motorized facilities in the region.

The “Existing and Proposed GIS Non- Motorized Inventory” was created as an ESRI File Geodatabase for optimal use in storing and managing geospatial data in ArcGIS. Both a spatial dataset and an attribute dataset were created. The GIS database was based on the spatial Michigan Geographic Framework (MGF) transportation network **Version 14a**. Existing and proposed non-motorized facilities were digitized either along centerline of the MGF network or used as reference for close proximity when two facilities shared the same road segment and/or were off road trail corridors.

Non-motorized facilities inventoried included marked shared lanes, side paths, shared use paths, paved shoulders 4 feet or greater, and bike lanes. Due to the regional scale of this plan, as well as available schedule and scope of the project, elements such as sidewalks, bike routes and transit routes were not included in this GIS database. The spatial dataset is easily transferable to other file formats including KML for Google Earth, CAD, and shapefile for simple mobile and desktop GIS applications if desired.

The attribute database was formulated based on feedback from MDOT staff and the Plan Team. The following attributes are contained in the file

geodatabase table. Note that not all attributes were populated due to availability of existing data sets.

<b>PR</b>	Physical road number identification system that allows linear references data to be mapped using MGF
<b>Facility</b>	Non-motorized type based on AASHTO terminology
<b>Name</b>	Name of facility if known
<b>Source</b>	Data source
<b>Notes</b>	Miscellaneous notes made during data collection
<b>Status</b>	Existing or proposed facility
<b>Approved</b>	Indicates whether Plan was adopted or approved
<b>Maintain</b>	Date of last maintenance for the file and author/agency/contact number

## National Context

In recent years, the US Department of Transportation (USDOT) and Federal Highway Administration (FHWA) have elevated their focus, resources, research and encouragement of the importance and need for quality, accessible and connected pedestrian and bicycle facilities. Recently, the U.S. Transportation Secretary Anthony Foxx launched the "[Mayor's Challenge for Safer People and Safer Streets](#)," which invites Mayors and local elected officials to attend a Safer People, Safer Streets Summit and then take significant action over the next year to improve pedestrian and bicycle transportation safety. The Mayor's Challenge will showcase effective local actions to improve safety, empower local leaders to take action, and promote partnerships to advance pedestrian and bicycle safety.

The USDOT developed a [Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations](#) (2010) to reflect the Department's support for the development of fully integrated active transportation networks. The Policy Statement goes on to recognize that legislation and regulations exist that require inclusion of bicycle

and pedestrian policies and projects into transportation plans and project development. Accordingly, transportation agencies should plan, fund, and implement improvements to their walking and bicycling networks, including linkages to transit. In addition, USDOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate. Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive.

## How Does This Plan Fit Into MDOT's Bigger Picture?

Since 2005, MDOT has pursued the Context Sensitive Solution (CSS) approach as a core value of its business practices and approach to project development. CSS centers on engaging stakeholders and interdisciplinary teams to resolve transportation problems together. An understanding of the land use 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.<sup>v</sup> This dialogue helps to ensure bridges, interchanges, and other transportation projects "fit" into their communities. The goal of the CSS approach is to result in projects that respect a community's scenic, aesthetic, historic, economic, and environmental character.

## **United States Department of Transportation**

### **Policy Statement on Bicycle and Pedestrian Accommodations (2010)**

#### **Recommended Actions include:**

##### **Considering walking and bicycling as equals with other transportation modes.**

The primary goal of a transportation system is to safely and efficiently move people and goods. Walking and bicycling are efficient transportation modes for most short trips and, where convenient intermodal systems exist, these non-motorized trips can easily be linked with transit to significantly increase trip distance. Because of the benefits they provide, transportation agencies should give the same priority to walking and bicycling as is given to other transportation modes. Walking and bicycling should not be an afterthought in roadway design.

##### **Ensuring that there are transportation choices for people of all ages and abilities, especially children.**

Pedestrian and bicycle facilities should meet accessibility requirements and provide safe, convenient, and interconnected transportation networks. For example, children should have safe and convenient options for walking or bicycling to school and parks. People who cannot or prefer not to drive should have safe and efficient transportation choices.

##### **Going beyond minimum design standards.**

Transportation agencies are encouraged, when possible, to avoid designing walking and bicycling facilities to the minimum standards. For example, shared-use paths that have been designed to minimum width requirements will need retrofits as more people use them. It is more effective to plan for increased usage than to retrofit an older facility. Planning projects for the long-term should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements.

##### **Integrating bicycle and pedestrian accommodation on new, rehabilitated, and limited-access bridges.**

USDOT encourages bicycle and pedestrian accommodation on bridge projects including facilities on limited-access bridges with connections to streets or paths.

##### **Collecting data on walking and biking trips.**

The best way to improve transportation networks for any mode is to collect and analyze trip data to optimize investments. Walking and bicycling trip data for many communities are lacking. This data gap can be overcome by establishing routine collection of non-motorized trip information. Communities that routinely collect walking and bicycling data are able to track trends and prioritize investments to ensure the success of new facilities. These data are also valuable in linking walking and bicycling with transit.

##### **Setting mode share targets for walking and bicycling and tracking them over time.**

A byproduct of improved data collection is that communities can establish targets for increasing the percentage of trips made by walking and bicycling.

##### **Removing snow from sidewalks and shared-use paths.**

Current maintenance provisions require pedestrian facilities built with Federal funds to be maintained in the same manner as other roadway assets. State Agencies have generally established levels of service on various routes especially as related to snow and ice events.

##### **Improving non-motorized facilities during maintenance projects.**

Many transportation agencies spend most of their transportation funding on maintenance rather than on constructing new facilities. Transportation agencies should find ways to make facility improvements for pedestrians and bicyclists during resurfacing and other maintenance projects.

There are a significant number of pedestrian/bike research projects, initiatives and programs within MDOT that are cumulatively working toward increased safety, achieving greater connectivity, educating, documenting, and collaborating. They are contributing to understanding, growing and implementing context sensitive solutions and complete streets throughout the state. The development of this Regional Non-Motorized Plan document is just one of those efforts and tools that can help to further ensure we are all working together toward a more livable, sustainable community.

Several of the related MDOT initiatives and programs are further detailed on the following pages.

### How Does This Plan Fit Into the Bigger Picture?



## Complete Streets

[Michigan Public Act 135 of 2010](#) 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."

Complete Streets is an approach to transportation planning – one that supports balanced mobility and the appropriate provision for safe and convenient travel by all the ground transportation modes: transit, walking, bicycling, motor vehicles and freight movement. The context of the road and surrounding land use play a pivotal role in what may be the appropriate Complete Street response. A rural road may not have the same solutions and provisions as an urban road. There is no "one size fits all" solution that can be applied to all roads and corridors.

PA 135 of 2010 provided for the appointment of a Complete Streets

Advisory Council to educate and advise the State Transportation Commission (STC) and others on Complete Streets policies. The State Transportation Commission approved their Complete Streets Policy in 2012 and as of December 2014, 97 communities have passed their own local complete streets policies.

<https://michigancompletestreets.wordpress.com/>

## Multi-Modal Development & Delivery (M2D2)

M2D2 is a project to support Michigan's economic recovery by partnering with Smart Growth America to work through an extensive process (in progress) to improve MDOT's institutional capacity to plan, design, construct, operate, and maintain Michigan's transportation system for Complete

MDOT University Region:  
Regional Non-Motorized Plan

Streets and multiple modes. M2D2 is intended to result in updated standards that consider multi-modal travel on state trunkline highway facilities, and provide MDOT staff with the knowledge and tools to effectively implement multi-modal travel.

## Walkability Reviews/Training Wheels

Since 2006, MDOT has conducted a series of walkability and/or bikeability reviews (Training Wheels) on an annual basis to various communities in the State. The sessions are designed to teach the basic principles of walkability from a non-technical perspective as well as details about the AASHTO

guide and design of on-road bicycle facilities.

The sessions are geared toward helping local administrators, officials, engineers, planners, business owners, residents, and other community stakeholders learn the benefits of providing safe and attractive environments for walking and biking.

## Safe Routes to School Program

Safe Routes to School (SRTS) is an international movement and a federal

program to make it safe, convenient and fun for children to bicycle and walk to school. The Michigan Fitness Foundation and MDOT partner to administer the program in Michigan. The program includes the development of a SRTS Plan by each

school and then eligibility to apply for funding for a variety of infrastructure, education and encouragement

projects. The program is focused on K-8 aged children and facilities that serve K-8 schools.

<http://saferoutesmichigan.org/>



## Complete Streets

There is no one design prescription for complete streets. Ingredients that may be found on a complete street include: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent crossing opportunities, median islands, accessible pedestrian signals, curb extensions, and more. A complete street in a rural area will look quite different from a complete street in a highly urban area. But both are designed to balance safety and convenience for everyone using the road.

--National Complete Streets Coalition



## **Regional Ped/Bike Committees**

Each of the 7 MDOT Regions hosts a Regional Ped/Bike Committee that meets on a quarterly basis. The Committees include state, regional, and local agencies, communities and advocates that meet to:

- Discuss education, encouragement, engineering, evaluation and planning issues;
- Learn from each other and support each other's efforts; and
- Build relationships and partnerships.

The quarterly meetings are a venue to identify issues and become more knowledgeable of each other's planning, design, engineering and funding processes in order to enhance pedestrian and bicycle safety and mobility for improved quality of life in our communities. More information is posted at <http://www.walkbikemichigan.com/>.

## University Region Setting and Profile

The MDOT University Region encompasses the south central portion of lower Michigan and includes 10 Counties: Clinton, Shiawassee, Eaton, Ingham, Jackson, Hillsdale, Lenawee, Monroe, Washtenaw and Livingston. The Region is fairly well connected in terms of major highways and roads including I-96, I-94, M-69, US-127 and US-12. The Region also has two main Amtrak passenger rail lines crossing through it: the Blue Water (allows bikes on train car) and The Wolverine.

The University Region includes a number of major land uses, destinations and metropolitan/micropolitan statistical areas. The Region is home to Lansing, the State Capital of Michigan, and also includes a number of large universities and colleges including Michigan State University, the University of Michigan, Sienna Heights, Adrian College, Hillsdale College, Lansing Community College, Jackson College, Washtenaw Community College, and Monroe Community College, among others. Metropolitan/micropolitan areas in the University Region include Lansing-East Lansing, Ann Arbor, Monroe, Jackson, Adrian, Hillsdale and Owosso. Major public lands in the region include Sleepy Hollow State Park, Meridian-Baseline State Park, Waterloo Recreation Area, Hayes State Park, Cambridge State Historic Park, and Lake Hudson Rec Area.

### Population Change

The 2010 US Census shows a population in the 10 county region of 1,519,291, a 4.8% increase from 2000. Populations range from 46,688 in Hillsdale County to 344,791 in Washtenaw County. While the State of Michigan lost population in the 10 year period, all of the counties in the University Region gained population with the exception of Shiawassee County. Clinton and Livingston Counties had the largest growth rates at 16.4% and 15.3% respectively.

### Population Change

	2000	2010	Percent Change
Clinton County	64,753	75,382	16.4%
Eaton County	103,655	107,759	4.0%
Hillsdale County	46,527	46,688	0.3%
Ingham County	279,320	280,895	0.6%
Jackson County	158,422	160,248	1.2%
Lenawee County	98,890	99,892	1.0%
Livingston County	156,951	180,967	15.3%
Monroe County	145,945	152,021	4.2%
Shiawassee County	71,687	70,648	-1.4%
Washtenaw County	322,895	344,791	6.8%
MDOT University Region	1,449,045	1,519,291	4.8%
State of Michigan	9,938,444	9,883,640	-0.6%

### Median Age

The median age of those in the University Region has been increasing over the past several decades, as is the case statewide and nationally. The following table illustrates the Median Age in each of the 10 counties and Michigan, as well as the percent change from 2000 to 2010. The median age in Michigan is 38.9 years old. Six of the ten counties have a higher median age than the state. Hillsdale County has the highest Median Age of 40.5 years old, while Ingham County as the lowest at 31.4 – likely due to the large universities in the County.

### Median Age

	2000	2010	Percent Change
Clinton County	36.4	38.4	5.5%
Eaton County	36.4	40.3	10.7%
Hillsdale County	36.5	40.5	11.0%
Ingham County	30.4	31.4	3.3%
Jackson County	36.6	39.7	8.5%
Lenawee County	36.4	40.0	9.9%
Livingston County	36.2	38.4	6.1%
Monroe County	36.0	40.3	11.9%
Shiawassee County	36.4	40.3	10.7%
Washtenaw County	31.3	33.3	6.4%
State of Michigan	35.5	38.9	9.6%

### Access to Vehicles

Ensuring mobility options for all is paramount, for those that choose not to have a car and for our young people, seniors or those physically or financially unable to drive. A connected non-motorized network provides an opportunity to meet multiple mobility needs. As estimated by the American Community Survey (3-year estimates 2011-2013), 6.6% (39,079) of occupied housing units in the University Region do not have access to a vehicle. The greatest percentages of housing units with no vehicle are in Ingham (8.8%) and Washtenaw (8.3%) Counties. This is not surprising due to the universities in these counties as well as availability of public transit and density of development. For comparison sake, in Michigan as

a whole, 7.8% of occupied housing units have no vehicle available.

### Vehicles Available per Occupied Housing Units '11 - '13

<b>Clinton County</b>		<b>Lenawee County</b>	
No Vehicle	2.9%	No Vehicle	5.7%
1 Vehicle	27.9%	1 Vehicle	32.1%
2 vehicles	42.3%	2 vehicles	40.6%
3+ vehicles	26.9%	3+ vehicles	21.6%
<b>Eaton County</b>		<b>Livingston County</b>	
No Vehicle	5.4%	No Vehicle	2.9%
1 Vehicle	34.1%	1 Vehicle	25.8%
2 vehicles	39.3%	2 vehicles	42.1%
3+ vehicles	21.2%	3+ vehicles	29.2%
<b>Hillsdale County</b>		<b>Monroe County</b>	
No Vehicle	6.2%	No Vehicle	5.1%
1 Vehicle	34.2%	1 Vehicle	31.8%
2 vehicles	39.1%	2 vehicles	39.4%
3+ vehicles	20.6%	3+ vehicles	23.7%
<b>Ingham County</b>		<b>Shiawassee County</b>	
No Vehicle	8.8%	No Vehicle	6.9%
1 Vehicle	39.7%	1 Vehicle	32.6%
2 vehicles	36.6%	2 vehicles	36.9%
3+ vehicles	15.0%	3+ vehicles	23.6%
<b>Jackson County</b>		<b>Washtenaw County</b>	
No Vehicle	7.9%	No Vehicle	8.3%
1 Vehicle	36.6%	1 Vehicle	37.3%
2 vehicles	36.4%	2 vehicles	37.4%
3+ vehicles	19.1%	3+ vehicles	17.0%

### Population Density

As is illustrated on the Population Density Map, the greatest density of people in the Region are in an around the major cities including the Lansing Area, Howell/Brighton, Jackson, Hillsdale, Adrian and Monroe. Ingham County has the greatest number of people per square mile (505), while Hillsdale County has the lowest density with 78 people per square mile.

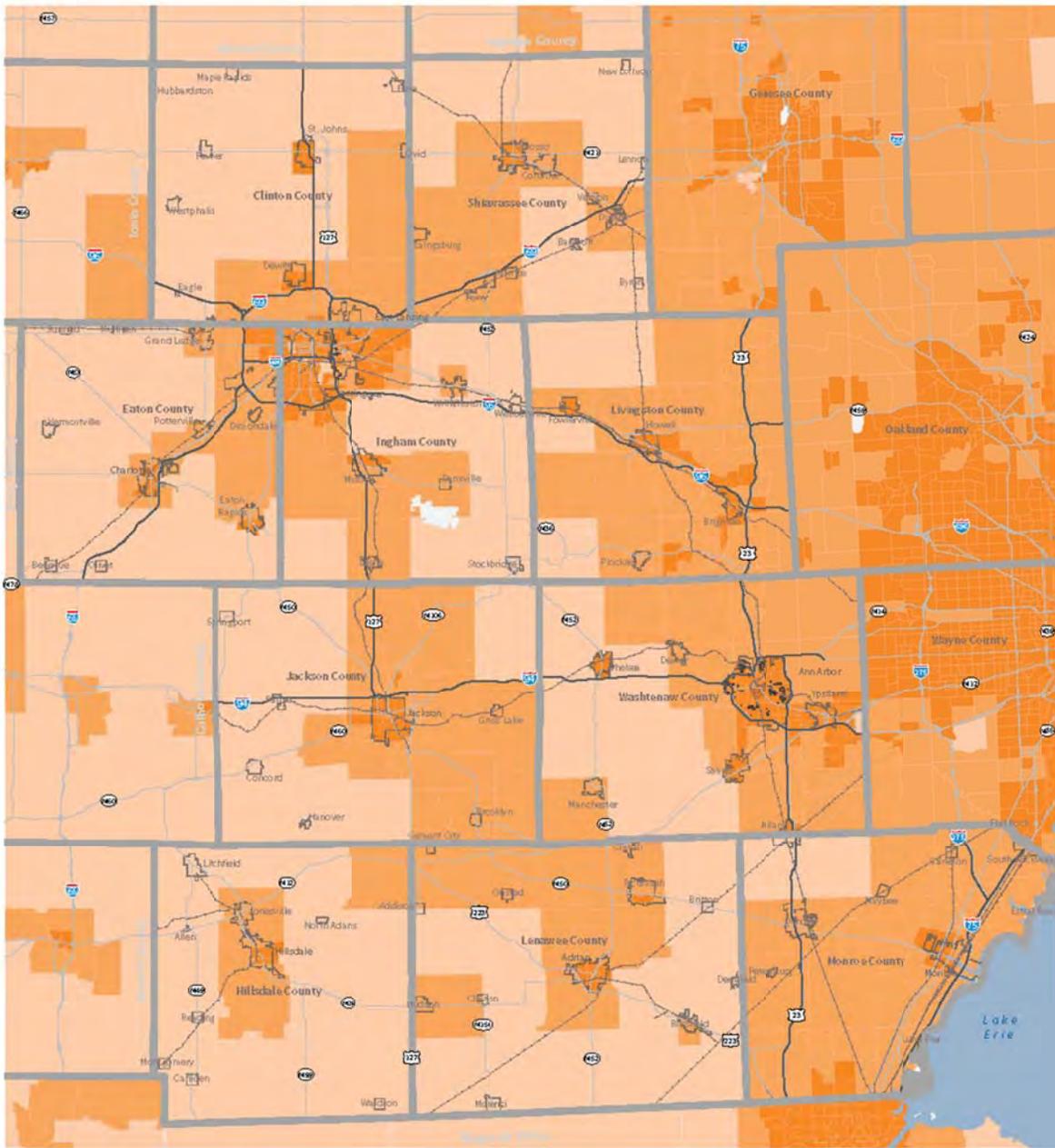
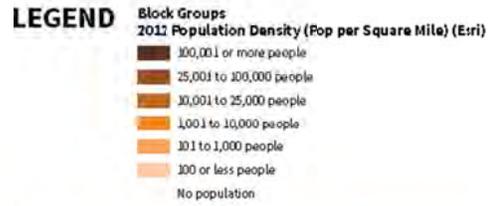
### Persons Per Square Mile (2010)

Clinton County	133.1
Eaton County	187.3
Hillsdale County	78.1
Ingham County	505.1
Jackson County	228.4
Lenawee County	133.3
Livingston County	320.2
Monroe County	276.7
Shiawassee County	133.1
Washtenaw County	488.4
State of Michigan	174.8

### Topography

Generally speaking, the University Region is relatively flat and consistent. As illustrated on the Topography Map, some “higher” elevation areas are in southwest Jackson County, northwest Lenawee County and Hillsdale County (Irish Hills Area). The lowest elevations are in southeast Washtenaw and Lenawee Counties and Shiawassee and Clinton Counties.

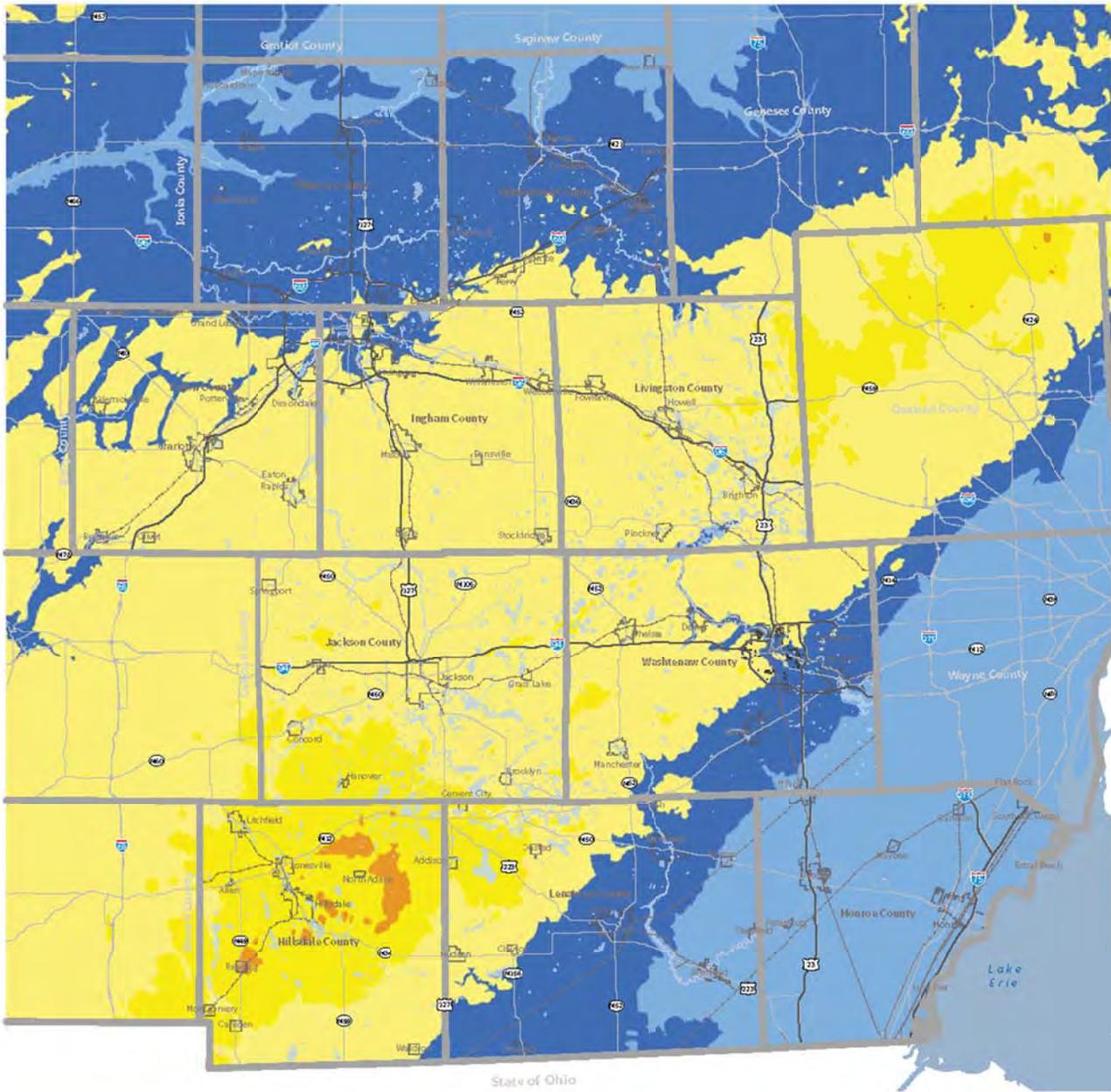
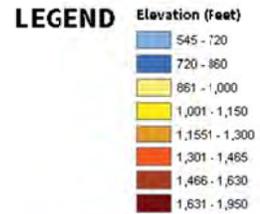
# University Region



**MDOT University Region  
Non-Motorized Plan**  
*Population Density Map*  
June 2015



# University Region



## MDOT University Region Non-Motorized Plan

Topography/Relief Map  
June 2015



# Existing, Proposed, and Priority Facilities

A significant amount of effort was devoted to understanding and documenting the existing and proposed facilities within the Region. This Plan and the associated database are considered a first step at capturing the existing non-motorized conditions and agencies, organizations and community's plans for facilities in the future. Many agencies, cities and communities have made substantial investments in bicycle and pedestrian infrastructure, particularly in the last decade. The system and network are evolving at a rapid pace, therefore, the maps and graphics included in this Plan represent a "snapshot" in time. ***It is fully realized that the database that has been created during this planning effort will need to be regularly and continually updated to reflect current conditions and plans.***

This section of the Plan is organized first with information about the University Region as a whole, and then alphabetically by County. For each County, there is:

- A text and map summary of findings related to existing and planned facilities
- A text and map summary of priority projects, strategies and initiatives. Priorities were derived from information gathered through various outreach efforts.

The maps and text reflect the desire for a Regional network of non-motorized facilities that connect communities to one another, to major destinations and to adjacent counties, regions and states. The maps and text also reflect results of the work sessions held with the Non-Motorized Plan Core Team and the various Outreach efforts and input sessions. Multiple non-motorized transportation routes were identified within each county. The Regional Corridors highlighted on the maps focus on connecting existing non-motorized transportation facilities (on-road and off-road), population centers, recreational areas and points of interest, and encouraging use for active transportation purposes. In several cases, alternate, nearby routes, even though they are not as direct, may be a preference due to lower stress vehicle speeds, volumes or trucks. Further planning by a variety of agencies and stakeholders may be required to fully vet these systems and routes. The system and network are evolving at a rapid pace, therefore, the maps and graphics included in this Plan represent a "snapshot" in time.

***These priorities are at various stages – some are merely in the discussion phase, others have been fully vetted with detailed feasibility studies and cost estimates completed. Some have been designed and are seeking funding.***

## **The 5 E's**

The success and effectiveness of a bicycle and pedestrian network will depend on a number of factors. However, sound planning and design, the ability to fund projects, as well as maintain them in the long-term are essential factors. There are a number of other factors that may be less evident but can still impact the success of a non-motorized network. These factors are defined by the League of American Bicyclists as the 5 E's; Engineering, Education, Encouragement, Enforcement, and Evaluation & Planning. *Many of the strategies and priorities detailed in this section of the University Region: Regional Non-Motorized Plan fall into one or more of the 5 E categories.*

## **Facility Types and Terminology**

The Michigan Department of Transportation utilizes terms and definitions that are used by the Federal Highway Administration as it relates to the various types of non-motorized facilities. The following are the most common "facility types" in the University Region and are based on the AASHTO: Guide for the Development of Bicycle Facilities 2012. These are brief introductions to the common facility types. More detailed design considerations can be found in the Design Considerations section of this document. Some of the facilities are for both pedestrians and cyclists such as Shared Use Paths and in some cases Wide Paved Shoulders and Side Paths. On-street bike lanes and marked shared lanes (sharrows) are facilities for cycling.

### **5 E's**

**Engineering** refers to a community's current bicycle and pedestrian infrastructure, what conditions it is in if any exists, and what amenities are provided.

**Education** refers to the level of community outreach and educational opportunities available to the public to promote safety and awareness.

**Encouragement** refers to the level of promotion and advocacy a community displays towards bicycling and pedestrian amenities.

**Enforcement** refers to the level of which the community and area law enforcement have connected relating the definitions of the "rules of the road".

**Evaluation & Planning** refers to the level of which walking and bicycles are used as a transportation mode and what factors can be done to increase those figures.

--- League of American Bicyclists

## Facility Types and Terminology

### Shared Use Path

- Physically separated from motor vehicle traffic
- Used by pedestrians and bicyclists
- Two-way travel
- Examples include rail trails or paths within utility corridors



### Side Path

- Shared Use Path located immediately adjacent and parallel to a road
- Depending on land use and frequency of curb cuts, may not be safe for bicyclists



### Bike Lane

- On-street
- Designated and marked for use by bicyclists
- Typically one-way travel in same direction as motor traffic
- Can be buffered or protected



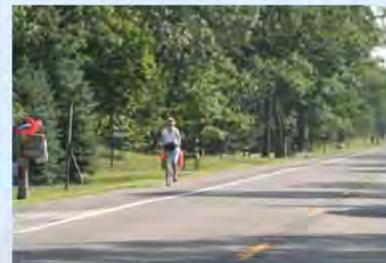
### Marked Shared Lane

- On-street
- Pavement symbol to help position bicyclists while sharing lane with vehicles



### Paved Shoulder

- 4 to 8 feet paved width minimum
- Provides space for pedestrians/bicyclists but not marked as a bike lane



## State and Regionally Significant Systems

There are 4 major pedestrian/bike routes that traverse through the University Region and provide connections for communities and counties within the Region, to adjacent Regions, and to the State of Ohio and beyond. In some cases, these 4 routes overlap one another. They are further described below and the routes are illustrated on the University Region Existing and Proposed Non-Motorized Facilities Map.

### Michigan's Iron Belle Trail

The Department of Natural Resources announced the official name of the [Iron Belle Trail](#) in January 2015. The trail (which has two routes) will traverse from Belle Isle Park in Detroit to Ironwood in the Upper Peninsula. Proposed by Governor Snyder in 2012, the trail includes a 1,259-mile *hiking* route that heads west from Detroit and traverses through the University Region connecting up with the North Country National Scenic Trail. The hiking route

generally uses the Border-to-Border Trail in Washtenaw County, and the Lakeland Trail and Connector and Falling Waters Trail in Livingston and Jackson Counties. The trail also includes a 774-mile *biking* route that heads north from Detroit. The trail encompasses a number of already existing trails to wind its way through Michigan. The MDNR is leading the effort and partners on the project include MDOT, the Michigan Trails Advisory Council, the Michigan Economic Development Corporation, the Michigan Recreation and Park Association and the Michigan Trails and Greenways Alliance.



## North Country National Scenic Trail

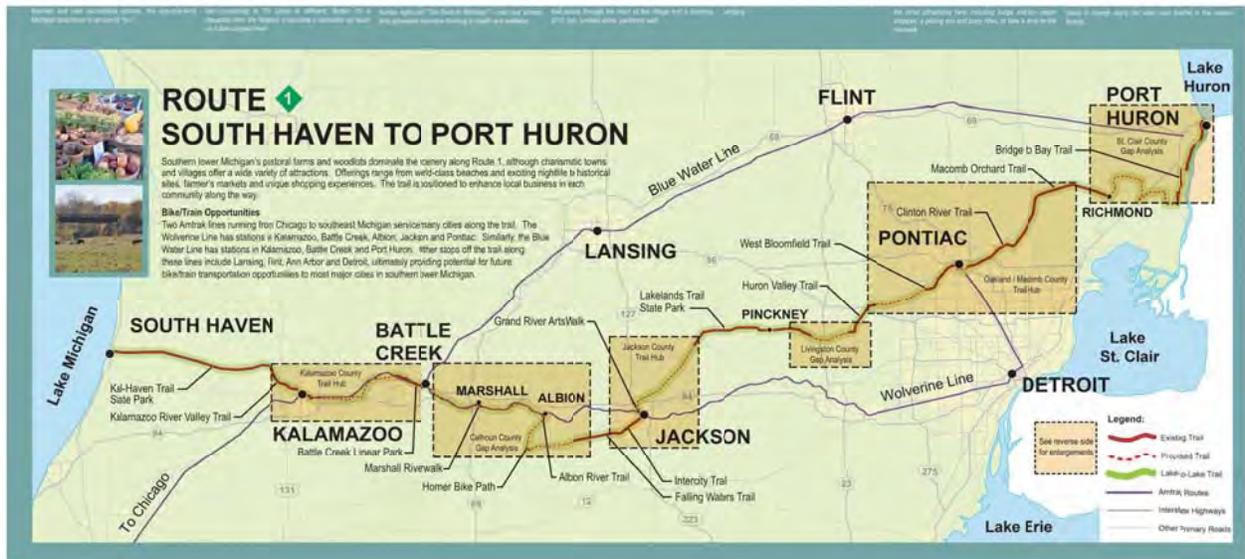
The National Park Service - North Country Scenic Trail is a 4,600-mile long *hiking* trail that crosses seven northern states from New York to North Dakota and including passing through the University Region in Michigan via Hillsdale County. From Ohio the NCT heads north through Hillsdale County, utilizes the Baw Beese Trail to traverse through Hillsdale and Jonesville and continues north into Calhoun County. Most sections of the North Country Trail do not allow bicycles. Users should consult with the individual NCT Chapters to determine routes and permitted uses.

