ACTIVE TRANSPORTATION PLAN

MACOG
Michiana Area Council of Governments

ACTIVE TRANSPORTATION PLAN

Michiana Area Council of Governments
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South Bend, IN 46601

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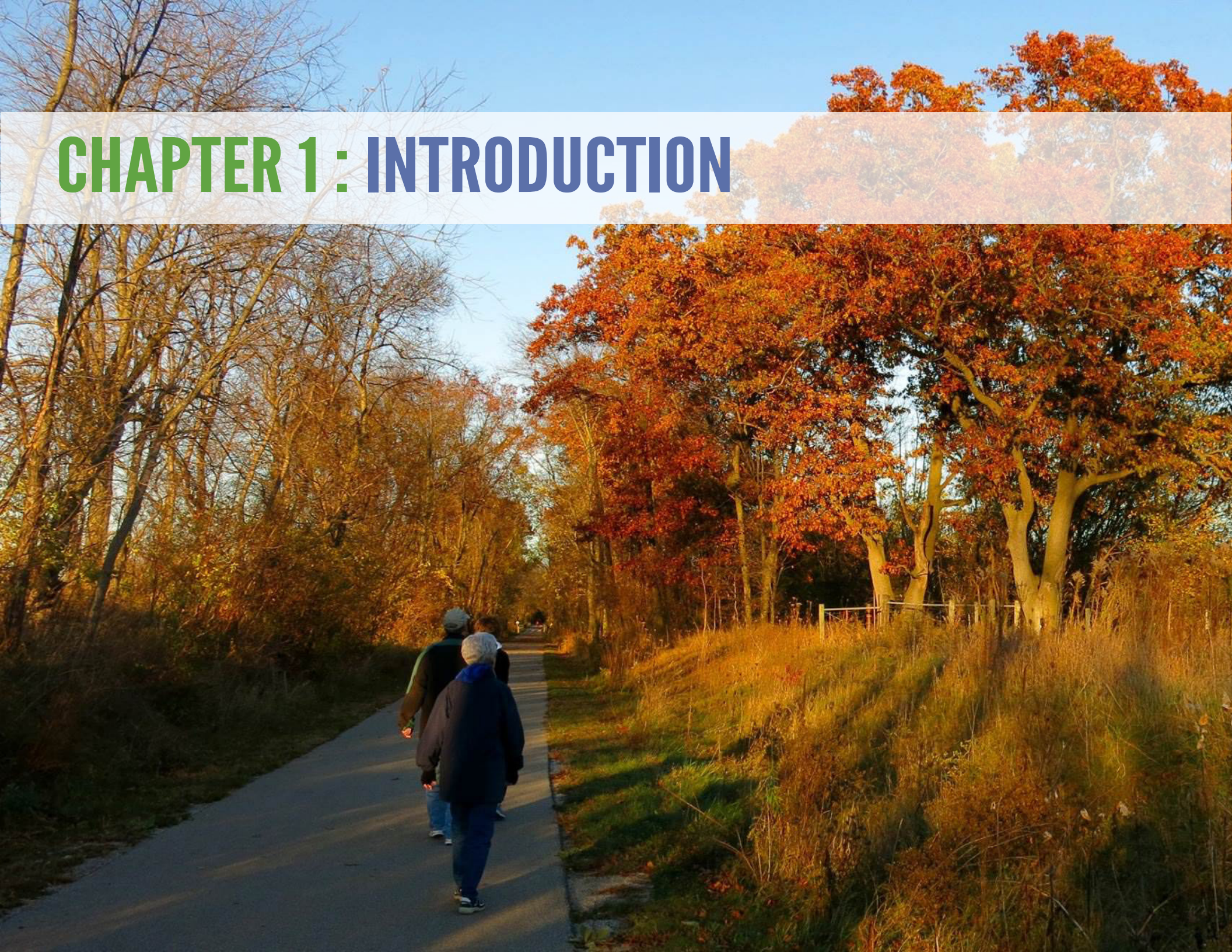


CHAPTER 1 : INTRODUCTION

Nationally, communities are recognizing the need to balance the demand for growth with sustainable, integrated multimodal transportation strategies. This approach creates a system in which each mode of transportation supports the other, working to move people and goods more effectively, safely, and efficiently. Many communities have begun to look beyond transportation infrastructure alone, and are reexamining the relationship between development pattern and the transportation system.

During the development of the Michiana on the Move: 2040 Transportation Plan, approved November 2014, there was a strong interest in developing a regional bicycle and pedestrian plan. In order to better discuss and plan for bicycle and pedestrian needs, the Michiana Area Council of Governments (MACOG) decided to conduct a complementary long-range plan focusing on active transportation.

The Michiana Area Council of Governments (MACOG), created in 1964, serves as a forum for regional discussion and cooperation in Elkhart, Kosciusko, Marshall, and St. Joseph Counties in north central Indiana. MACOG is the designated Metropolitan Planning Organization (MPO) and Rural Transportation Planning Organization (RTPO) for its member counties. As such, MACOG is responsible for facilitating long-range transportation planning for the region.

Active transportation has become a key factor for measuring a community's quality of life. Communities have become more competitive in attracting new talent and investments in private and public infrastructure by improving the availability of safe and efficient active transportation networks. Achieving this is not an easy task. It requires a significant cultural shift within the region and will require that the cities, towns, and counties with the MPO region reconsider traditional transportation models to include multiple modes. This plan represents a step toward a future where walking and bicycling are legitimate and viable components of a robust and sustainable multimodal transportation system.

Purpose

Our transportation network is more than just roads for vehicles. It also incorporates sidewalks, bike lanes, trails and other facilities for pedestrians, bicyclists, and transit users. The Active Transportation Plan is needed to provide a comprehensive strategy for the region, ensuring these other users of the transportation network are able to move around in a safe, connected, and accessible environment.

What is Active Transportation?

Active transportation is human-powered transportation that engages people in healthy physical activity while they travel from place to place. People walking, bicycling, pushing strollers, using wheelchairs and other mobility devices, skateboarding, and rollerblading are all forms of active transportation. Additionally, active transportation is necessary to support public transit to allow for more accessibility within and among communities.

This plan is intended to identify needs, resources, and strategies to encourage and enhance bicycle,pedestrian, and transit travel within the Michiana region. The intent of the plan is not to secure funding for every project. Instead, the recommendations contained herein should be used as a guide for local jurisdictions in taking advantage of these opportunities.

Active transportation is more than a fun way to get exercise and get around town. The benefits for communities and residents that invest in active transportation networks are numerous. This plan will help realize the benefits of communities that invest in active transportation including an enhanced quality of place, healthier residents and environment, and a culture that advocates for accessible transportation system for all types of users.

The Active Transportation Plan will serve as the bicycle and pedestrian component of the Michiana on the Move: 2040 Transportation Plan. The 2040 Transportation Plan serves

as a blueprint for how the Michiana region will address its transportation needs and how federal, state and local funds will be invested into highways, public transit, freight, bikeways and pedestrian walkways. Additionally, this plan works to integrate with other various planning efforts conducted by MACOG.

Lastly, this plan provides guidance to support local communities in the region that are enhancing their bicycle and pedestrian networks. By using the analysis and recommendations identified in this plan, local communities will be able to build upon their own efforts to encourage more walking and bicycling in their communities.

CHAPTER 2 : PLANNING PROCESS

Overview

The Active Transportation Plan began as a result of the Michiana on the Move: 2040 Transportation Plan. During the planning process for this long range plan, it was evident that a significant need was to identify projects meant for those who do not necessarily use a personal vehicle for transportation. In order to better discuss, identify and plan for bicycle and pedestrian needs, MACOG decided to develop a complementary plan focusing on the transportation network for walkers, bicyclists, and transit riders. The ten month planning process started in September 2015, with the formation of the Active Transportation Steering Committee and a Public Engagement process. Figure 2.1 illustrates the planning process from start to finish, and the engagement that took place, to gather information and form the vision, goals, and recommendations of the plan.

Advisory Groups

MACOG utilized the knowledge of three advisory groups to form the Active Transportation Plan including a steering committee, focus group stakeholders, and local public agency representatives.

The initial step of the planning process was the formation of the Active Transportation Steering Committee. With over 30 individuals, the Committee is made up of a broad range of representatives from the regional community including technical staff from towns and cities, elected officials, universities, public transit agencies, bicycle and trail advocacy groups, county health departments, business partners, convention and visitor's bureau representatives, and chambers of commerce. The Steering Committee was charged with guiding the planning process, shaping the focus and deliverables, and providing technical

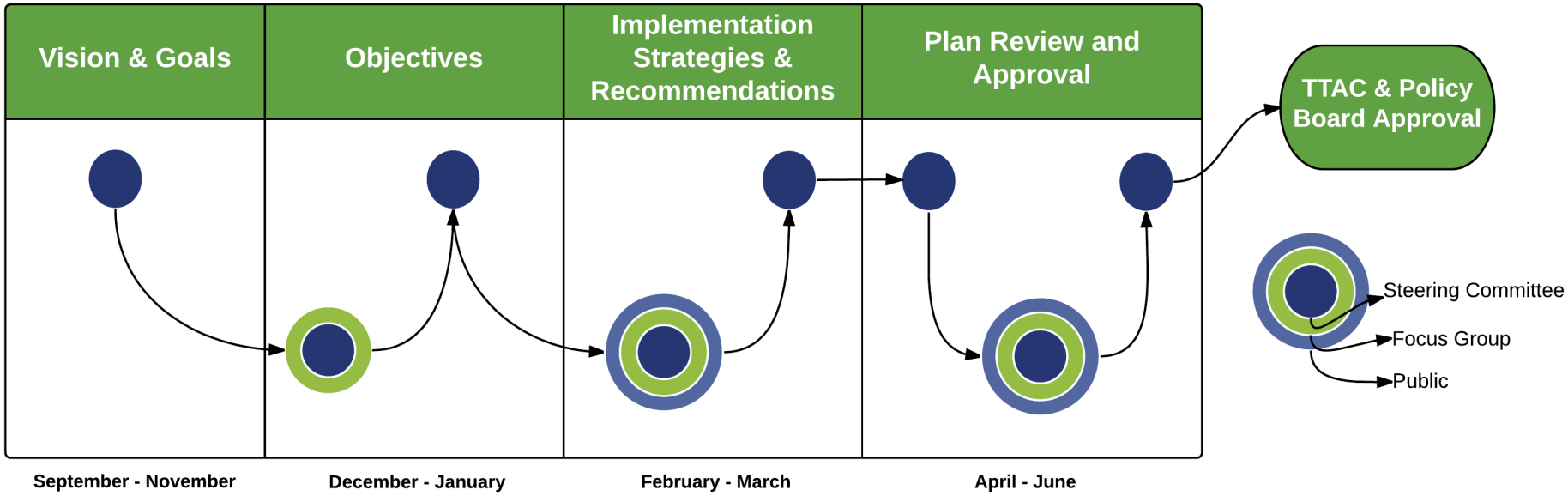


Figure 2.1- The Active Transportation Planning Process

Several Active Transportation Steering Committee Members

review of all work included in the plan. Discussion of these elements took place over the course of five meetings held starting in September 2015.

In addition to the Steering Committee, a larger group of stakeholders were identified to be included in three Focus Groups meeting. The first two meetings took place in Goshen and South Bend in December and January. During these meetings participants were divided into smaller groups to discuss strategies and projects that would improve and enhance walking and biking in the region. The third focus group meeting took place in Nappanee and served as the Active Transportation Summit. The Summit provided an opportunity to share what was happening locally concerning bike and pedestrian investments, as well as best practice examples from around the state. Participants also identified regional infrastructure priorities during a mapping workshop.

A smaller focus group was also held at the University of Notre Dame to engage university students on how they use active transportation and how our region can further promote active transportation in the future.

Local public agencies were involved throughout the entire planning process, however individual meetings were also held. In September and November, at the beginning of the planning process, meetings were held to identify current plans and projects as well as brainstorm priority projects. Later meetings took place in April and May to discuss findings and establish a more formalized list of projects and programs.

Public Engagement

Public engagement is a crucial component of ensuring a successful plan. MACOG engaged the public in a variety of ways from the beginning of March through April, encouraging them to participate in the active transportation survey and comment on needed projects and areas of concern through an interactive map.

MACOG promoted the survey and interactive map through different efforts including online, personal, print, and news promotions. Having an online presence through a project website and social media is important in sharing information in today's society. A website (www.macog.com/activetransportation) was created to provide the public with more information about the Active Transportation Plan such as the purpose, process, and future ways to participate. Summaries to the steering committee and focus group meetings were provided. The website also served as a way to access the online survey and interactive map. Visitors to the site were directed to take the survey, then follow up with mapping comments about areas of concern and identifying projects or improvements needed along specific corridors. In total, over 60 areas of concern and 206 miles of potential projects were identified. To view the public comment on the interactive map, please see Appendix F.

Information regarding the Active Transportation Plan and survey were also shared on social media via stakeholder promotion and a press release was shared with news outlets in the region. MACOG

attended, and provided display boards and materials to distribute when unable to attend, at various social events including the Bicycle Michiana Coalition 2016 Bicycle Swap meet, South Bend Green Drinks, Syracuse Safety Day, Farmer's Markets, First Fridays, and several racing events in the region.

A Snapshot of the Active Transportation Website

Survey Results

350 people across the Michiana region (Elkhart, Kosciusko, Marshall, and St. Joseph Counties) responded to the online survey distributed by MACOG . These surveys provided a quick and convenient way to ask 25 questions regarding active transportation in the region including bicycle and walking habits, preferences, and values. A complete summary of online survey results can be viewed in Appendix F.

Overall, the majority of respondents (86%) felt it was very important to have access to safe and convenient bicycle and pedestrian routes within their community. Stressing that importance, nearly 78% said they would consider active transportation when looking for a place to live and work. Over half the respondents said they were very interested in biking more often for transportation purposes, while 1 in 3 were very interested in walking for transportation.

Health and Quality of Life measures are emphasized in the values section of the survey. The top reasons why respondents walk or bike currently are for health, both personally and for the environment; overall enjoyment; and exploring their community. Similarly, the top reasons for investing in bicycling and walking include increasing health and physical activity, creating safe routes for walking and bicycling to school, enhancing access to and experience of the natural environment, and improving facilities in city or town center, main streets, and near transit stops.

While the number of respondents did not offer a full representation of the Michiana population, the survey still provides a snapshot and baseline information for values and items that can be emphasized and compared to in future planning efforts.

Public Review

The Active Transportation Plan was out for public comment from June 16 to July 7. Open houses were held in each county in order to provide the public a chance to provide comments, ask questions, and give feedback. The open houses were held between 4 and 6 pm on the following dates and locations:

June 21, 2016: Goshen Public Library, Schrock Auditorium

June 22, 2016: Kosciusko County Community Foundation

June 28, 2016: Plymouth Public Library

June 29, 2016: St. Joseph County Public Library, Dickinson Conference Room

CHAPTER 3 : VISION & GOALS

The Active Transportation Plan is a long-range plan for the active transportation networks in the region. Projects are completed in increments as development and funding allows. Since developing a complete active transportation network takes time, a vision for the future is essential. A strong vision and supporting goals and objectives provide the foundation for all physical and programmatic recommendations in the Plan.