<https://northcountrytrail.org/>



## Great Lake-to-Lake Trail

The [Great Lake-to-Lake Trail](#) is a collection of existing and proposed trails that stretch 250-miles from South Haven to Port Huron. Spearheaded by the Michigan Trails and Greenways Alliance, the Great Lake-to-Lake Trail passes through the University Region via Jackson, Ingham and Livingston Counties utilizing the Falling Waters Trail, Lakeland Trail and proposed Lakeland to Jackson connector.



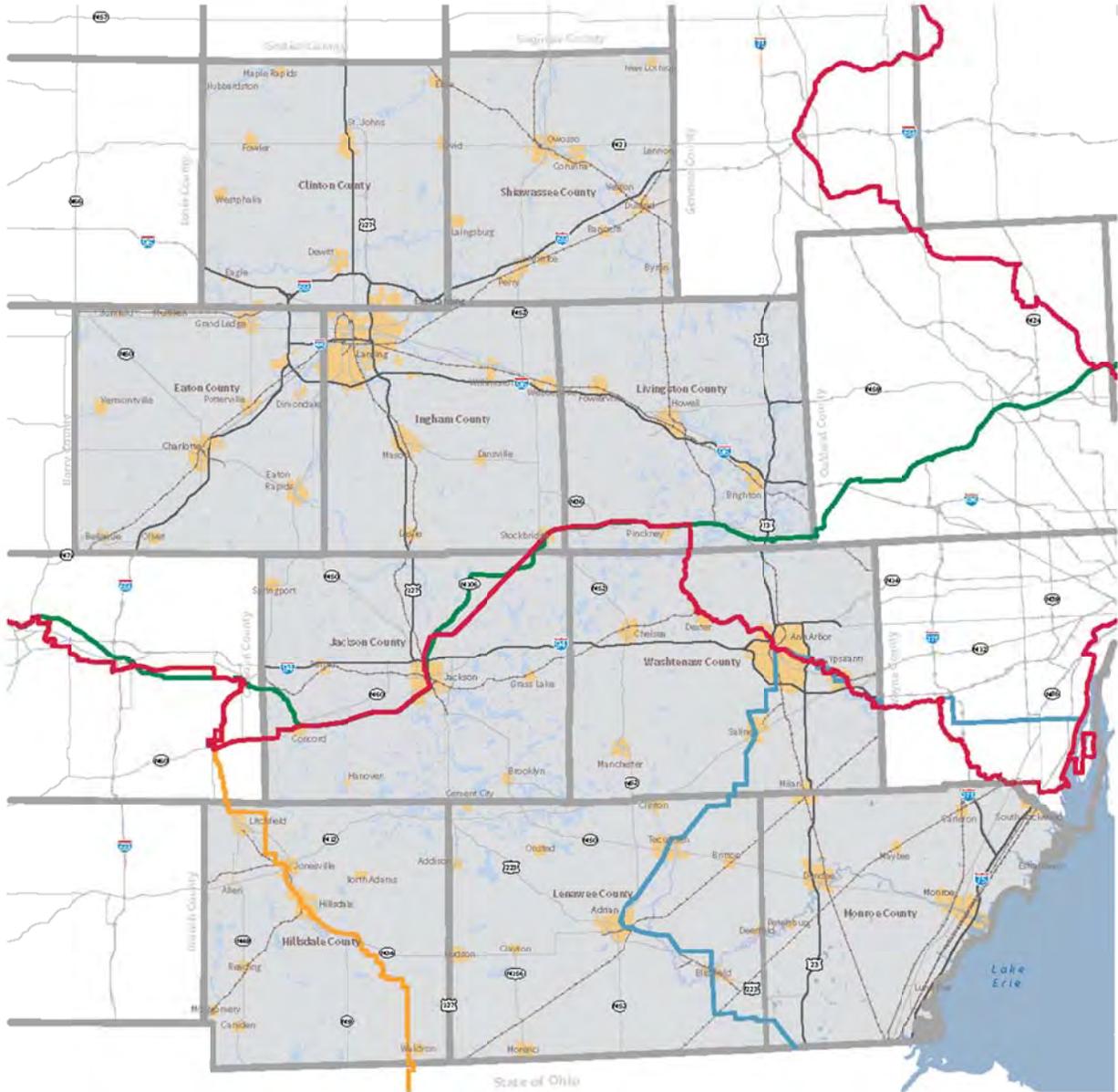
## Underground Railroad Route

The [Underground Railroad Bicycle Route](#) (UGRR) memorializes the Underground Railroad, a network of clandestine routes by which African freedom seekers attempted to escape slavery before and during the Civil War. The 2006-mile UGRR traverses from Mobile, Alabama to Owen Sound, Ontario and is an effort spearheaded by the Adventure Cycling Association. The 518-mile Underground Railroad Detroit Alternate traverses through Michigan and the University Region via Monroe, Lenawee and Washtenaw Counties.

# University Region

## LEGEND

- IRON BELLE TRAIL
- LAKE-TO-LAKE TRAIL
- UNDERGROUND RAILROAD TRAIL
- NORTH COUNTRY TRAIL



**MDOT University Region  
Non-Motorized Plan**  
Major Regional Trail Routes  
June 2015



## Regional Corridors

Through analysis of the existing and planned network, and a series of outreach and stakeholder meetings and input, *major* corridors for regional non-motorized travel are identified. These corridors serve as the primary arteries that connect to other more local corridors. They often include major existing and planned systems such as the Falling Waters Trail, the Mason to Delhi Connector, the Clinton-Ionia-Shiawassee Trail, or existing and planned paved shoulders along US-12. At times, the Regional Corridors use parks, greenways along rivers, local community facilities, or routes with yet to be determined facility types to provide regional connectivity. Several of these Regional Corridors also serve as the route for state and national interests, such as the Great Lake to Lake Trail or the Underground Railroad Bike Route.

### Typical Elements of a Regional Corridor

- Connection from one community, county, and/or the region to another.
- Serve as primary “arteries” that connect to other more local corridors.
- Often include significant existing or planned on- or off-road systems.

The following pages identify Regional Corridors within the University Region as well as some of the gaps within them. Maps have been created that show these corridors and their relationship to the rest of the network. Readers can also visit MDOT’s Non-Motorized website for larger more detailed versions of the maps at: [www.michigan.gov/mdot-biking](http://www.michigan.gov/mdot-biking)

***This section of the Plan and the maps should be considered part of a living document that will need to be updated periodically. MDOT fully anticipates that there will be changes in these corridors over time. Facilities may need upgrading to accommodate more users. Portions of a corridor may change if other routes prove more feasible. Regional Corridors may be added. In several cases, alternate, nearby routes, even though they are not as direct, may be preferred due to lower stress vehicle speeds, volumes or trucks. They may not necessarily represent actual or planned routes – rather they reflect the desire for connectivity. Further planning by a variety of agencies and stakeholders may be required to fully vet these systems and routes. Communities are encouraged to coordinate their bicycle and pedestrian planning efforts with this document thus strengthening local, county and regional efforts.***

## **Existing and Proposed Facilities in University Region**

The system and network are evolving at a rapid pace, therefore, the maps and graphics included in this Plan represent a “snapshot” in time. This section of the Plan details findings related to existing and proposed facilities within the University Region as a whole as well as by County.

As is detailed in the following table, there are a significant amount of facilities in the University Region - more than 1,200 miles; with 241 miles of shared use paths, 544 miles of paved shoulders, 199 miles of side paths and 224 miles of on-street bike lanes.

The largest amount of shared use paths are in Ingham County (63 miles), much of which includes the River Trail system and Delhi Trails. Ingham and Eaton Counties have the most wide paved shoulders (194 and 102 miles). Washtenaw (109 miles) and Ingham (65 miles) counties have the most on-street bike lanes.

In the University Region, an additional 1,500 miles of facilities are proposed including 668 miles of shared use paths, 344 miles of bike lanes, 410 miles of paved shoulders and 82 miles of side path.

Jackson County agencies and communities are proposing an additional 224 miles of shared use path including the Jackson to Lakeland Connector, mileage in and around Jackson, as well as a north-south connector between Henrietta Township and down to Brooklyn. Agencies within Ingham, Eaton and Clinton Counties are proposing a significant amount of additional paved shoulders. Washtenaw County and Eaton County are proposing 154 and 68 miles of additional bike lanes.

### Existing and Proposed Facilities by County (June 2015)

*Rounded to nearest mile*

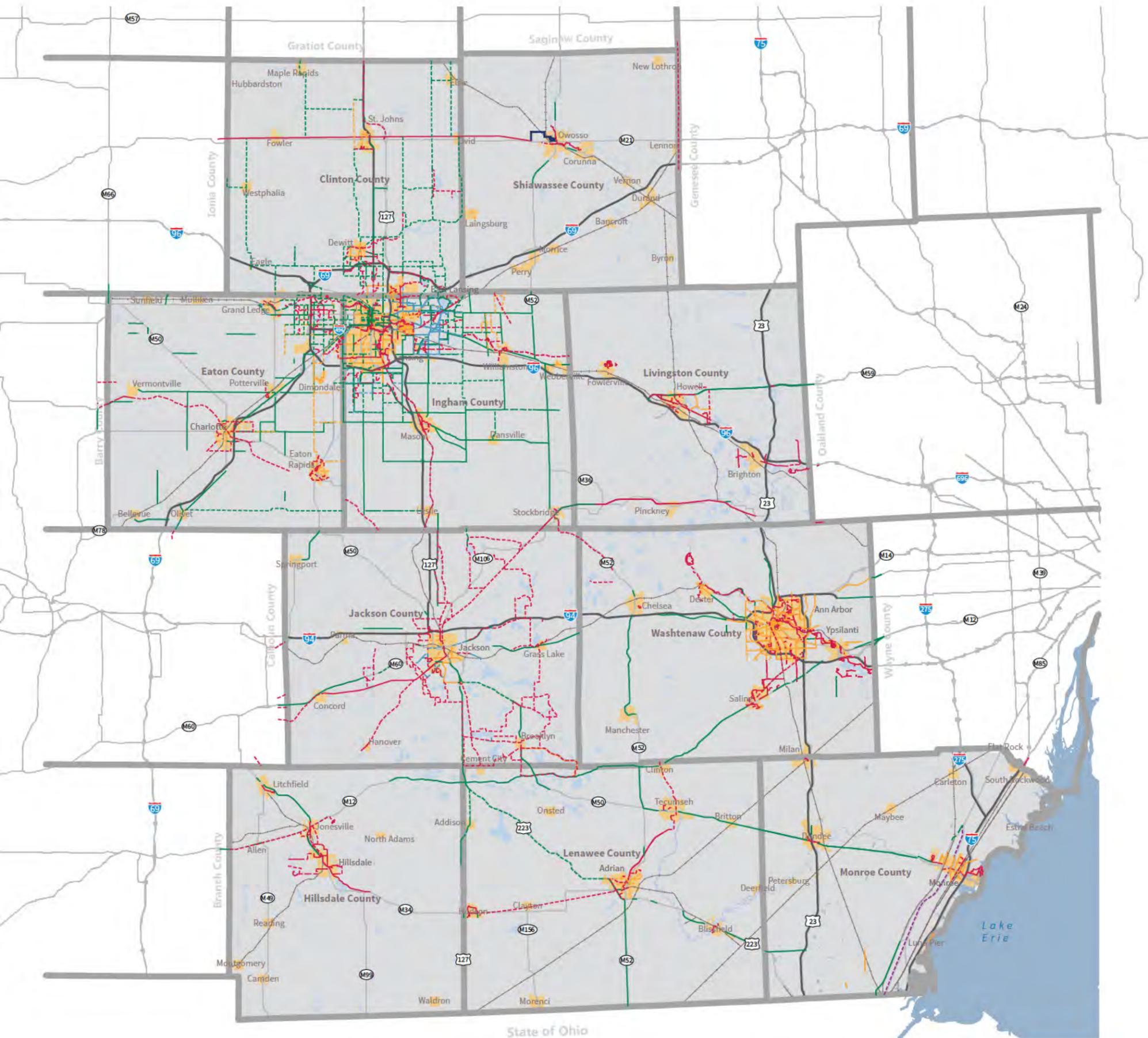
	Clinton County	Eaton County	Hillsdale County	Ingham County	Jackson County	Lenawee County	Livingston County	Monroe County	Shiawassee County	Washtenaw County	University Region
<b>Existing Facilities</b>											
Shared Use Path	26	11	14	63	21	20	28	11	13	34	241
Paved Shoulder (>4')	13	102	22	194	56	66	30	5	6	50	544
Side Path	5	4	0	90	7	1	12	8	0	72	199
Marked Shared Lane	0	0	0	1	0	0	0	0	0	7	8
Bike Lane	13	8	0	65	20	1	0	7	1	109	224
<b>TOTAL MILES</b>	<b>57</b>	<b>125</b>	<b>36</b>	<b>413</b>	<b>104</b>	<b>88</b>	<b>70</b>	<b>31</b>	<b>20</b>	<b>272</b>	<b>1,216</b>
<b>Proposed Facilities</b>											
Shared Use Path	67	94	38	139	224	41	9	14	2	40	668
Paved Shoulder (>4')	179	77	0	123	10	21	0	0	0	0	410
Side Path	5	2	0	42	5	0	18	1	0	9	82
Marked Shared Lane	0	0	0	1	0	0	0	0	0	8	9
Bike Lane	17	68	0	55	1	12	8	29	0	154	344
<b>TOTAL MILES</b>	<b>268</b>	<b>241</b>	<b>38</b>	<b>360</b>	<b>240</b>	<b>74</b>	<b>35</b>	<b>44</b>	<b>2</b>	<b>211</b>	<b>1,513</b>

# University Region

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- U.S. BIKE ROUTE 25

EXISTING	PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
Existing and Proposed Non-Motorized Facilities  
June 2015

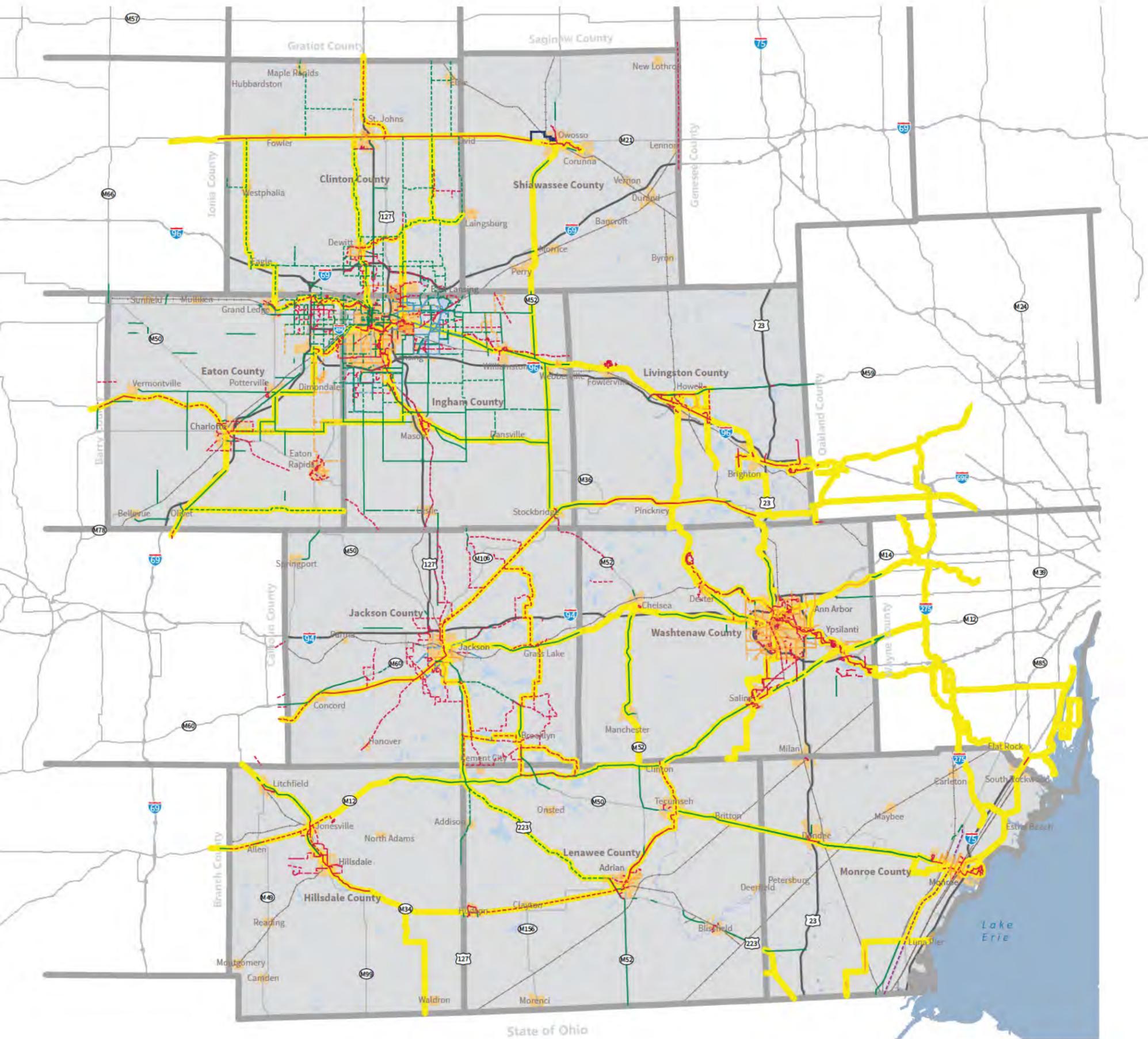


# University Region

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- U.S. BIKE ROUTE 25
- PROPOSED REGIONAL CORRIDOR

EXISTING	PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
*Proposed Regional Corridors*  
June 2015



## MDOT University Region

### Non-Motorized Strategies:

- Improve **safety** to reduce injuries and fatalities and to make walking and biking comfortable, inviting and viable.
- **Promote and encourage** biking and walking as modes of transportation and recreation for people of all ages, abilities and incomes.
- Foster an environment of **partnerships and collaboration** in order to connect our communities and regions to one another.
- Advance awareness of the benefits of **complete streets** (both within MDOT and at the local level) and various tools and solutions for implementation.

### Region-Wide

#### Non-Motorized Priorities

Considering the input received during the development of the Plan, and with the overall Strategies in mind, a number of Regional Priorities have been identified that will assist in continuing to make progress toward those strategies.

- Focus resources on the **gaps in the Regional Corridor network**, especially those segments with statewide or national significance such as the Lake to Lake Trail and the Underground Railroad Bicycle Route.
- On-going and long-term **maintenance of the GIS database**. The database currently represents a snap shot in time, and reflects as much data as could be collected given the scope, budget and schedule of this project. Facilities are being built and planned at a steady and continuous rate. It is important that these facilities and plans are incorporated into the database on a regular basis and that the database is available for use by all stakeholders. Attributes for various facilities within the region could also be updated as fieldwork is conducted or conditions are known.

- Provide safe pedestrian and bicyclist **connections across the major freeways and bridges** in the region. Work with local road agencies to develop solutions appropriate for the context.
- Work closely with MDOT and local road agency (county, city, village) staff in the Region to encourage that, where appropriate, and along strategic connections, **wide (at least 4’), paved shoulders be considered as a standard treatment**. These can achieve a number of goals including reduced maintenance costs, improved safety for drivers, and additional space for cyclists to travel. In many areas throughout the University Region, many of the more rural roads are hilly and/or have extensive, mature vegetation or drainage swales within the right-of-way, limiting the ability to widen shoulders for significant distances. In some areas, wide paved shoulders may only be possible in spot locations. These “spot” treatments can serve to improve safety and be used by cyclists where there are site distance issues due to terrain, uphill climbs will result in slower cycling speeds, and/or locations for cyclists to safely allow vehicle motorists to pass.
- Sharing effective practices, as well as encouraging and supporting **education and training** initiatives is essential to making progress toward a connected, safe, and inviting non-motorized network. There are a number of initiatives, projects and programs as detailed on the following page.
- Incorporate and disseminate new **research and best practices** for crash analysis, safety audits, and counter measures regularly into training programs, design manuals and policies.
- Encourage and support efforts to collect pedestrian and bicyclist **counts** in the region in order to better understand trends and patterns.
- Encourage local agencies to identify existing and proposed pedestrian and bicycle facilities in their **master plans**, transportation plans, recreation plans, and complete street plans.

- Encourage and support agencies and advocates in the **pursuit of various funding** mechanisms in order to implement proposed improvements and maintenance efforts.
- **Coordinate planning and design efforts.** Reference this University Region Plan when considering projects for the TIP/STIP and various resources including the Transportation Alternatives Program. Continue involvement with the University Region Ped/Bike Committee and continue existing outreach efforts with agencies to ensure non-motorized facilities are being considered early in the planning and design process.
- Coordination and consideration with **water trails efforts.** There is interest throughout the University Region to ensure coordination between water trails and non-motorized facilities, specifically as it relates to bridge heights, parking, and access. The MDNR Comprehensive Trail Plan (2013) includes specific recommendations related to Water Trails.
- **Understanding and funding for long-term maintenance.** Considerable thought and resources must be dedicated to ensure ongoing, long-term maintenance of the network. As part of a local or regional program, the jurisdiction responsible for maintenance should be defined, and general maintenance plans should be budgeted for on an annual basis. Issues such as mowing, winter maintenance, cutting overhanging vegetation, sweeping, and repairing degraded pavement must be included in a maintenance program. The AASHTO Guide for the Development of Bicycle Facilities provides further information on maintenance of facilities.

Maintenance of systems can be achieved by a number of agencies and agreement types. A few being used in Michigan include:

- Public/Private Partnerships
- Maintenance Use Agreements between governmental agencies
- MDOT's "Adopt-A-Landscape" Program – being utilized for a "Friends" group of volunteers to assist with maintenance of the 275 Metro Trail in the Metro Region.

### Adopt-A-Landscape Program

The MDOT Adopt-A-Landscape Program provides an avenue for individuals, organizations, or businesses to help maintain sections of roadside (or shared use path) within Michigan's State Highway System. The Adopt-A-Landscape program allows for the following:

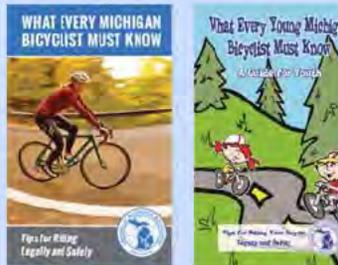
- Planting and establishing wildflowers
- Controlling weeds on Right-of-Way
- Ancillary mowing
- Tree trimming and/or removal
- Planting and establishing landscaping within interchanges, boulevards, rest areas, roadside parks, etc.
- Planting and establishing trees, shrubs, and/or flowers along state highways
- Removing graffiti as needed from one or more highway structures

Just about any group, business or individual may perform the work with your own volunteers or hire a contractor to perform the work on your behalf. There are limitations to the types of work and locations where volunteers may work. Work with your local MDOT TSC staff to discuss details of the program.

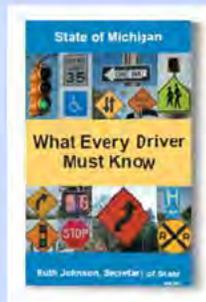
## Education Campaigns and Efforts



The **Share MI Roads campaign** is an effort focused on developing educational resources for drivers, bicyclists, drivers education instructors, and law enforcement about reducing dangerous interactions between motorists and bicyclists. The campaign will work to explain and publicize the rights and responsibilities of both drivers and bicyclists, with an aim at fostering goodwill and reducing injuries and fatalities across Michigan. Share MI Roads is a campaign of the League of Michigan Bicyclists in partnership with Transportation For Michigan (Trans4M).

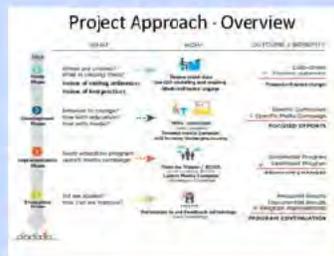


What **Every Michigan Bicyclist Must Know** was published by the LMB and is intended to help bicyclists use Michigan's roads and trails safely and enjoyably. A companion piece, **What Every Young Michigan Bicyclist Must Know** booklet is also available. It was created to help young bicyclists understand how to ride their bicycles legally and safely in Michigan.



**Nathan's Bower Act ( HB5438 )** was signed into Michigan Law in October 2014. It requires instruction in the Segment 1 (first phase of driver's education) curriculum to include information about bicycle and motorcycle laws, awareness and safety.

The Michigan **What Every Driver Must Know** booklet contains information about operating a motor vehicle safely on Michigan roads. It was updated in 2014 and includes information on sharing the road with all modes of transportation.



With considerable funding and involvement from MDOT, the **Grand Rapids Area Bike Education** project is in year one of a planned 3-year project researching how best to educate people about bicycle safety, then develop and implement a campaign that may include billboards, flyers or bus stop advertisements, for example. The project's goals include education and training on how to ride a bike in traffic, increased awareness of the responsibilities of bicyclists and motorists and promotion of a "share the road culture."



**Regional Ped/Bike Committees** (hosted by MDOT) meet on a quarterly basis. The Committees include state, regional, and local agencies, communities and advocates that meet to:

- Discuss education, encouragement, engineering, evaluation and planning issues;
- Learn from each other and support each other's efforts; and
- Build relationships and partnerships.

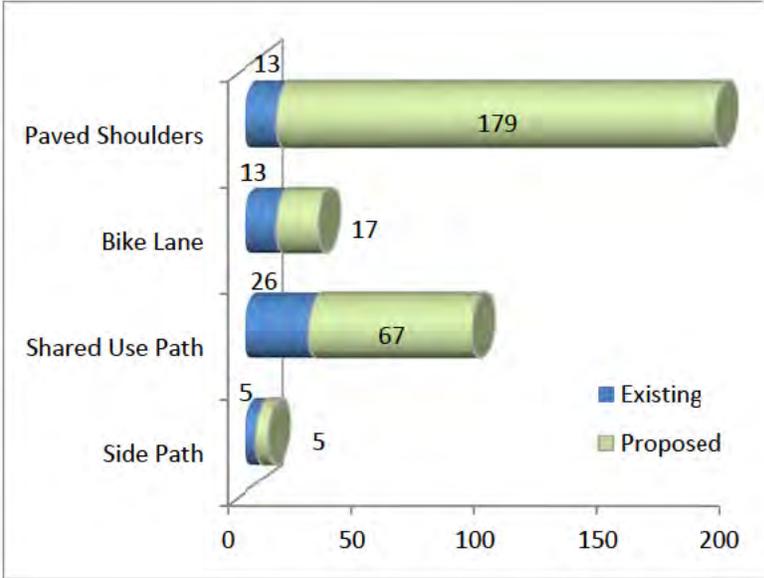


# Clinton County Existing & Planned Facilities

Within Clinton County, approximately 57 miles of non-motorized facilities exist (not including sidewalks), including 13 miles of paved shoulders that are 4' wide or greater, 26 miles of shared use path, and 13 miles of bike lanes.

Clinton County Parks has worked to develop a Non-Motorized Plan in recent years with significant input. Planned connections reflect the desire to connect into the Clinton-Ionia-Shiawassee (CIS) Trail, north toward Alma, Sleepy Hollow State Park as well as to the southern, more populated communities. More than 260 miles of facilities are proposed.

The recently completed, 41-mile, Fred Meijer Clinton-Ionia-Shiawassee Trail is the most significant shared used path within Clinton County and traverses east-west across the County connecting Fowler, St. Johns and Ovid and extending into Shiawassee and Ionia Counties as well. It is a mix of limestone and asphalt.



**Approved TAP Projects (As of 2/2015)**

- Old US-27 Path in DeWitt Township (Conditional Commitment)

**Major Destinations**  
 Sleepy Hollow State Park  
 St. Johns  
 Dewitt  
 CIS Trail

**Primary Data Sources**  
 Tri-County Regional Planning  
 Clinton County Parks  
 City of St. Johns  
 MDNR  
 Bath Township

# Clinton County

## LEGEND

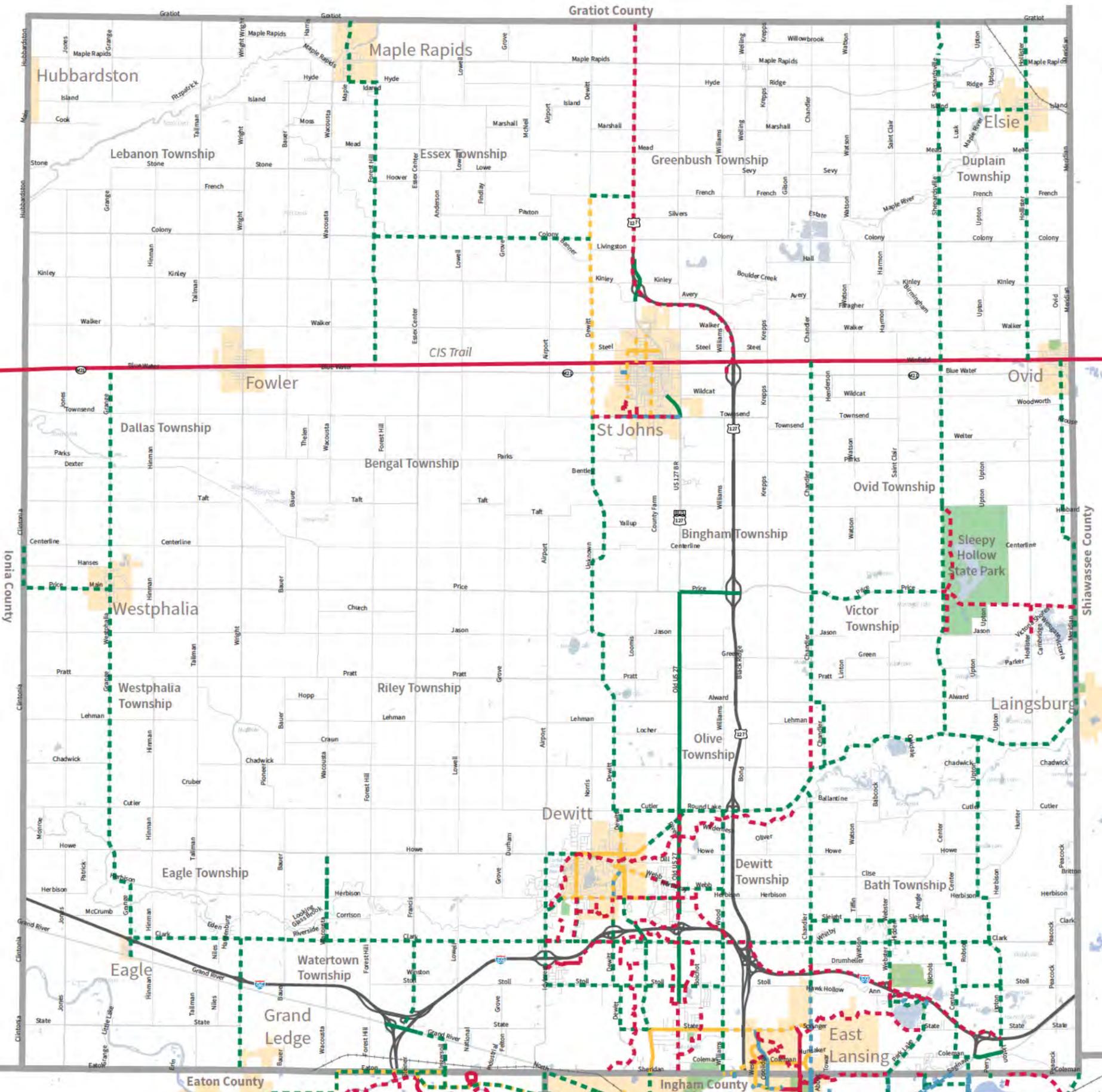
- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