To help achieve this vision, the Active Transportation Plan defines a number of goals and objectives to target specific needs. Goals are broad, value-based expressions of the region's desires, describing the ideal situation that would result in if the plan purpose were fully realized. Goals give direction to the plan as a whole and are concerned with the long-term. Objectives are action-oriented statements that should be undertaken to reach the goals of the plan.

The vision, goals, and objectives provide the basis and framework for recommended active transportation improvements, supporting programs, and implementation strategies in the following chapters of the Active Transportation Plan.

VISION

In 2040, the Michiana Region will boast an interconnected, safe, and accessible active transportation network where all residents and visitors can travel from place to place without use of a personal motorized vehicle. Through infrastructure, programs, and policies, walking and bicycling will become a common, enjoyable, and viable transportation and recreation choice that will lead to healthier lives, safer communities, and an economically and socially vibrant region.

Goals

The following goals, defined through the planning process, represent six values or ideals that our region should strive to achieve by 2040:

Goal 1: Connectivity

A regional, interconnected network that allows for efficient transportation to the places residents and visitors want to go through the use of active transportation.

Goal 2: Accessibility

Active transportation options will be equitably available for all people of all abilities and backgrounds and integrate with all forms of transportation.

Goal 3: Safety

The transportation network will be safe and comfortable for all users, especially for the most vulnerable.

Goal 4: Culture

Residents, business owners, and community leaders will foster a change from an automobile-centric culture to an active-living culture.

Goal 5: Health

Active transportation will be integrated into daily routines in order to support healthy lifestyles for residents and the community-wide environmental benefits.

Goal 6: Quality of Place

Our region will have sustainable, economically, and socially vibrant communities, that attract and retain people to live, work, and play, through the use of active transportation.

Objectives

Objectives are statements about what needs to be done to achieve the goals of the plan. While many of these objectives have direct impacts on particular goal, all six goals are influenced indirectly by all listed objectives. The objectives below address a variety of factors including vulnerabilities, capacities, constraints, and expectations of our active transportation network.

1. Make improvements to better connect residents and visitors to each of the major communities and destinations within and surrounding the region
2. Improve connectivity between bicycling, walking, public transit and other modes of transportation.
3. Integrate transportation and land use policies to encourage sustainable growth that encourages walking, bicycling, and transit.
4. Form, maintain, and grow public and private partnerships to encourage development and connectivity of active transportation facilities.
5. Create an active transportation network and programs that will make the Michiana region known as a walk- and bike-friendly destination.
6. Work with partners to ensure that outreach efforts have a consistent message to educate community members on safe and courteous walking, bicycling, and driving habits for children and adults.
7. Utilize national best practice guides in network planning, infrastructure design, project management, and maintenance procedure to ensure that facilities provide an accessible transportation network.
8. Work with partners to build awareness about the personal and community benefits and advantages of using active transportation with public transit, especially for everyday trips
9. Promote the accessibility and availability of destinations using active transportation, particularly in areas with a higher demand for walking, bicycling, and public transit.
10. Provide training and best practice information to law enforcement and public officials to enforce and enact pedestrian and bicycling friendly laws and policies throughout the region.
11. Promote the proper use and installation of safety equipment, such as lights, helmets, and reflective clothing.
12. Organize and support programs and events that promote safe active transportation year-round.

CHAPTER 4 : EXISTING CONDITIONS

The Michiana Region is made up of unique towns, cities, and counties all at various stages of promoting and accommodating bicycle and pedestrian needs. Providing an assessment of existing conditions will inform current and future investments in active transportation facilities and programs. This chapter addresses planning efforts at the national, state, and local level; highlights trends and projections concerning active transportation, and provides a snapshot and analysis of the Michiana's existing active transportation network.

Planning Efforts

Policies, programs, and plans are developed at the national, state, and local levels to provide planning guidance and work to achieve a consistent active transportation network. These efforts integrate human powered transportation into the motorized vehicle transportation system.

National Level

The United States Department of Transportation (USDOT) policy initiatives incorporate a multi-modal transportation system, including bicycle and pedestrian transportation. The 2010 USDOT Policy Statement on Bicycle and Pedestrian Accommodation encourages transportation agencies to develop active transportation networks that accommodate all users. This task is reflected in national bicycle and pedestrian initiatives recently developed.

Safer People, Safer Streets

The United States Department of Transportation (USDOT) launched a program, Safer People, Safer Streets Initiative, in late 2015, to address safety for people using non-motorized transportation. The initiative involves research, tools for local agencies, and events focused on road safety.

A year-long Mayors' Challenge for Safer People and Safer Streets is a USDOT call to action for mayors to improve conditions for pedestrians and bicycle riders in their communities. The activities under the Challenge are:

- applying a Complete Streets approach,
- fixing barriers on streets,
- gathering bicycling and walking data,
- appropriate designing,
- creating bicycle/pedestrian networks,
- improving laws, and
- educating on and enforcing proper road use behavior.

Another component of the initiative is road safety assessments. The modal administrations of the USDOT lead on-the-ground, bicycling/walking assessments with transportation agencies and stakeholders.

The Road Safety for Transit Patrons Initiative provides technical assistance to transit operators, State DOTs, MPOs, counties, and cities to help increase interaction between agencies. The objective is to develop best practices that will improve bicycle and pedestrian connections to public transportation.

One of the assessment teams surveying an intersection in South Bend

The City of South Bend is one of over 200 communities that have signed on for the Mayors' Challenge for Safer People, Safer Streets. Since joining, the City has formed an action team, held a public focus group meeting, and adopted a Complete Streets Policy.

MACOG organized and hosted the USDOT pedestrian and bicycle assessment in South Bend. About 55 people from USDOT, INDOT, local government, and private sectors participated by visiting 10 sites to identify safety issues and how the transportation network accommodates those who walk or bike.

Step it Up!

The Surgeon General issued a Call to Action in 2015, "Step it Up!", to promote walking and walkable communities. Walking and other physical activities are necessary for good health, but most Americans are not active enough to reduce risks of chronic diseases and premature death. An active lifestyle improves physical and mental health, plus walking is a common form of transportation, and the Call to Action emphasizes the need for community leaders to support walking and other activities.

More specifically, Surgeon General Murthy recommends development of policies, programs, and plans that support people who choose to walk. Street and public spaces should be designed for walking and other exercises, and planned residential areas should be in close proximity to places of employment, retail, and public transportation. Streets need lighting and landscaping for pedestrian comfort while incorporating bicycles and slower vehicle traffic. Programs and policies include changes to roadway design standards, walking groups, wellness programs, and campaigns through media and community events.

Individuals must make decisions to be active, but the Surgeon General calls on certain groups to work toward the walkability goals. Community leaders and planners must work to provide access to safe, walkable areas. Transportation, land use, and urban design sectors should continue to work on Complete Streets and Smart Growth initiatives and implement public transit systems. Other sectors like education, healthcare, and media also

have roles in motivating long-term active lifestyles. With greater efforts, our communities can support physical activity of people of all ages and abilities.

Bicycle Friendly America and Walk Friendly Communities

Bicycle friendly designations by the League of American Bicyclists recognize states, cities and towns, businesses, and universities for actively supporting bicycling. The program serves as a tool for these entities to assist in making bicycling an easy form of transportation and recreation for all people. The League of American Bicyclists state that "the BFA Program is more than an Assessment:

- It's a study into the DNA making bicycling safe and more comfortable for all people.
- It's the combined knowledge of hundreds of engineers, government officials and bicycle advocates.
- It's a toolkit of projects, policies, programs and plans design to make biking better.
- It's a roadmap for improving conditions for bicycling and the direct assistance to make it happen."

The Walk Friendly Communities Program provides similar recognition to towns and cities that prioritize supporting safer walking environments. The WFC program currently recognizes 75 communities that are working to improve a wide range of conditions related to walking, including safety, mobility, access, and comfort. Currently, the only city in Indiana that is recognized is Bloomington, Indiana.

A Bicycle Friendly Community Sign posted in our region

Michiana Bike Friendly Communities

Our region boasts 3 Bicycle Friendly Communities and 8 Bicycle Friendly Businesses. Goshen, South Bend, and Warsaw and Winona Lake have all received a Bronze Designation. Bronze-level communities host bike clubs and events, have at least 1.2% of commuters commuting by bike, and have begun bicycle education and enforcement. Every community is different, so efforts are what count in recognition.

The League evaluates Bicycle Friendly Businesses on items such as showers, bike parking, distribution of bike safety, sponsorship of events, and the collection of commuter data.

- GTA Containers, INC. (Bronze) - South Bend
- Memorial Hospital and Health System (Bronze) - South Bend
- Depuy Orthopaedics (Bronze) - Warsaw
- Kosciusko REMC (Silver)- Warsaw
- SYM Financial Advisors(Bronze) - Winona Lake
- Green Earth Multisport (Silver), LLC - Winona Lake
- Trail House Village Bicycles (Bronze)- Winona Lake
- Cerulean Restaurant (Silver) - Winona Lake

State Level

State level planning efforts consist of broader policy based initiatives, as well as a larger look at how our regional network connects to Hoosiers.

Complete Streets

The Indiana Department of Transportation (INDOT) adopted the Indiana Department of Transportation Complete Streets Guide and Policy in 2014. As a policy at the State level, the INDOT policy emphasizes partnerships with local agencies and USDOT in planning for all users of the transportation system. INDOT also provides guidance and resources for local agencies to look to when creating policies of their own.

The guide recognizes a "one size fits all" design does not work for roads. Implementation strategies for US and State roads are not differentiated from the approach to local roads.

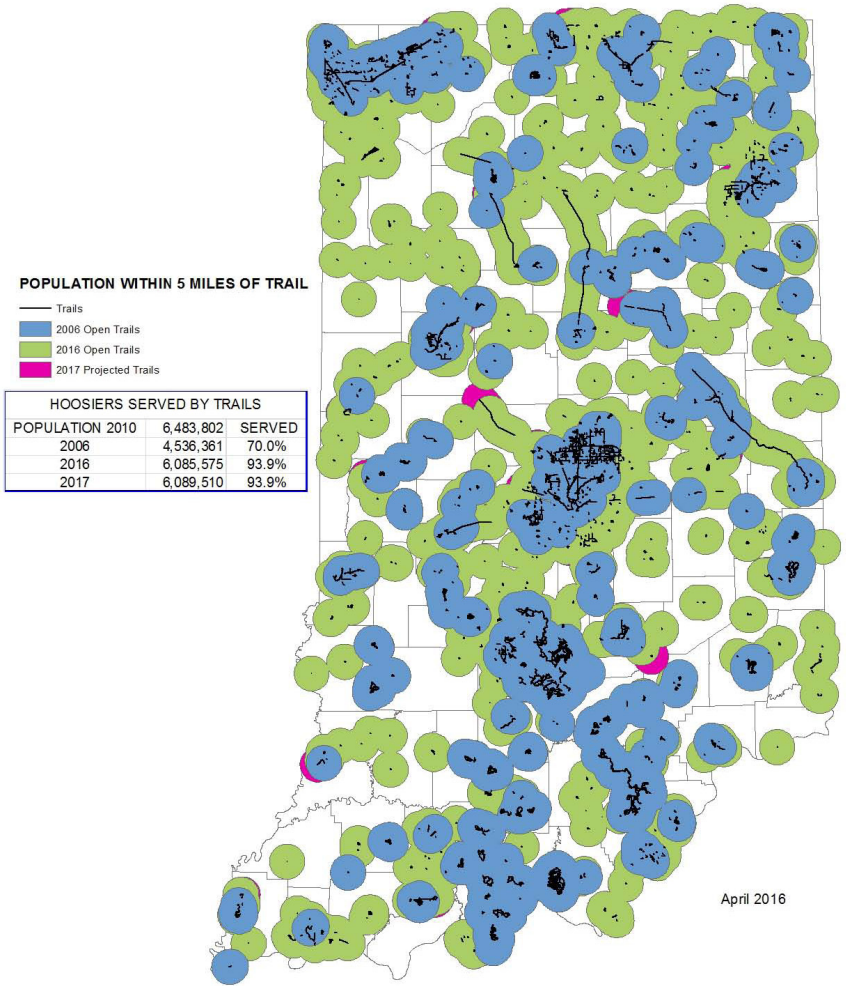
State Trails

The Indiana Department of Natural Resources (DNR) developed a plan in 2006, Hoosiers on the Move, the Indiana State Trails, Greenways & Bikeways Plan, with the vision of having a trail within 15 minutes of all Indiana residents by 2016. In the plan, a trail is considered a path for both motorized and nonmotorized forms of transportation. For the plan, significant trails crossing counties were the only trails included. The Steering Committee envisioned the goal would be achieved by improving coordination for planning, increasing trail funding, acquiring more land, and educating the public on benefits of trails.

In the Michiana region, significant Statewide Points of Interest include the St. Joseph River, Potato Creek State Park, University of Notre Dame, Culver Academies, East Race, and Winona Mountain Bike Trail. Priority corridors are US 31, the Winona Interurban, South Shore, Pottawatomi Pathway, Old Lincoln Highway, and the Indiana Toll Road.

In April 2016, DNR released a progress report that measured growth in Indiana trails. By the time of the report, 98.2% of all Indiana residents were within 15 minutes, or 7.5 miles, of a trail. When the initial plan came out in 2006, it was just 82.9% of residents. Prior to this report, Governor Mike Pence introduced a goal of having a trail within 5 miles of all residents. As of April 2016, 93.9% of residents are within that distance.

Figure 4.1 - Population within 5 miles of an Indiana Trails



Local Level

At the local level, many plans have been completed that incorporate active transportation into comprehensive or focused plans. They can be organized into relevant transportation plans and policies, master plans, and comprehensive plans.

Transportation Plans and Policies

- Michiana on the Move: 2040 Transportation Plan
- Michiana Area Council of Governments Transportation Improvement Program
- Resolution No 69-2015: City of South Bend Complete Street Policy
- City of South Bend and City of Elkhart 3-Foot Passing Ordinances

Trail Master Plans

- Goshen Park and Recreation Department 2014-2018 Master Plan
- St. Joseph County Parks Master Plan 2014-2018
- Warsaw + Winona Lake Bicycle and Pedestrian Master Plan
- Elkhart Pedal Panel Plan

Comprehensive Plans

- City of Elkhart Comprehensive Plan Update, Chapter 6
- Marshall County, Indiana Comprehensive Plan
- Syracuse Comprehensive Plan, Section II
- Town of Bremen, 2014 Comprehensive Plan, Greenways and Trail Network
- Town of Culver Comprehensive Plan
- Town of Lakeville, 2011 Comprehensive Plan, Transportation Section
- Town of North Liberty Comprehensive Plan
- Uncommonly Great Goshen 2025, Transportation Chapter

Trends & Projections

Similar to most of the country, the Michiana region uses personal motor vehicles for most commutes. The four counties of Elkhart, Kosciusko, Marshall, and St. Joseph have a working-age population of 266,000, and 91% use a motor vehicle for driving alone or carpooling. That is slightly lower than Indiana (92%) and higher than the United States (86%). However, the region's work commute reflects the trends of the state and country.