EXISTING

- 
- 
- 
- 

PROPOSED

- 
- 
- 
- 



**MDOT University Region  
Non-Motorized Plan**  
*Existing and Proposed Non-Motorized Facilities*  
June 2015



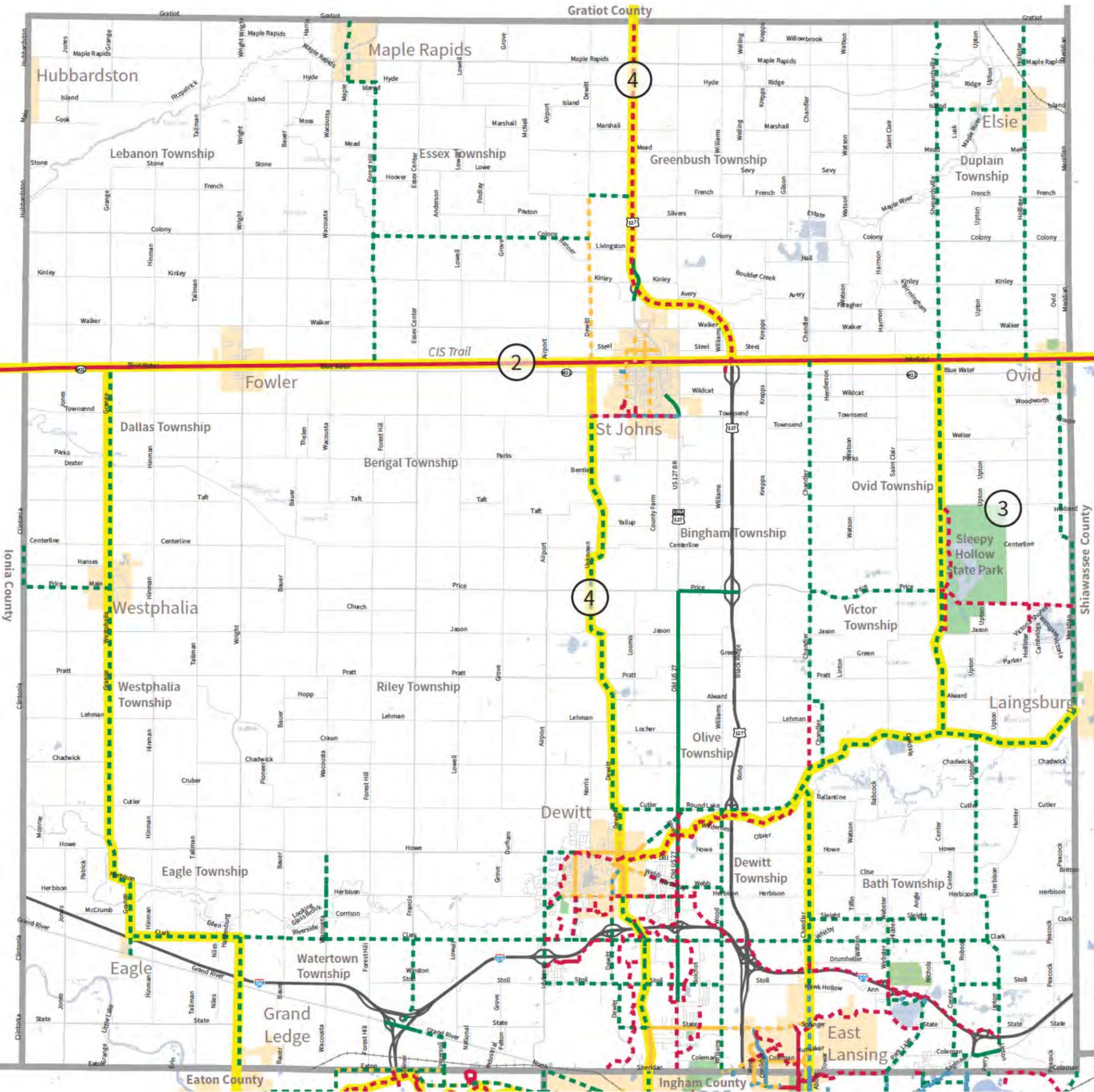
# Clinton County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015





## Priorities in Clinton County

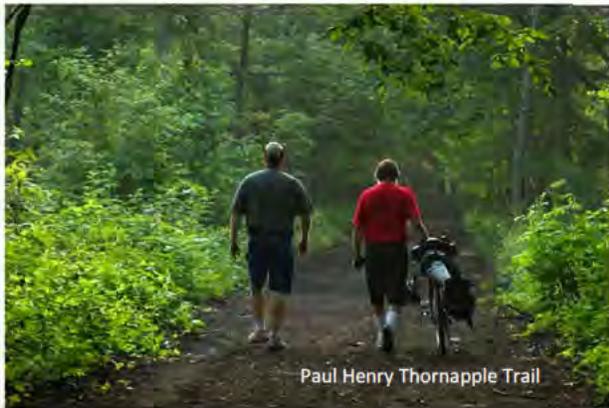
1. The Clinton County Parks Department continues to lead the development and modification of a county-wide non-motorized plan. This effort includes extensive coordination between stakeholders, road agencies and communities. The completion of the **County Plan**, its on-going maintenance, and incorporation into the **Tri-County Transportation Plan** remains a high priority to ensure coordinated efforts moving forward.
2. The opening of the **Clinton-Ionia-Shiawassee Trail (CIS)** in 2015 was an enormous accomplishment. Providing additional access points, trailheads, and programming on the trail is a priority. As are providing connections to and from the CIS trail to the downtowns and residential areas of St. Johns, Fowler, and Ovid.
3. The 2600+ acre **Sleepy Hollow State Park** is a primary destination in both Clinton and Shiawassee Counties. Connections to/from Sleepy Hollow State Park to the CIS Trail, Laingsburg, Dewitt, Bath Township and surroundings is a priority voiced by many at the outreach meetings conducted as a part of this process.
4. A **north/south non-motorized connection** the entire length of the County, perhaps in and around the **US-127 corridor, Old US 27, or DeWitt Road** in order to facilitate safe pedestrian/bike travel to and from the CIS Trail, the River Trail system to the south in Ingham County, and the Fred Meijer Heartland Trail to the north.
5. Incorporating **wide paved shoulders** along a number of County Roads is an important improvement and consideration as the non-motorized network evolves in Clinton County.



# Eaton County Existing & Planned Facilities

Within Eaton County, approximately 125 miles of non-motorized facilities exist (not including sidewalks), including 100+ miles of paved shoulders that are 4' wide or greater, 11 miles of shared use paths and 8 miles of bike lanes. Within Eaton County, 68 miles of bike lanes, and 94 miles of shared use paths are proposed. The City of Lansing, Delta Township, City of Grand Ledge, Potterville, Charlotte, and Eaton Rapids have the most extensive non-motorized facilities and plans for future facilities.

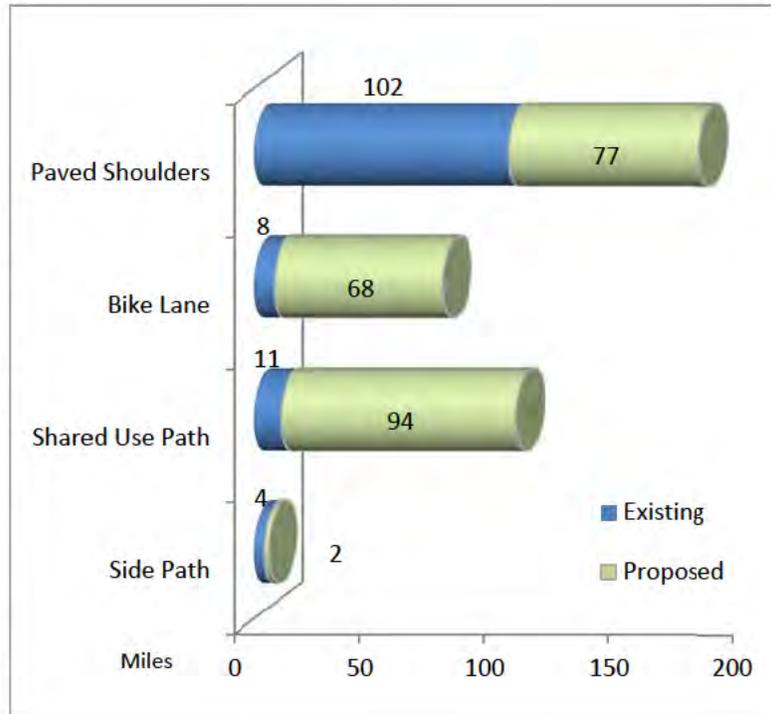
The Paul Henry Thornapple Trail is a significant shared used path that enters into Eaton County at Vermontville. The 42-mile shared use path is being built in phases and is envisioned to connect Grand Rapids to Vermontville and Eaton Rapids. The planned extension to Charlotte and Eaton Rapids is currently being researched to determine property ownership and feasibility.



Extensions of the north and south branches of the River Trail system into Delta Township, Grand Ledge and the western portions of the City of Lansing are proposed to add to the existing network in Ingham County.

### Approved TAP Projects (As of 2/2015)

*None pending at time of this report.*



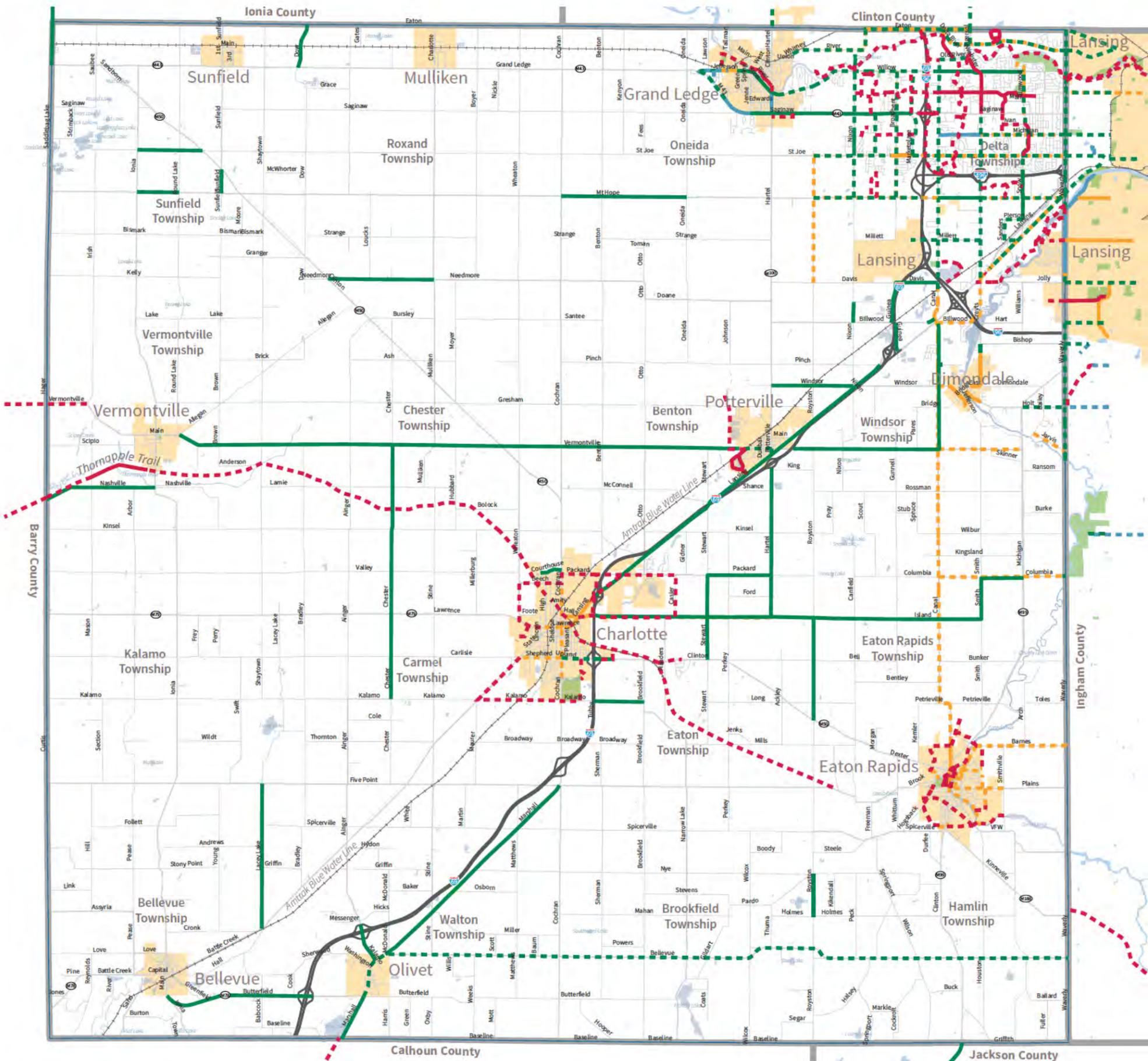
- Major Destinations**
- Lansing
  - Grand Ledge
  - Delta Township Area
  - Potterville
  - Charlotte
  - Eaton Rapids
- Primary Data Sources**
- Tri-County Regional Planning
  - Eaton County Road Commission
  - Easton County Parks
  - City of Charlotte
  - City of Eaton Rapids
  - Charlotte Step-by-Step
  - Tri-County Bicycle Association

# Eaton County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

- | EXISTING | PROPOSED |
|----------|----------|
|          |          |
|          |          |
|          |          |
|          |          |



**MDOT University Region  
Non-Motorized Plan**  
Existing and Proposed Non-Motorized Facilities  
June 2015



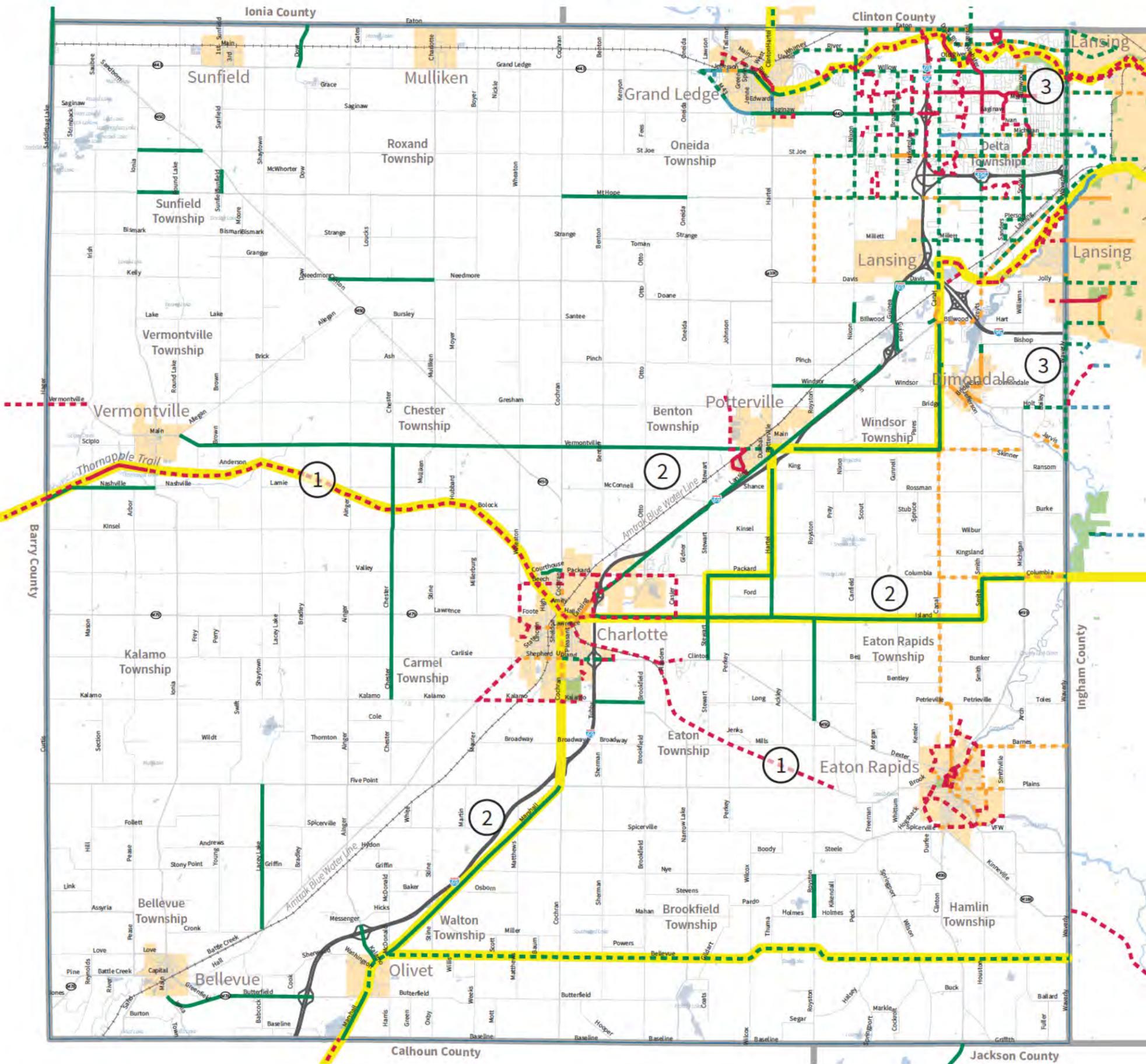
# Eaton County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015





## Priorities in Eaton County

1. Determining the feasibility in terms of property ownership and route alignment of **extending the Paul Henry Thornapple Trail east from Vermontville to Charlotte and on to Eaton Rapids** is a high priority. Conducting the necessary due diligence to determine ownership and feasibility is an important next step.
2. Providing connections **to/from Charlotte, Pottersville, Lansing, Olivet and east toward Mason** is a priority in order to provide a network of connections. These connections will likely rely on the continuation of a combination of wide paved shoulders, side paths and on-street bike lanes.
3. Extensions of the north and south branches of the **River Trail** system into Delta Township, Grand Ledge and the western portions of the City of Lansing are proposed to connect into the existing network in Ingham County.
4. Continued **expansion of on- and off-street facilities** in the more densely populated areas of the County including Delta Township, Grand Ledge, Pottersville, Charlotte and Eaton Rapids.

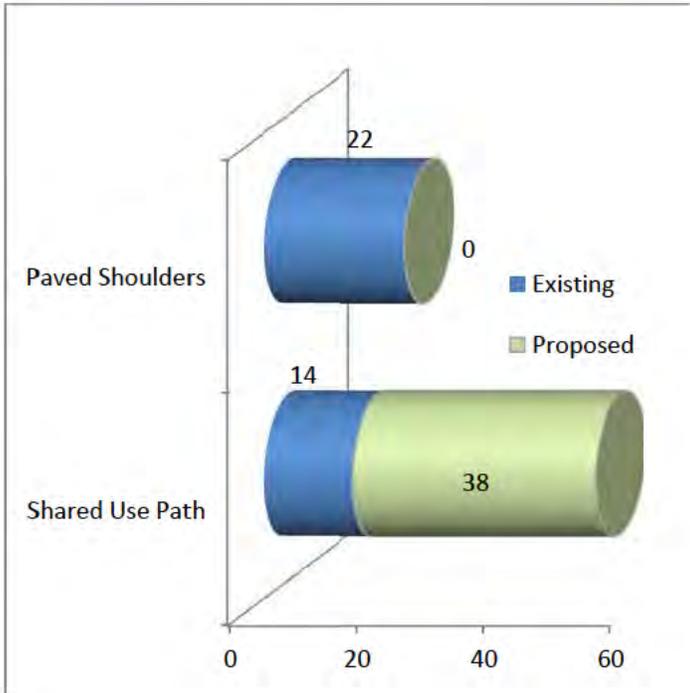


# Hillsdale County Existing & Planned Facilities

Within Hillsdale County, approximately 36 miles of non-motorized facilities exist (not including sidewalks), including 22 miles of paved shoulders that are 4' wide or greater, and 14 miles of shared use paths.

Within Hillsdale County, 38 miles of shared use paths are proposed. A portion of the **North Country Hiking Trail** passes through Hillsdale County, generally utilizing Tuttle Road and the Baw Beese Trail to traverse through Hillsdale and Jonesville and continue on into Calhoun County to the northwest and Ohio to the south.

The Headwaters Recreation Authority, Hillsdale and Jonesville have the majority of existing and proposed non-motorized connections. The **Baw Beese Trail** is a shared use path traversing from Sandy Beach north into Jonesville. Jonesville (2015) is constructing an extension north across US-12 with plans to extend further north to M-99.



There is also interest in establishing the US-12 corridor as a primary non-motorized connection across the County.

### Approved TAP Projects (As of 2/2015)

*None pending at time of this report.*

### Major Destinations

- Hillsdale
- Jonesville
- Litchfield
- Baw Beese Trail

### Primary Data Sources

- City of Hillsdale
- City of Jonesville
- Headwaters Recreation Authority
- City of Litchfield

# Hillsdale County

## LEGEND

SHARED USE PATH

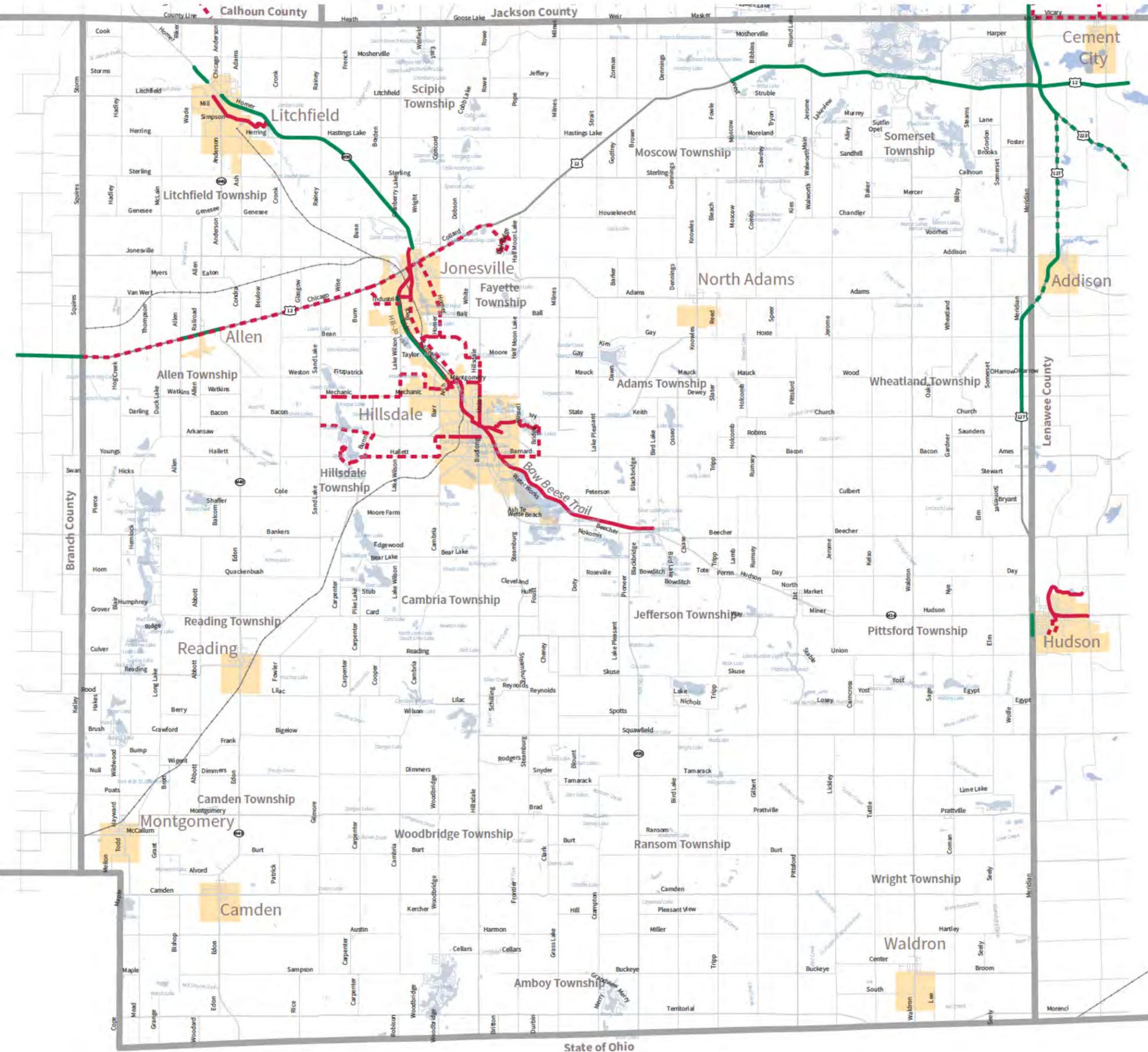
PAVED SHOULDER - GREATER THAN 4 FT. WIDE

SIDE PATH

BIKE LANE

EXISTING

PROPOSED



## MDOT University Region Non-Motorized Plan

Existing and Proposed Non-Motorized Facilities  
June 2015



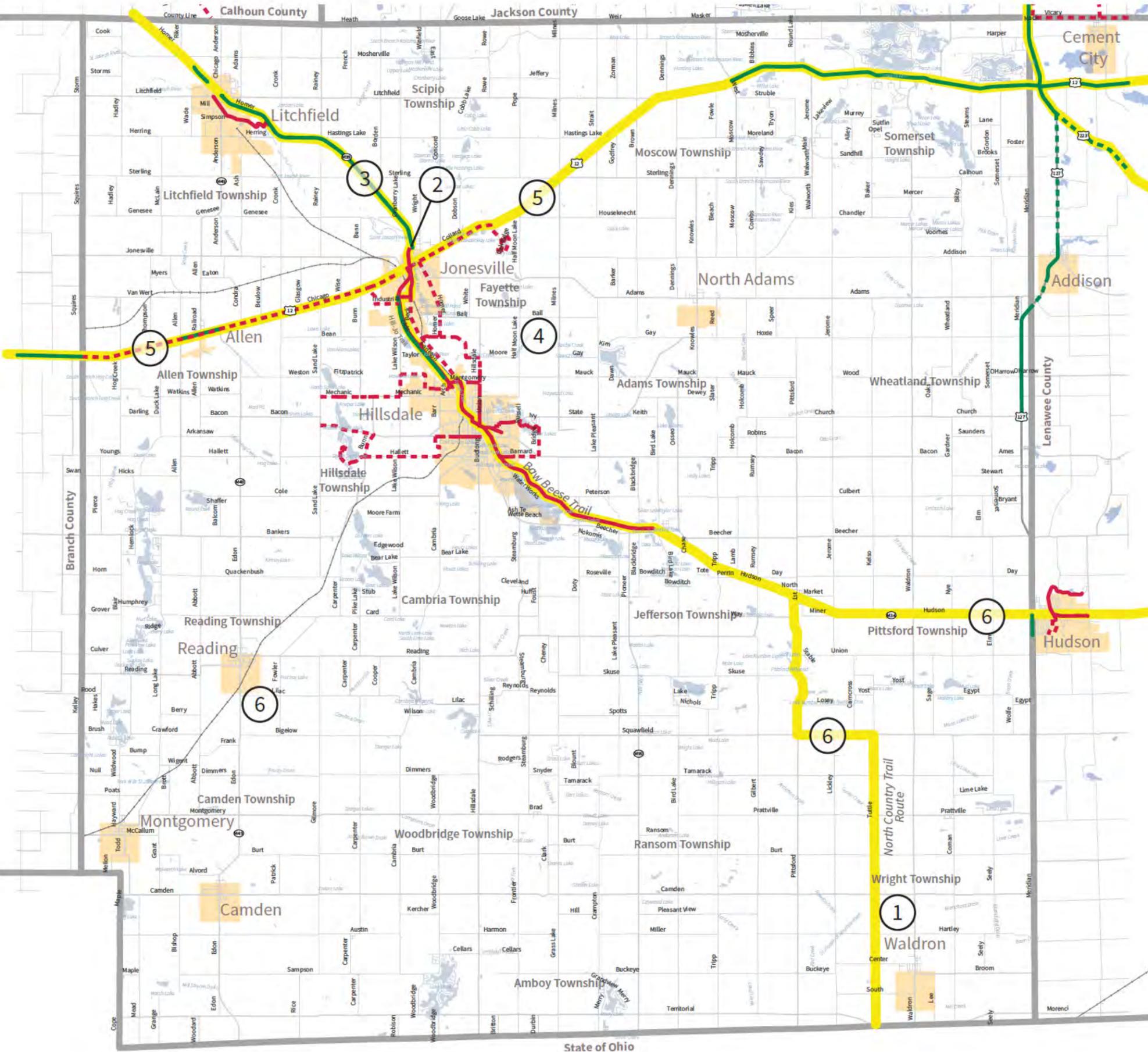
# Hillsdale County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

- | EXISTING | PROPOSED |
|----------|----------|
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015





## Priorities in Hillsdale County

1. Hillsdale County includes a section of the National Park Service **North Country Trail**. Several of the priority projects and regional corridors will also improve the experience of North Country Trail hiking users.
2. Complete the **Jonesville Rail Trail Phase II** including crossing the St. Joseph River and extending the trail to M-99.
3. **Connect the cities of Jonesville and Litchfield.** Ideas discussed at Outreach Meetings included the rail corridor between the two cities and/or a side path within the M-99 right-of-way.
4. The **Headwaters Recreation Authority** has a master plan for additional non-motorized facilities to connect the areas in and around Hillsdale and Jonesville to one another. These plans are reflected on the planned facilities map. The Authority is focused on continuing implementation of their plan.
5. Providing non-motorized connectivity via **US-12**, either through wide paved shoulders or side paths is a priority in order to connect Quincy (in Branch County to the west) with Jonesville and east to the Irish Hills Area.
6. Additional, **county-wide planning efforts** are needed to coordinate with various agencies and stakeholders to determine additional desired connections within the County and to adjacent counties and regions. Particularly, connections and routes to the south (Reading, Camden, Ohio) and to the east to Hudson and Lenawee County.



# Ingham County Existing & Planned Facilities

Within Ingham County, approximately 413 miles of non-motorized facilities exist (not including sidewalks), including 90 miles of side paths, 63 miles of shared use paths and 65 miles of on-street bike lanes. Within Ingham County, 55 miles of bike lanes, and 139 miles of shared use paths are proposed. The northwest portion of the County, which is also the most densely populated, contains the most extensive network of existing and proposed non-motorized connections, including a rapidly evolving network of on-street bike lanes and side paths.

Significant shared use paths in the County include the **Lansing and East Lansing/MSU River Trail** system which connects into the **Sycamore Creek/Valhalla Trail**, and the **Delhi system** to the south. A connector shared use trail between the **Mason Hayhoe Trail**, and the **Delhi Trail**

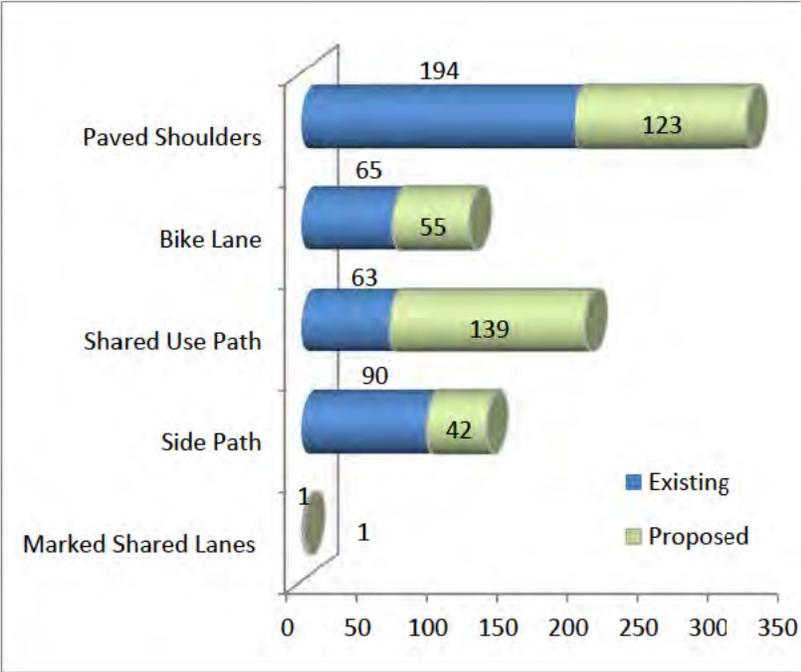


Lansing River Trail Facebook Page

network and beyond is planned and a Feasibility Study was completed in 2014. A section of the 13-mile **Lakelands Trail State Park** is in the southeast corner of Ingham County as it passes through Stockbridge.

**Approved TAP Projects (As of 2/2015)**

- SRTS Webberville Elementary School and Middle/High School.