Overall National Travel

The National Household Travel Survey tells the story of American household travel over 40 years. The United States Department of Transportation conducts a survey once every decade, most recently in 2009, to collect information from 150,000 households as a sample that represents national travel behavior. This most recent survey finds that although household sizes have shrunk, vehicles per household have increased. The Midwest has the second highest number of vehicles per household, at 1.95 in 2009.

Person Miles of Travel increased for both individuals and households, until 2001. Since 2001, the trend has changed, and miles have decreased for most purposes, especially social and recreational purposes and personal errands.

Vehicle ownership is related to population density. The higher the density, the higher the percentage of households without a vehicle. Still, the number of those without vehicles have decreased in all areas of the country, regardless of density. In fact, households with one vehicle has grown significantly between 2001 and 2009. 2.8 million more households became one-vehicle households since 2001.

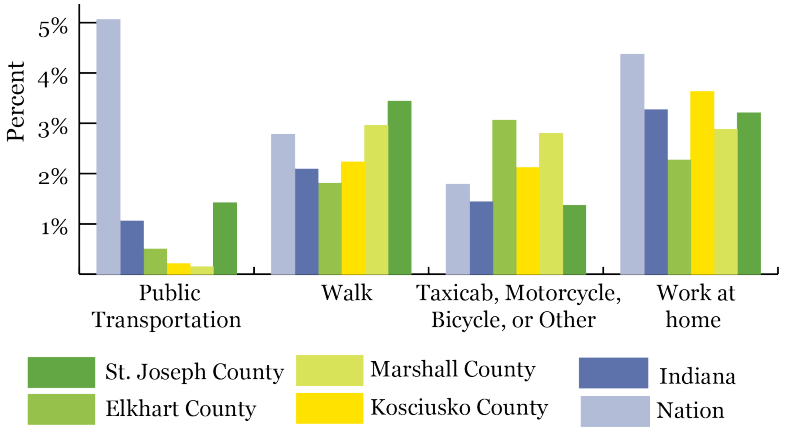
The responses from the survey reveal that the reasons for trips are not necessarily changing but that transportation habits are evolving. Households in all types of communities are becoming more likely to have motor vehicles, but distances they go with their vehicles are not always rising.

Local Trends

As seen in Figure 4.2, Indiana, plus the country as a whole, many workers with higher median incomes are working at home. In the Michiana region, Kosciusko County shows a similar trend but the rest of the counties do not show significant populations working from home. In Elkhart and Marshall Counties, people with higher median incomes are carpooling. In St. Joseph County, they are using a motorcycle, bicycle, or taxicab.

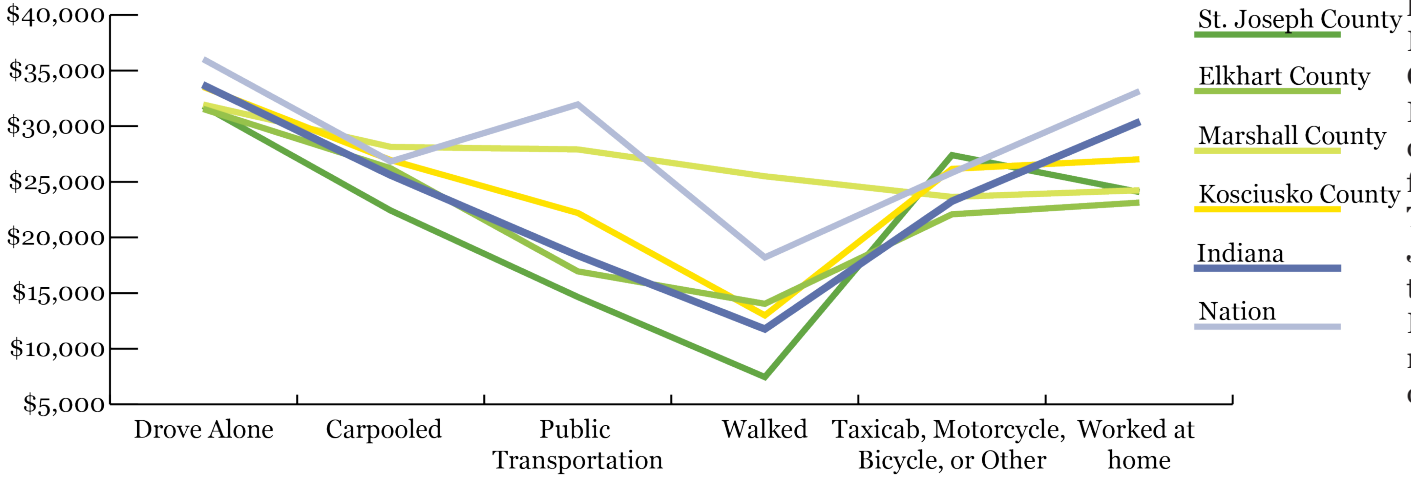
Outside of driving and carpooling, recurring modes of transportation to work vary across the counties (Figure 4.3) In Marshall and St. Joseph Counties, walking is the next most frequently used mode at 3 % and 3.4% respectively. In Elkhart County, 3.1% of workers will commute by motorcycle, bicycle, or taxicab. In Kosciusko County, 3.6% of workers will work at home.

Figure4.3- Means of Transportation to Work by County



The Michiana Travel Study, conducted in the fall of 2013, was done to better understand the travel behavior of residents and university student in St. Joseph and Elkhart counties. The study found that 13.5% of people walked or biked for some of their trips, and 1.3% ride the bus. For college students, 19.11% walked or biked, and 3.33% rode the bus/ shuttle.

Figure 4.2 - Median Earnings in the Past 12 Months by Means of Transportation to Work



Source: 2010 - 2014 American Community Survey 5-Year Estimates

In the Michiana region, there are concentrations of carless households in central South Bend, northeast Marshall County, and northeast Elkhart County which fall over the regional threshold for households without cars. The MACOG Environmental Justice statement recognizes that as an Indicator of Potential Disadvantage because of limited mobility resulting from not owning a vehicle (Appendix B).

Walking and Bicycling as Transportation

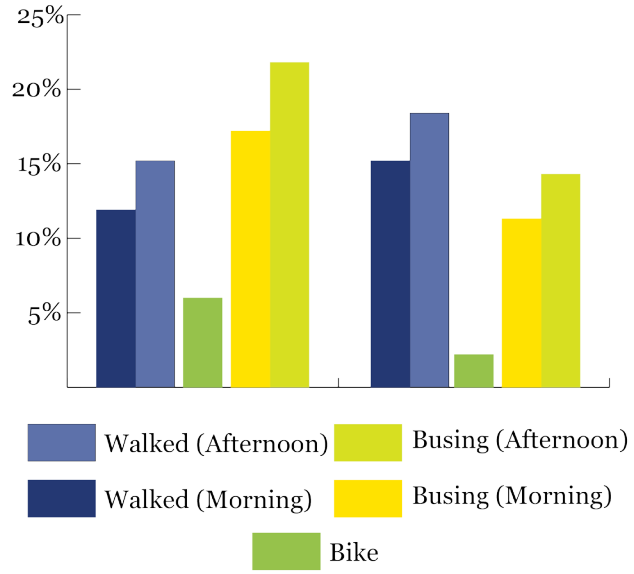
Nationally, people with low incomes have the highest rates of walking and bicycling to work. As income increases, the rate of walking and bicycling decreases with the exception of households with incomes over $150,000. Around 15 percent of people that do not have access to motor vehicles walk to work, compared to only 4 percent of those with access to a motor vehicle. For bicycling, 3 percent without access to a motor vehicle ride bicycles to work, and under ½ percent with motor vehicle access ride bicycles to work.

Nationally, bicycling rates are lower than walking rates, but bicycle commuting increased 100 percent from 2000 to 2009. People of all races are riding more, though bicycle riding grew the most among African Americans and Asian Americans.

Walking and Bicycling to School

The National Center for Safe Route to School reported in 2013 that walking to and from school increased considerably in five years. In 2007, 11.9 percent of students walked to school in the morning and 15.2% walked home from school. In 2013, that jumped to 15.2% and 18.4%. This could be due to a significant decrease in busing between 2007 to 2013. Biking to and from school also experienced a decline from 2.6% to 2.2%.

Figure 4.4-Percent of Students Walking, Biking, and Busing to School (2007 to 2013)



Source: National Center for Safe Routes to School, Trends in Walking and Biking to School from 2007 to 2013

Active transportation as means of traveling to school varies on distance from home to school. It grew the most for children who lived less than a mile from school, and remained steady for children who lived over two miles away from school. Parental opinions about walking and bicycling have not changed: most think it is healthy and half think it is fun for their children, but belief that schools support active transportation has grown from 2007 to 2013.

Despite these significant increases in walking to school in the past five years, 1 out of every 5 or 6 students walking to school is much lower than historical trends. In 1969, nearly 1 out of 2 students walked or bike to school. Supporting an active transportation culture and encouraging and educating them and their parents about the benefits of walking and biking to school can help reverse a declining trend.

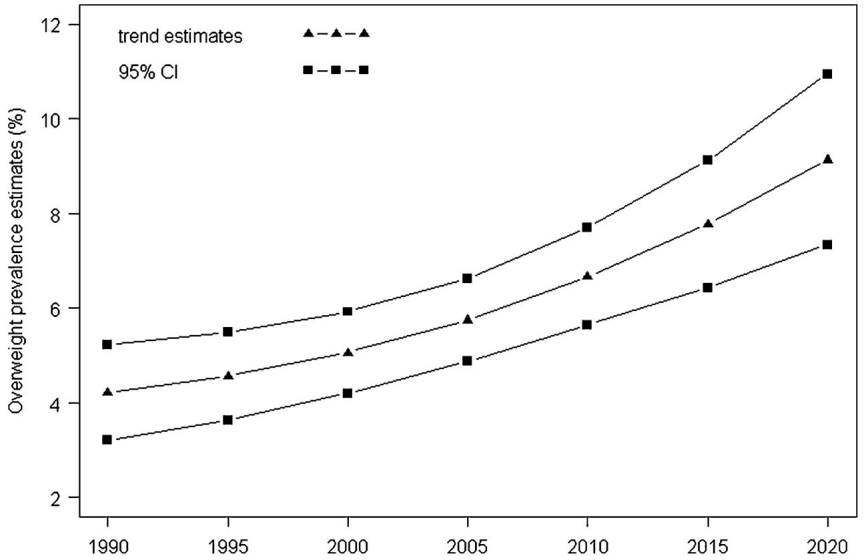
Health

The relationship between the built environment and health is important. 30 minutes of physical activity per day is recommended for physical and mental health, and the design of our communities can encourage or discourage healthy behavior.

The Surgeon General's Call to Action in 2015, Step it Up!, addressed this issue. Walking and other physical activities are necessary for good health, but most Americans are not active enough to reduce risks of chronic diseases and premature death. One out of two adults has heart disease, cancer, diabetes, or another chronic disease. Exercise not only helps lower risks of developing these conditions, but it also helps those with illnesses manage their symptoms. An active lifestyle improves physical and mental health, plus walking is a common form of transportation, and the Call to Action emphasizes the need for community leaders to support walking and other activities.

It is difficult to quantify determinants of health in the built environment, with many factors playing into active lifestyle choices. We do know that more than 1/3 of American adults are obese, and 1/3 of American children are overweight or obese. In the 1970s, only 5 percent of children were obese. Now, it is beginning earlier in life, across the globe, with 43 million preschoolers labeled as overweight or obese. At this rate, it could grow to 60 million children by only the year 2020. Walking and bicycling are affordable ways to get moving and reduce risks of developing health issues related to obesity. The report *At the Intersection of Active Transportation and Equity* (Safe Routes

Figure 4.5 - Global prevalence and trends of overweight and obesity among preschool children



Source: World Health Organization, Am J Clin Nutr. 2010 Nov;92(5):1257-64. doi: 10.3945/ajcn.2010.29786. Epub 2010 Sep 22.

to School National Partnership) states that almost 1/3 of transit users get the recommended physical activity because of walks taken to and from transit stops to their destinations. Areas with more transportation options encourage more physical activity and opportunities to reduce risks for health problems. That can mean people are able to walk or ride bikes as a commute or for leisure and recreation.

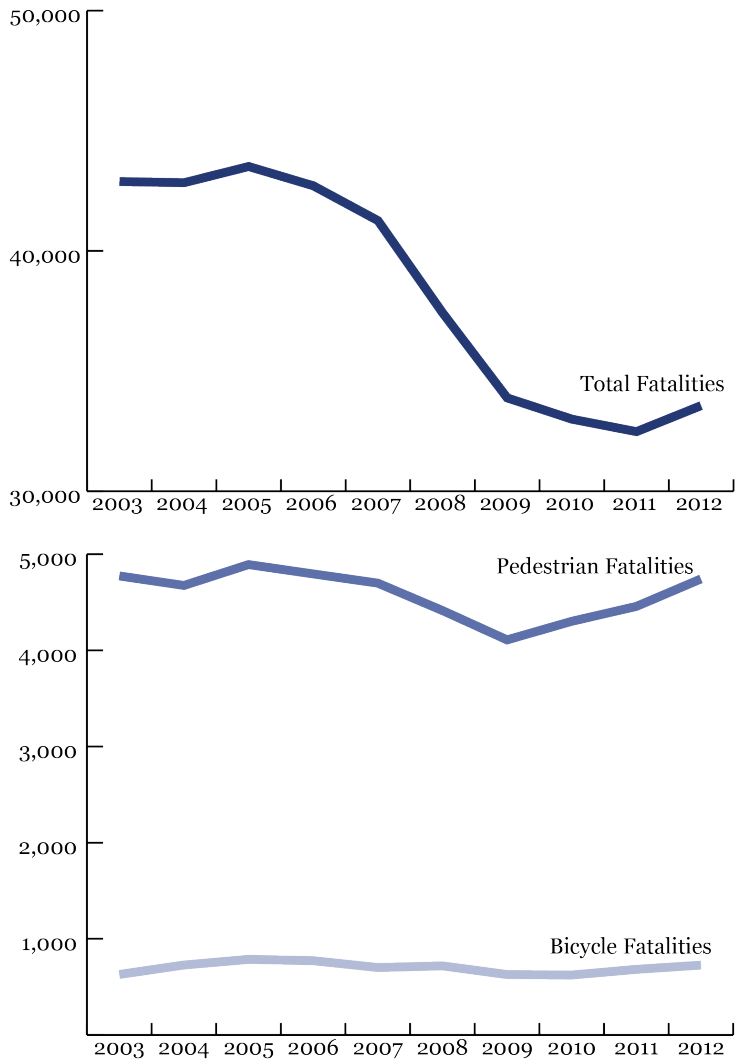
Bicyclist and pedestrian injuries and fatalities have steadily increased since 2009. In 2012, walkers and bicyclist fatalities represent 16.3 percent of all motor vehicle-related deaths in 2012. Addressing non-motorized safety issues, such as these, will help communities create safer, connected, and more utilized active transportation networks.

Safety

Automobile-centric places also prompt discussions about safety for bicycle riders and pedestrians. Many involved in Active Transportation Plan focus groups noted safety concerns as deterrents to using active transportation on a more regular basis. Obstacles included high speed limits, visibility, and lack of facilities.