**Major Destinations**

- Lansing
- East Lansing
- Michigan State University
- Meridian Township Area
- Delhi Township Area
- Mason
- Meridian-Baseline State Park

**Primary Data Sources**

- Tri-County Regional Planning
- Mason
- Lansing
- Delhi Township
- East Lansing
- Meridian Township
- Tri-County Bicycle Association
- Ingham County Road Commission

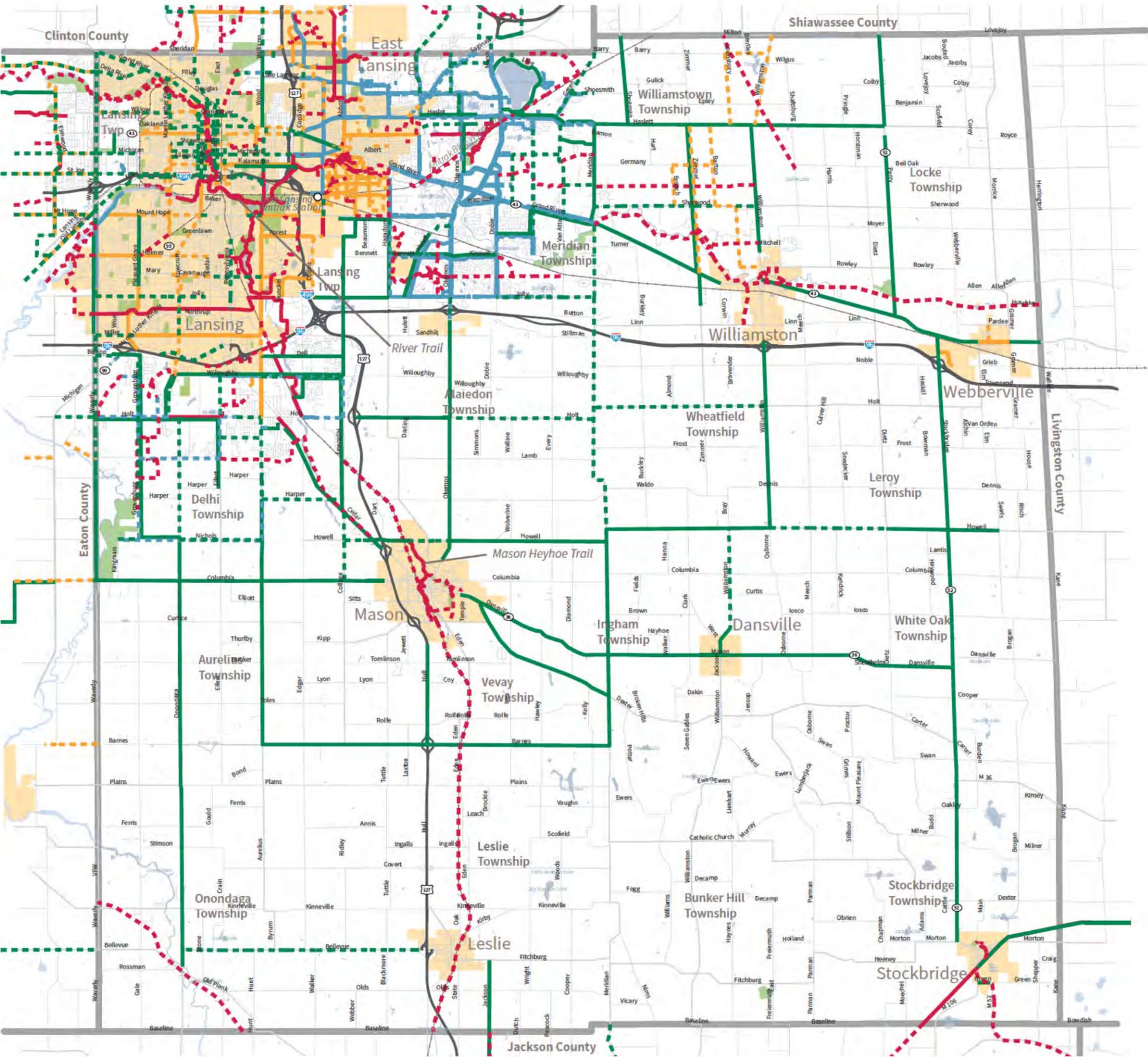
# Ingham County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

EXISTING

PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
*Existing and Proposed Non-Motorized Facilities*  
June 2015

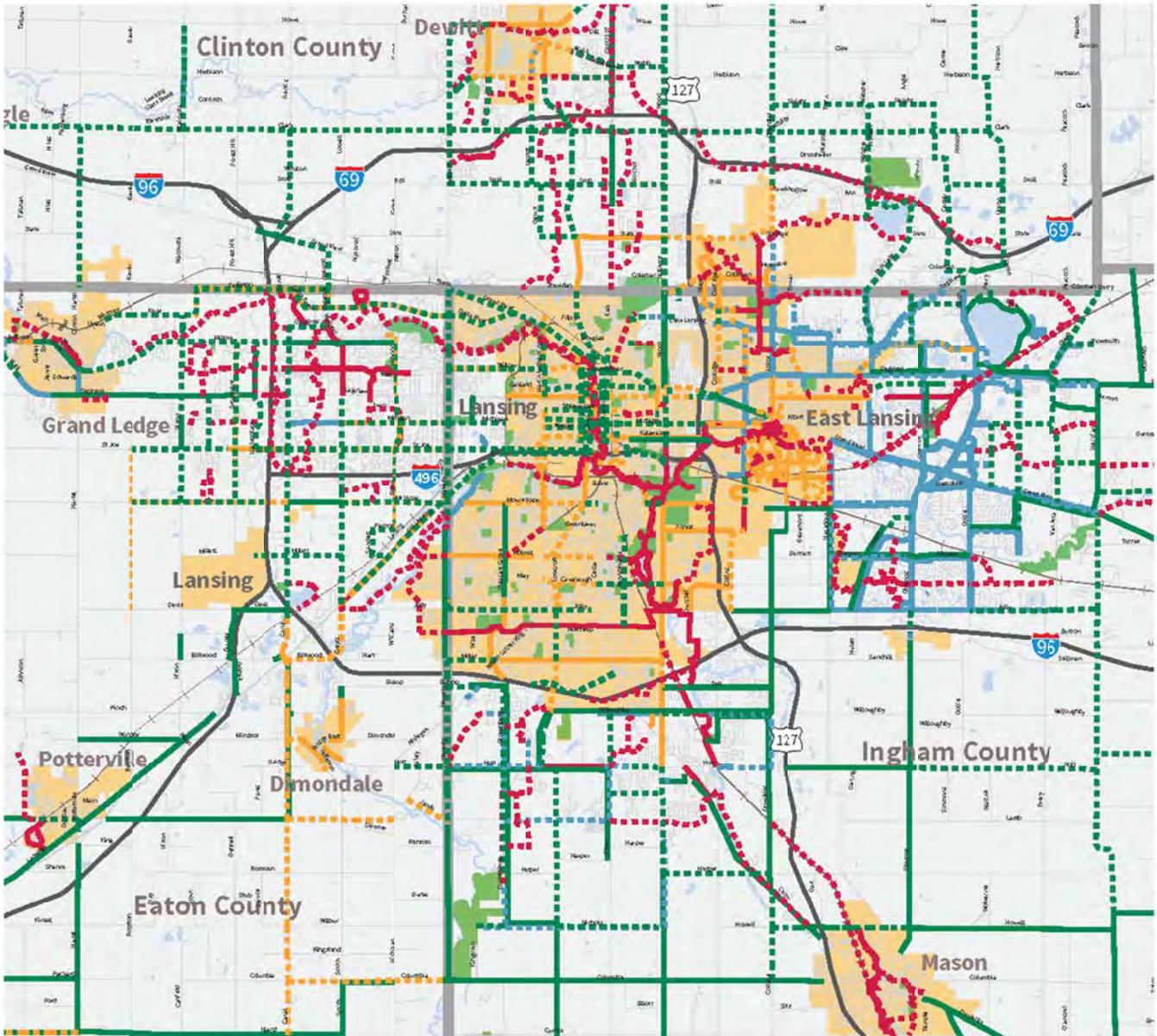


# Lansing Area

## LEGEND

SHARED USE PATH  
 PAVED SHOULDER - GREATER THAN 4 FT. WIDE  
 SIDE PATH  
 BIKE LANE

EXISTING	PROPOSED



**MDOT University Region  
 Non-Motorized Plan**  
*Existing and Proposed Non-Motorized Facilities*  
 June 2015





## Priorities in Ingham County

1. In November 2014, Ingham County voters supported a six-year, 0.5-mill levy to build new non-motorized facilities and restore funding for park maintenance. The Ingham County Parks Department is working on a Non-Motorized Trail Plan in 2015 to prioritize their investments specific to new construction; reconstruction; preservation and repairs; and operations and maintenance.
2. **Mason to Delhi Connector.** A Feasibility Study was completed in 2014 to determine final route and cost estimate, and to build support from the affected local, regional and state agencies. This is a high priority connection that will complete the gap between the Lansing and Delhi Trail network and the Mason Hayhoe Riverwalk.
3. There is significant interest in providing safe and inviting non-motorized facilities across I-96 via **Okemos Road** to establish a north-south route and improve access to major employers.
4. The **City of Lansing, East Lansing, Meridian Township and Delhi Township** have significant plans for incorporating additional bike lanes, shared use paths, side paths and paved shoulders to serve the considerable population in the northwest section of the County and provide access to the substantial density of destinations in the area.
5. Extensions of the north and south branches of the **River Trail** system into Delta Township, Grand Ledge and the western portions of the City of Lansing are proposed to connect into Eaton County.
6. The **Grand River (M-43) Corridor** is a priority east-west route that passes through a number of communities and connects into Livingston County. Plans are for a combination of facility types depending on local context. These should be coordinated with on-going efforts by the CATA  
Bus Rapid Transit discussions for Grand River Avenue.
7. The **M-52** corridor on the east side of the County is a priority north south connection between the Lakeland Trail and Jackson County north into Shiawassee County.
8. **Connections to and from Ingham and Jackson Counties** is a priority that needs further exploration and planning. In past planning documents, various agencies and advocates have identified the rail corridor that exists between Mason and Leslie (and beyond) as a potential connection.
9. There is interest in providing access to and from **Meridian Township, Williamstown Township and Williamston.** Further planning and discussion is needed as to how to best accomplish these connections.
10. Due to low traffic and truck volumes, cyclists utilize **Brogan Road** east of M-52 to travel between Webberville and Stockbridge, and when riding east out of Mason, utilize **Columbia Road.** Where possible, wide paved shoulders along these routes would benefit ped/bike mobility and safety.

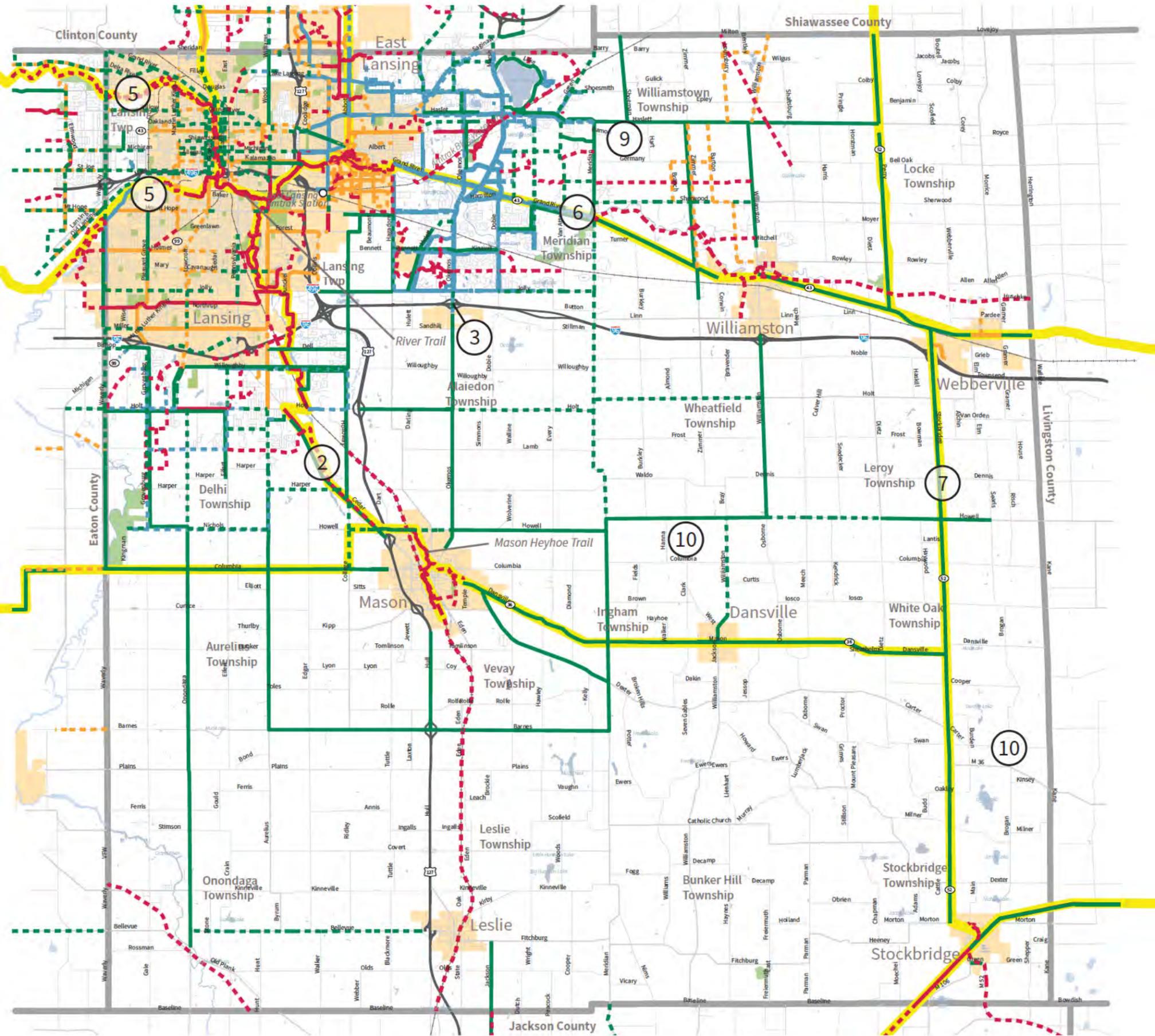
# Ingham County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015



# Lansing Area

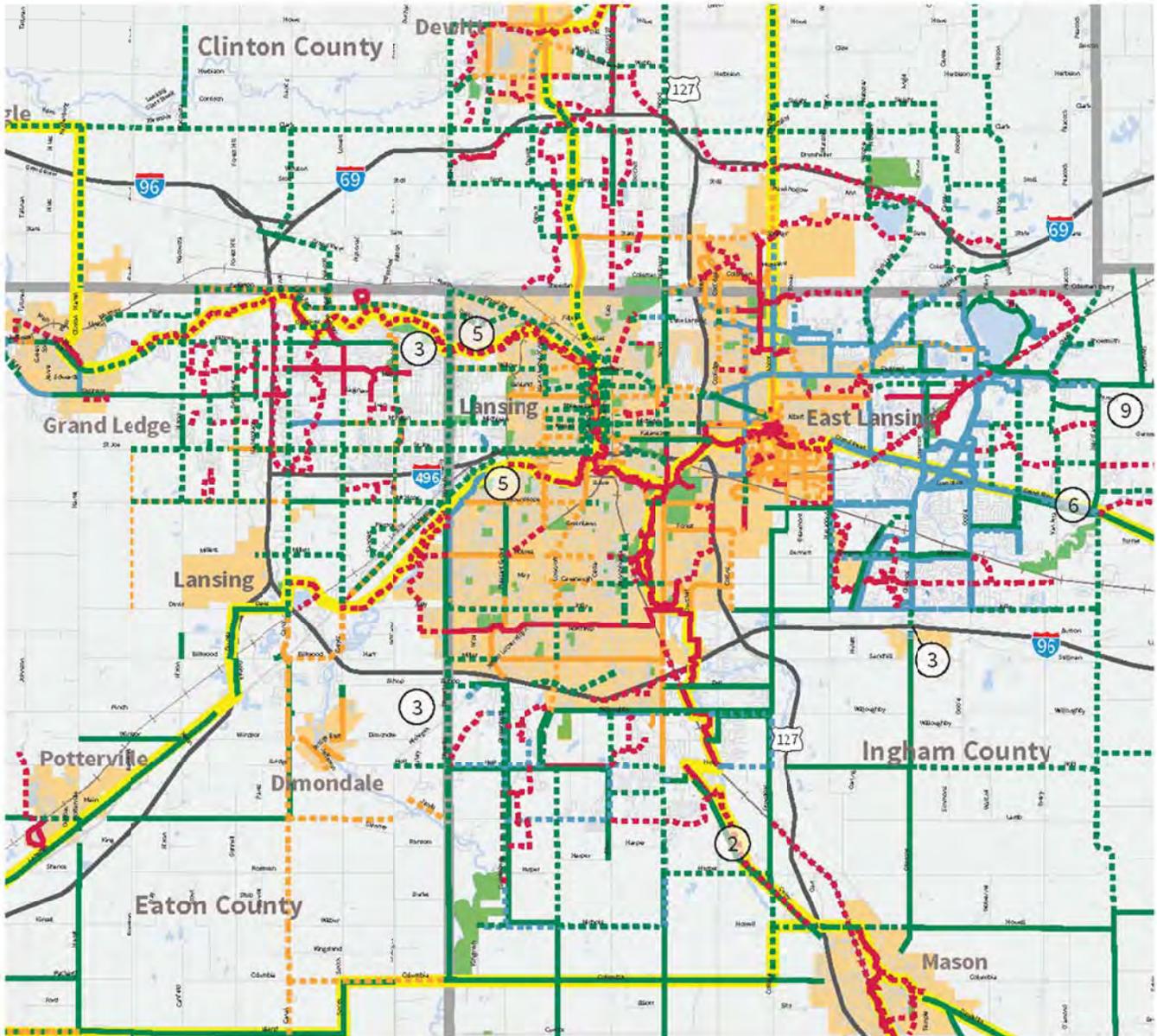
## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING      PROPOSED

-  EXISTING SHARED USE PATH
-  EXISTING PAVED SHOULDER - GREATER THAN 4 FT. WIDE
-  EXISTING SIDE PATH
-  EXISTING BIKE LANE
-  PROPOSED REGIONAL CORRIDOR

③



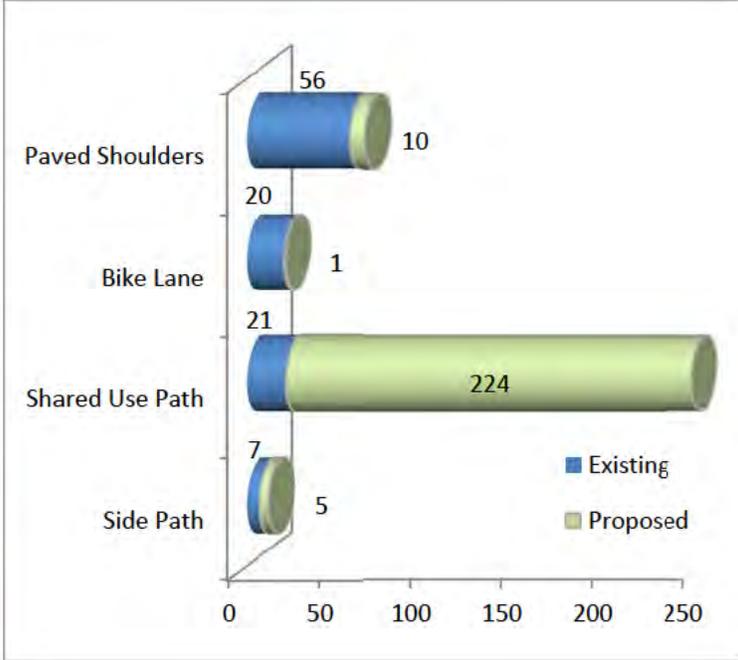
**MDOT University Region  
Non-Motorized Plan**  
*Proposed Regional Corridors*  
June 2015





# Jackson County Existing & Planned Facilities

Within Jackson County, approximately 104 miles of non-motorized facilities exist (not including sidewalks), including 56 miles of paved shoulders that are 4' wide or greater, 21 miles of shared use paths, and 20 miles of bike lanes. Within Jackson County, more than 224 miles of shared use paths are proposed. The existing and planned network within the City of Jackson and surrounding Townships is rapidly evolving and includes both on- and off-road facilities.



Significant shared use paths in the County include the existing **Falling Waters Trail** (a County Park) that traverses 10.5 miles between Concord and Jackson. It connects into the **Jackson Inter-City Trail**, which is planned to connect into the **Jackson to Lakeland Connector Trail** (rail corridor owned by the MDNR).

### Approved TAP Projects (As of 2/2015)

- Fifth Street Commercial Corridor Improvements in Leoni Township.

### Major Destinations

- Jackson and Surroundings
- Waterloo Recreation Area
- Irish Hills Area (southeast portion of county)
- Falling Waters Trail

### Primary Data Sources

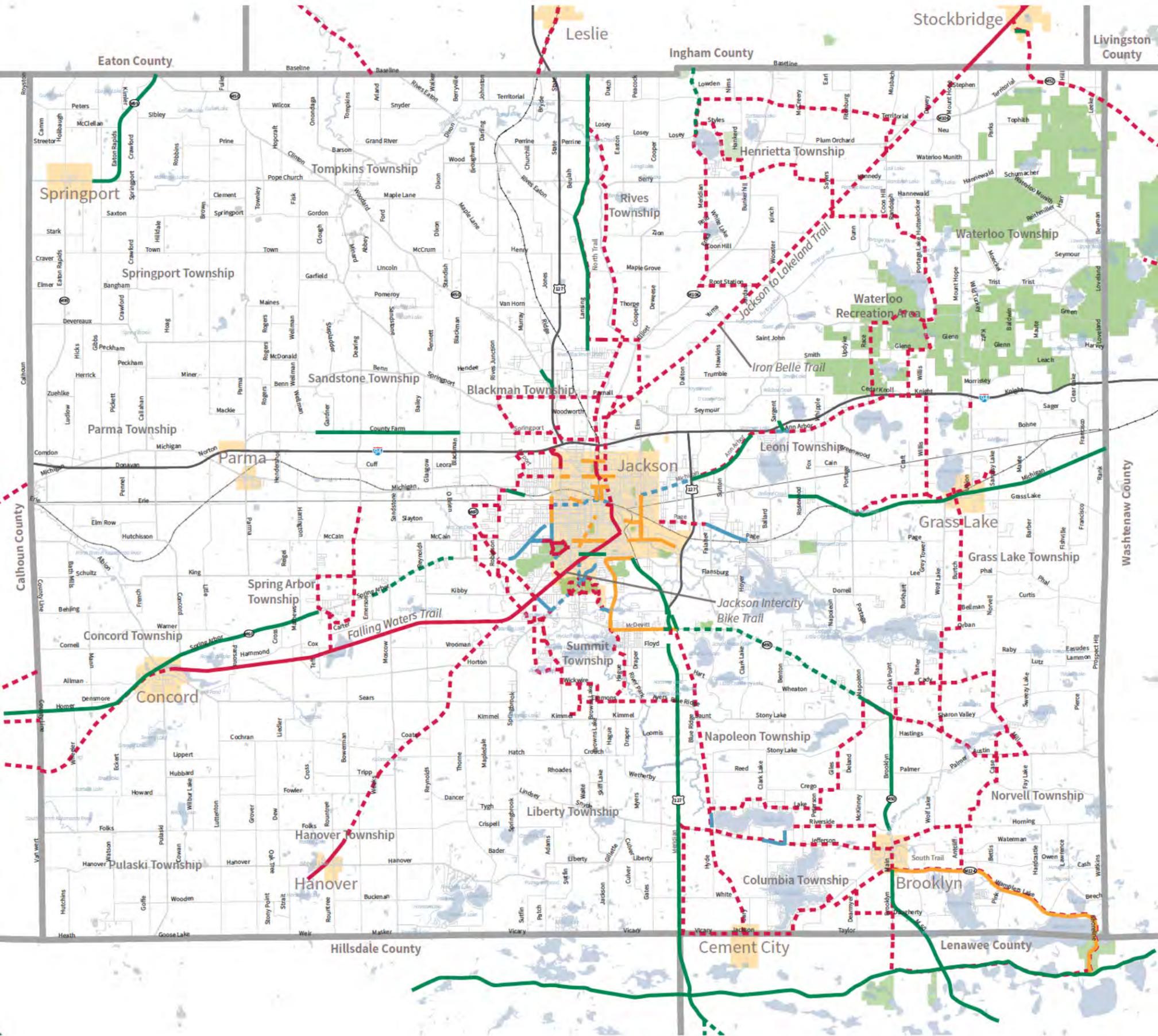
- Region 2
- City of Jackson
- Chelsea Area Wellness Foundation
- Summit Township
- Blackman Township
- Jackson Fitness Council
- Heart of the Lakes Recreation Commission
- Grass Lake Township

# Jackson County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

- | EXISTING | PROPOSED |
|----------|----------|
|          |          |
|          |          |
|          |          |
|          |          |

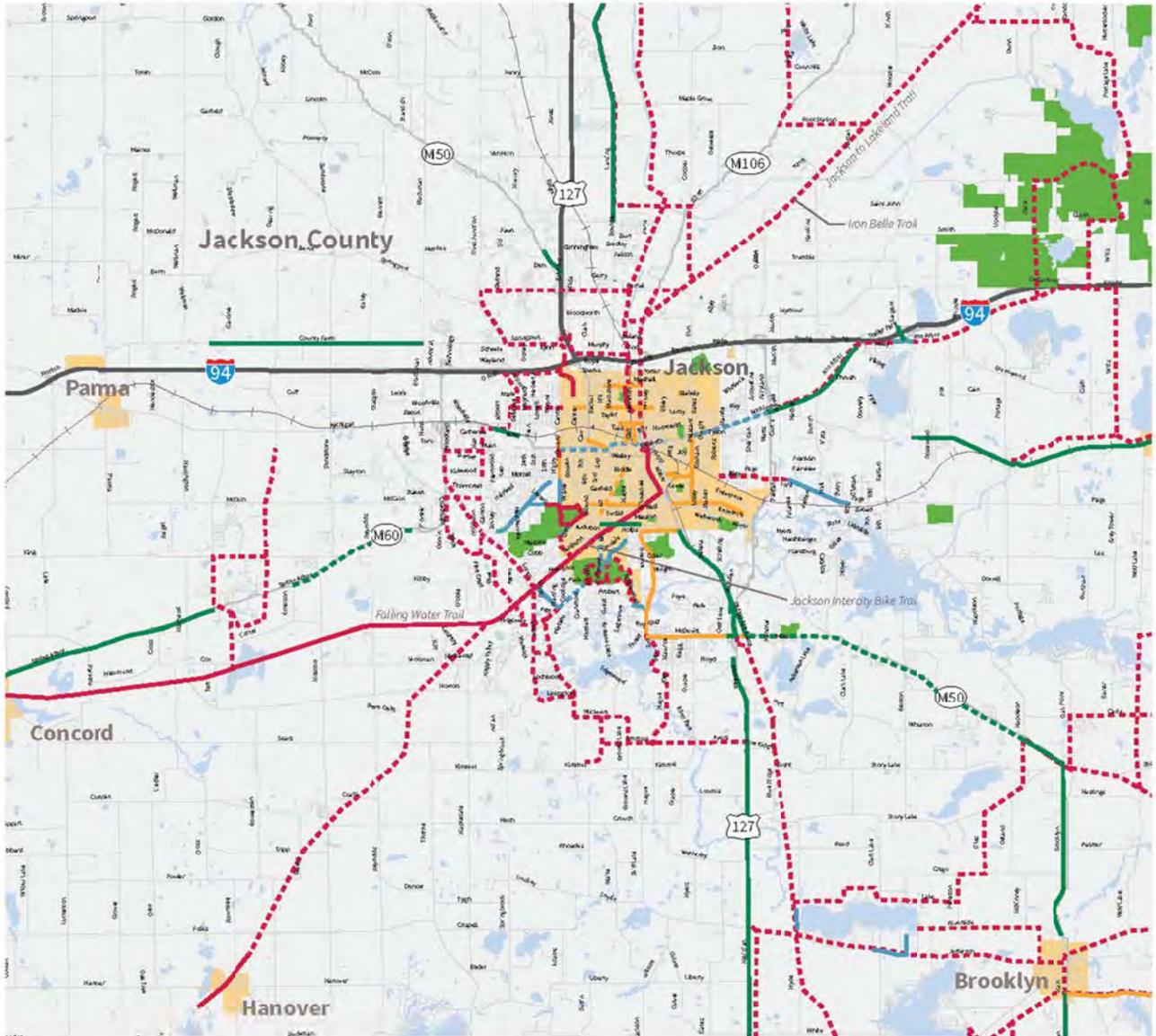


**MDOT University Region  
Non-Motorized Plan**  
Existing and Proposed Non-Motorized Facilities  
June 2015



# Jackson Area

LEGEND	EXISTING	PROPOSED
SHARED USE PATH		
PAVED SHOULDER - GREATER THAN 4 FT. WIDE		
SIDE PATH		
BIKE LANE		



**MDOT University Region  
Non-Motorized Plan**  
*Existing and Proposed Non-Motorized Facilities*  
June 2015





## Priorities in Jackson County

1. Design and construct the MDNR owned **Jackson to Lakeland Connector** and ensure a connection into the Inter-City Jackson Trail. This is also part of the Great Lake-to-Lake Trail and the Iron Belle hiking Trail.
2. The **Heart of the Lakes Recreation Commission Plan** focuses on connecting communities to Brooklyn, Clark Lake, the Wamplers Lake area and north to Waterloo Recreation Area and the Jackson Lakeland Connector Trail.
3. Determine route to extend the **Falling Waters Trail** west through Concord and into Calhoun County.
4. There is interest in establishing a **north/south route** from the Lakeland Connector south to Brooklyn and the Irish Hills Area.
5. Facilities **within and around the City of Jackson** are a priority in order to improve the walkability and bikeability of the urban community. The City of Jackson and Jackson County recently completed plans detailing specific priorities within the community.
6. It is an on-going priority within the County to provide connections to and from the Falling Waters Trail and Lakeland Connector Trail Regional Corridors.
7. There is an extensive **Grand River Water Trail** led by the Grand River Environmental Action Team (GREAT). Coordinating and complementing the water trail and the emerging non-motorized network is a priority.
8. Additional **planning efforts** are needed to coordinate with various agencies and stakeholders to determine routes and connections toward Leslie, Springport and Eaton County.

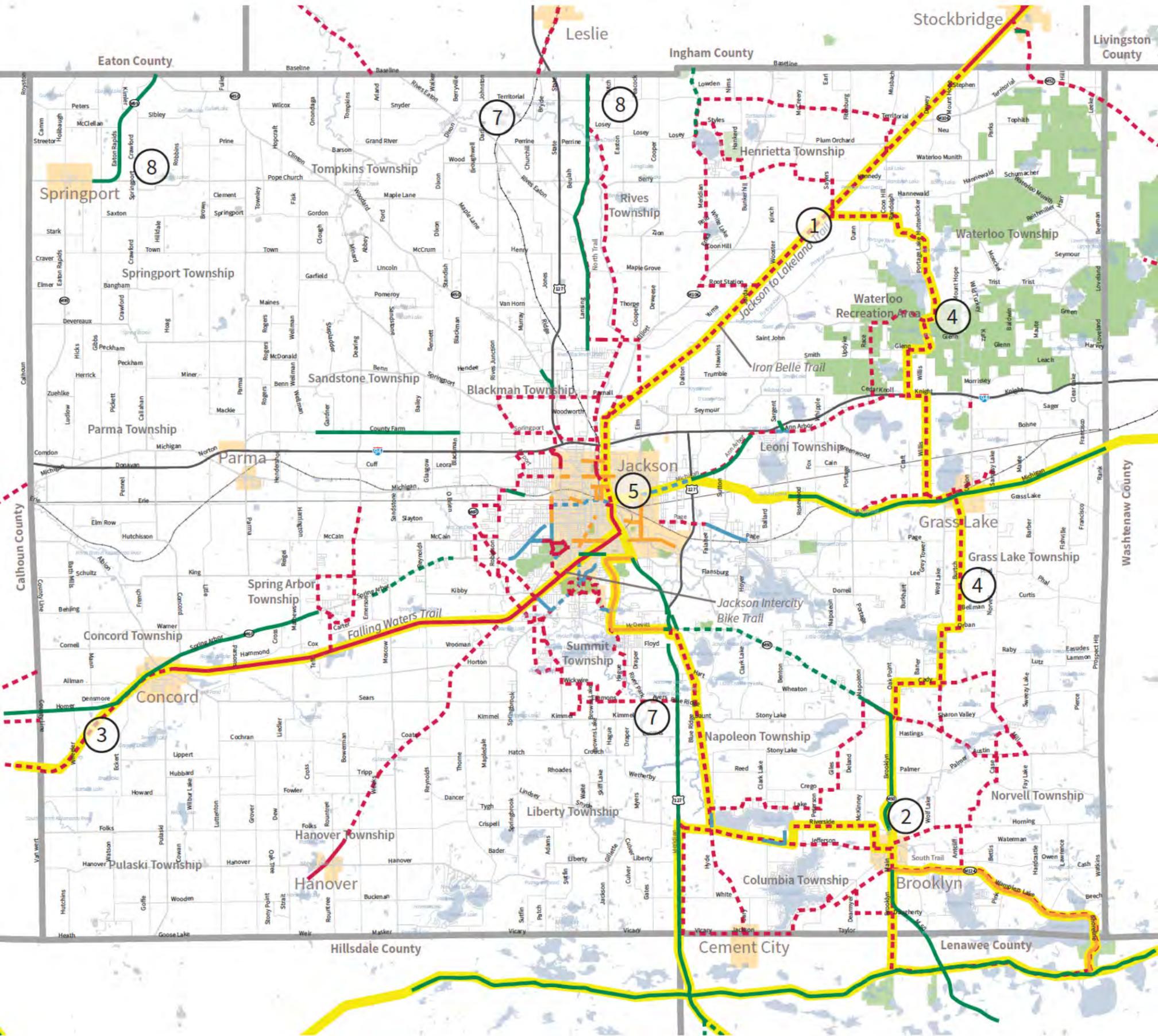
# Jackson County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015



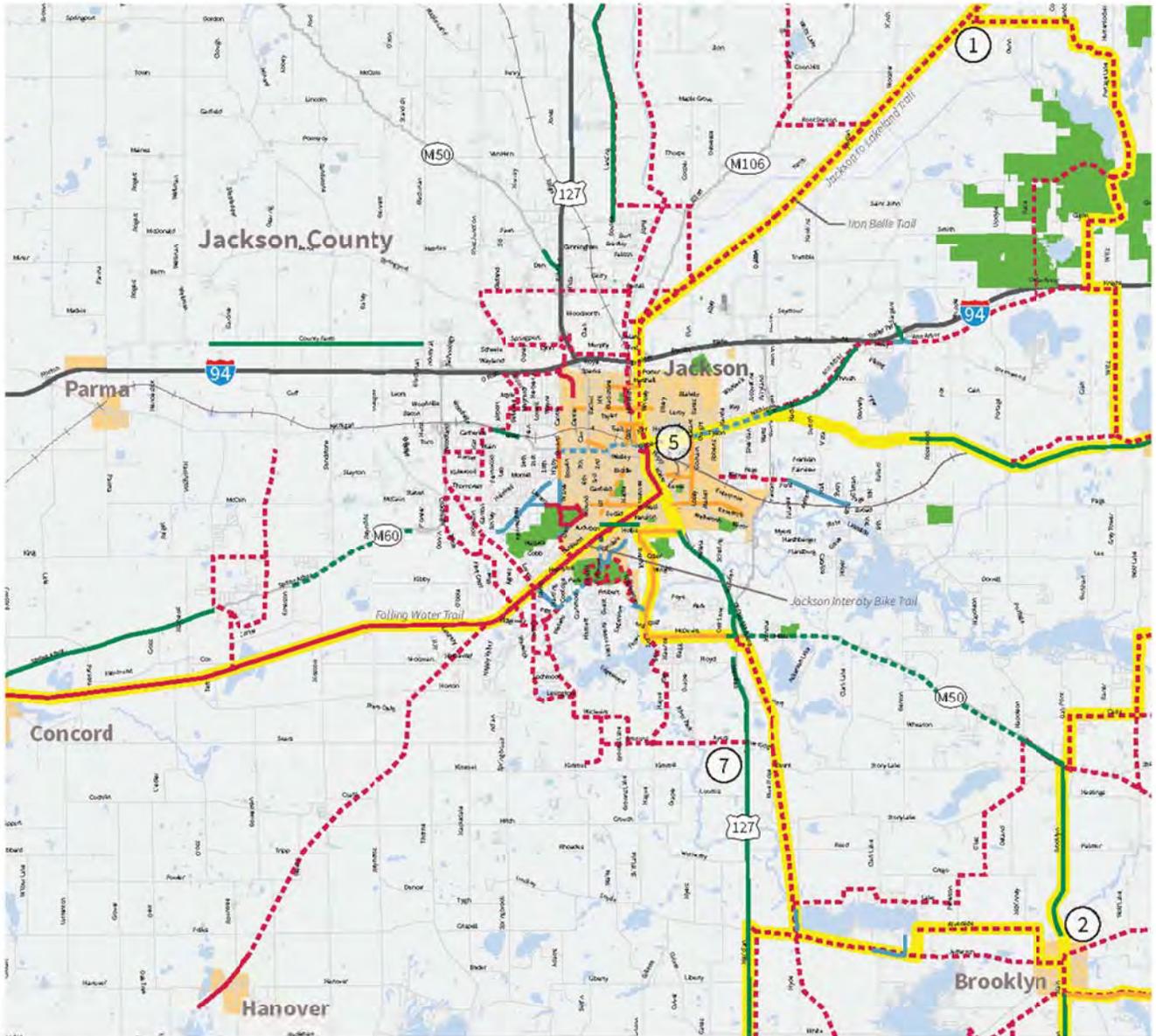
# Jackson Area

**LEGEND**

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKELANE
- PROPOSED REGIONAL CORRIDOR
- KEY TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

	EXISTING		PROPOSED
			
			
			
			

③



**MDOT University Region  
Non-Motorized Plan**  
*Proposed Regional Corridors*  
June 2015





# Lenawee County Existing & Planned Facilities

Within Lenawee County, approximately 88 miles of non-motorized facilities exist (not including sidewalks), including 66 miles of paved shoulders that are 4' wide or greater and 20 miles of shared use paths.

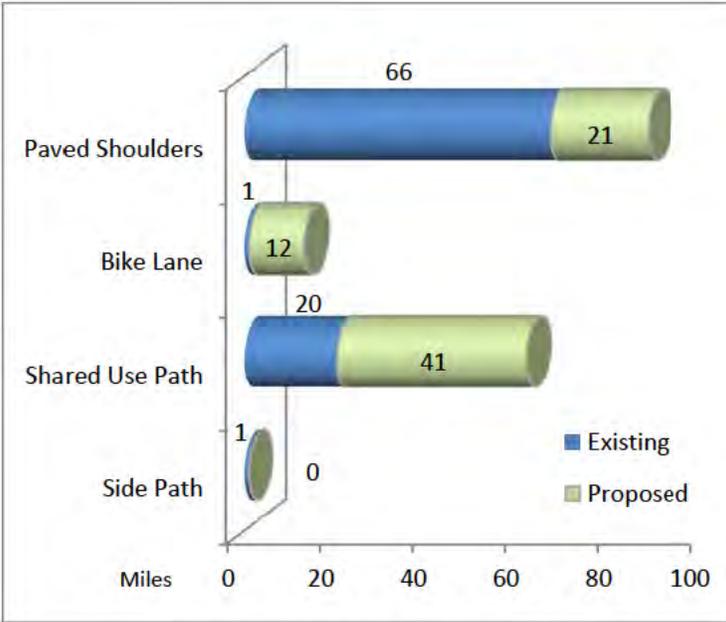
The **Kiwanis Trail** is the most significant non-motorized shared use path in the County. The paved trail traverses approximately 8 miles from Adrian through Adrian and Raisin Townships to Ives Road just south of Tecumseh and offers views of the River Raisin. There are plans to extend the Kiwanis Trail north into Tecumseh and Clinton as was originally



documented in the River Raisin Greenway Study that was completed in 2001. Additional paved shoulders are proposed throughout the County as well as 12 miles of bike lanes and 41 miles of shared used paths. The significant planned extension between Adrian and Hudson was discussed at Outreach meetings but requires research to determine property ownership and feasibility.

**Approved TAP Projects (As of 2/2015)**

*None pending at time of this report.*



**Major Destinations**  
 Adrian  
 Tecumseh  
 Hudson/Lake Hudson State Recreation Area  
 Hayes State Park  
 Cambridge State Historic Park  
 Irish Hills Area/MIS

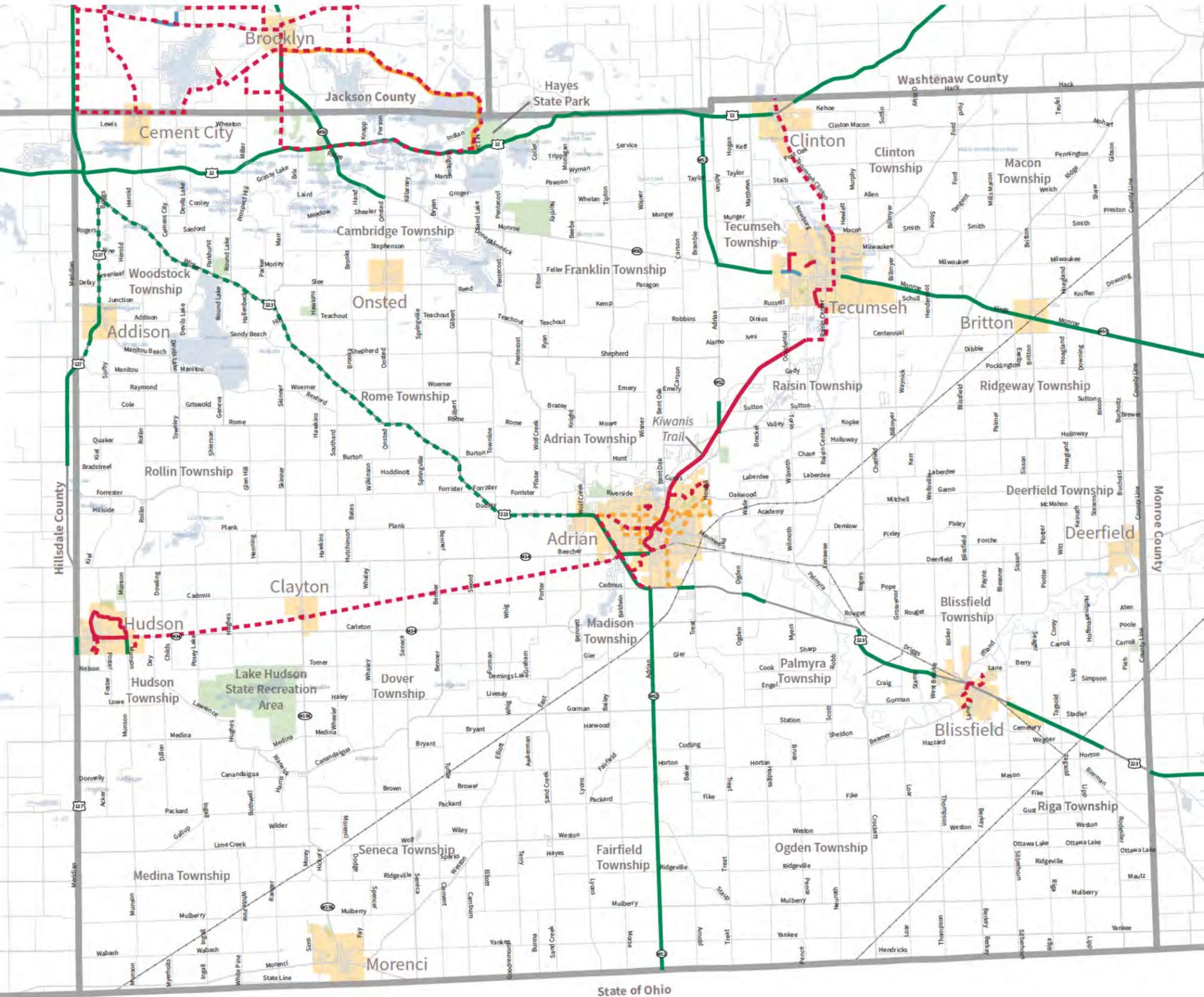
**Primary Data Sources**  
 Region 2  
 Adrian Comprehensive Plan  
 River Raisin Greenway Study  
 Hudson Recreation Plan  
 Connecting Lenawee

# Lenawee County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

EXISTING	PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
Existing and Proposed Non-Motorized Facilities  
June 2015

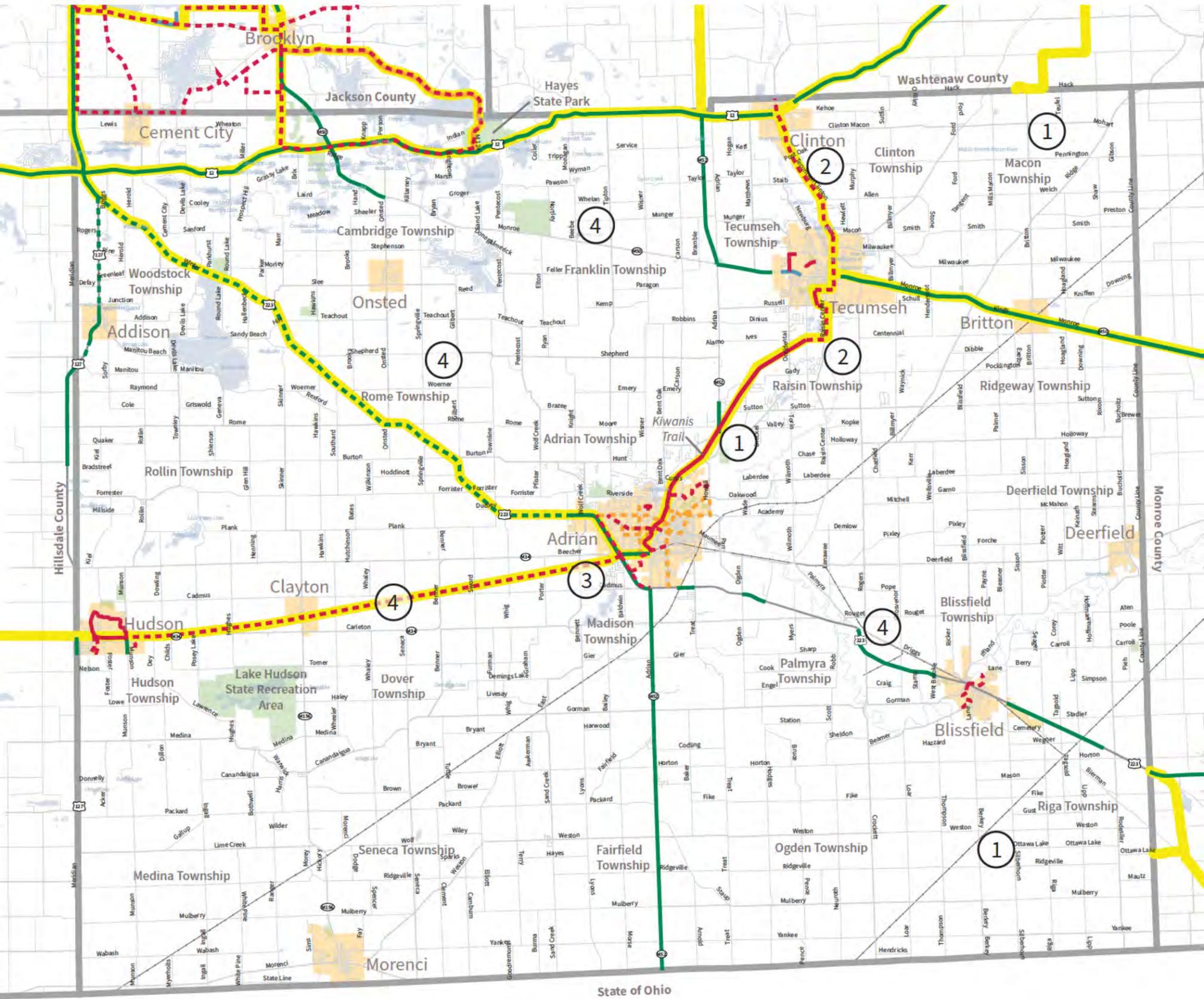


# Lenawee County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015





## Priorities in Lenawee County

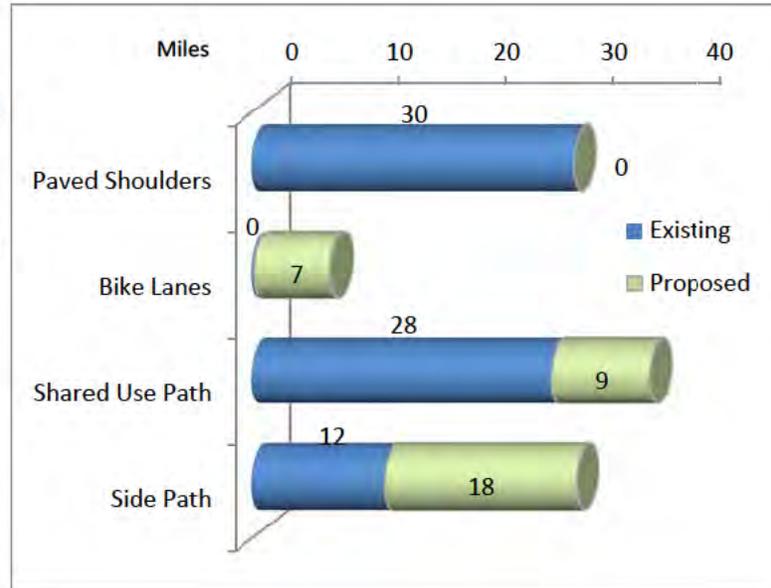
1. Lenawee County includes a section of the **Underground Railroad Bike Route**. Several of the priority projects and regional corridors will also improve the experience of UGGR users.
2. Extension of the **Kiwanis Trail** north into Tecumseh and north to Clinton as is generally described in the River Raisin Greenway Plan – although final route determination is needed.
3. Construction of the **US 223 By-Pass Trail**. This is a shared use trail being spearheaded by the Adrian Kiwanis Club and would include approximately 2.5 miles along US-223 and an additional mile along the south branch of the River Raisin, connecting into the existing Kiwanis Trail. The Kiwanis organization also has plans for additional, more local connections to and from the Kiwanis Trail to other destinations, parks such as Island Lake and Heritage, etc.
4. **Development of a Non-Motorized Plan for Lenawee County**. One Lenawee (citizen based organization) has worked to secure funding for the development of a county-wide non-motorized plan. The Plan is slated for completed in 2015. Among other things, it should include analysis and feasibility of connections including:
  - a. determining route to **connect the City of Hudson and Hudson Township** to/from the Hudson Lake State Recreation Area;
  - b. investigating a connection **between Adrian and Hudson** including determining the feasibility of utilizing an old rail corridor. Issues such as continuity of corridor and ownership have not been fully investigated (although it's believed several sections are privately owned). If not available, seek alternative route;
  - c. investigating a connection **between Adrian and the Irish Hills/Wamplers Lake area** to the northwest; and,
  - d. determining connections to/from **Blissfield and Adrian area**.



# Livingston County Existing & Planned Facilities

More than 70 miles of non-motorized facilities (not including sidewalks) exist in Livingston County including 30 miles of paved shoulders (4' or wider), 28 miles of shared use paths and 12 miles of side paths.

Approximately 35 miles of additional facilities are planned in Livingston County including 18 miles of side paths.



### Approved TAP Projects (As of 2/2015)

*None pending at time of this report.*

### Major Destinations

- Brighton
- Howell
- Fowlerville
- Pinckney
- Island Lake, Brighton, Pinckney Rec Areas
- Huron Meadows Metropark
- Lakeland Trail State Park

### Primary Data Sources

All data from SEMCOG/Metro Region Non-Motorized Plan (2014)

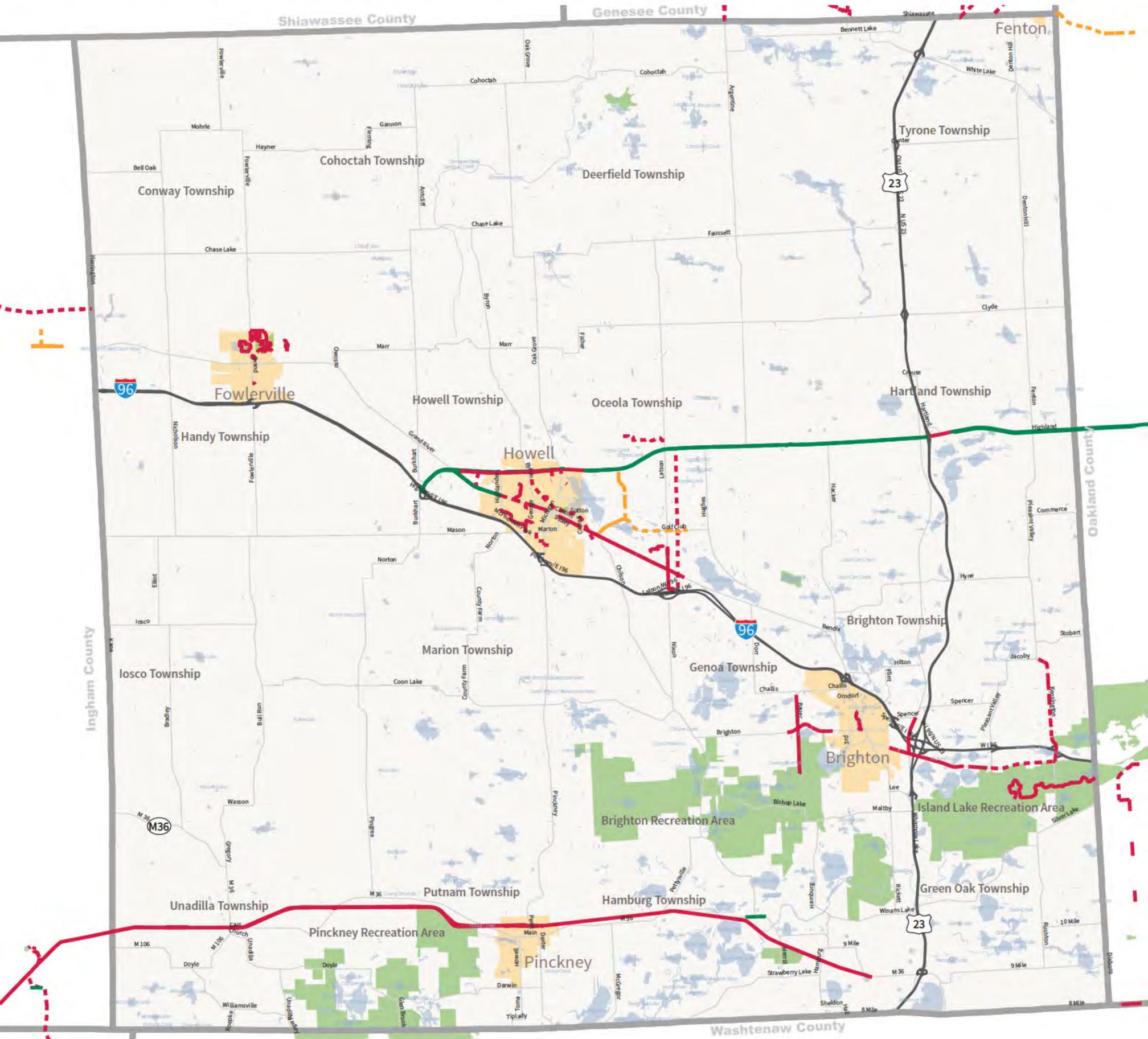
# Livingston County

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

- | EXISTING | PROPOSED |
|----------|----------|
|          |          |
|          |          |
|          |          |
|          |          |



**MDOT University Region  
Non-Motorized Plan**  
*Existing and Proposed Non-Motorized Facilities*  
June 2015



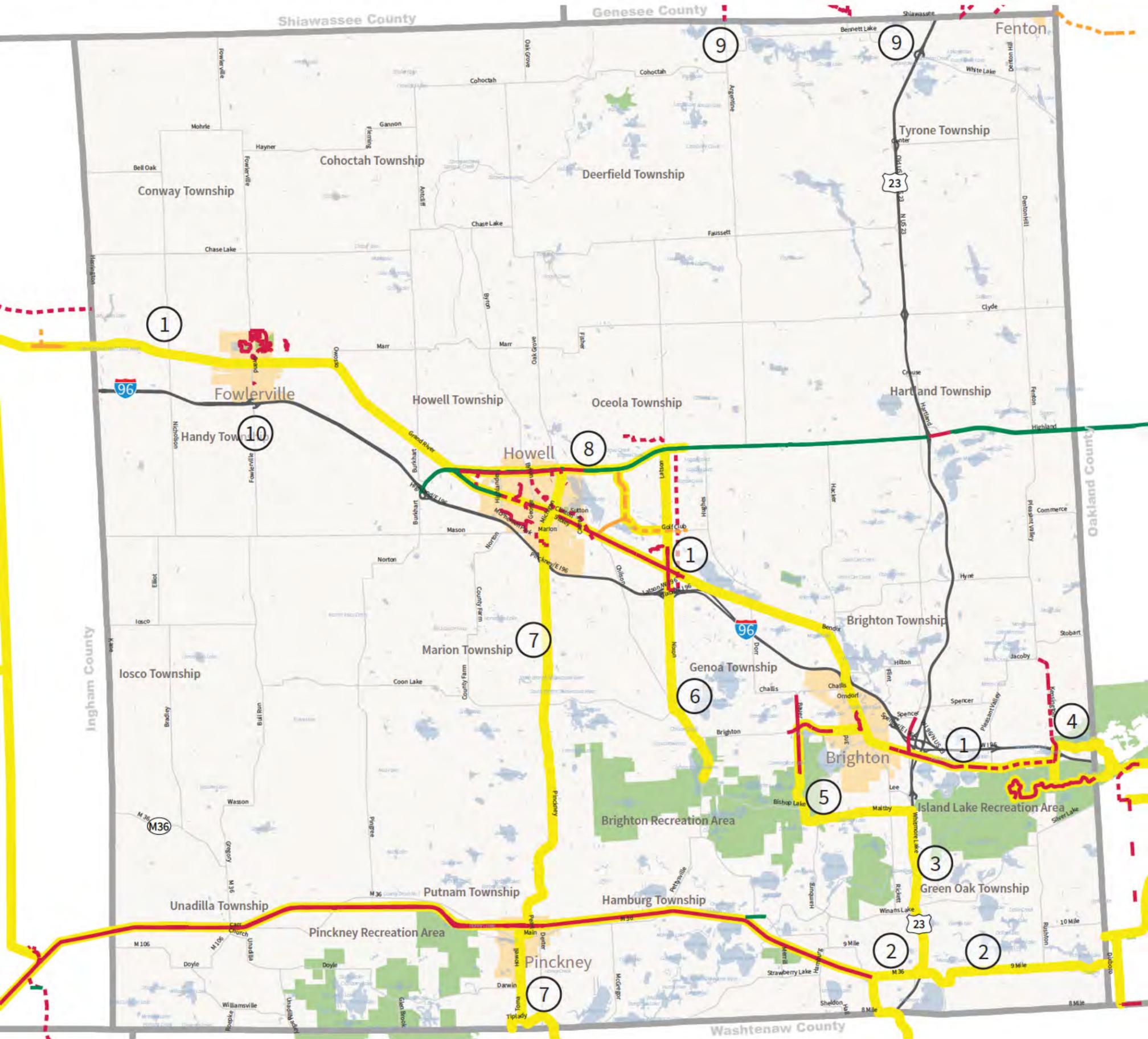
# Livingston County

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
*Proposed Regional Corridors*  
June 2015





## Priorities in Livingston County

*As documented in the SEMCOG/Metro Region Non-Motorized Plan (2014).*

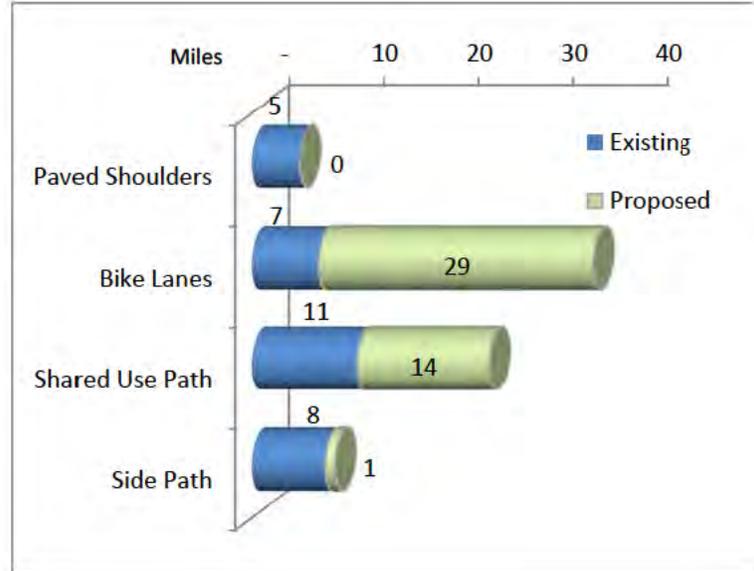
1. **Grand River Corridor** (Kensington Road to Wallace Road)
  - Fill gaps with some form of facility-shared use path, shoulder, bike lane, sidewalk, etc
  - Connection to Ingham & Oakland Counties
  - Howell prioritizes segment between Highlander Way and VG's grocery store
2. **9 Mile (M-136) Corridor** (Lakelands Trail to US-23 Corridor & US-23 to Dixboro Road)
  - Connects Lakelands Trail to Island Lake, via US-23 Corridor
  - Part of Great Lake-to-Lake Trail
  - Connects to Lakelands Trail to South Lyon Trail
  - Connects Washtenaw County (and Village of Whitemore Lake) via existing facility on Lemen
  - Potentially connects to Ann Arbor via Dixboro Road Corridor in Washtenaw County
3. **US-23 Corridor** (Whitemore Lake—9 Mile to Silver Lake; Fieldcrest—Silver Lake to Lee Road)
  - Green Oak Township is improving corridor for bike/ped access with shared use side path
  - Connects to Island Lake Recreation Area via Lee Road Sidewalk
  - Connects to Kensington Metropark and Oakland County via Island Lake path
  - Connects to Great Lake-to-Lake Trail
  - Need safer crossing over US-23 - Ideally at Silver Lake. No bicycle or pedestrian access via roundabouts at Lee Road Interchange
4. **High Ridge Road & Kensington Road** (Kensington Metropark to Grand River; Grand River to Island Lake). Uses existing bike/pedestrian bridge over I-96 on Kensington and connects Grand River to Kensington Metropark.
  - Provides connection to park for northern side of Brighton Area
5. **Maltby Road Corridor** (US-23 to Bauer Road)
  - Good corridor for connecting of Island Lake, Brighton State Recreation Area, and other activity centers
  - Via connection to Bauer Road, would connect to downtown Brighton and Challis Road
  - Would benefit from a bike/ped bridge over I-96
  - Connect to Great Lake-to-Lake Trail
6. **Chilson Road Corridor** (Cunningham Lake Road to Latson Road)
  - Connects Howell to Brighton State Recreation Area
  - Use Latson Road paths and crossing of I-96
  - Potential to extend Latson Road path to M-59 Cross Town Trail
7. **Pickney Road Corridor** connects Howell to Pickney, Lakelands Trail, Dexter & Border to Border Trail
8. **Crosstown Trail** (Grand River to Latson Road)
  - Fill gaps in trail
  - Connects to Grand River via multiple options:
  - Michigan (better because of existing path on M-59)
  - Eager (better because of proposed path on M-59)
  - Latson (would require extension of path on M-59 & Latson Road)
  - Utility Corridor, just east of Latson (would require extension of path on M-59 & utility permit)
9. **Argentine and Whitaker Roads**  
The existing and planned routes in Genesee County could be brought into Livingston County via these roads.
10. **I-96 (west of Howell)**. There are a lack of facilities and good crossings.



# Monroe County Existing & Planned Facilities

Approximately 31 miles of non-motorized facilities (not including sidewalks) exist in Monroe County including 11 miles of shared use paths, 8 miles of side paths, and 6.7 miles of bike lanes.

Nearly 44 miles of additional facilities are planned in Monroe County including 29 miles of bike lanes and 14 miles of shared use paths.