The USDOT found that bicyclist and pedestrian injuries and fatalities increased between 2009 and 2012. Bicyclist fatalities across the country rose to 726 in 2012, and pedestrian fatalities rose to 4,743. Both of those numbers were the highest in 5 years. From 2003 to 2012, pedestrian fatalities increase from 11 percent to 14 percent of all motor vehicle related deaths. Bicycle fatalities also increase in that time, from 1.5 percent in 2003 to 2.2% in 2011.

Figure 4.6 - Total Fatalities and Pedestrian and Bicycle Fatalities in Traffic Crashes, 2003-2012



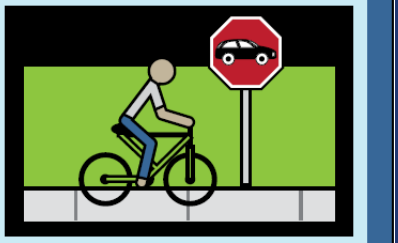
Source: National Highway Traffic Safety Administration, Traffic Safety Fact, 2012 Data

The *At the Intersection of Active Transportation and Equity* report found that a pedestrian's risk of being in collision decreased 34 percent when walking and bicycling rates double. As drivers, pedestrians, and bicyclists travel more on the same routes, they likely learn what to expect and take more caution.

The report also stated alcohol has played a role in many traffic crashes involving vehicles and bicyclists or pedestrians. In 2012, alcohol was involved in 37 percent of crashes killing bicyclists, and a quarter of those crashes involved an alcohol-impaired bicyclist. 48 percent of crashes killing pedestrians involved alcohol. Most fatal traffic crashes with pedestrians, with or without alcohol impairment, happen outside of intersections, so cautious, proper pedestrian behavior reduces the risk of crashes.

Quality of Life

For the public, bicycles take up less parking space than vehicles, resulting in less demand for parking spaces. With groups of people substituting a few driving trips for bike rides, levels of carbon emissions from automobiles lower. Walking has the same benefits. Active transportation also puts the user out in the public, inviting more interaction with businesses and neighbors. Trips serve more than one purpose, by providing a form exercise, interaction with the community, and enjoyment of the neighborhood they live in.



GETTING OUT OF OUR CARS FOR ½ OF SHORT TRIPS COULD SAVE:

- **$900 million dollars** in driving costs per year
- **2 million metric tons** of CO_2 per year (equivalent to taking 400, 000 cars off the road)

According to the 2009 U.S. National Household Transportation Survey (NHTS) over 10 billion miles per year are car trips of under one mile. This is like sending the entire population of Chicago driving to Las Vegas and back. If half of these trips under a mile were done by walking or biking, $900 million dollars in driving cost and 2 million metric tons of CO2 per year would be saved, all resulting in healthier communities (Environmental Protection Agency).

Many quality of life components look to attract and retain families in their communities however, how people age in communities should also be considered. While active transportation is a good way for our aging population to stay healthy, offering different transportation options is important. Transportation options, such as transit and golf carts, can connect the elderly to services and recreation, and will be studied further in an Access to Core Services Plan.

Active Transportation Network

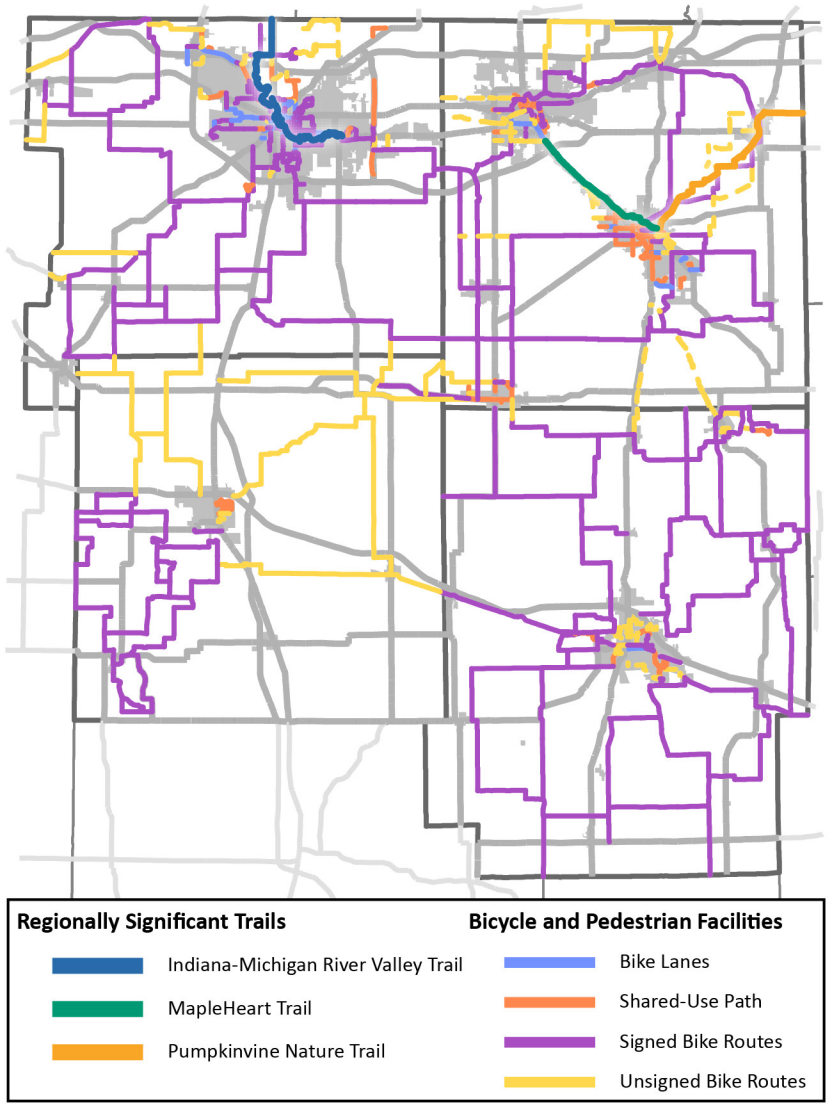
Building a transportation network that supports active modes of transportation has become an important initiative to many communities within the Michiana Region in recent years. As a result, the Michiana Region continues to see growth and investment in a number of bicycle and pedestrian facilities. The Michiana Region's current active transportation networks includes 937 miles of several types of facilities that can accommodate bicyclists and pedestrians; from dedicated bike-lanes in our more densely populated cities such as South Bend or Warsaw, to hundreds of miles of signed routes in our most rural unincorporated areas. While the region has seen significant improvements to bicycle and pedestrian connectivity, accessibility, and safety, there are also areas of concern and room for improvement in the Michiana region's network.

Types of Facilities

The Michiana region currently identifies several types of facilities constructed to accommodate bicyclists and pedestrians:

Shared-Use Paths are separated facilities used by bikers, walkers, runners and skaters. They may follow a road or take their own path.

Figure 4.7 - Michiana Regional Bicycle and Pedestrian Facilities



Source: Regional Bicycle and Pedestrian Facilities Map

Walking Paths are typically sidewalks or trail that are best suited for pedestrians rather than other recreational uses. In most cases, bicyclists may use this facility, however more caution should be taken to avoid oncoming pedestrians or drivers.

Bike Lanes are 5' – 6' lanes marked in the pavement specifically reserved for bicyclists, usually on high traffic streets. The lane is generally marked with a white line and a bicycle icon.

Signed Routes are roads where bicycles and vehicles must share the same lane, but will include "Bike Route" or "Share the Road" signs.

Unsigned Routes are roads that have not been formally, identified but are acceptable for biking due to lower traffic conditions and wider roads.

Our region consists of 29 miles of bike lanes, 143 miles of shared use and walking paths, 628 miles of signed routes, and 137 miles of unsigned routes. Figure 4.8 and 4.9 show a breakdown of bike and pedestrian facilities in our region and per county.

Figure 4.8 -Existing Bike and Pedestrian Facilities in the Michiana Region

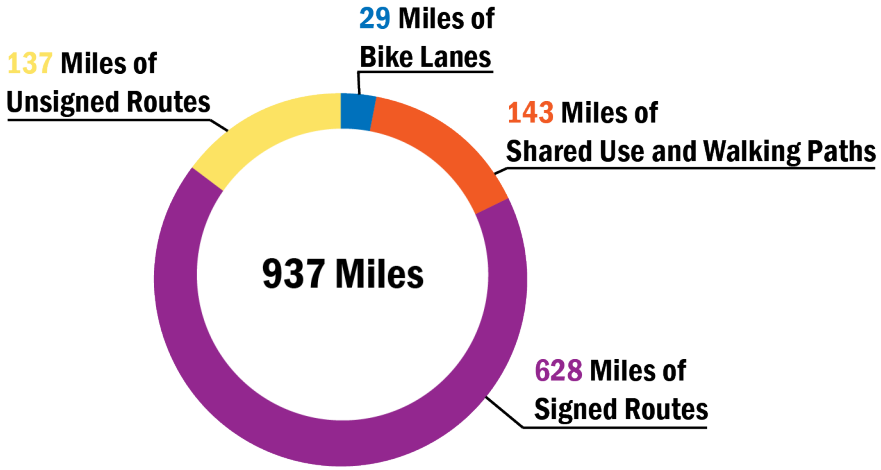
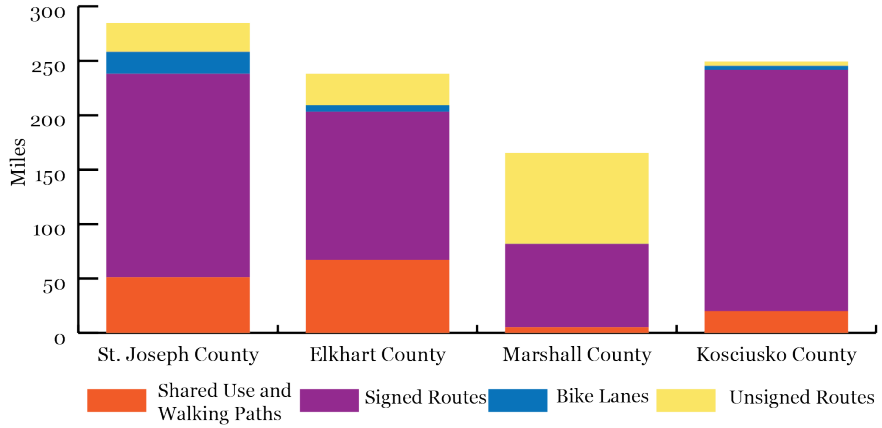


Figure 4.9-Bike and Pedestrian Facilities by County



Successes of Current System

- There are several transportation options available within the municipal boundaries of larger cities in Michiana region: South Bend, Mishawaka, Goshen, Elkhart and Warsaw
- The Pumpkinvine Trail, the Maple City Greenway, and the MapleHeart Trail compose a twenty-five (25) mile long regional network of trails connecting Elkhart, Goshen, Middlebury, and Shipshewana and are regularly utilized by recreationists and commuters.
- The Indiana Michigan River Valley Trail is composed of the Riverwalk in Mishawaka, East Bank and Northside Trails in South Bend, and smaller trails extending into Niles, Michigan. Currently the trail system is an excellent connection between Mishawaka and South Bend and plans are in place to improve connections between these two cities and Niles. The end result will be a thirty four (34) mile system connecting universities, schools, city centers, parks and recreational areas, hospitals, and several historical and cultural attractions.
- There are 80 miles of municipal proposed bike lanes, shared-use paths, and signed routes within the Michiana region prior to the implementation of this plan, demonstrating local communities' interests in providing a safer and more accessible active transportation network
- Connections between Interurban Trolley and Transpo provide a public transit system between Goshen, Elkhart, Mishawaka, and South Bend
- Bike racks provided on the Interurban Trolley, Transpo, and the South Shore Line provide for an increased range of active transportation network

Room for Improvement

- Many of our communities still lack convenient and comfortable connectivity. Important connections to improve include:
  - North-South connections between South Bend and Plymouth
  - North-South connections between Goshen and Warsaw
  - East-West connection between Elkhart and Mishawaka
  - Connectivity to outside regions such as Michigan, Northwest and Northeast Indiana
- Surface and maintenance conditions on many roadways and sidewalks make traveling difficult for cyclists and pedestrians
- Sidewalk connectivity to desired destinations is limited outside of core urban centers
- Majority of facilities are classified as "signed routes" outside of municipal boundaries, and not necessarily accommodate all levels of people who ride bikes and/or pedestrian traffic
- Some public transit routes lack amenities, such as benches or bus shelters, as well as accessible stopping locations

Analysis

Various analyses can provide an in depth look into existing conditions for bicycling and walking. Crash, demand, and bicycle stress analyses were conducted to provide a sense of where the greatest need for infrastructure and improvements are located, and which roads might be most suitable for bicycle traffic.

Non-Motorized Transportation Facility Demand

Although automobiles remains the primary means of transportation to get people to their desired destination, there is an increasing interest in the MACOG planning region in biking and walking not only for recreational purposes, but as a means of transportation. Many of the communities in the MACOG planning region have made great strides incorporating active modes of transportation (non-motorized) into their built environment, where possible, but many destination areas throughout the region remain underserved. Schools, places of employment, retail and shopping centers and other common destinations generate and attract thousands of trips each day in communities across the MACOG planning region. The roads that service these destinations must be able to provide a higher level of service for the increased demand of users.

Live, Work, Play & Learn Demand Analysis

For non-motorized transportation, higher concentrations of trip generators (such as residential and workplaces) and trip attractors (such as shopping centers and parks) are indicators of demand for bicycle and pedestrian facilities. An examination of regional demographic and point of interest data can give a better picture of where trip origins and destinations are concentrated throughout the MACOG planning region, and in turn high-demand areas to help decision makers decide on where to plan for bicycle and pedestrian facilities.

In order to properly map this information, MACOG conducted a bicycle and pedestrian demand analysis that summarizes where people live, work, play and learn. This demand model identifies the areas for expected bicycle and pedestrian travel by overlaying the locations of the land use mix and demographics into a composite map, outlining the regional demand. Figure 4.10 summarizes this approach.