### Approved TAP Projects (As of 2/2015)

- Monroe - M-125 North Monroe Street Streetscape – Elm to Willow
- Frenchtown Twp – North Dixie Highway Bike Lane Facilities

### Major Destinations

- Sterling State Park
- Point Mouillee State Game Area
- City of Monroe and Surroundings
- Dundee
- River Raisin National Battlefield Park

### Primary Data Sources

All data from SEMCOG/Metro Region Non-Motorized Plan (2014)

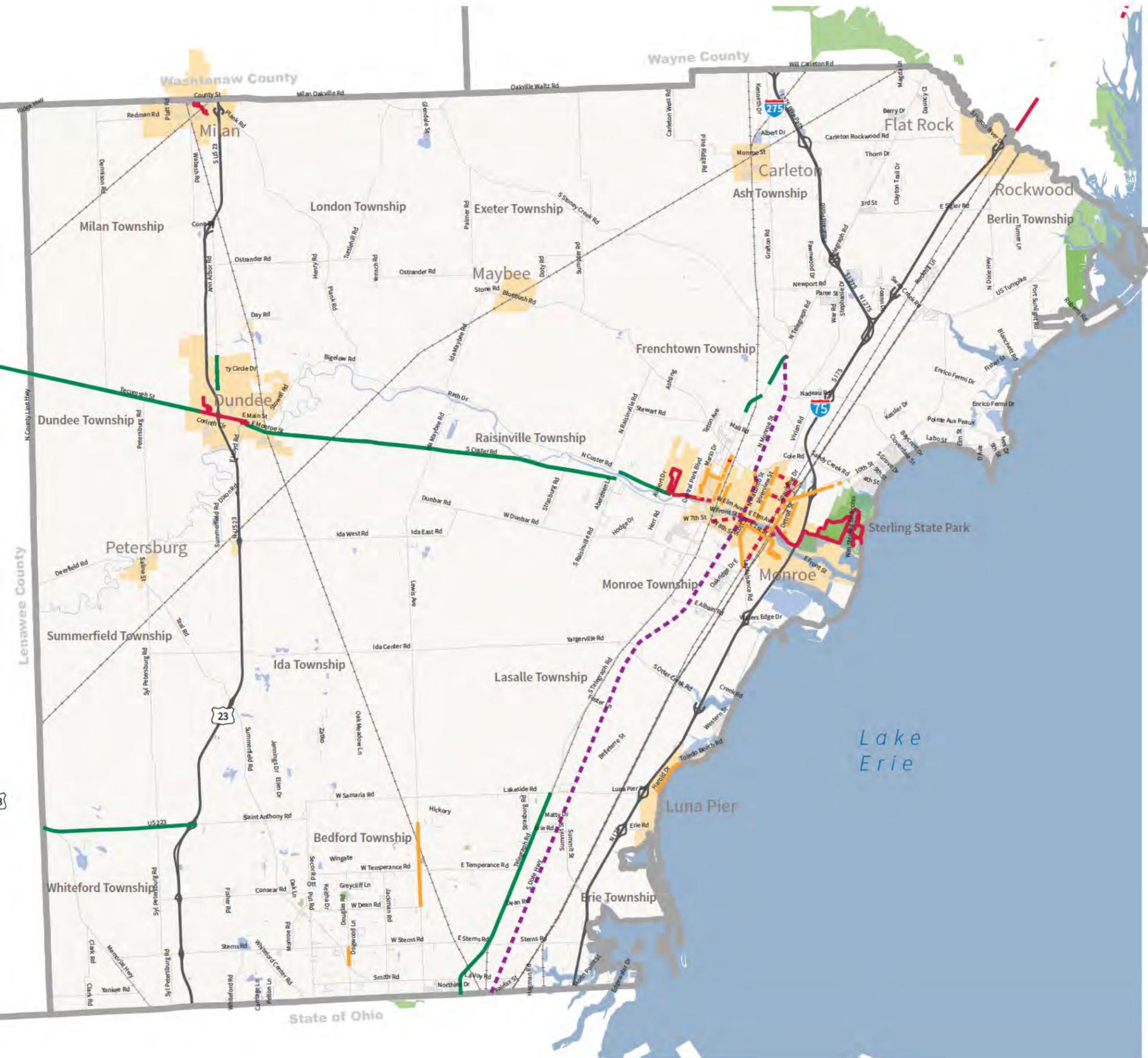
# Monroe County

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- U.S BIKE ROUTE 25

- | EXISTING | PROPOSED |
|----------|----------|
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |



**MDOT University Region  
Non-Motorized Plan**  
Existing and Proposed Non-Motorized Facilities  
June 2015



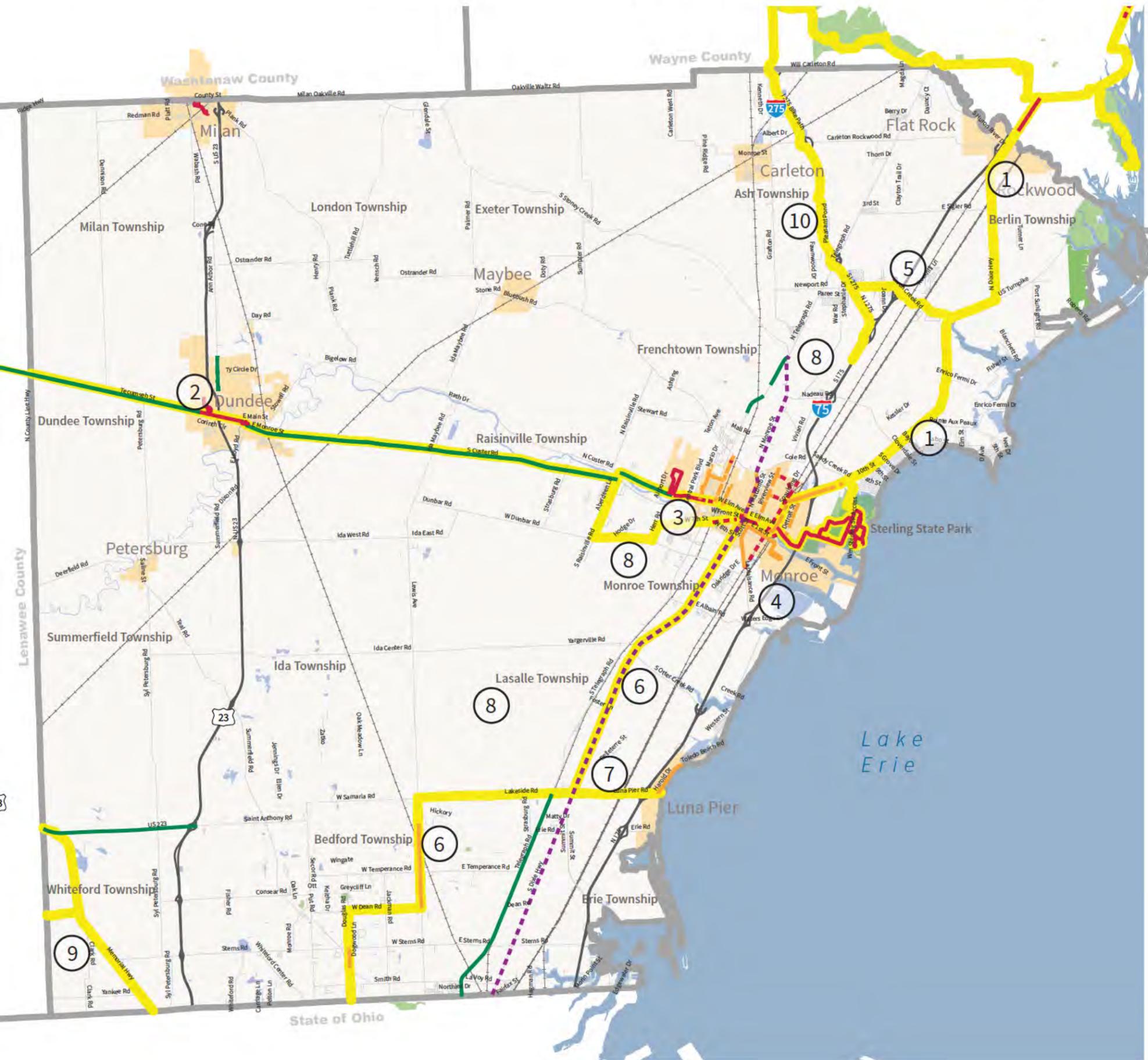
# Monroe County

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- U.S BIKE ROUTE 25
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

EXISTING	PROPOSED



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015





## Priorities in Monroe County

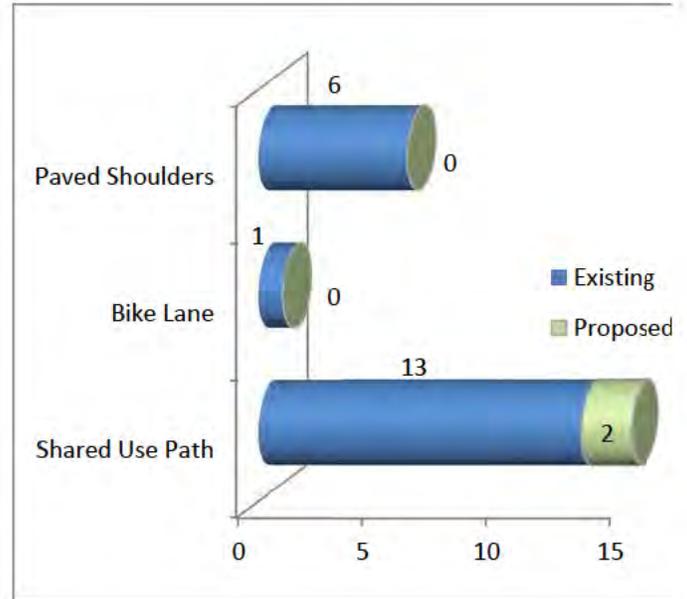
*As documented in the SEMCOG/Metro Region Non-Motorized Plan (2014).*

1. **Dixie Highway** (Waterworks Road to the Huron River/County Border)
  - Frenchtown Township has bike lane and paved shoulder projects
  - Connects Downriver Linked Greenways and 275 Metro Trail to City of Monroe, Sterling State Park and River Raisin Heritage Trail
  - Alternative Route too costly renovation of 275 Metro Trail in Monroe County
  - Part of potential U.S. Bicycle Route 25
2. **M-50 Corridor** (North County Line Hwy to Rasinville Road) connects the City of Monroe to Village of Dundee & Lenawee County. Potentially upgrade shoulders to bike lanes or add signage.
3. **River Raisin Heritage Trail**
  - Connect Monroe County Community College to Existing Trail. Circle route back to town - Rasinville, Dunbar, Herr, and 7<sup>th</sup> Street.
  - Trail not wide enough for shared use in some parts. Upgrade or provide on-street route for bicycles.
4. **I-75 at Laplainsance Road and Albain Road**  
Not bike/ped friendly because of free flow ramps. Township plans could be used to connect Monroe to Luna Pier.
5. **I-75 at Newport Road** should have accommodations for bikes. Connects Dixie to Nike Park and 275 Metro Trail.
6. **U.S. Bicycle Route 25** (south of City of Monroe to Toledo, Ohio)
  - M-125 to Lakeside; Lakeside to Lewis; Lewis to Dean; Dean to Douglass
  - Many connections in Bedford Township
7. **Luna Pier Road Corridor** (M-125 to Harold or Lakeside Drive)
  - Connects Luna Pier to U.S. Bicycle Route 25
  - Connects Luna Pier with Toledo, Monroe, and Downriver Linked Greenways
8. **LaSalle, Monroe, Frenchtown Townships**  
All have plans for non-motorized travel (working with City of Monroe).
9. **Memorial Hwy** (Ohio-Michigan State Line to US 223). Connect Sylvania, Ohio, Whiteford Township, and Lenawee County.
10. **I-275 Metro Trail** (Post Road to Wayne County Border). Consider rebuilding if contiguous segment in Wayne County, south of Willow Metropark, is rebuilt and funding situation changes.



# Shiawassee County Existing & Planned Facilities

Within Shiawassee County, approximately 20 miles of non-motorized facilities exist (not including sidewalks), including 6 miles of paved shoulders that are 4' wide or greater, and 13 miles of shared use paths. Within Shiawassee County, an additional 2 miles of shared use paths are proposed including extending the CIS Trail east to directly connect into downtown Owosso and the James Miner Riverwalk. The James Miner Riverwalk extends 5 miles and connects Owosso to Corunna generally along the Shiawassee River.



The recently completed, 41-mile, Fred Meijer Clinton-Ionia-Shiawassee (CIS) Trail is a significant shared used path that extends into Shiawassee County and traverses east-west and currently terminates just west of Owosso. The CIS is a mix of limestone and asphalt. Owosso has worked to mark “share the road” routes with signage in order to navigate between the CIS and downtown.

**Approved TAP Projects (As of 2/2015)**  
*None pending at time of this report.*

- Major Destinations**
- Owosso
  - Corunna
  - Durand
  - Sleepy Hollow State Park (Clinton Co)
  - Laingsburg
  - CIS Trail
  - James Miner Riverwalk
- Primary Data Sources**
- Region 2
  - Adrian Comprehensive Plan
  - River Raisin Greenway Study
  - Hudson Recreation Plan
  - Connecting Lenawee

# Shiawassee County

## LEGEND

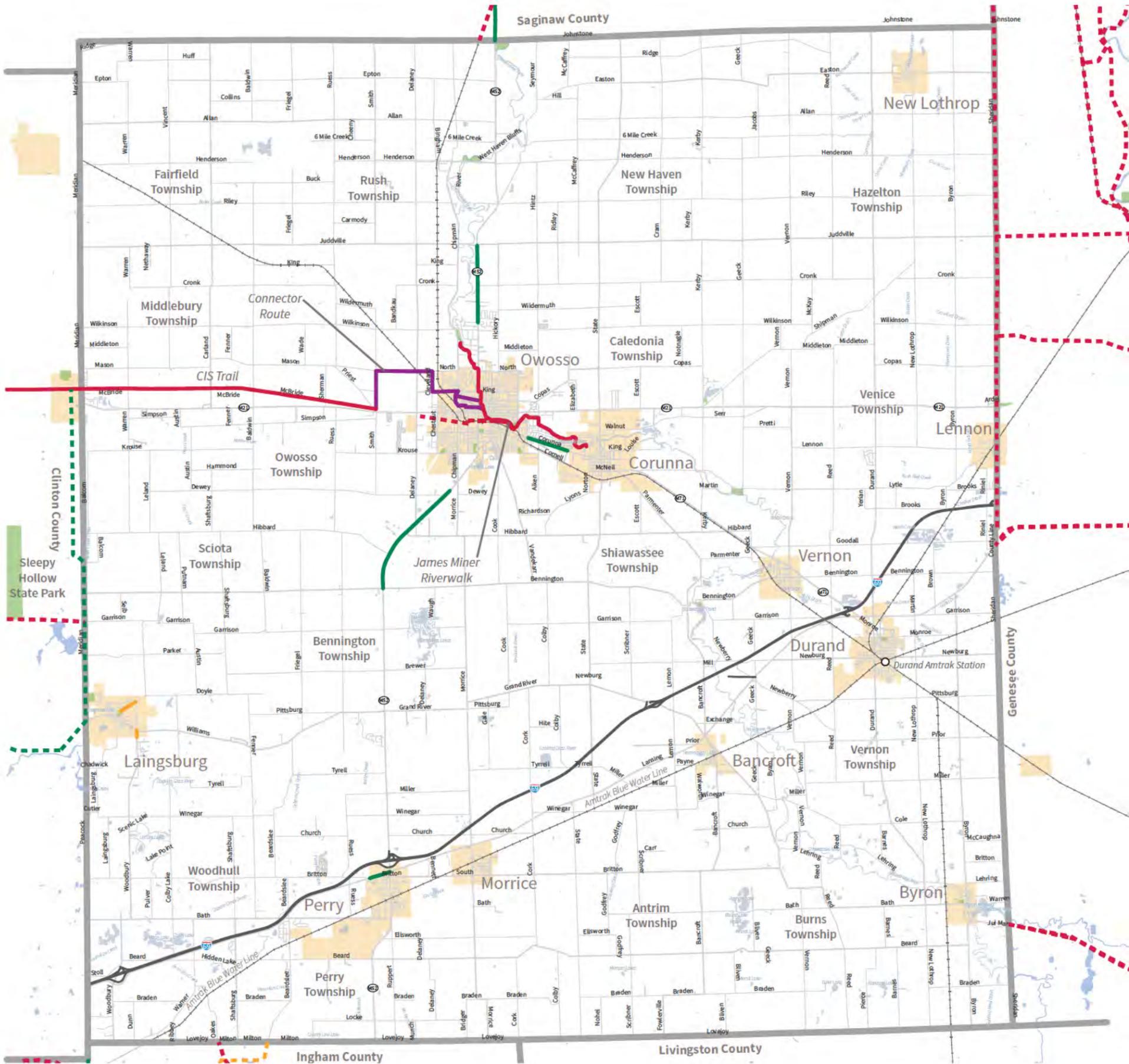
- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- SIGNED CONNECTOR ROUTE

EXISTING

- 
- 
- 
- 
- 

PROPOSED

- 
- 
- 
- 
- 



## MDOT University Region Non-Motorized Plan

Existing and Proposed Non-Motorized Facilities  
June 2015



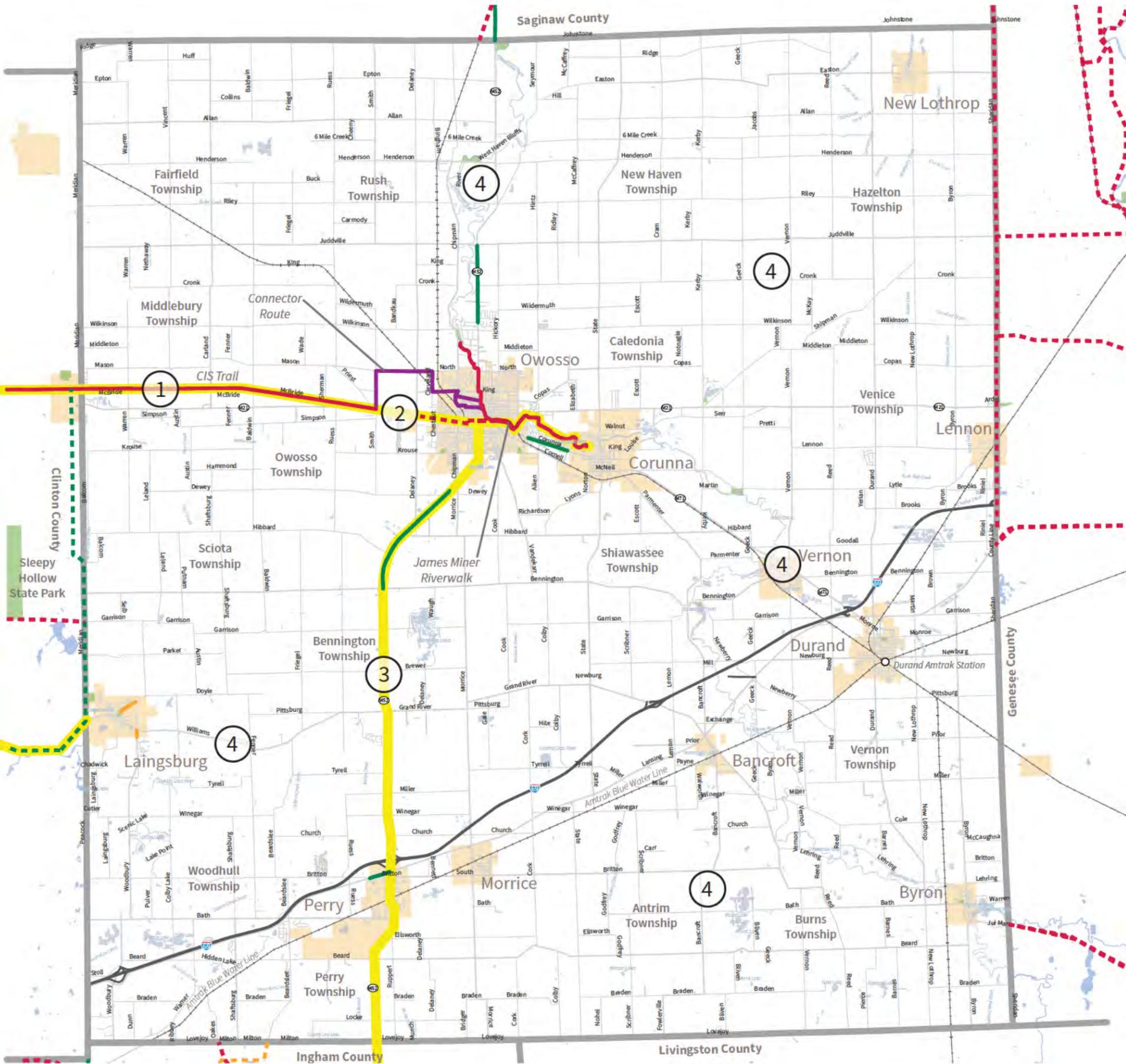
# Shiawassee County

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- SIGNED CONNECTOR ROUTE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

- |          |          |
|----------|----------|
| EXISTING | PROPOSED |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015





## Priorities in Shiawassee County

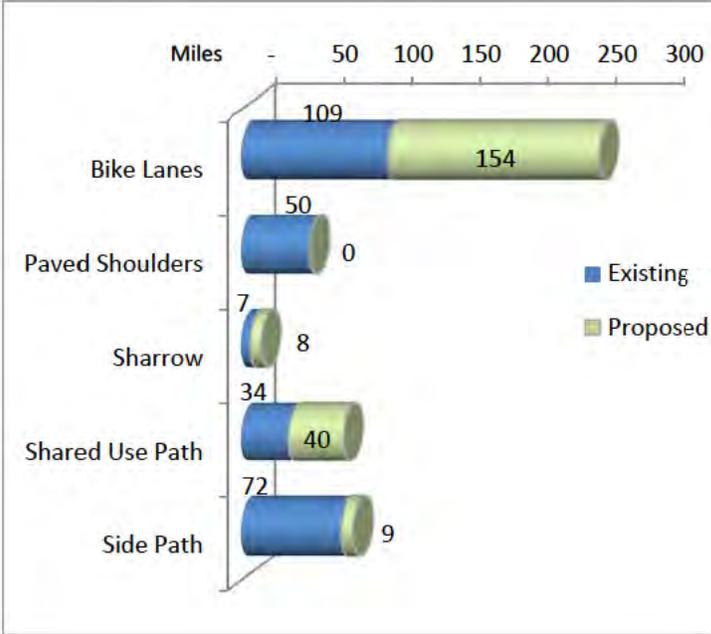
1. The opening of the **Clinton-Ionia-Shiawassee Trail (CIS)** in 2015 was an enormous accomplishment. Providing additional access points, trailheads, and programming on the trail is a priority. As are providing connections to and from the CIS trail.
2. Developing a direct connection from the CIS Trail into **downtown Owosso**, possibly via crossing M-21.
3. Improved facilities within/along **M-52** are desired to provide a north-south connection across the County.
4. Additional, **county-wide planning efforts** are needed to coordinate with various agencies and stakeholders to determine additional desired connections and regional corridors within the County and to adjacent counties and regions.



# Washtenaw County Existing & Planned Facilities

More than 270 miles of non-motorized facilities (not including sidewalks) exist in Washtenaw County including 109 miles of bike lanes, 72 miles of side paths, and 34 miles of shared use paths.

More than 210 miles of additional facilities are planned in Washtenaw County including 154 miles of bike lanes and 40 miles of shared use paths.



**Approved TAP Projects (As of 2/2015)**

- Chelsea – SRTS Beach Middle School and South Meadows Elementary School
- Dixboro Road Shared Use Trail in Ann Arbor Township
- Ann Arbor – Border to Border Trail Reconstruction in Gallup Park
- Ypsilanti – Border to Border Trail Links
- Ypsilanti - M-17 (Washtenaw Ave) HAWK signal

**Major Destinations**  
 Ann Arbor and Surroundings  
 Ypsilanti  
 Chelsea  
 Saline  
 Waterloo and Pinckney Recreation Areas  
 Hudson Mills Metropark

**Primary Data Sources**  
 All data from SEMCOG/Metro Region Non-Motorized Plan (2014)

# Washtenaw County

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

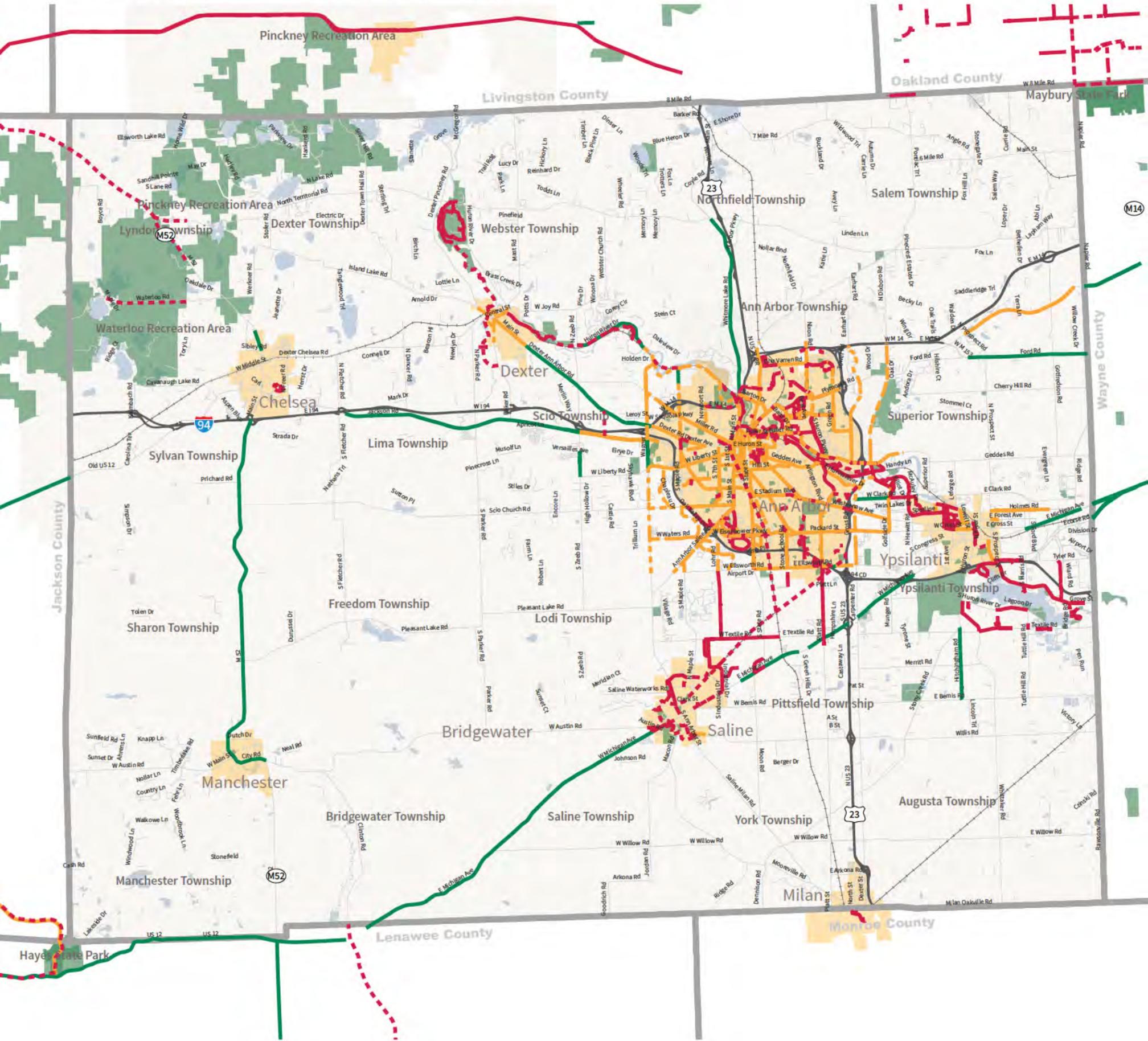
- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE

EXISTING

- 
- 
- 
- 

PROPOSED

- 
- 
- 
- 



## MDOT University Region Non-Motorized Plan

Existing and Proposed Non-Motorized Facilities  
June 2015



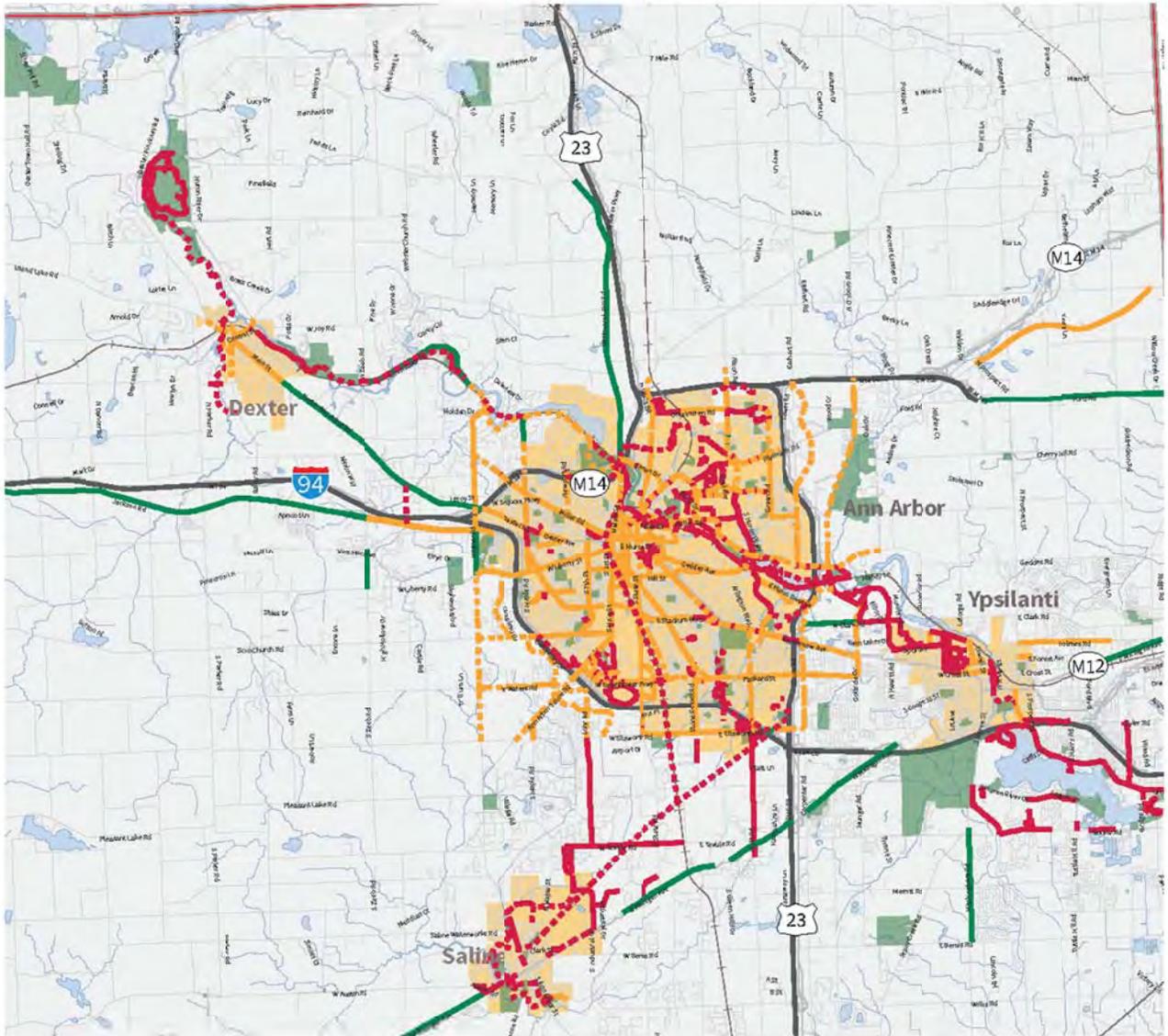
# Ann Arbor Area

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

SHARED USE PATH  
PAVED SHOULDER - GREATER THAN 4 FT. WIDE  
SIDE PATH  
BIKELANE

EXISTING  
PROPOSED



## MDOT University Region Non-Motorized Plan

Existing and Proposed Non-Motorized Facilities  
June 2015





## Priorities in Washtenaw County

As documented in the SEMCOG/Metro Region Non-Motorized Plan (2014).