Figure 4.10 -Demand Model

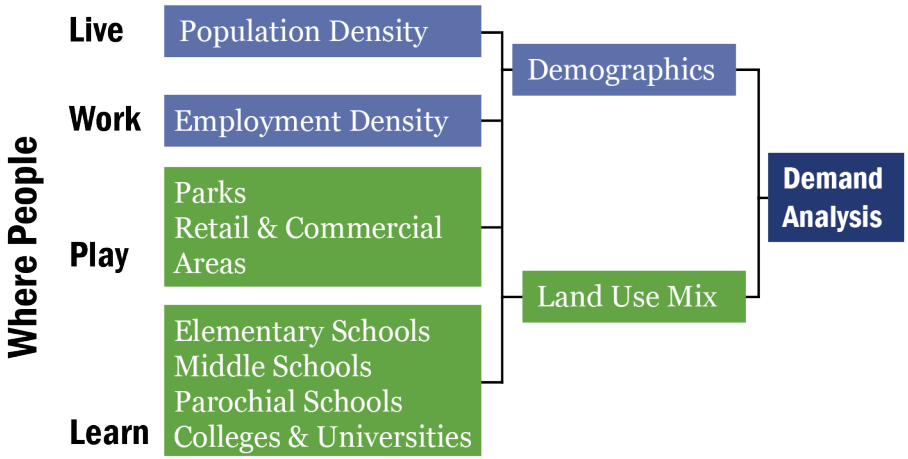
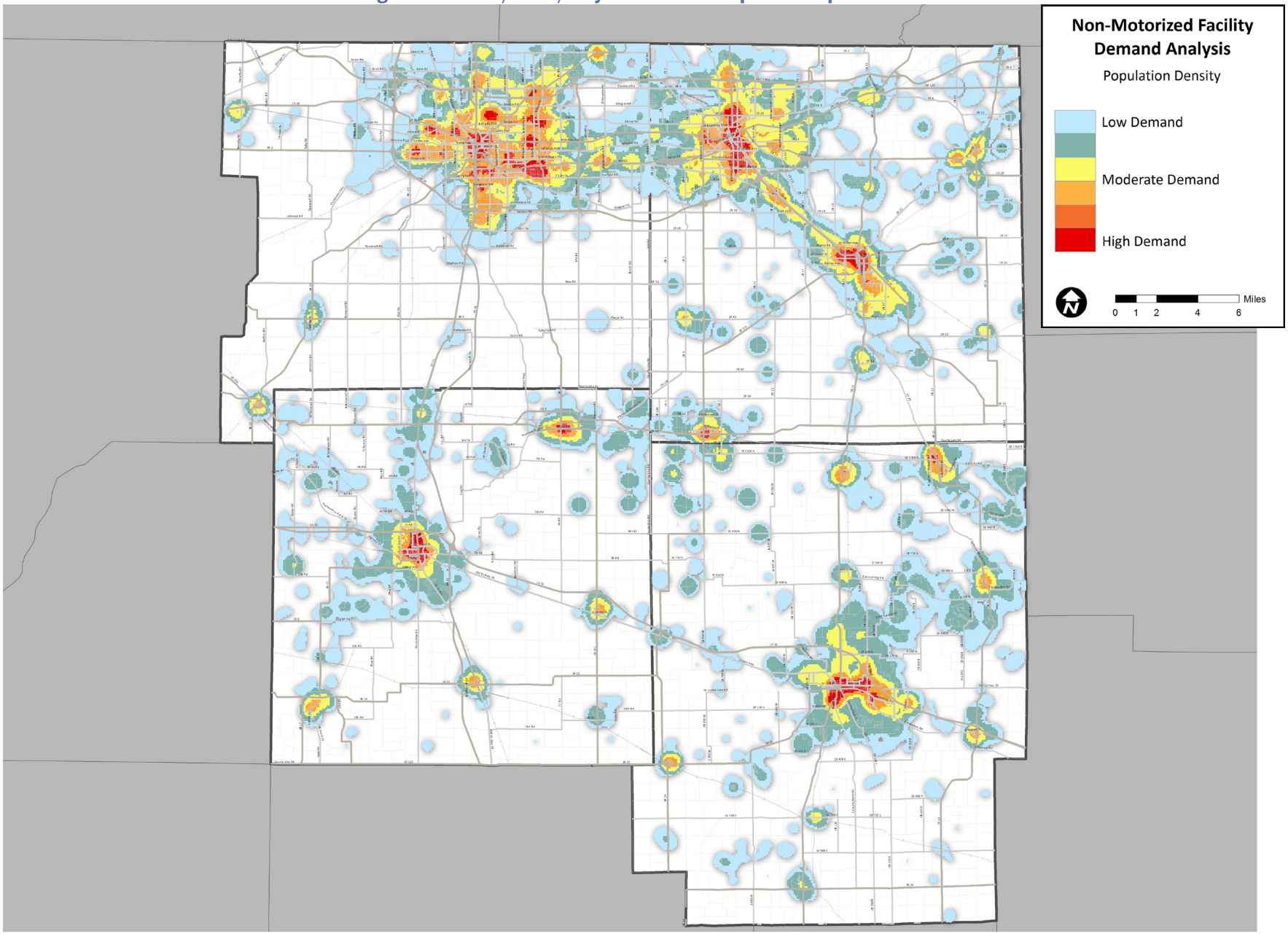


Figure 4.11 displays the results of the Live, Work, Play and Learn demand analysis. A complete summary of the Live, Work, Play and Learn demand analysis and methodology is located in the Appendix C.

The analysis shows that there is a strong composite density in the downtown areas of South Bend, Mishawaka, Elkhart, Goshen, Nappanee, Plymouth and Warsaw due to the high concentrations of jobs, entertainment and recreational amenities. There is also strong demand in the Notre Dame area as it is a prominent employer and learning institution

Figure 4.11 Live, Work, Play and Learn Composite Map



with pockets of high-density residential and recreational amenities nearby. The Elkhart urban area has a high linear demand along CR 9/Johnson Street and Prairie Street from Bristol Street through Downtown to Indiana Avenue/Main Street area. Much of this area is served by a continuous north/south connection via the Riverwalk Trail and on-street dedicated bike lanes along Richmond Street, Tipton Street and Sterling Avenue. However, there are limited east/west connections from this continuous route into Downtown and other high-demand areas, which make this corridor a primary candidate receiving improved bicycle and pedestrian facilities to properly connect these areas.

Additionally, this analysis highlights areas of demand that are not being sufficiently served by the current active transportation network. To better represent this, a Bicycle Level of Traffic Stress Analysis was conducted to establish the reach of facilities and where the supply can be improved to match the current demand. Similar analysis was conducted in detail for all urbanized areas within the MACOG planning region to aid its local public agencies in identifying areas of high-demand to support biking and walking travel. This analysis is located in the appendix of this Plan.

Bicycle Suitability Analysis

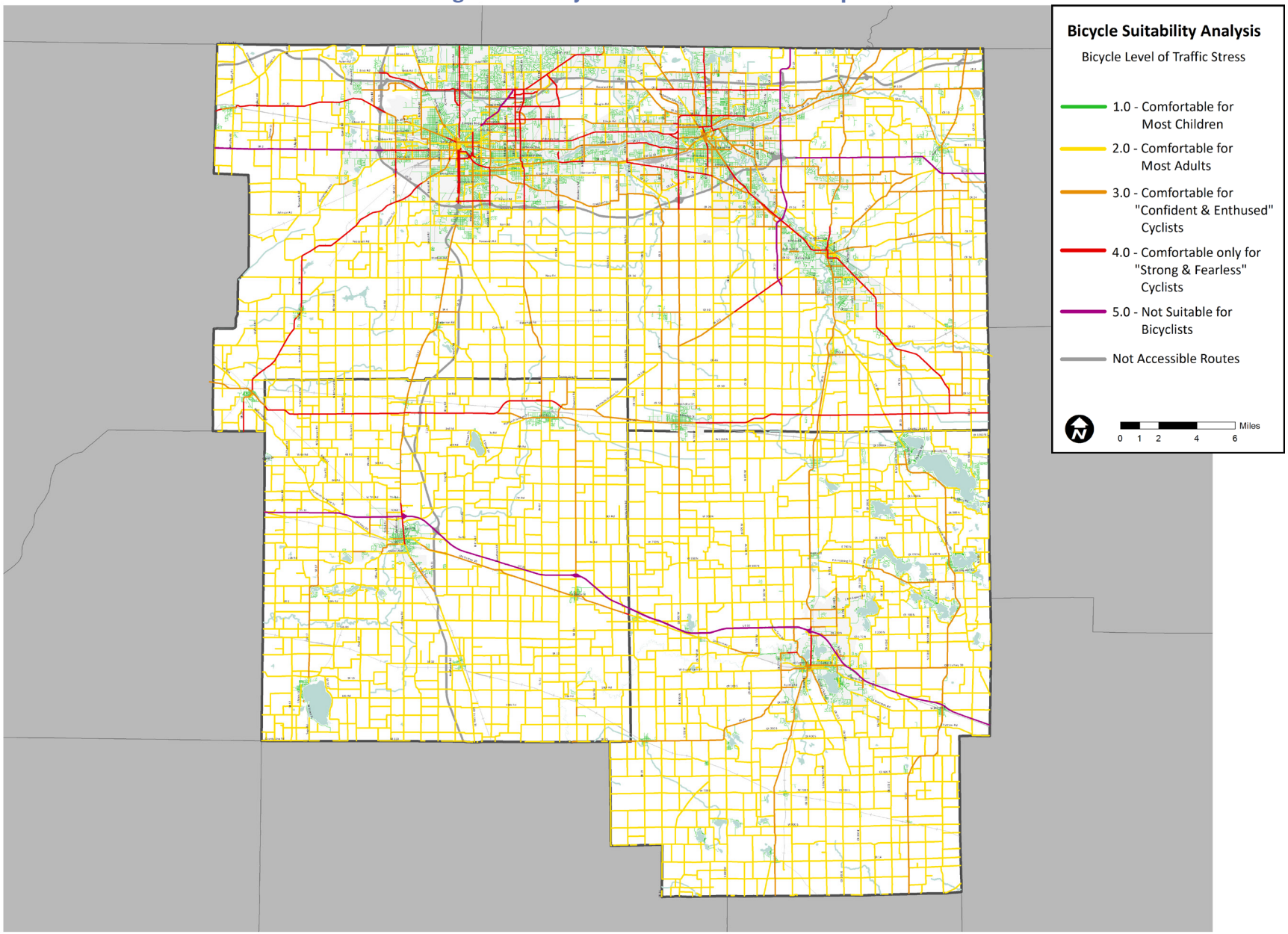
While biking and walking can be subjective and unique experiences for each individual, there are basic roadway characteristics that impact the user experience. When aggregated, these characteristics can be used to determine general levels of comfort for bicyclists and pedestrians. Using MACOG's existing road data pertaining to speed limits, number of travel lanes, average daily traffic volume (AADT), and existing active transportation network, MACOG's roadway network was analyzed to determine current roadway suitability for bicycling. Due to limited availability of pedestrian facility data, analyzing the pedestrian level of traffic stress was not conducted. A summary and map for the bicycle level of traffic stress are provided, and complete documentation is included in the appendix of the Plan. The results of this model will be used to identify bicycle network gaps as potential projects and aid in system-wide prioritization.

Bicycle Level of Traffic Stress (BLTS)

The Bicycle Level of Traffic Stress (BLTS) analysis is based on the 2012 Mineta Transportation Institute (MTI) approach in which roadway segments are classified into one of four levels of traffic stress based on factors such as posted speed limit, number of travel lanes, and presence of bicycle lanes, as a level of determination for bicyclist comfort riding level. MACOG, however, incorporated the impact of traffic volumes and shared use facilities via signed routes or shared lane markings (sharrows). The lowest bicycle level of traffic stress, BLTS 1, is assigned to roads that would be tolerable for most children to ride, as well as multi-use trails that are separated from automobile traffic. The next rating, BLTS 2, is roads that can easily be ridden by most adults. BLTS 3 is the next level; assigned to road segments that would be comfortable for cyclists who are "confident" riding with or alongside traffic whether a bicycle facility is provided or not. Lastly, BLTS 4 is assigned to road segments that would only be acceptable to "strong and fearless" cyclists who tolerate riding on roadways with higher traffic volumes, speeds and limited pavement width. A fifth category was created to highlight roads that showed up with a rating of a four, but ultimately are not deemed suitable for on-road cyclists.

The BLTS model analyzed the full roadway network within the MACOG planning region excluding limited access highways, alleys, and service roads, to provide a full picture of connectivity around the four counties. The results of this analysis are shown in Figure 4.12 and scoring methodology is located in Appendix D. Much of the roads in the MACOG

Figure 4.12 Bicycle Level of Traffic Stress Map



planning region are deemed accessible for most adult riders. Disconnected clusters of low-stress streets characterize most of the urbanized street network; however, heavily traveled and high-speed roads like McKinley Ave, SR-2/Western Ave, SR-23, Cleveland Rd, and SR 19/Cassopolis St function as barriers to bicycle mobility.

Bicycle & Pedestrian Crash Analysis

A person's level of perception with respect to safety concerns will determine if an individual will choose to bike or walk over drive their automobile. Safety, convenience and weather are the most common reasons for people opting not to bicycle more often on the road. Even if the trip is over a short distance, if an individual does not feel safe biking on the road or there is a gap in the network, more often than not, the individual has made up his or her mind not to bike or walk and will use a different mode of travel. Likewise, crashes involving motor vehicles represent a significant threat, both real and perceived, to the safety of bicyclists and pedestrians and the decision to choose to bike or walk. A survey was taken during the planning process of this Plan throughout the planning region. Respondents stated they feel motorists' attitudes towards non-motorized users to that of being impatient having to wait at intersection crossings or passing bicyclists on the open road, and don't believe that bicyclists are entitled to be on the road. An examination of the impacts of crashes on bicyclists and pedestrians emphasizes the liability of these road users. In 2014, bicyclists and pedestrians represented less than 1% of all individuals in traffic collisions in Indiana, but made up 11% of all traffic fatalities. Only 0.2% of motor vehicle occupants involved in traffic collisions were killed, compared to 5.7% of all bicyclists and pedestrians (Indiana Public Policy Institute)

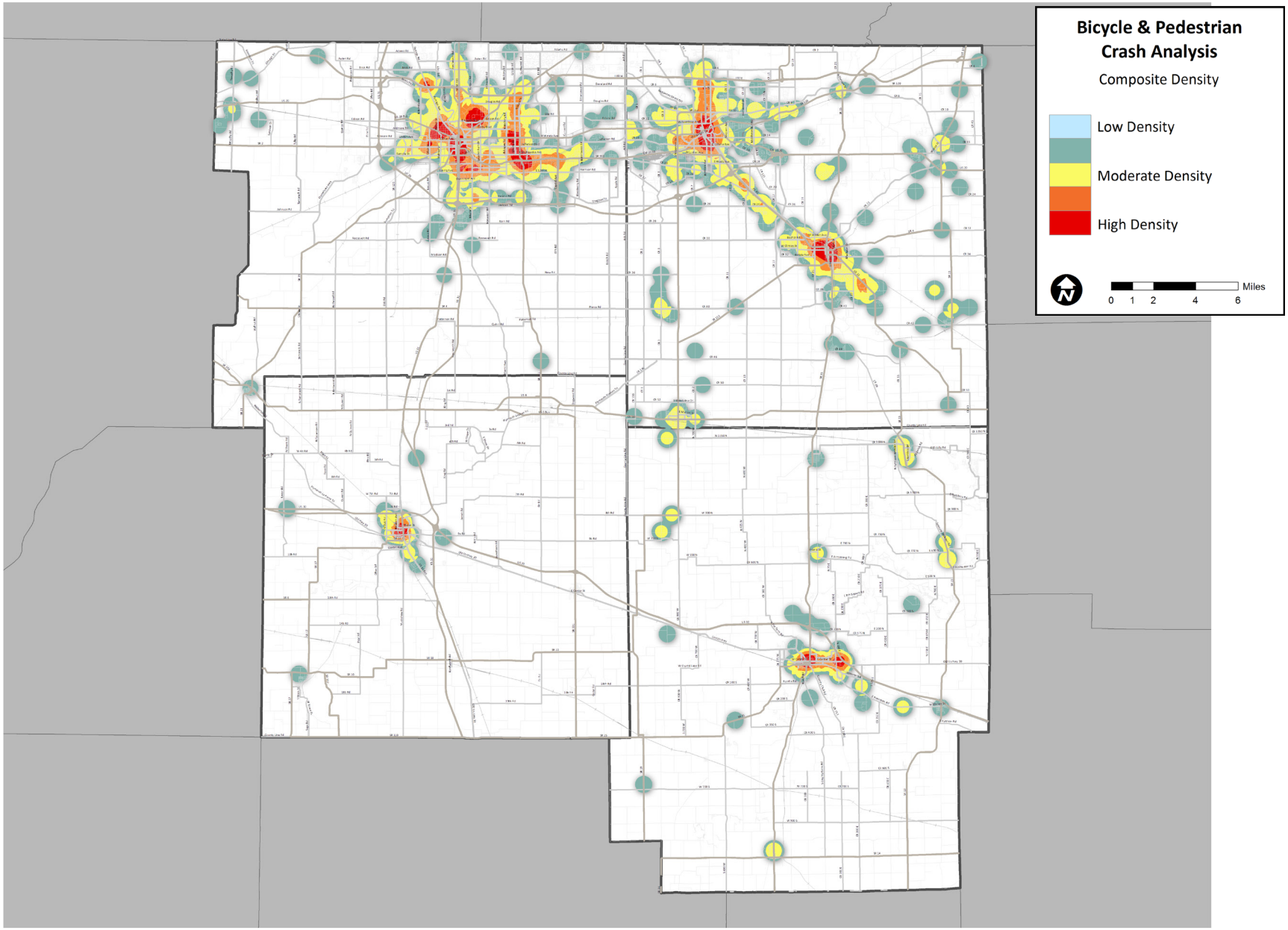
MACOG is fortunate to have access to valuable collision data to help identify trends in crashes, understand crash characteristics, and develop safety promotions and other countermeasures to create a safer environment for bicyclists and pedestrians. This section of the Plan summarizes reported crashes in the MACOG planning region that involved bicyclists and pedestrians between 2012 and present (2016).