1. **Border to Border Trail (Lakelands Trail to Wayne County Border)**
  - Multiple road and trail corridors to be used
  - **Northwest Section** (Lakelands Trail to Ann Arbor). Lakeview, Dexter –Pinckney, Dexter-Ann Arbor, and Dexter Road uses paved shoulders and bike routes. Paths in Hudson Mills and other parks along Huron River - Many gaps to fill.
  - **Southeast Section** (Ann Arbor to Rawsonville and Huron River Road).
    - Paths and bike routes along Fuller Road; paths in Gallup Park and along Huron River Road, McAuley Road, Spurline Road; multiple routes through Ypsilanti; path along Grove Road, Rawsonville Road
    - Wayfinding signage needed in Ann Arbor and Ypsilanti as to direction on the Border to Border Trail
  - Could use on-road bike routes until gaps in paths are completed
  - I-94 crossing issues at Huron and Grove Roads
  - Pavement issues and lack of pedestrian facilities on Huron River Road in Wayne County
  - Connects Great Lake-to-Lake Trail to Dexter, Ann Arbor, and Ypsilanti area
  - Connects Washtenaw with Livingston and Wayne Counties
  - Connects to metro parks, I-275 Metro Trail and Downriver Linked Greenways System
  - Part of Iron Belle Trail
2. **Underground Railroad Bicycle Route** uses the following roads: Jordan, Macon, Michigan, Ann Arbor, Ann Arbor-Saline, Extile, Lohr, Ellsworth, State, and Fuller. It also follows the Border to Border Trail. Could potentially benefit from more bicycle improvements. Connects Ann Arbor with City of Saline and Lenawee and Monroe Counties.
3. **Whitmore Lake Road Corridor**
  - Whitmore Lake Road-Barton Road to Kearny. Existing County Bike Route.
  - Coyle and 6 Mile Road (Whitmore Lake Road to Main Street). MDOT putting in roundabout interchange.
  - Main Street (6 Mile Road to 8 Mile Road). Existing County Bike Route
  - Connects Ann Arbor Area to Whitmore Lake and Livingston County
  - Connects Lakeland Trail to Border to Border Trail
  - Connects to potential WALLY Station
4. **Plymouth Road Corridor** (Depot Road to Wayne County border). Existing County Bike Route. Connects Ann Arbor with Plymouth. Connects Border to Border Trail with Hines Drive Bikeway and I-275 Metro Trail.
5. **US 12/Michigan Avenue Corridor** (Lenawee County Line to Napier Road)
  - Connects Saline, Pittsfield Township, and Ypsilanti with Canton Township
  - Connects Lenawee, Washtenaw, and Wayne Counties
  - Connects to Underground Railroad Bicycle Route, Border to Border Trail, and 275 Metro Trail
  - Potentially part of U.S. Bicycle Route 36
6. **Jackson Road Corridor** (Jackson County Line to Huron Street). Existing County Bike Route. Connects Chelsea with Ann Arbor.
7. **M-52 Road Corridor** (Lenawee County Line to Jackson Road). Existing County Bike Route. Connects Manchester with Chelsea.

# Washtenaw County

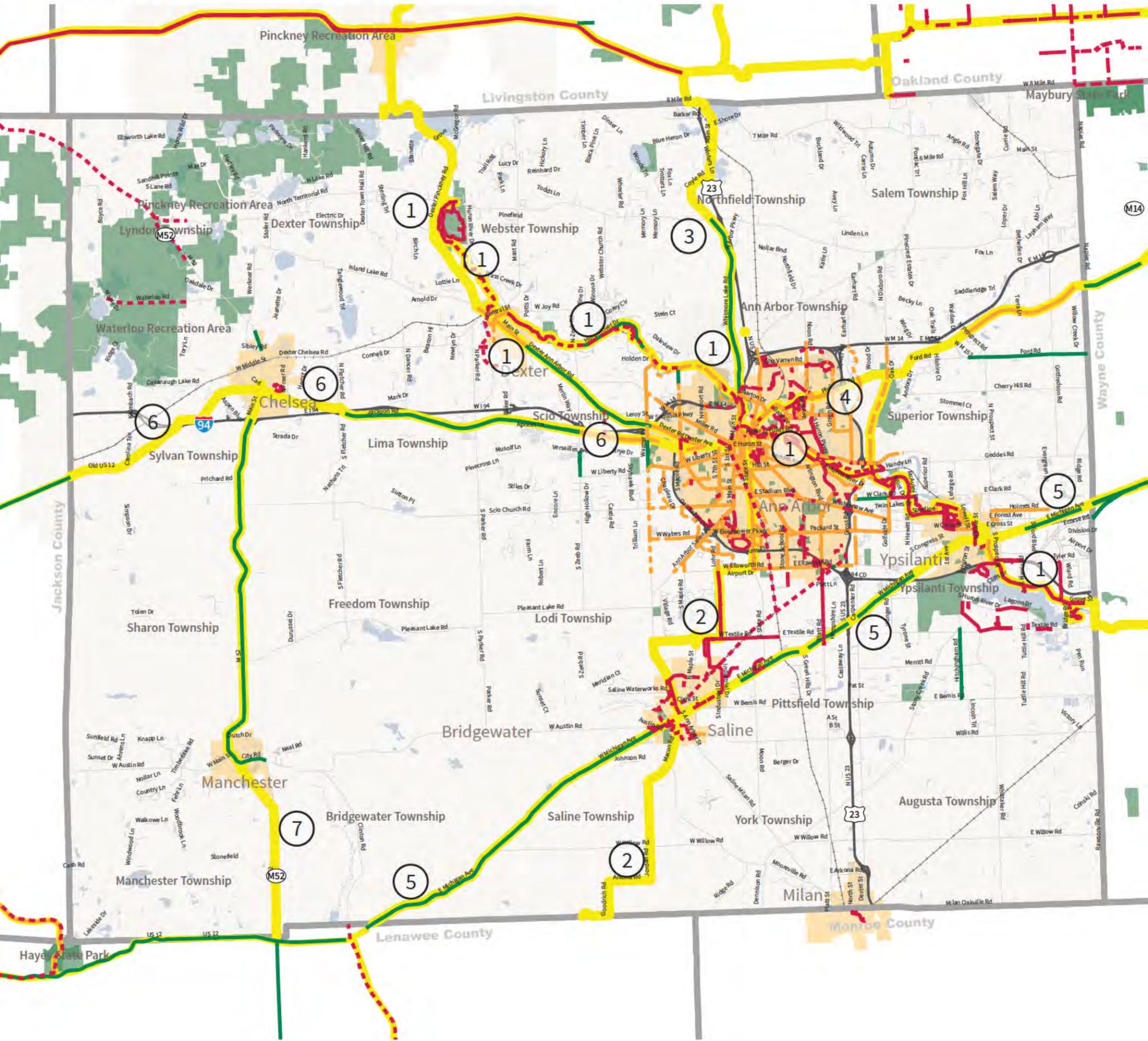
This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

- SHARED USE PATH
- PAVED SHOULDER - GREATER THAN 4 FT. WIDE
- SIDE PATH
- BIKE LANE
- PROPOSED REGIONAL CORRIDOR
- KEYS TO TEXT DESCRIPTION OF PRIORITIES IN MASTER PLAN

- | EXISTING | PROPOSED |
|----------|----------|
|          |          |
|          |          |
|          |          |
|          |          |
|          |          |

3



**MDOT University Region  
Non-Motorized Plan**  
Proposed Regional Corridors  
June 2015

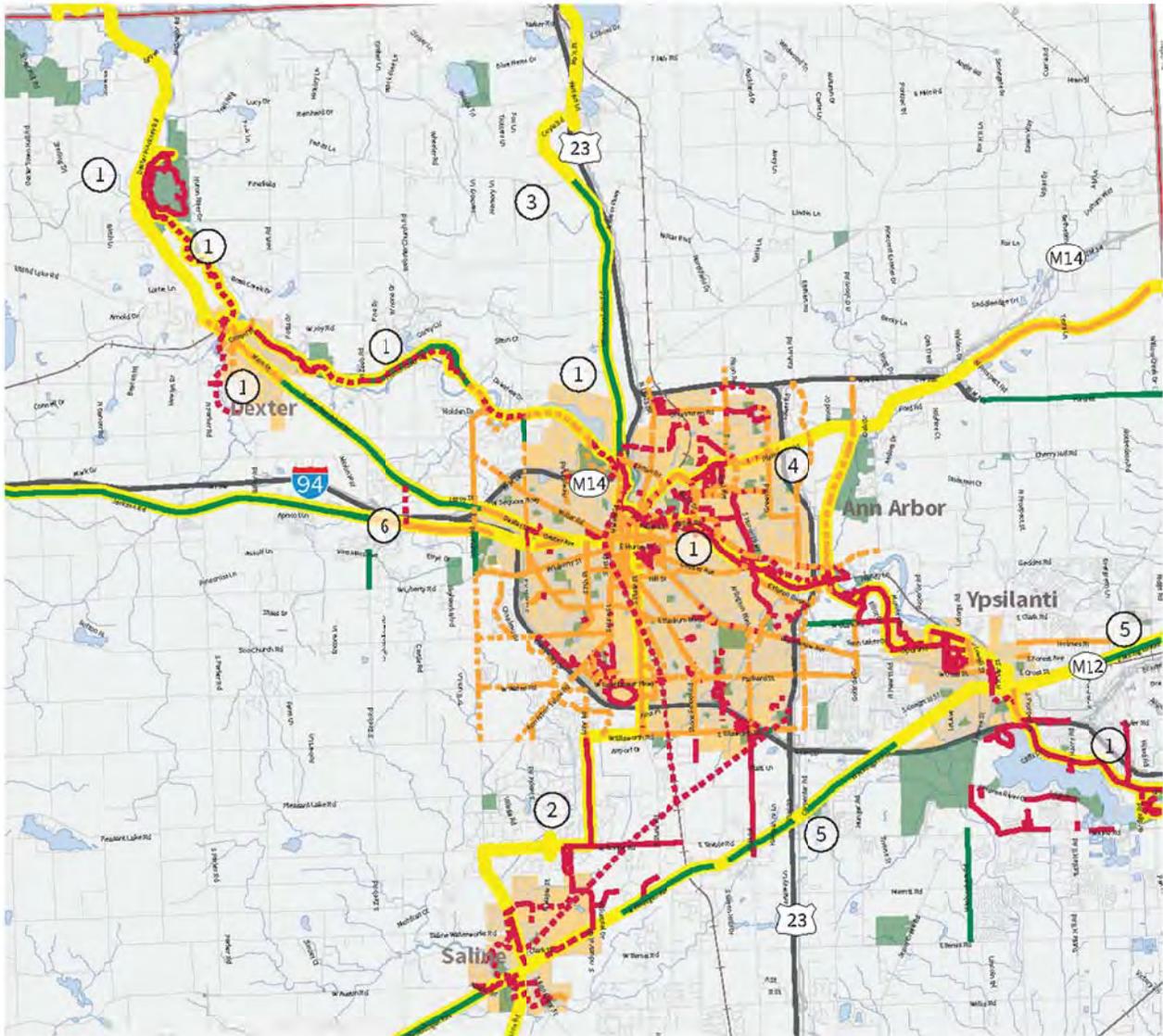
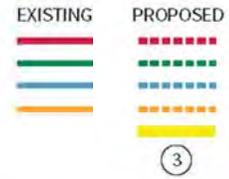


# Ann Arbor Area

This map was created utilizing GIS data and information from SEMCOG during their development of the SEMCOG/MDOT Metro Region Non-Motorized Plan (2014)

## LEGEND

SHARED USE PATH  
 PAVED SHOULDER - GREATER THAN 4 FT. WIDE  
 SIDE PATH  
 BIKE LANE  
 PROPOSED REGIONAL CORRIDOR  
 KEY TO TEXT DESCRIPTION OF PRIORITIES  
 IN MASTER PLAN



**MDOT University Region  
 Non-Motorized Plan**  
 Proposed Regional Corridors  
 June 2015



# General Design Consider- ations

This section of the document details some general design considerations and characteristics related to the accommodation of bicycles and pedestrians within road rights-of-way and off-road corridors. Information is also included related to comfort level and behaviors of pedestrians and bicyclists.

***This section is not intended to replace the wealth of manuals and design guidance documents that exist. There are a number of design manuals and other guidance that should and/or must be used by agencies, designers and engineers on how to best accommodate bicycles and pedestrians in their planning efforts.***

Pedestrian and bicycle trips need to be viewed as part of an interconnected and multi-modal transportation system. Pedestrians and bicyclists have similar concerns and needs, including being vulnerable roadway users. However, those needs are not always identical.

## Reference Material and Guidance

- AASHTO Guide for the Development of Bicycle Facilities, 4<sup>th</sup> Edition
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (second edition expected release date in 2016)
- ITE's Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
- The United States Access Board Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
- National Association of City Transportation Officials' Urban Bikeway Design Guide (NACTO) ([only portions compliant with AASHTO and MMUTCD are accepted by FHWA](#))
- The Federal Highway Administration's table on Bicycle Facilities and the Manual on Uniform Traffic Control Devices
- The Federal Highway Administration's Guide for Maintaining Pedestrian Facilities for Enhanced Safety
- The Michigan Manual of Uniform Traffic Control Devices (MMUTCD)
- MDOT's Design Manual Standards and Guidelines

## Pedestrian Considerations

Walking trips are typically around 20 minutes in length and under one mile in distance. The number of pedestrian trips tend to be higher in urban areas where there is a mix of land uses and the infrastructure exists to support pedestrian travel. Pedestrians are the most vulnerable roadway users. Unlike motorists and cyclists, pedestrians are capable of crossing a street in almost any location. This exposes pedestrians to conflicts with motor vehicles that are not prepared for their presence. Slow speeds, generally 3 miles per hour, also expose pedestrians to traffic for longer periods.<sup>vi</sup> One solution is to design clear pedestrian facilities including sidewalks, crosswalks, and crossings with signalization (where appropriate), that encourage predictable behavior and alert motorists to their presence.

### Accommodating Pedestrians in the Public Right-of-Way

There are 3 primary ways in which pedestrians can be accommodated in the public right-of-way:

#### 1. Sidewalks

The preferred pedestrian facility and provided on both sides of a street. Provide the greatest degree of comfort for pedestrians and are associated with increased safety for pedestrians.

#### 2. Shared Use Paths or Side Paths

An off-road path can be an appropriate facility in rural or low-density suburban areas. Generally setback from the roads and separated by a green area or trees.

#### 3. Shoulders

Wide shoulders on both sides of a road are a minimum accommodation for providing a possible place for people to walk.

--- PedBikeSafe.org

Based on an analysis of crash data for 2008-2012, 0.7% of the crashes that occur in the University Region involve a pedestrian. While this is a relatively small proportion of all crashes, **11.2% of all fatal crashes involve a pedestrian.** Roadway improvements can often reduce the likelihood of a pedestrian crash. Physical improvements are most effective when tailored to an individual location and traffic problem.

MDOT is actively engaged in addressing the growing trends in pedestrian safety and is active with the **Governor's Traffic Safety Advisory Commission, Pedestrian and Bicycle Safety Action Team**, which looks to save lives through actions listed in its 2013-2016 Pedestrian and Bicycle Safety Action Plan.

## Bicycling Considerations

People bike for a number of reasons including recreation, exercise, and/or for transportation. Depending on the trip purpose, there are varying considerations when developing bicycle infrastructure. Commuting or transportation-related bicycling typically involves the shortest and easiest route to the destination, which is typically within or along road corridors. Trips for exercise or leisure are more likely to include scenic, low stress routes on off-road facilities and often during off-peak times and weekends.

Based on an analysis of crash data for 2008-2012, 0.7% of the crashes that occur in the University Region involve a bicyclist. While this is a relatively small proportion of all crashes, **2.9% of all fatal crashes involve a cyclist.**

Before discussing types of facilities and typical design considerations, it is important to discuss the general types of cyclists and how design decisions can impact the number of cyclists using the facilities. Most people can be categorized as one of four types of cyclists.<sup>vii</sup>

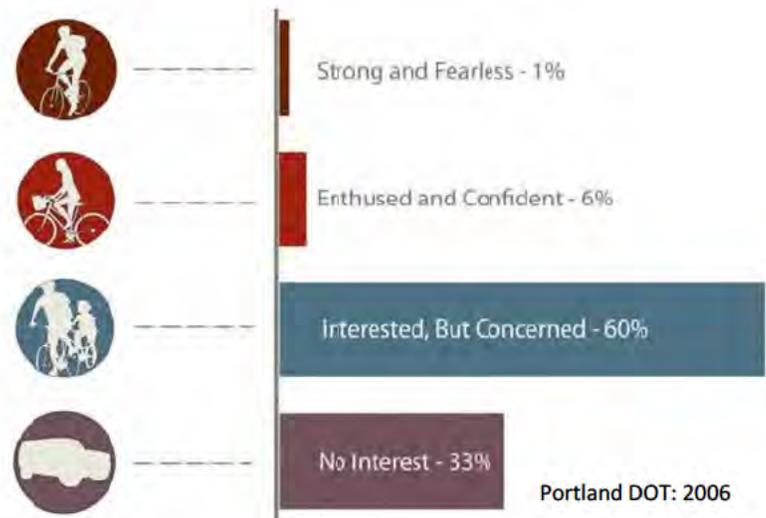
**1** The “**Strong and the Fearless**” are the people who will ride regardless of designated facilities or roadway conditions.

**2** The “**Enthusied and Confident**” are comfortable sharing the roadway with automotive traffic, but they prefer to do so with designated facilities.

**3** The largest portion of people fall into the “**Interested but Concerned**” category. These people are curious about bicycling. They like riding a bicycle and they would like to ride more. They would ride if they felt safer on the roadways.

**4** Finally, approximately one-third of the population falls into the last category of ‘cyclist.’ This is the “**No way, No how**” group that is currently not interested in bicycling at all, for reasons of topography, inability, etc.

## The Four Types of Bicyclists



When working with agencies, stakeholders and advocates to discuss context sensitive solutions related to encouraging bicycling as a safe mode of transportation, it is the “Interested But Concerned” group of the population that should be kept in mind. This group represents the majority of latent demand for bicycle facilities. As such, their preference should be given significant consideration.

### Universal Design

Universal Design is the art of creating environments that are attractive and user friendly for people of all ages and abilities. Everyone, even the most able-bodied person, passes through childhood, periods of temporary illness, injury and old age. By designing for this diversity, things and spaces can be easier for all people to use. Universal Design concepts and principles should be referenced when designing shared use paths, side paths and sidewalks. Resources such as The ARC Michigan, Jackson Council on Aging, and PEAC should also be engaged in the planning and design phases of projects.

## 7 Principals of Universal Design

The principals of Universal Design were developed in 1997 by a working group of architects, product designers, engineers and environmental design researchers at North Carolina State University.

**Principal 1: Equitable Use**

The design is useful and marketable to people with diverse abilities.

**Principal 2: Flexibility in Use**

The design accommodates a wide range of individual preferences and abilities.

**Principal 3: Simple and Intuitive Use**

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

**Principal 4: Perceptible Information**

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

**Principal 5: Tolerance for Error**

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

**Principal 6: Low Physical Effort**

The design can be used efficiently and comfortably and with minimum of fatigue.

**Principal 7: Size and Space for Approach and Use**

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Source: Centre for Excellence in Universal Design

The following pages provide descriptions and illustrations of potential design solutions to accommodate non-motorized users on a variety of types of roads. Appropriate solutions depend on a number of factors. These graphics are intended to illustrate ideas for consideration. These need to be reviewed in context with Average Daily Traffic (ADT) volumes, speed, environmental conditions, right-of-way width, land use, etc. There is flexibility in selecting facility types depending on conditions.

There are also an extensive number of design details, treatments and considerations that may be applicable to projects that strive to improve the safety and mobility of pedestrians and cyclists. As this document is not intended to replace existing design standards, guidelines, and references, not all design considerations and treatments are discussed or illustrated. These include, but are not limited to elements such as:

- Mid-Block Crossings
- Intersection Treatments
- Road Diets
- Signalization
- Striping and Signage Details
- Design details of facilities such as pavement color/pattern

## Paved Shoulders

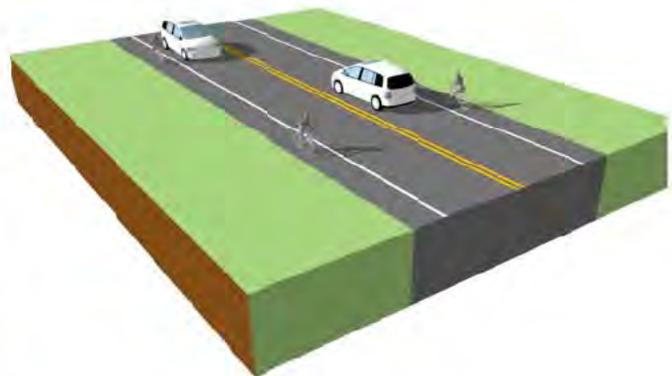
Paved shoulders provide numerous safety benefits for pedestrians, cyclists and motorists. They may or may not be marked as bike lanes. Paved shoulders should be a minimum of 4 feet wide and in more heavily traveled areas may be increased to up to 8 feet wide. Concerns have been raised by cyclists regarding ride quality after road agencies have used a modified binder seal coat (chip seal) application. Ride quality should be considered when specifying size and types of materials.

As documented by the FHWA Safety Program, providing or widening paved shoulders has the following benefits:

- Provides a stable surface off of the roadway for pedestrians to use when sidewalks cannot be provided
- Provides an increased level of comfort for bicyclists
- Reduces numerous crash types including head on crashes, sideswipe crashes, fixed object crashes, and pedestrian crashes
- Improves roadway drainage
- Increases effective turning radii at intersections
- Reduces shoulder maintenance requirements
- Provides emergency stopping space for broken down vehicles
- Provides space for maintenance operations and snow storage



## Examples of Paved Shoulders



### Marked Shared Lanes (Sharrow)

Sharrows (shared lane arrows) are a method for marking shared lanes and consists of a bicycle symbol topped by a double chevron. They should be used for short distances to accommodate bicycles when there is insufficient lane width for bike lanes. They are intended to reinforce existing rules of the road - that bikes have a right to the lane, and to further suggest the lateral position where bikes are expected to ride.

The sharrow markings are typically spaced about 250 feet apart with the center of the symbol at least 4 feet from the curb face where no on-street parking is permitted or based on engineering judgement.



### Examples of Marked Shared Lanes



## Conventional Bike Lanes

Marked bike lanes help to establish order in the roadway by providing a designated place for bicyclists and motorists. Conventional bike lanes are located adjacent to motor vehicle travel lanes and typically flow in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, road edge, or parking lane. Conventional bike lanes are between 4-6 feet wide.

## Buffered Bike Lanes

Buffered bike lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. Buffered bike lanes:

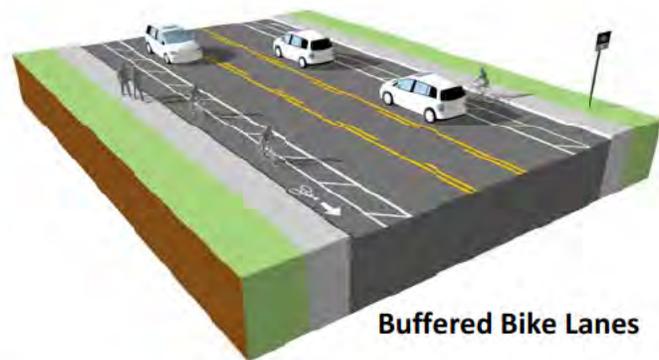
- Provide greater shy distance between motor vehicles and bicyclists.
- Encourage bicyclists to ride outside of the door zone when buffer is between parked cars and bike lane.
- Appeals to a wider cross-section of bicycle users.
- Encourages bicycling by contributing to the perception of safety among users of the bicycle network.



## Examples of Bike Lanes



**Bike Lanes**



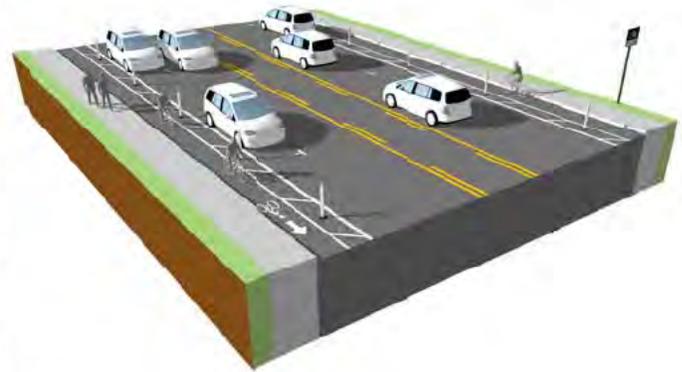
**Buffered Bike Lanes**

## Protected/Separated Bike Lanes

Protected or Separated Bike Lanes include 3 primary items:

- Physical separation: some sort of physical, stationary, vertical separation between moving motor vehicle traffic and the bike lane. Examples include plastic posts, bollards, curbs, planters, raised bumps or parked cars.
- Exclusively for people on bikes: Define and allocate space exclusively for people on bikes, not shared with pedestrians or motorized traffic except for brief mixing zones where necessary and at intersections.
- On or adjacent to the roadway: Part of the street grid and runs parallel and proximate to the roadway.

## Examples of Protected/Separated Bike Lanes



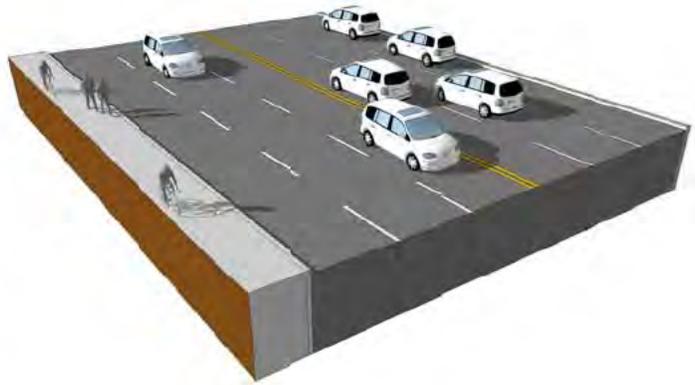
## Side Path

Side Paths are shared use paths that generally follow the roadway alignment.

Depending on land use patterns, Side Paths immediately adjacent to roadways may cross numerous intersecting roads and driveways that create hazards and other problems for path users. Creating safe and accessible intersections between paths and the road network is one of the most challenging and critical aspects of design.



## Examples of Side Paths

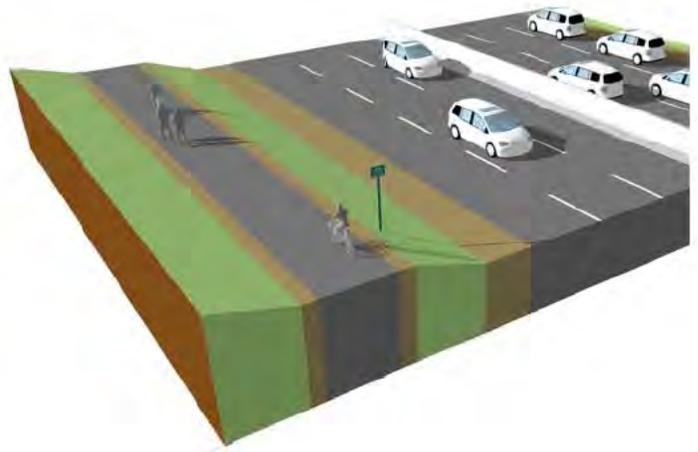


## Shared Use Path

Shared Use Paths are generally set back from the roads and separated by a green area or trees. Many shared use paths are within former railroad corridors, along watercourses, or within utility corridors. Shared Use Paths can be flexible in that they can deviate from the exact route of a road in order to provide more direct access for key destinations and/or natural resources. Shared Use Paths (per AASHTO) are 10 feet wide with 2-feet of clearance on either side.



## Examples of Shared Use Paths



## Funding Sources

Financing the acquisition, development, and maintenance of the non-motorized system is essential to sustaining the system. Several opportunities exist to fund acquisition and development of the non-motorized system. Within the local government structure, understanding the far reaching benefits of a walkable and bikeable community (economic, health, recreation, mobility, transit, etc) opens up opportunities for cost-sharing, thereby reducing the financial burden on one entity, organization or department.

### Infrastructure Projects

Regardless of the source of funding, it is essential for bicycle and pedestrian projects to be coordinated with other road and infrastructure projects. If included early in the planning and design phases of roadway projects, there is potentially more design flexibility and economies of scale. A number of communities and road agencies throughout Michigan have put in a significant amount of facilities by including pedestrian and bicycle facilities, striping, crosswalks, signals, ramps, signage, etc. in with a larger road improvement project.

### ACT 51

Created by Public Act 51 of 1951, this is where all state fuel taxes and license plate fees are deposited. This revenue is shared among city, county and state transportation agencies for construction, maintenance, and operation of Michigan's transportation systems. The state transportation law (MCLA 247.660k) requires a minimum of 1% of state transportation funds be spent for non-motorized transportation. In 2010, Michigan passed legislation that encourages development of Complete Streets as appropriate to the context and cost of a project. This complements State Act 51. Additional information on federal transportation funding sources for bicycle and pedestrian projects can be found on the Federal Highway Administration's and MDOT's Bicycling in Michigan website.

### Transportation Alternatives Program (TAP)

One source of funding available to enhance the regional non-motorized system is the Transportation Alternatives Program (TAP). TAP is a competitive grant

program that offers funding opportunities to help expand transportation choices and enhance the transportation experience through implementing a number of transportation improvements, including pedestrian and bicycle infrastructure and safety paths and facilities. Additionally, investments made through TAP support place-based economic development by offering transportation choices, promoting walkability, and improving quality of life. MDOT is responsible for selecting TAP projects in the University Region. SEMCOG also distributes TAP funds in Livingston, Washtenaw and Monroe Counties.

### MDNR Trust Fund

Another major source of funding for bicycle and pedestrian projects is the Michigan Natural Resources Trust Fund (MNRTF), which provides grants to local governments and other agencies to secure and develop lands for recreational purposes. Trail projects connecting communities to one another and to natural resources are a priority of the Trust Fund Board and are routinely awarded grants through the MNRTF. Additionally, since the MNRTF is a state source of funds, it can be used as match for TAP or other federal grant projects.

### Safe Routes to School

The SRTS program is a federally funded grant program managed by MDOT and administered by the Michigan Fitness Foundation. Developing a SRTS Plan is a process that involves schools, cities, and community groups working together to develop a plan that helps students walk or bike to school safely and in greater numbers. Quarterly infrastructure awards are made up to \$200,000 per school. Local match and Professional Engineering/Construction Engineering (PE/CE) costs are required. Also includes non-infrastructure items such as encouragement programs, enforcement, education and evaluation.  
[www.saferoutesmichigan.org](http://www.saferoutesmichigan.org).

### CMAQ

The primary goal of the Congestion Mitigation and Air Quality Improvement Program (CMAQ) is to reduce traffic congestion and enhance air quality. These funds can be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects such as maps, brochures, and public service announcements related to safe bicycle use. Funds are available to counties designated

as non-attainment areas for air quality, based on federal standards.

### Others

Non-traditional sources of funding can also be used for bicycle and pedestrian projects such as local millages, tax increment financing (TIF) district funds, and state and local philanthropic organizations. A number of “local” millages are in place in the University Region that are assisting in the implementation of road improvements, trails and non-motorized facilities.

---

<sup>i</sup> SEMCOG/Metro Region Non-Motorized Plan, 2014.

<sup>ii</sup> Ibid.

<sup>iii</sup> Washington Post. Brad Plumer. August 7, 2013.

<sup>iv</sup> MDOT U Region Ped Bike Committee . January 2014.  
Analysis of 2008-2012 crash data.

<sup>v</sup> MDOT CSS website.

<sup>vi</sup> SEMCOG/Metro Region Non-Motorized Plan, 2014.

<sup>vii</sup> R. Gellar, Portland Office of Transportation.

# Appendix

**Outreach Meeting Notes**

**Existing Plans and Resources**

# MDOT University Region Non-Motorized Transportation Plan

## Shiawassee County Outreach Meeting

November 6, 2014

4:00 – 7:00 pm

Owosso City Hall

### Meeting Notes

**Attendees** 12 people attended the meeting (not including consultants or MDOT staff)

### General Notes and Map Changes

- Owosso Community Development Director had map at meeting of existing non-motorized facilities including the “on-street” share the road route from the CIS into downtown, etc.
- For Shiawassee County and going south of 69 to Stockbridge, review 4 foot shoulder facilities. Believe maps have missing segments along 52.
- The CIS Trail (within the former rail corridor) ends at Smith Road (west of Owosso).
- Review Owosso Rec Plan for alignment of non-motorized facilities through town. 2011 Owosso Park Plan. See pdf pages 96, 88 and 58 for map of existing James Miner Trail, proposed extension and description of proposed non-motorized improvements. Add existing James Miner Trail to maps but note that not AASHTO standard.
- Check on the “type” of existing and proposed facilities in Laingsburg. Most likely not all shared use. 2009 Parks Plan exists but needs to be reviewed closely with google maps. At first glance, appears most “existing” facilities surveyed are sidewalks only.
- Check with Durand City Administrator to see if any non-motorized plans exist. Leah sent email.
- Show both the north and south connections from the CIS trail into Owosso. The North Road connection is important into downtown. A lot of the connection between the CIS And James Miner Trail will likely be sharrows.