Summary

Over 864 non-motorized related collisions were reported in the MACOG planning region from 2012 to 2016. Of these 864 collisions, roughly 29% occurred in the City of South Bend, followed by the City of Elkhart with 23%. Approximately 769 incidents resulted in injuries and over 50% of those injuries were pedestrians. Additionally, 35 occurrences resulted in a fatality with around 75% being pedestrians. The 35 fatalities represent 13% of all motor vehicle related fatatlities. Appendix E provides further analysis.

Figure 4.13 shows a composite of the bicycle and pedestrian crash locations as a heat map. This map gives a general overview of the locations with high frequencies of crashes in the MACOG planning region to help depict commonly used roadways by non-motorized users. In comparison with the Non-Motorized Facility Demand Map (Figure 4.13), the location of high frequency bicycle and pedestrian collisions correlates where the population and employment densities and mixture of other land uses encourage active transportation users. These would be the locations within the urban cores of South Bend, Mishawaka, Elkhart and Goshen. Furthermore, outside the urban cores, many crashes were located in neighborhoods surrounding arterial roadway corridors, such as McKinley Highway, Grape Road, SR 933, SR 331 and SR 23, US 31/Michigan St, Lincolnway West, and SR 19/Cassopolis St. This can attribute to limited neighborhood connectivity to access destination areas in which impels users to cross the higher volume, higher speed roadways as many crashes occurred at or near the intersections along one the listed arterial corridors from above.

Figure 4.13 Bicycle and Pedestrian Crash Heat Map



CHAPTER 5 : RECOMMENDATIONS

This chapter identifies a complete list of infrastructure and programming that will help the Michiana region reach the vision of boasting an interconnected, safe, and accessible transportation network where all residents and visitors can travel from place to place without the use of motorized vehicles. These recommendations derive from information gathered during the planning process from the steering committee, local public agencies, stakeholders, public feedback, and technical analysis of the network. Implementation of these recommendations will require strong partnerships, time, and various levels of funding to continue to make our region a thriving place that fosters active transportation culture.

Active Transportation Network

An active transportation network should provide opportunities for all levels and abilities of walkers and people who bike. To accommodate all users safely and comfortably, a variety of facility types are required. For the purpose of this plan, the following facilities were identified:

Shared Use Path: separated facilities that are wide enough to accommodate bikers, walkers, runners, and skaters. These facilities may be adjacent to a road or take their own path.

Bike Lanes: 5' to 6' lane marked in the pavement reserved for bicyclists, usually by a white line and bicycle icon. Bicycle lanes can be adjacent to moving traffic, or include a buffered space done by pavement markings.

Cycle Track: one-way or two-way separated path at the street or sidewalk level, designed for use by bicycles only.

Signed Route: Roads where bicycles and vehicles share the same lane. Routes can be identified with "Bike Route", "Share the Road", or "Bikes may use the Full Lane" signs. Additionally, sharrows, which are pavement marking of a bike with two arrows above it, signify to bicyclists and drivers that bicyclist can use the full lane.

Wide Shoulder - Signed Route: Roads identified as above, however having a wide shoulder that bicyclists may use to provide distance between them and moving traffic.

Walking Path: Sidewalks or trails that are best suited for pedestrians rather than other recreational uses.

Complete Street Facilities: Areas in which a need was identified for a bicycle or pedestrian facility, however no particular facility was specified. The idea is that these facilities will improve the safety and comfort for people of all ages and abilities, and that a specific facility type can be determined upon further planning and study.

Identified Projects

This plan incorporates 552 miles of bike and pedestrian projects to be included in the Michiana on the Move: 2040 Transportation Plan. Of the 552 proposed miles of infrastructure, the majority are identified as shared use path facilities (47%) or signed routes (32%). These projects, along with smaller local projects such as sidewalk and crossing improvements, will provide a safe, connected, and accessible environment for all users to access important destinations such as schools, places of employment, commercials centers, and recreational opportunities. Because of the long range nature, and broad scope of this plan, it is thought that projects may change as others are being implemented. Any identified project may be improved to a higher facility type as circumstances allow.

The following graphs and map provide a snapshot of what facilities have been identified as projects in each county. For more detail on specific locations of projects, please visit Appendix A.

Figure 5.1 Miles of Proposed Bicycle and Pedestrian Facilities

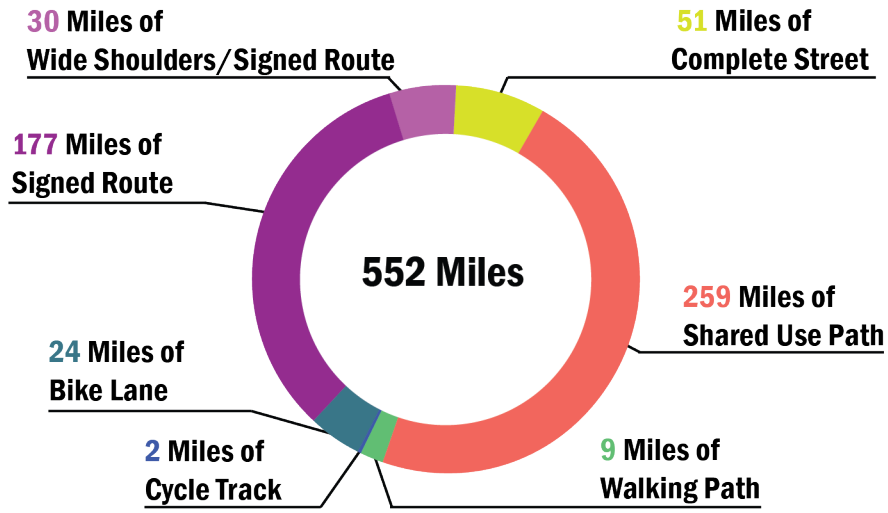


Figure 5.2 Miles of Proposed Bicycle and Pedestrian Facilities by County

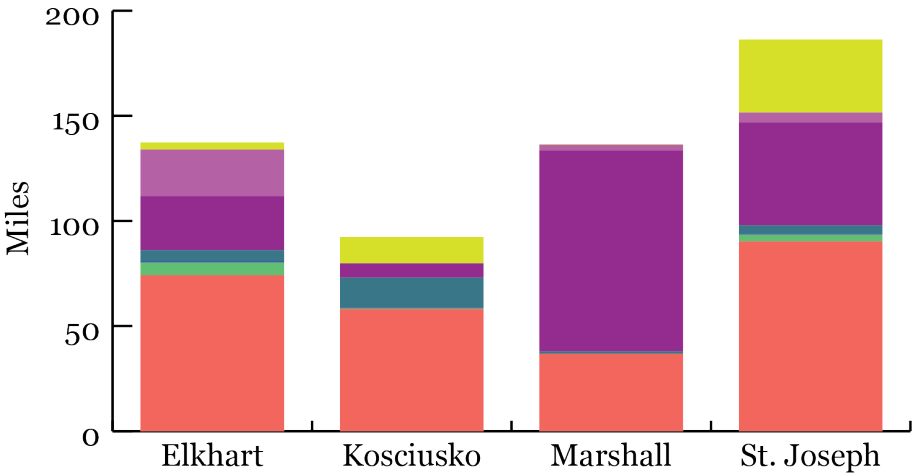
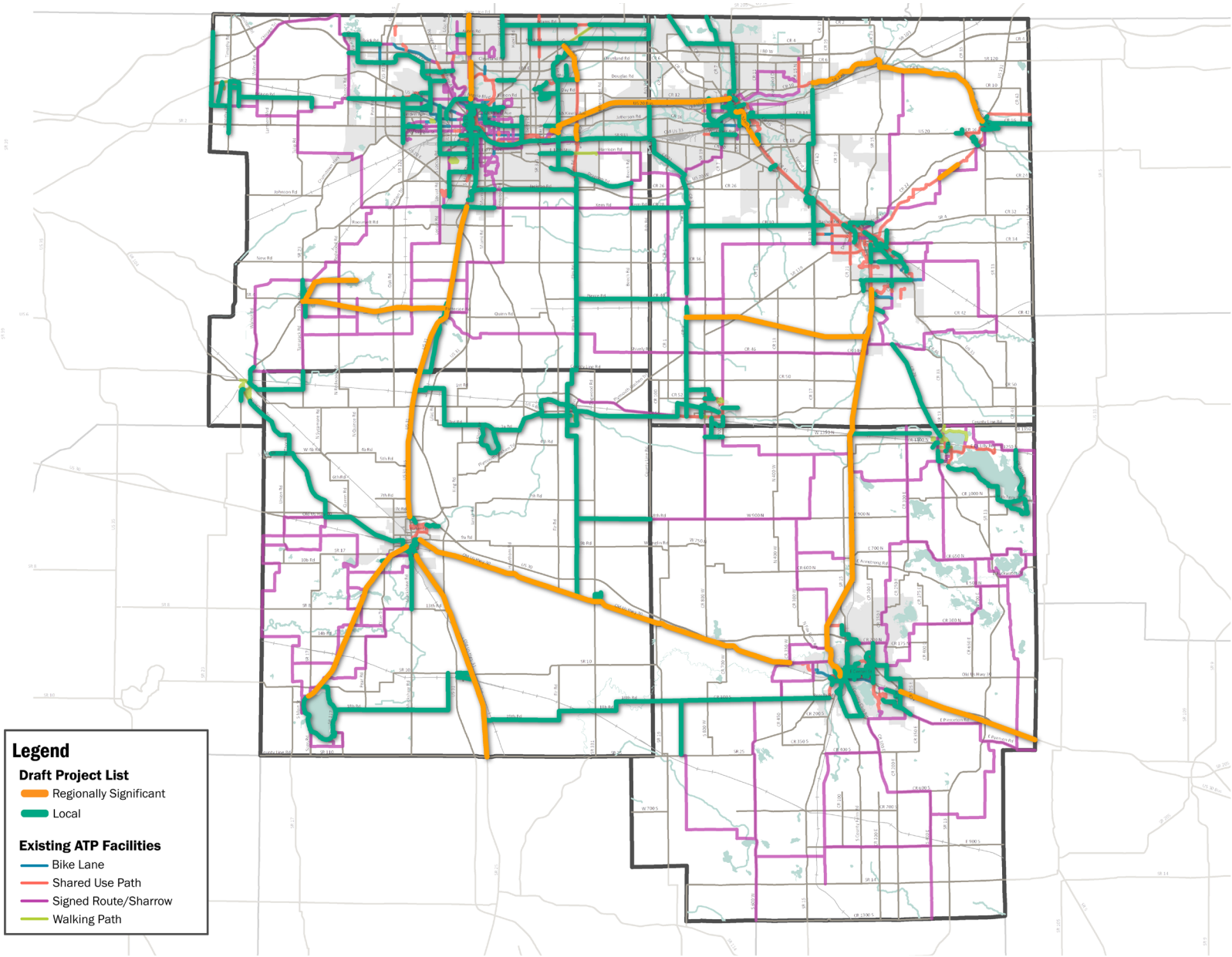


Figure 5.3 Proposed Bicycle and Pedestrian Projects



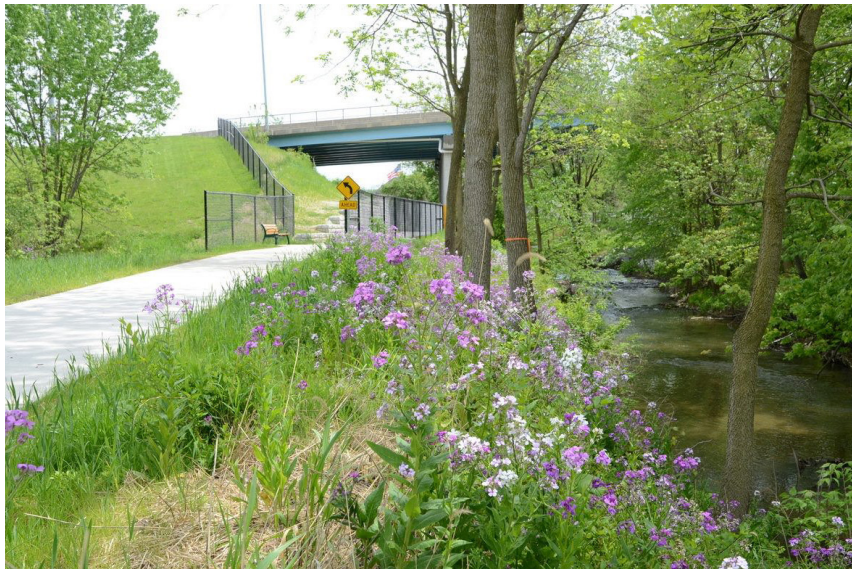
Regionally Significant Projects

Every project listed helps our communities and region become more walking and bicycling friendly. However, some of the projects are identified as regionally significant because of their impact to the connectivity of our regional active transportation network. Projects that finish missing links and key trails, add additional regional connectivity, and improve small town connections are all crucial to developing a network that is robust and available to all of our residents.

Finish Key Trails

The Michiana region has several important trails connecting our communities. It is important for regional connectivity to finish gaps and extend the trails to other communities.