### Priorities/Issues/Concerns

- High priority to more fully connect the CIS trail into downtown Owosso.
- Shiawassee County has very low traffic volumes and good quality roads, so a lot of people come to the county to ride on the roads.
- For the most part, county roads don’t have shoulders.
- The small towns in the area (New Lothrop, Laingsburg, Ithaca, Alma) as well as Sleepy Hollow State Park and the CIS Trail are priority destinations.

- Consultant question for MDOT: James Milner Trail is significant within Owosso and they have plans to use it as a connection between CIS and Corunna/Durand. It's only 6' wide and both paved and dirt surfaces – so non-AASHTO. How should it be included in the GIS database?
- Jack Milner Trail is a high priority for rehabilitation and improvement as a primary route through Owosso and connecting to Corunna and Durand. The underpass (M-21) in town is a high priority and a TAP application has been submitted for improvements.
- Additional access points, trailheads and parking are desired along the CIS.
- MDOT is planning to “straighten” the M-21 curve west of Owosso. CIS would like to cross M-21 at the time that work is completed.
- Laingsburg is very interested in connections to Sleepy Hollow.
- Attendees thought a plan exists to connect Durand to Schwartz Creek in Genesee County.
- A lot of hilly riding in Shiawassee Township area. Consider recommendation to widen shoulders at spot locations to assist with site distances and speeds. Encourage Road Commissions to consider spot treatments for safety.
- Include design treatment graphics for crossing railroads appropriately with non-motorized facilities.
- Riders like rumble strips if there is a 6' wide paved shoulder because you can hear if a car is crossing the line or not.
- There are mountain bike trails around Hopkins Lake City Park.

# MDOT University Region Non-Motorized Transportation Plan

## Hillsdale County Outreach Meeting

November 10, 2014

4:00 – 7:00 pm

Hillsdale City Hall

### Meeting Notes

**Attendees** 4 people attended the meeting (not including consultants or MDOT staff)

#### General Notes and Map Changes

- City of Jonesville...no longer a Village – change on all maps.
- Parks layer is missing, Add GIS layer to maps.
- Jonesville new trail along old RR ROW will connect to North Country Trail
- Add North Country Trail alignment to GIS for analysis purposes.
- Road Commission engineer present at meeting, no current NoMo projects being planned
- Tim with City of Jonesville mentioned 98% of design work completed for a new trail project sponsored by City and Headwaters Rec Authority (digitized in GIS). Gaige Street to Beck Street, north across M-12 to the existing bridge over river. A trailhead will be added on north side of M-12 with help from Fire Dept, Rotary, and Lions Clubs. Phase 2 for new trail project across old pedestrian bridge crossing to M-99 proposed but no funding identified or design started.
- The Hill-Jo trail extends from US 12 south to Wicker Place Road where it connects to Baw Bees Trail. Baw Beese Trail connects over the railroad ROW to Montgomery and heads south.
- The paved 4ft shoulder for M99 starts at US 12 and goes south til it ends just before Beck Road
- The Baw Beese Trail has a gap near the Omni Source bldg. Have to go through parking lot.
- Baw Beese Trail south of lake – confirm – may just be gravel.
- Headwaters Rec Authority has planned connections map (2013) provided. Includes proposed routes along M-12 in Jonesville out and around lake east of town.
- Michelle with City of Hillsdale has another Plan that shows additional connections to the linework we have drafted . Ask Michelle for this plan from 2009.
- Road Commission and others in attendance feel that on-road facilities are dangerous.
- Obtain Litchfield trails, there is a nature trail that is not an AASHTO facility but could be proposed. Again, check with Michelle.
- Review Headwater Rec Authority Plan 2013.
- Check if M-99 is 4 ft wide should at curve south of town.

## **Priorities/Issues/Concerns**

- Phase 2 of the Trail extension in Jonesville across river (north of M-12) is high priority.
- Snow removal and maintenance continue to be long-term issues and concerns.
- M-99 Hill Jo Trail is not safe where it's too close to the road.
- Jonesville Road is used quite a bit by cyclists
- Connecting Litchfield to Jonesville is a priority.
- MDOT check in on M-99 Trail south of M-12. Locals want to "abandon/remove" because it's built right next to road. May have been built with TAP funds in 1970s??
- There is a rail corridor between Litchfield and Jonesville. – Believed to be abandoned and owned by MDOT. Used for storage.

# MDOT University Region Non-Motorized Transportation Plan

## Eaton County Outreach Meeting November 17, 2014 4:00 – 7:00 pm Charlotte (ALIVE Facility)

### Meeting Notes

**Attendees**      12 people attended the meeting (not including consultants or MDOT staff)

### General Notes and Map Changes

- Eaton County Parks has GIS data for existing parks, email for data dissemination agreement form
- Update paved shoulders data with MDOT database. Don't think shoulders extend along Lansing Road by Pottersville or across 69.
- Delta Township has a non-motorized plan. Emailed to C. Gulock 12/4 by Gary Bozek from Twp.
- Grand Ledge has a non-motorized Plan.
  - River Road shows as existing bike lanes but they are not
  - Side path to loop down 43 into Fitzgerald County Park will be in County Park Plan Update ongoing. It would be a side path proposed due to curb cuts. Proposed route drawn on 11x17 Grand Ledge Map.
  - Paved shoulder may exist on Nixon Road from Saginaw Hwy to Mt. Hope – verify.
- Vermontville has a Safe Routes to School Plan.
- Thornapple Trails group has plan to connect every town in Eaton County.
- Clean up the Thornapple Trail line work at Vermontville. Shows two lines. Removed duplicated SW Region GIS data showing Paul Henry Thornapple Trail incorrectly going into Vermontville, Jay updated in GIS dataset at meeting (done)
- A study is being completed in Eaton Rapids to connect city to future rail trail.
- Determine source of "proposed bike lanes" along Bellevue that is shown traversing from Olivet to Hamlin Township. Don't think this is accurate. Is it proposed wide shoulders?
- Completed Shared Use Path in Grand Ledge should replace Proposed Shared Use Path. Jay updated the linework in the GIS dataset at meeting so update completed.
- Note for updated Tri County data when received, most outlier proposed bike lanes should be proposed 4 ft paved shoulders...confirm Tri County data shows this when received
- Grand Ledge City Manager and Cindy Krupp marked up a number of corrections – noted by Jay Bibby.

### Priorities/Issues/Concerns

- Priority to investigate the ownership of the former rail corridor between Vermontville, Charlotte and Eaton Rapids. Comments at meetings suggest that this corridor is no longer available for trail development and pieces are privately owned.
- A lot of cyclists use Willow Road to/from Grand Ledge and Delta Twp.

- Michigan Avenue in Delta Twp is a high priority corridor
- Chip seal as a material used in repaving roads is an issue with bicyclists – would like road agencies to use different material.
- Safe access out the County Roads from the towns is a priority
- Safe access to downtown Lansing – i.e. Michigan Avenue would be great complete street
- Willow was just repaved from Canal to Grand Ledge and has no shoulders, no bike lanes, etc. Missed opportunity. Willow is a preferred corridor.
- In Charlotte, it would be nice to make connections from Veterans Park south along Cochran Road.
- T-Shirt Ride is being brought back to Grand Ledge and going to go out on County Roads for the ride.
- Paved shoulders are great – but A LOT of debris gathers and riders end up in the road. Maintenance of shoulders is a big issue.
- Want to get roads fixed before money is spent on bike facilities
- Road millage just passed in the County to fix roads – but passed because of the Delta Township residents. Others don't want more taxes.
- Maintenance is a key issue and needs to be considered if you're going to build more facilities. Need to be able to maintain what is built.
- Don't see effectiveness of bike lanes and facilities when they're only used a few months of the year.
- Bicyclists don't need to carry insurance – so if they're at fault in an accident, they don't pay.
- If tax payer dollars are used, it's hard to justify construction if it's only used for 3 months. And maintenance is even a bigger deal.

# MDOT University Region Non-Motorized Transportation Plan

## Clinton County Outreach Meeting November 19, 2014 4:00 – 7:00 pm St. John's (Agro-Liquid Facility)

### Meeting Notes

**Attendees** 16 people attended the meeting (not including consultants or MDOT staff)

### General Notes and Map Changes

- Clinton County Parks & Green Space is just wrapping up the development of a non-motorized map for the entire County. They worked extensively with local agencies and organizations over a 3 year time period to gather input on priorities and routes. After the meeting, a map was provided to the team electronically to incorporate into the GIS database. The map does not differentiate between existing and proposed facilities. Our team will use the Clinton County map as the most recent and vetted data, however, it will be supplemented with Tri-County GIS data and Google to confirm existing vs. proposed facilities.
- The CIS trail in the GIS database was mapped incorrectly. It should be south a half mile or so within the abandoned rail corridor.
- Get County Parks onto map.
- Get State Game Areas onto map. i.e. Rose Lake State Game Area
- Verify all 4' shoulders.
- Staff from the City of St. John's revised the linework presented – a map is marked up with notes defining the changes.
- Remove the proposed shared use path in Eagle – it is a rail corridor that reverted back into private ownership and active rail.
- Dewitt:
  - Proposed side path along Old US 27 from Round Lake to 69
  - Existing bike lane along Webb between Wood and Old US 27 (verify)
  - 4' shoulder along State Street from US 27 to Wood (not bike lane)
  - 10' wide side path will exist (next year) on one side of Old US 27 from County limits north to minor street that is half way between Stoll and State streets.
  - Turner Rd (north south in Dewitt) from Old Hickory to State Rd is paved shoulder 4' wide (verify)
- East Lansing/Bath Twp area:
  - Proposed shared use path from Wood out past Clark should be removed. That was an idea long ago and will not happen. Corridor sold off.
- Bath Township has a plan – sent to team via email after meeting. Proposed shared use trail around Park Lake. See Final Master Plan – Future Pathways Map in document (pg 37 of pdf)

- Proposed shared use path on east side of Shepardsville Road within Sleepy Hollow State Park from Price to Taft. Then proposed side path up to CIS and south into Bath Twp.
- ID in database the North Tier Trail in East Lansing – runs through Abbott Road Park and north toward State Street. Does not currently connect to State Street.

### **Priorities/Issues**

- The CIS trail is just being completed and attendees are very excited.
- Connections to/from the CIS trail are very important to get users safely to the system and into the towns and amenities. Trailheads and access points will be important. Wayfinding is important to/from trail into towns and destinations.
- All primary roads that cross the CIS trail should be envisioned as AASHTO Non Motorized travel for users to get off trail and visit activity centers.
- Agro-Liquid facility would benefit from a connection to the CIS Trail that is only a few hundred feet away.
- Connections from the CIS to the schools in Fowler (north and south of the CIS) are important
- Interest in getting a shared use trail along 127 along the entire length of County in order to connect into Lansing Trail, Pere Marquette Trail and Hartland Trails.
- Connection to/from Sleepy Hollow State Park to the CIS (along Shepardsville Rd), to Laingsburg and into Bath Township is high priority.
- North Tier Trail needs connections to State Street in East Lansing Area
- Chandler Road is very narrow south of 69, heavy traffic, heavy use and fast speeds.
- Need to make safe east-west crossings of 127 for peds and cyclists.
- Priority for Bath Twp to connection SE section of Township south to Lake Lansing.
- Need more consistency of shoulder width throughout the County.

# MDOT University Region Non-Motorized Transportation Plan

## Lenawee County Outreach Meeting December 2, 2014 4:00 – 7:00 pm Lenawee District Library (Adrian)

### Meeting Notes

**Attendees** 12 people attended the meeting (not including consultants or MDOT staff)

### General Notes and Map Changes

- Adrian
  - Maumee Street is paved shoulders – not bike lanes (confirm on aerial)
  - Paved path exists in north side of town running north south between neighborhoods south of Riverside Ave and north of Maple Ave. Between McKenzie and Springbrook.
  - Proposed trail connection from Kiwanis Trail east into Island Park on north side of river.
  - Different proposed connector from downtown to adrian college not shown on map, Jay corrected this at the meeting
- Tecumseh
  - Kiwanis trail does not currently exist from Russell south (to mile road to south). But section north of Russell does exist.
  - Proposed routes go along Raisin Center Hwy or road to west up to Russell and then along Russell to connect to existing section.
  - Parks and Rec staff provided brochure/map of existing paths. Side Paths along Chicago Blvd. Shared Use Paths for remaining orange lines on brochure. (Updated at meeting)
- Hudson
  - Hudson brought color maps of existing and proposed trails. Existing 3.3 miles consisting of Murdock Trail, Bean Creek Trail, Findlay Trail, Engle Trail and Berlin Trail. 1000' industrial park path exists south of State Street (pink line). Proposed southern extension to Thompson Park.
  - Old railroad ROW in Hudson from Railroad Street heading west is proposed trail, shown on Hudson Trail System Maps (these are adopted in the Parks and Rec Plan)
  - Hudson Twp Master Plan indicates connection to Hudson Loop Trail and to Lake Hudson State Recreation Area.
- Show Wabash Cannonball Trail alignment on Map coming north in Ohio east of Morenci.
- Incorporate River Raisin Greenway Study Master Plan proposed alignment into GIS – Tecumseh north up to Manchester.

- Blissfield Township Parks and Recreation Master Plan has shared use plan in it. Leah emailed request for map.
- Label State Recreation Areas – i.e. Lake Hudson

### **Priorities/Issues/Concerns**

- Extending the Kiwanis trail north into Tecumseh and north into Washtenaw County is a high priority.
- Water trail planning is needed from Clinton to Adrian – good floating segment of river.
- Believed that an abandoned rail corridor exists between Hudson and Drian.
- Lenawee Health Network went after a CDC grant related to active communities. The southeast section of Adrian is a target CDC area.
- Kiwanis group has a wish list of trail extensions (but they're not all in Adrian No Mo Plan). Would like to do trail along US 223 from Main Street to Maple. And trail along river from 223 north to the Kiwanis Trail. Also would like a trail along river from Howell Hwy to Heritage Park.
- Would like to connect Mitchell Park and the Kiwanis Trail in Raisin Twp.
- Northwest region of County is the most scenic for bike rides
- M-50 is a nice bike ride – additional paved shoulders between Tecumseh and M-12 would help in creating a nice long route to/from the Irish Hills.

# MDOT University Region Non-Motorized Transportation Plan

## Ingham County Outreach Meeting

December 4, 2014

4:00 – 7:00 pm

Lansing (Foster Community Center)

### Meeting Notes

**Attendees** 24 people attended the meeting (not including consultants or MDOT staff)

#### General Notes and Map Changes

- Tri-County Transportation Plan draft is online now and expected to be adopted 12/18/14
- Get latest dataset from Laura at Tri-County. Paul from Tri-County asked that our linework be shared with Laura to include the updates from tonight's meeting.
- Get updated GIS data from Meridian Township staff. Younes Ishraidi (Engineer) ishraidi@meridian.mi.us. No bike lanes in Meridian Township. Widened shoulder 4' shown as bike lanes in Meridian Township are incorrect. A lot of the linework in Meridian is most likely side paths – not shared use trails
- Delhi Township – no shared use trail exists on active rail corridor between Willoughby Rd and Aurelius as shown. Delete.
- Update with MDOT paved shoulder data. Attendees think wide paved shoulders exist along Saginaw/69BL in East Lansing.
- Mason Area:
  - A feasibility study was just completed by Mannik and Smith to determine route location of crossing of 127 and connection along Cedar into Delhi Township
  - There are no bike lanes along Hull Road south of Mason.
  - The existing trail running north/south in Mason is called the "Hayhoe Riverwalk Trail".
  - Short stretch shown as existing shared use path on west side of Mason, just south of Columbia and east of Hayes Park does not exist.
- Michigan Avenue missing an existing sharrow between North Harrison Street and Center Street
- Andy from City of Lansing confirmed and updated on the fly in GIS at the meeting a proposed shared use path missing on the map. Not in any adopted plans but Andy confirmed this was planned.
- City of Lansing (Andy) had a number of map changes – marked up on 11x17. The conclusion was that Andy would get all City of Lansing updates to Tri-County for Tri-County to put into their GIS system and that our team would then get the new database from Tri-County. Verify that this occurred.
- Error with November comments (not yet addressed on linework shown at meetings) that would have a side walk facility existing between Beale Street and Harrison Street on Michigan Avenue. This is confirmed by a local Tri County Bike Association member at the meeting as a bike lane

facility so communication with Tri County is necessary in determining what they are asking us to label as side paths.

- Students did a non-motorized plan for Williamstown Township. Contact Mickey Martin – Supervisor for final word. Not sure if it was ever “adopted” by the Township.
- North side of E. Saginaw Street is completed a little further east than currently shown.
- Add proposed side path along Okemos Rd from Jolly to/from Jackson National Life.
- East Lansing – trail is proposed (not existing) along river, south of Grand River between Park Lake Rd and Hagadorn. See 11x17 map.
- Verify if existing shared use along W Lake Lansing Road near Abbott Road Park is really sidewalk or sidepath.
- Too much linework in Stockbridge. Verify status of Lakeland Trail in Stockbridge proximity.

### **Priorities/Issues/Concerns**

- High priority to cross 127 and connect Mason to Delhi Township and Lansing River Trails. Feasibility study just completed with route, cost estimate, etc. Submitting grant applications.
- Vevay Twp is getting ready to do study to connect into the Hayhoe Riverwalk Trail in Mason.
- Meridian Twp priorities:
  - pedestrian/bicycle connectivity around exit 110 and Interstate 96 (Okemos Rd.)
  - along old M-78 on both sides to get to/from Meijer
  - Grand River to Williamston
- Ingham County recently passed a parks and trails mileage.
- Priority connection to get across I-96 at Okemos Road from Jolly to get to/from Jackson National Life. Bill Conklin from Road Commission confirmed that this connection is advancing and discussions are surrounding maintenance and funding.
- Bennett between Holloway and Okemos Road is a priority east/west corridor.
- Former railroad tunnel exists under 127 just north of Lake Lansing Road at Coleman Road. Should be ped/bike used when redeveloped.
- Priority to link MSU to Lake Lansing in the area of Park Lake Apartments over/across/under Grand River.
- Jolly Road under 127 is dangerous to walk or ride to get to/from work/home. Would like improvements to be made.
- Beaumont Rd from Forest to Collins is heavily used by cyclists but dangerous due to curves in road.
- Frandor Area where Grand River/Saginaw all meet is impossible. Go through parking lots, etc. Proposed route is to use Vine and Sellers Roads under the expressway.
- Kalamazoo Rd under 127 has bike lanes but really bad condition and a lot of pot holes.
- Crosstown Bicycle Route Map is online at [biketcba.org](http://biketcba.org)
- Clemens over 496 – can’t easily get into protected bike lane – poor design. Same issue with Aurelius and Jolly going north.
- Aurelius Road from Mt. Hope south is at a severe angle and rutted. So it’s not used at all by bikes.
- There is a Michigan Capital Corridor Study – It’s on Tri County Website. Grand River through the region is a priority corridor.
- Tri-County mentioned a citizen performed a bridge assessment for bicyclist ratings and will provide for analysis

- Coordination continuing with CATA regarding bike lanes, bus stops, shelters, racks, etc. would be helpful.
- More bike lane striping – better signage
- Hagadorn Road is dangerous at railroad tracks and Hannah Shopping Center
- Resident concerned over operation and maintenance of facilities for disabled and elderly. Policies on Non Motorized Facilities should be reviewed by MDOT.
- Trails with Rails discussed in connection with Inter Urban Trail
- Interested in gap for connections on the east area of US 127 in vicinity of Jolly Road.
- Priority to make east/west connection between Abbott Road Park and Park Lake Road.
- Challenges in Lansing:
  - Lake Lansing Road under 127, and Saginaw under 127
  - Curve on W. Saginaw, just west of Oakland
  - Waverly Road between St. Joe and the river
  - Intersection of Lansing Road, W. Main, 496

-

# MDOT University Region: Regional Non-Motorized Transportation Plan

## **Outreach Meeting: Draft Plan Review**

**April 13, 2015**

**4:00 – 7:00 pm**

**Jackson City Hall**

### **Meeting Notes**

**Attendees**      12 people attended the meeting (not including consultants or MDOT staff)

### **General Notes and Map Changes**

- Add proposed shared use trail along Ann Arbor Road (Leoni Twp) heading east to join up with the proposed Grass Lake shared use trails. Source: County Commissioner via Region 2.
- The proposed shared use trail on the eastern edge of the County, along Willis seems to be incorrect because there is no way to cross the freeway in that location. Assumed that this line work is not accurate (from Grass Lake and 5 Healthy Towns) and was supposed to be shown crossing 94 via Race Road. Will confirm with Grass Lake and 5 Healthy Towns. Sent email to Matt at 5 Healthy Towns on 4.16.15 to clarify.
- Edit maps to remove “Governor’s Showcase Trail” label pointing to the Jackson to Lakeland Trail. This is Iron Belle.
- Move “yellow” line work that designates a proposed regional corridor in the area south of the City of Jackson. Instead of following 127 south out of Jackson, use South Street, Francis and McDevitt.
- There are several options still in discussion related to how the Jackson to Lakeland Connector will traverse around the Correctional Facility and connect into downtown Jackson. These conversations are on-going and do not constitute a map change at this time.
- It is unclear if the proposed shared use trail from McDevitt south to Clark Lake will be feasible. There are some that indicate this is a former rail corridor that has reverted ownership back to others. Some indicated that they believe Consumers Energy owns the corridor and a trail may be possible. If it’s not feasible, the regional corridor would likely shift over to 127.
- Region 2 staff brought maps of a recently submitted Jackson/Summit Trust Fund project with proposed side paths and shared use paths along Horton Road, Fourth Street and through parkland in order to connect additional areas and resources together with the Inter-City Trail and Falling Waters Trail. These modifications were made to the GIS database at the meeting.

### **Priorities/Issues/Concerns**

- It was indicated that 2 trails exist under 94 and one is a Consumers Energy property. Are they in use? Just west of Cooper Street Bridge.
- Consider a DNR staging area west of the prison property. Possibly at/near a nearby building that the MDNR owns?

- How do you get over 94 heading north/south?
- Extend Ann Arbor Road trail to east toward Race Road.
- Willis Road on eastside of County is all dirt – probably shouldn't be regional corridor?
- Use Race Road to cross under I-94 and connect to Seymore Road and the Portage Lake Campground.
- M-50 as a route to the northwest – Springport is very narrow
- Lenawee County Kiwanis Club – top 2 priorities are to extend the Kiwanis Trail into Tecumseh and the US-223 Bypass Trail. MDOT has granted permission to proceed with engineering of the Bypass Trail. MDOT notes that waiting to hear from FHWA and MDOT internal discussions regarding trails along limited access roads.
- Equestrians use the Lakeland Trail around Stockbridge and Falling Waters Trail. Might need to expand to allow for the multiple uses. Too narrow for peds, bikes and horses as currently built.

# MDOT University Region: Regional Non-Motorized Transportation Plan

## Outreach Meeting: Draft Plan Review

April 16, 2015

4:00 – 7:00 pm

Foster Center (Lansing)

### Meeting Notes

**Attendees** 19 people attended the meeting (not including consultants or MDOT staff)

### General Notes and Map Changes

- Ask Ingham County Road Commission for their map of existing and proposed paved shoulders. Existing wide paved shoulders are missing from the maps.
- Discuss with MDOT input related to shifting the Regional Corridor from M-52 east over to Morrice, Elm, Searls. And from M-36 north to Columbia. MDOT preference is for M-52 to stay as Regional Corridor so it get improvements for peds/bikes. Even though a bike route might be on a lower volume road.
- Check for existing side path from Haslett Road. Park Lake Road along Saginaw Road marked on Ingham County Map.
- Existing 2015 bike lane construction in Meridian Township and marked on map.
- Protected bike lane under railroad bridge on Lansing Road.
- Additional shared paths and bike lanes hand marked on maps in Lansing via Andy Kilpatrick.
- Via email from Rebecca Goodwin – Bath Twp Parks and Rec: Bath Twp. residents would love to see a path from the Webster Road/I69 area. Travelling east along I69 to the Nichols Road overpass this would provide a safe route for those wishing to visit Wiswasser Park. If the path continued along I69 it could also provide a route to the Upton Road overpass. By exiting here, walking enthusiasts could travel south to access the Haslett area walking paths. This could lead to many other paths in the Greater Lansing area. Another idea would be to provide a path from the Webster Road/I69 area. Travelling west along I69 to the State Road overpass would provide connectivity to the East Lansing area walking paths along Coolidge Road. This could lead to many other paths in the Greater Lansing area as well as the East Lansing Water Park and Soccer Fields along Chandler Road.
- Via email from Clay – Eaton Co Parks and Rec: Unfortunately I cannot make Thursday's meeting at Foster. I do have one comment or addition I guess to the Eaton County section. I thought it was included originally but there is going to be a proposed shared use path in the Potterville area that will eventually connect Fox Memorial County Park with Lake Alliance City Park. The county and city have had some discussions in years past and now will be placing this proposed shared section in the updated county parks master plan and in the city plan when it is updated. The exact route is not yet determined but it will connect to the already existing path around Lake Alliance Park.

**Priorities/Issues/Concerns**

- Further planning is needed to connect Meridian to Williamstown Township
- Wide shoulder along Jolly Road would be good to close gap
- Sharing facilities and planning for MDOT facilities with no-mo facilities is important for all users and for complete streets
- Issues with shown Regional Corridors – in several cases they are not the routes used by cyclists.

COUNTY PLANS AND INITIATIVES

PLAN TITLE	LEAD AGENCY	STATUS	DATE OF PLAN	CONTACT WEB PAGE	TYPE OF PLAN	PDF IN HAND
Clinton County Parks and Recreation Open Space Plan 2008-2012	Clinton County	Adopted/Approved	2008	<a href="http://www.clinton-county.org/Departments/ParksandGreenSpaceCommission/ParkandRecreationPlan.aspx">http://www.clinton-county.org/Departments/ParksandGreenSpaceCommission/ParkandRecreationPlan.aspx</a>	Recreation Plan	Yes
Ingham Parks and Recreation Commission	Ingham County	Adopted/Approved	2010	<a href="http://pk.ingham.org/MasterPlans.aspx">http://pk.ingham.org/MasterPlans.aspx</a>	Recreation Plan	Yes
Eaton County Master Plan	Eaton County	Adopted/Approved	2011	<a href="http://www.eatoncounty.org/images/Departments/Community%20Development/Eaton%20County%20Master%20Plan%20with%20Bellevue%20Twp.pdf">http://www.eatoncounty.org/images/Departments/Community%20Development/Eaton%20County%20Master%20Plan%20with%20Bellevue%20Twp.pdf</a>	Transportation Master Plan	Yes
Lenawee County Non Motorized Plan	One Lenawee	In Progress	NA	<a href="http://www.lenaweenow.org/wp-content/uploads/2013/06/One-Lenawee-Steering-Cmte-19Jun14.pdf">http://www.lenaweenow.org/wp-content/uploads/2013/06/One-Lenawee-Steering-Cmte-19Jun14.pdf</a>	Trail Plan	No

**MULTI-JURISDICTIONAL PLANS AND INITIATIVES**

PLAN TITLE	LEAD AGENCY	STATUS	DATE OF PLAN	CONTACT WEB PAGE	TYPE OF PLAN	PDF IN HAND
JACTS 2040 Long Range Transportation Plan	Region 2 Planning Commission	Adopted/Approved	2013	<a href="http://www.region2planning.com/website/Committees.asp?CID=7">http://www.region2planning.com/website/Committees.asp?CID=7</a>	Transportation Master Plan	Yes
Clinton, Ingham, Eaton Non Motorized Plans	Tri County Reg Planning Comm	Completed	2008	<a href="http://www.tri-co.org/Maps%20Index/MAPS%20INDEX.html">http://www.tri-co.org/Maps%20Index/MAPS%20INDEX.html</a>	Trail Plan	Yes
Bicycle Facility Guide for Rec Riding in NW Ohio and SE Michigan	Toledo Met Area COG	Completed	2009	<a href="http://www.tmacog.org/Transportation/bike_guide_08_09.pdf">http://www.tmacog.org/Transportation/bike_guide_08_09.pdf</a>	Bike/Ped	Yes
University Region Road and Trail Bicycling Guide	MDOT	Completed	2008	<a href="http://www.michigan.gov/mdot/0,1607,7-151-9615_11223-146053--,00.html">http://www.michigan.gov/mdot/0,1607,7-151-9615_11223-146053--,00.html</a>	Bike/Ped	Yes
Village of Jonesville and Fayette Township Joint Recreation Plan	Region 2 Planning Commission	Adopted/Approved	2009	<a href="http://www.region2planning.com">www.region2planning.com</a>	Recreation Plan	Yes

JURISDICTIONAL PLANS AND INITIATIVES

PLAN TITLE	LEAD AGENCY	STATUS	DATE OF PLAN	CONTACT WEB PAGE	TYPE OF PLAN	PDF IN HAND
Delhi Township Non Motorized Plan	Delhi Township	Adopted/Approved	2007	<a href="http://www.delhitownship.com/CommunityDevelopment-nmt.htm">http://www.delhitownship.com/CommunityDevelopment-nmt.htm</a>	Trail Plan	Yes
Meridian Township Green Open Space Plan	Meridian Township	Adopted/Approved	2004	<a href="http://www.greenwaycollaborative.com">www.greenwaycollaborative.com</a>	Recreation Plan	Yes
A Non Motorized Transportation Assessment	City of Jackson	Completed	2005	<a href="http://www.region2planning.com">www.region2planning.com</a>	Trail Plan	Yes
<u>Destination Downtown: Connecting People through Greenspace and Art</u>	City of Jackson	Completed	2005	<a href="http://www.region2planning.com">www.region2planning.com</a>	Recreation Plan	Yes
Sumerset Township Parks and Recreation Plan	Sumerset Township	Adopted/Approved	2002	<a href="http://www.region2planning.com">www.region2planning.com</a>	Recreation Plan	Yes
Village of Deerfield Parks and Recreation Plan	Village of Deerfield	Adopted/Approved	2005	<a href="http://www.region2planning.com">www.region2planning.com</a>	Recreation Plan	Yes

FACILITY SPECIFIC PLANS AND INITIATIVES

PLAN TITLE	LEAD AGENCY	STATUS	DATE OF PLAN	CONTACT WEB PAGE
Airline Trail	Michigan Trails and Greenways Alliance			
Paul Henry Thornapple Trail	Thornapple Trail Association	Completed	NA	<a href="http://trailsmichigan.com/">http://trailsmichigan.com/</a>
Lansing River Trail	NA	Completed	NA	<a href="http://trailsmichigan.com/">http://trailsmichigan.com/</a>
Fred Meijer River Valley Trails Network	NA	Completed	NA	<a href="http://trailsmichigan.com/">http://trailsmichigan.com/</a>
Falling Waters Trail	NA	Completed	NA	<a href="http://www.fallingwatertrail.org">www.fallingwatertrail.org</a>

GIS Data

DATASET	LEAD AGENCY	DATE	CONTACT WEB PAGE	TYPE OF DATA
MDOT U Region Bike Map	MDOT	2008	<a href="http://www.greenwaycollab.com">www.greenwaycollab.com</a>	Bicycle Facilities
SEMCOG Metro Region Nonmotorized Facilities	SEMCOG\MDOT	2014	<a href="http://www.semco.org">www.semco.org</a>	Nonmotorized Facilities
Roads	Michigan DTMB	2014	<a href="http://www.mcgi.state.mi.us/mgdl/">http://www.mcgi.state.mi.us/mgdl/</a>	Roads
Tri County GIS Nonmotorized Related Data	Tri County	2014	<a href="http://www.tri-co.org">www.tri-co.org</a>	Nonmotorized Facilities
Region 2 Planning Commission Nonmotorized	Region 2	2014	<a href="http://www.region2planning.com">www.region2planning.com</a>	Nonmotorized Facilities
Lenawee County GIS Nonmotorized Data	Lenawee County	NA	<a href="http://www.lenawee.mi.us">www.lenawee.mi.us</a>	Nonmotorized Facilities
Genesee County Met Planning Commission	GCMPC	NA	<a href="http://www.co.genesee.mi.us">www.co.genesee.mi.us</a>	Nonmotorized Facilities
TIP KML Data conversion to GIS	MDOT/Greenway Collab	NA	<a href="http://walkbikemichigan.com">walkbikemichigan.com</a>	Nonmotorized Facilities
	Saginaw Area GIS Authority	2014	<a href="http://www.sagagis.org">www.sagagis.org</a>	Nonmotorized Facilities
Sufficiency Data	MDOT	2014	NA	4 foot shoulders Sufficiency Data
Southwest Region	MDOT		NA	Nonmotorized Facilities