Pumpkinvine Nature Trail: The Pumpkinvine Nature Trail is a major trail in Northern Indiana. It connects Goshen, Middlebury, and Shipshewana by an abandoned railroad line. The trail is nearly all off road, with the exception between CR 33 and CR 35.



Mapleheart Greenway: An important connection to the Pumpkinvine Nature Trail is on the Mapleheart Greenway, which connects Elkhart to Goshen. The Greenway currently ends at Hively Ave and becomes a bike lane until Indiana Ave. Continuing the Greenway into Downtown Elkhart and to the Riverwalk would extend the Pumpkinvine Nature Trail's length to nearly 30 miles.

Indiana Michigan River Valley Trail: The St. Joseph River is a key feature in the North Central Indiana and Southwestern Michigan. South Bend and Mishawaka connected their Riverwalks to begin the River Valley Trail. The vision is to continue the trail from South Bend into Niles, MI. Niles Township has constructed a trail starting at the State Line and continuing to the south side of Niles. St. Joseph County is in the process of designing and/or constructing sections of the trail from the north side of South Bend to the State Line. Finishing the gaps in the trail is important for regional active transportation travel between Indiana and Michigan.

Capital Avenue Trail: When the Indiana Department of Transportation (INDOT) built a new north-south connection between the Toll Road and US 20 bypass, they included a shared use path along the east and west sides of the road. The trail needs to be completed between Jefferson Blvd and Lincolnway over the St. Joseph and continued north into Granger.

Build a Strong Regional Network

Though our region has several major trails, it is important to continue to grow the regional network. There has been strong interest to connect each of our counties and major cities by trails, especially in the rural areas of the region.

- **E&W Rail Trail:** One of the highest priorities in the region is to connect the Pumpkinvine Nature Trail and the Indiana Michigan River Valley Trail into one off-road network. Through building next to the E&W Railroad line, Mishawaka and Elkhart can connect their two existing Riverwalk trails. This will connect our region's four largest communities completely with off-road shared use paths.
- **Old US 31/Michigan Road Trail:** In 2015, INDOT completed the new limited access highway between South Bend and Plymouth. The old US 31, or Michigan Road, has left our region with an opportunity to use the corridor to build a trail between St. Joseph and Marshall Counties. As INDOT looks to continue improving US 31 south of Plymouth, there may be an opportunity to continue the trail south, out of Marshall County, to connect to Rochester where it can meet the existing Nickel Plate Trail.
- **SR 15/Winona Railway Trail:** In order to connect Goshen and Warsaw, SR 15/Winona Railway was selected as a potential trail corridor. This would provide a connection into Goshen's existing Winona Railway Trail to the north side of Warsaw.
- **US 30/Lincolnway Trail:** In Marshall and Kosciusko Counties, east-west connections have been limited. Using the Old US 30/ Lincolnway corridor, bicyclists can ride between Plymouth and Warsaw. Moving east of Warsaw, using the existing US 30 corridor, riders can continue to Columbia City and eventually to Ft. Wayne.

Improve Community Connections

Regional trails provide economic opportunities for communities, especially small towns. Improved connectivity invites residents, businesses, and visitors to stay in the community.

- **Quaker Trace:** As mentioned above, the Pumpkinvine Nature Trail is an important regional connection in the Michiana region. To improve connectivity, the Quaker Trace trail is planned to connect the north side of Elkhart through Bristol to Middlebury and the Pumpkinvine Trail.
- **Wabash 4th District Railroad Trail:** Sections of the Wabash 4th District Railroad are still in limited use, however abandoned sections provide an opportunity for a Rails-to-Trail project. One section in Elkhart County can connect Wakarusa to Goshen. This path can connect to the Winona Railway Trail between Goshen and Warsaw providing additional regional accessibility.
- **Potato Creek State Park Trail:** Potato Creek State Park is located between the towns of North Liberty and Lakeville. The State Park boasts of several walking and bicycling trails and would benefit with designated trail access to the park. Additionally, using an abandoned rail corridor, a trail can be constructed between North Liberty and Lakeville and connecting to the Old US 31/Michigan Road trail.
- **Culver-Plymouth Rail Trail:** In Marshall County, an abandoned rail corridor exists between the town of Culver and Plymouth. This trail would provide access to the popular Lake Maxinkuckee in Culver. In Plymouth the trail would meet with the Plymouth Greenway and provide connections to the Old US 31/Michigan Road trail and the Lincolnway Trail.

Supporting Programs

Programs and policies are critical components of supporting active transportation and the goals identified within this plan. When implemented in conjunction with the enhancement of bike and pedestrian facilities, low cost programs based around education, encouragement, enforcement and equity can create a flourishing active transportation environment.

Programs can be used to encourage and provide incentives for people to walk and bike as a part of their daily routine; they can educate people of all ages and abilities on how to safely use the street network as a pedestrian and bicyclist; and they can improve access to necessary equipment such as bikes, that many might not have the means to acquire.

The following list describes programs that can be created or expanded upon to enhance walking and biking in the area to foster a safe and comfortable environment for all to use.

MACOG staff teaching Bike hand signals at Get up and GOshen!

Active Transportation Educational Program

Education plays a vital role in ensuring that children and adults alike stay safe while walking and biking. Learning about the benefits of active transportation can also encourage more people to try it out. Ensuring that educational programs are in place through a variety of ways including a safety campaign website, television and radio ads, and schools and community events, would help educate all members of our community about safe and courteous walking, biking, and driving.

Safety Campaign

Creating a cohesive safety campaign targeted for all users of the road will assist in making sure stakeholders and other local interest groups can easily share and educate a wide range of people on the importance of safety and courtesy on the roadway in a consistent and identifiable way.

Safe Routes to School

Safe Routes to School Programs aim to create safe, convenient, and fun opportunities for children to bicycle and walk to and from school. Currently, there are several local organizations and bike groups that hold educational programs, such as bike rodeos, for elementary students. By expanding on what is already being done and incorporating safe routes to school programs in all school districts for a variety of ages will ensure children are encouraged to walk and bike and have the knowledge to remain safe on our streets.

League Cycling Instructors

Expanding our local League Cycling Instructors (LCIs) is one way to promote active transportation education in the region. LCIs are certified to teach the Smart Cycling classes to children as well as adults. The main goal of the class is to ensure people feel comfortable and secure on a bicycle as well as to promote the idea that bikes are treated as a vehicle. LCIs must be a member of the League of American Bicyclists and complete a 3 - day seminar training.

Driver Education

Making sure that all users on the road stay safe means that drivers should also be made aware of how bicyclists and pedestrians are allowed to use the road. Providing information about various bike and pedestrian laws in driver's education courses, such as the 3 foot law, would provide a good introduction into how drivers interact with other users.

Events

Community events are good ways to actively engage children as well as adults. These events can be used to target underserved or hard to reach communities, which can further the reach of active transportation education in the region.

Law Enforcement

While enforcing traffic laws for bicyclists, pedestrians, and motorist can be difficult, law enforcement officers can play a crucial role in establishing respect among all users. Incorporating law enforcement officers into bike and pedestrian education is a good way to collaborate and ensure traffic safety is continually improving.

Targeted enforcement can also be used as an educational opportunity in areas with high volumes of bicycle and pedestrian activity, such as schools, through warnings for illegal behavior or rewards for proper etiquette and safety.

Community Outreach

Community Outreach programs are meant to provide the proper support and mechanisms to municipalities, businesses, and community members on what resources they need to utilize and how to promote the active transportation culture.

Marketing and Branding Campaign

The Michiana region is home to several regionally significant trails: Indiana Michigan River Valley Trail, Mapleheart Trail, and the Pumpkinvine. The creation of a marketing campaign would promote and bring awareness to these trails, encouraging more use by residents, as well as visitors, of the beautiful trails the region hosts. This marketing campaign can also be used to promote larger events that take place on our trails and attract people to the region.

Impact of Trails Study

As more is done to promote trails in our region, quantifying the economic of benefits of such will be important. By conducting an Impact of Trails Study, return on investment of trails can be realized. This study could incorporate user counts, on-site and Online surveys, and assessment of property values near trails.

Active Transportation Resource Guide

Creating an Online resource guide for existing and potential active transportation users will take some of the uncertainty out of planning walking or biking trips. By providing essential resources, such as a regional bike and pedestrian map and end of trip facilities and amenities inventory such as showers, bicycle racks, water fountains, and restrooms; planning a route to a particular destination becomes easier. This resource guide could also provide educational information, such as facility types and rules of the road, as well be a guide to different community events or groups that promote active transportation.

Businesses should be key partners for promoting an active transportation culture as well. With a resource guide geared towards businesses, these key partners can be informed on how to encourage and promote walking and biking for their customers and employees, as well as learn how active transportation can be good for their businesses. Items such as bike racks, health or insurance benefits, or promotions for walkers or bikers can all incentivize walking and biking. Examples of good resource websites include The City of Chicago and the Broward MPO which both have created a comprehensive complete streets website that provides information on existing projects, safety, resources, and way to get involved.

Broward MPO Complete Streets Website

Bikeways and Walkways Signage and Wayfinding

Our region has existing signed bicycle routes in all four counties, and plans to include more to connect our numerous communities. By creating a common bikeway sign, with directional information such as what destinations are nearby, where the route heads to, and how far the route is, cyclists can explore more confidently on bike. With a signage plan, communities will be able to implement a more effective signed route that can be utilized by many, creating a more connected and accessible network.

Local communities should also look at implementing various signage and wayfinding for walking and biking. Wayfinding is essential to orienting pedestrian and bicyclists of their surrounding physical space and how to navigate and interpret moving from place to place. Elements of wayfinding can help active transportation users locate important destinations, inform them of important information, and help guide them along a particular route. Wayfinding is not just signage, but rather a collection of elements that contribute to a walker or riders experience, including decorative items, kiosks, landmarks, art, motion or pressure detectors, and smart phone or mobile application interactions. Identifying best practices and what is successful in other like regions will assist communities in implementing, improving, and expanding their own wayfinding systems.

Throughout the planning process it was mentioned that our region is prone to barriers related to perceived distance when walking and biking. Providing wayfinding elements and signage that includes approximate walking or biking times may encourage those, who previously thought destinations were too far, to use active transportation instead.

Partnership Forum (Michiana Active Transportation Committee)

Cultivating partnerships are important parts of accomplishing the implementation of programs and projects. These partnership come from businesses, municipalities, local interest groups, law enforcement, and the public. The formation of the Michiana Active Transportation Committee (MATC) will help ensure that the proper partners are being included as programs and projects are implemented. MATC meetings can also serve as a roundtable to discuss and get input on current activities taking place, and serve as an educational opportunity and a resource for those who are considering getting involved.

Bicycle and Walk-Friendly America

In order to receive a bicycle friendly designation, an application supporting the essential elements including engineering, education, encouragement, enforcement, evaluation and planning, and equity is required. Through the application process, communities, businesses, and universities receive customized feedback and technical assistance to improve conditions for bicycling. Continuing to support the Bicycle Friendly designations of places in our region can be a tool to enhance biking as a real transportation option in our region.

Equity-Based Programs

Ensuring a complete, safe and comfortable transportation network for walkers, bicyclists, and transit users is important for a community, particularly for disadvantaged or underserved populations that may not have access to a personal vehicle. Potential programs that could serve these populations include:

In Goshen, Chain Reaction Bicycle Project is a non-profit which not only encourages bicycling in the region, but also makes it more equitable. They offer a community bicycle repair shop, increased access to bicycles/repairs for people with low income and on work-release, educational program and opportunities, and advocacy for bicycle transportation.

- Bike Library: a collection of bikes that can be rented out and used for trips throughout the community.
- Bike Co-op: a training programs that educates individuals on bike maintenance while refurbishing bikes and parts that can be given to nonprofits or for individuals for volunteered time.
- Read to Ride: a program already being implemented in South Bend, geared towards rewarding children, and their families, with bicycles after reading a certain number of books throughout the school year.
- Various Transit Programs: Outreach promoting, educating, and encouraging individuals to use transit, as well as how they might extend their commute by biking and busing together.

Encouragement Programs

Encouragement Programs not only provide incentives for people to start walking or biking, they also increase visibility creating comfort, confidence, and safety on streets for active transportation. There are a wide variety of programs that can be used to encourage people to walk or bike. Below is a highlight of programs that can be implemented or expanded upon throughout the region to reach a critical mass of active transportation users that make our network more enjoyable and safe to use.

Bikes lined up during Fat &Skinny Tire Fest in Warsaw

Walking School Buses and Bike Trains

Walking school buses and bike trains are groups of students accompanied by adults that walk or bike on planned routes to school. They can be offered daily, weekly, or monthly and offer students and parents a safe way to reach schools.

National Bike Month/Bike to Work Week

In May, the League of American Bicyclists promotes National Bike Month, Week, and Day, in communities throughout the nation. These events are meant to showcase the numerous benefits of bicycling, as well as encourage more people to give bicycling a try for any purpose. Overall, this celebration can increase visibility for bicycling, while making it fun for those who typically aren't as comfortable riding a bicycle in the street. The National Bike Challenge, sponsored by People for Bikes, is also a great opportunity to challenge people to ride the whole season long, from May to September.

Syracuse Active4.me

Schools in the Town of Syracuse have been implementing technology to make walking and biking to school more convenient. The Active 4.me technology involves scanning bar codes to log student walking and biking miles. Parents receive a text or email message after their child's code has been scanned, letting them know their children are at school, plus it tracks health and environment stats.

Students participating in the walking school bus to Harrison Primary Center

South Bend Walking School Bus Program

Fall 2015 kicked off the beginning of the South Bend Community School Corporation Walking School Bus Program for 7 Primary Centers. It was piloted during National Walk to School Day in 2013 to 2015 where community leaders served as walking school bus leaders to build engagement. Through this program, schools receive support through the St. Joseph County Health Department and Reducing Obesity Coalition of SJC to offer at least one walking school bus a month.

Walktober

Similar to Bike Month, Walktober can be implemented in October as a health promotion campaign in to encourage employees, customers, or general public to get active.

Neighborhood Street Stories

Street Stories, or Learning Walks, can create a walking route that provides interesting information along the way. These could be geared towards children story telling, the history of a neighborhood, or a variety of other topics that the community might be drawn to and encouraged to walk along.

Open Streets

Open Streets are events that temporarily close portions of a street to vehicular traffic so that people may reclaim the space for a variety of fun activities. These events offer a great venue for educating residents on active transportation, and depending on location, can be used to showcase new bicycle and pedestrian infrastructure and proper etiquette when using those facilities.

Neighboring City Commuting Challenges

Neighboring City Commuting Challenges encourage people who usually drive to work alone, to consider additional forms of transportation. Whether it is walking, biking, taking the bus, or carpooling; residents can track their distances using these methods of transportation to "compete" against neighboring cities for prizes or even just bragging rights. Neighboring City Community Challenges are not only a good way to spark friendly competition, but also about forming strong partnerships across municipal boundaries.

Fun Rides or Runs

Fun rides and runs provide a great opportunity to showcase how the existing transportation network can be utilized for active transportation. Riding in numbers can make participants feel more comfortable and allow them to become familiar with how to properly use the network on a bike. Partnering with well recognized figures in the community, such as Mayors, can send a powerful message to all users of the roadway, that the community is supporting an active transportation culture.

South Bend Mayor Pete and Mishawaka Mayor Wood during the 2016 Inaugural Mayor's Ride

Bike Shares

Bike shares are becoming ever more present in the United States in large and small communities alike. Bike shares provide a fleet of bicycles located at key locations throughout a community that can be utilized for short trips in that community. They can be implemented on small or large scales with opportunities to expand as demand, development, or funding allow.

Commuter Incentives

Making it easy and enjoyable to use active transportation as a means of getting around is important. By providing park & ride or bike & bus locations in our denser communities, people might be encouraged to use walking anding biking as part of their daily commute. These activities help residents get in exercise while avoiding heavy traffic in business districts.

Pedal and Park Events

For large events, encouraging people to bike or walk instead of drive reduces congestions and strain on parking. By providing proper infrastructure and services such as biking parking and valet services, biking to the event might be a more convenient option compared to driving.

Best Practices in Design and Policy

Identifying and utilizing best practices from around the world will ensure that our active transportation network is well-designed, safe, and consistent. Creating a guidance document that is specific to the character of our region will serve as a resource for planners, designers, and engineers as the region continues to promote active transportation. Best practices and implementation should be explored for the following elements:

Complete Streets Policy

Complete Streets are designed with the needs of all roadway users in mind, making the transportation network more comfortable, accessible, and safe. In addition to the identified infrastructure projects, encouraging the adoption of complete streets policy or similar activities is essential to the continuing improvement of the transportation network. This ensures that future transportation projects are being thought about holistically, rather than just for the movement of vehicles.

Smart Growth America's National Complete Streets Coalition named South Bend's Complete Streets Policy Resolution as one of the best of 2015. Sixteen agencies were recognized for their adoption of Complete Streets policies in 2015, and South Bend is in a three-way tie for third place. Across the country, 899 Complete Streets policies have been adopted, which support safe, multi-modal transportation systems for all users. The Coalition wrote a report on how the policies of the last year were evaluated. The scoring was based on ten elements that involve policy language, performance measures, and implementation steps.

While South Bend is the only community in our region to pass a complete streets policy, many other communities, such as Elkhart and Warsaw are implementing the philosophy through designs such as road diets.

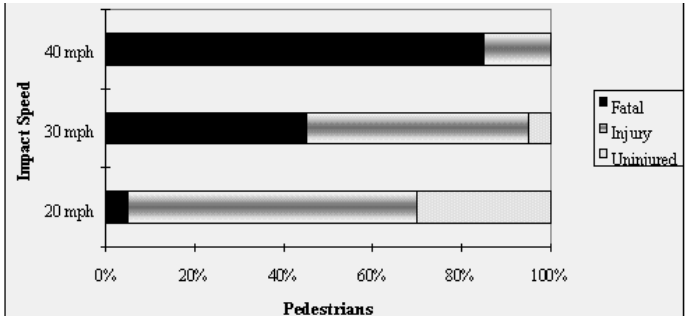
Traffic Calming

Traffic calming is the implementation of mostly physical measures that reduce vehicular speeds by altering driver behavior, which improve safety for other users of the transportation network. Traffic calming promotes pedestrian, bicycle, and transit use by incorporating their preferences while increasing the quality of life and creating attractive streets. Research has shown that limiting vehicular speed greatly decrease the severity of a collision with a pedestrian, as depicted in Figure 5.4 According to the Institute of Transportation Engineers traffic calming objectives include:

- Achieving slow speeds for motor vehicles,
- Reducing collision frequency and severity,
- Increasing the safety and perception of safety for nonmotorized users of the street(s),
- Reducing the need for police enforcement,
- Enhancing the street environment (e.g., street scaping)
- Encouraging water infiltration into the ground,
- Increasing access for all modes of transportation, and
- Reducing cut-through motor vehicle traffic

Source: Lockwood, Ian. ITE Traffic Calming Definition. ITE Journal, July 1997, pg. 22.

Figure 5.4 - Vehicle Impact Speed and Pedestrian Injury Severity (from DETR)



Source: National Highway Traffic Safety Administration

The tools for traffic calming vary, and many can be inexpensive or flexible. Many traffic calming techniques can also be used to enhance the character of a community. The following is a list of possible tools for creating a community that is safe and vibrant for all users:

- Diagonal Parking
- Change One-Way Streets to Two-Way
- Widening Sidewalk/ Narrowing Streets and Traffic Lanes
- Bumpouts
- Chicanes
- Roundabouts
- Raised Medians or Crosswalks
- Diverters
- Speed Hump

Example of Traffic Calming for the City of Kingsport, Tennessee

Streetscapes

Streetscape elements visual elements that can often be incorporated into wayfinding. Items such as landscaping, tree greenery and shade, lighting, seating, and art all have a great impact on a pedestrian's experience. Areas which incorporate these streetscape elements establish character, and can not only attract people, but also spark private interest for development.

Maintenance

Through the course of the planning process maintenance was often highlighted as a concern. To ensure that our region's facilities remain in good condition and are taken care of, communities should have a maintenance plan in place to ensure debris and snow removal, landscaping, and spot maintenance can be accommodated when needed. Municipalities, however, can not accomplish this alone. Forming community partnerships to assist in maintenance of active transportation infrastructure will ensure a longer term and sustainable maintenance plan, while increasing ownership and pride to those who utilize and assist in maintaining the facility. Key partners such as park departments, neighborhood associations, businesses, and other advocacy groups should take a key role in ensuring that our active transportation system remains in excellent condition.

Codes, Ordinances, and Law

Codes, ordinances and laws are several mechanisms used to create a more bikeable and walk friendly region. Codes and ordinances stem from the planning stage to guide design, and are useful for incorporating active transportation into new development because they can address items such as sidewalks, setbacks, bicycle parking, and streetscape design. Creating a resource of what communities are currently implementing and comparing them to similar communities will help our communities identify strengths and improvement opportunities.

In 2014, the City of Elkhart unanimously passed a bicycle buffer ordinance to better protect bicyclist on the road. The City was the fifth city in Indiana to do so, joining South Bend, Fort Wayne, Indianapolis, and Carmel. The ordinance requires that motorists provide a 3 foot buffer when passing bicyclist on city streets.

Bicycle and pedestrian safety laws, while sometimes hard to enforce, are steps in the right direction for advocating a safer street network. Several communities in our region have passed local ordinances such as the 3 foot passing ordinance.

Bicycle Indiana, a member-based organization committed to improving all aspects of bicycling in Indiana, has been working to increase language in legislation that improves bicycling conditions.

Example of a 3 Feet Passing Sign

CHAPTER 6 : IMPLEMENTATION

The Active Transportation Plan provides a vision for the future and a list of recommended physical and programmatic improvements for the region. Throughout the planning process, communities and residents have been engaged and are excited to see the vision and recommendations implemented. This will require commitment, partnerships, funding, and continued community support. A clear, action-oriented implementation strategy will be necessary to continue the momentum of the plan. The implementation strategy is an outline of the actions and priorities necessary to see the vision of this plan realized.

Early Action Steps

The following early action steps are designed to initiate plan implementation, sustain momentum from the planning process, and set the foundation for future progress. The following early action items, which represent a mix of policy, procedures, capital projects, and programs, provide early opportunities to engage community partners and establish strong and lasting relationships on which successful implementation efforts will depend.

Step 1: Adopt the Plan

This is an important step that should not be overlooked. The Michiana Area Council of Governments will adopt this plan as the bicycle and pedestrian component of the Michiana on the Move: 2040 Transportation Plan. This plan is the primary document guiding future capital investments and transportation decisions, which will now include active transportation. When projects are being considered for federal funding, the priorities identified in this plan will impact the decision to provide funding to particular projects. Adopting the Active Transportation Plan into the Michiana on the Move: 2040 Transportation Plan will require updates every 4 years.

Step 2: Adopt a Complete Streets Policy

A "Complete Street" is a street that is designed and maintained to accommodate all street users, pedestrians, bicyclists, transit users, and motorists. Across the country, Metropolitan Planning Organizations and communities have adopted Complete Streets Policies to integrate all modes of transportation into roadway funding, design, construction, operations, and maintenance where feasible. The Michiana Area Council of Governments should draft a Complete Street Policy for project utilizing federal funds to consider all street users. The other communities in the region should also consider adopting a Complete Streets Policy in order to have the most impact for active transportation users.

Step 3: Establish an Active Transportation Committee

The Michiana Active Transportation Committee (MATC) would be responsible for overseeing the implementation of the Active Transportation Plan. This committee would be comprised of representatives from local government, elected officials, schools, neighborhoods, advocacy groups, businesses, health organizations, and tourism organizations. The MATC would meet periodically to discuss implementation progress, discuss related issues, and share resources and tools throughout the region.

Step 4: Establish Baseline Counts and Measurements

Continual monitoring of implementation progress is essential to the success of the Plan. Baseline measurements of key data like bicycling and walking activities, crash rates, miles of facilities, program participation numbers, and travel mode share provide a point of comparison to determine the impact infrastructure projects and supporting programs. The Michiana Area Council of Governments (MACOG) should consider incorporating bicycle and pedestrian counts within their existing traffic counting program. The program should consider the use of both manual and automatic counts. MACOG should work with the MATC to develop this program by identifying potential count locations and selecting potential automatic counting technologies.

Step 5: Create an Active Transportation Design Guideline

Having a well-designed, safe, and consistent active transportation network will encourage people to walk and bike more frequently. Across the country and world, experts have designed and built many types of infrastructures to accommodate bicyclists and pedestrians. Using their expertise, our region can develop a common guideline to use when designing active transportation infrastructure. Using this guide across the region, will help to make sure infrastructure is safe and consistent for all users. This guide should address the differences between the urban, small-town, and rural character in the region.

Step 6: Create an Active Transportation Educational Program

Building high-quality active transportation facilities is only one part of creating a safe and convenient active transportation network. A program aimed at educating community members on safe and courteous walking, bicycling, and driving habits for children and adults would help keep everyone safe when traveling. Through working with the MATC, the region can work together to develop a consistent message that is delivered in fun and engaging ways. This would include a campaign website, television and radio ads, school education programs, community outreach, and adult classes.

Step 7: Develop a Regional Bikeways Signage and Wayfinding Plan

Signed bicycle routes provide a quick and relatively inexpensive way to expand the regional active transportation network. Our region currently has over 628 miles of signed routes and looks to add 176 miles more. Creating a common bikeway sign will help residents and visitors explore the region on bike more confidently. The signs will give rides knowledge about where they are going, what destinations are nearby, and that the route is common for other cyclists. The MATC can work with local partners to develop a system for identify signed routes using best practice guides across the country. Communities can implement the signs for existing or future signed routes, making the network more connected and accessible.

Step 8: Seek Funding for High Priority Projects

The Active Transportation Plan identifies a variety of projects to improve bicycling and walking within in the region. A few of these projects will have the most significant impact in the region, meeting the goals of the region and the needs of our communities. Funding for transportation projects can be very competitive and the project development time is significant. With this in consideration, it is important for the MATC to identify potential traditional and innovative funding sources for high priority projects.

Appendix A identifies priority level for all projects. High priority projects were either quickly implementable, or considered critical to be started early. Low priority projects were viewed as long-term projects that would enhance the overall network, but were not considered a vital connection.

Funding Sources

Funding active transportation projects will require a diverse and creative approach. Multiple funding sources are necessary to implement the recommended network and program improvements in this plan.

Federal Sources

This last year, Congress passed the Fixing America's Surface Transportation (FAST) Act. The FAST Act is a five-year bill, replacing the most recent Moving Ahead for Progress in the 21st Century (MAP-21). The FAST Act slightly increases funding and changes some policies from the previous bill. Overall, funding for active transportation has improved under the FAST Act.

Active transportation projects remain eligible activities in the larger Surface Transportation Block Grant (STBG) and Congestion Mitigation Air Quality (CMAQ) programs. Traditional funding for active transportation came from the Transportation Alternatives Program (TAP). In the FAST Act, the name changed to the Surface Transportation Block Grant Set-aside Program. The funding for this category increased from $820 million to $835 million in 2016 and 2017 and to $850 million in 2018, 2019, 2020. Additionally, nonprofit organization are eligible to apply for funds.

The IUSB Bike and Pedestrian Bridge, designed by DLZ, used CMAQ funding for construction.

FAST Act retains the Highway Safety Improvement Program (HSIP) which funds projects that reduce fatalities and serious injuries on all public roads. Eligible projects are in listed within the State's Strategic Highway Safety Plan (SHSP). In Indiana, active transportation related projects including installing pedestrian signals, crosswalk warning signs, beacons, markings, and refuge islands. Unfortunately, HSIP funds can no longer be used for non-infrastructure activities, such as promotion, education, or enforcement. However, the National Highway Traffic Safety Administration, under their Section 405 National Priority Safety Programs, allows for projects covering non-infrastructure activities.

There are also several funding programs not part of the FAST Act. These include the Department of Transportation's Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program, the Land and Water Conservation Fund (LWCF), and the Community Development Block Grant Program (CDBG). Additionally, funding may come from the Federal Transit Administration Capital Funds (FTA), Federal Transit Administration Capital Funds (ATI), the Recreational Trails Program, and the Economic Development Administration (EDA).

State Sources

The State of Indiana offers many funding sources for active transportation. Major programs include the Indiana Heritage Trust Program, the Placed Based Investment Fund, INDOT Common Paths Initiatives, and the state Recreation Trails Program (RTP). Grants from the Indiana Department of Health are available for the creation of bike and pedestrian plans.

The Indiana Heritage Trust Program was instituted to protect natural resources using funds generated through the sale of personalized environmental license plates. Greenways are eligible under the Division of Outdoor Recreation section of the program. The Division's mission is to increase these opportunities for

underserved regions and populations, regardless of their location in rural or urban settings. All projects must maintain state interest through conservation easements or similar agreements. The facilities must also be assumed by local interests, other division, or agencies. Greenways that make use of abandoned rail lines or other rights-of-way previously used for private/public transportation are eligible projects. From 1993 to 2015, the program generated more than $35 million in license plate revenue to fund conservation and recreation projects across Indiana.

The Placed Based Investment Fund, administered by the Indiana Office of Tourism Development and the Office of Community and Rural Affairs, is a competitive matching grant program that supports collaborative community and economic development programs. Awarded funds, which range from $25,000 to $50,000, support projects that build upon unique community assets to strengthen the sense and quality of place and promote increased tourism activity and community investment. Local governments, visitor bureaus, public and private schools, and community foundations are eligible to apply.

INDOT's Common Paths Initiative is a program that strives to create safe, efficient, and accessible transportation for all users. The Small Communities Sidewalk Program (SCSP) is a part of this initiative which sets aside funding each fiscal year to construct new sidewalks or upgrade existing sidewalks to ADA compliance.

The Indiana State Department of Health has provided funding for Indiana communities to prepare a community-wide bicycle and pedestrian master plan. The grant is administered through the Division of Nutrition and Physical Activity and invests in partnerships and activities that work towards improving the health of all Indiana residents. The adoption of bicycle and pedestrian master plan by Indiana communities is seen as an effective way to invest in changes to policy and the built environment that support healthy community outcomes.

Local Sources

Even when using external sources of funds, project will often need a local match to receive a grant. Additionally, projects can be done as part of normal local programs or using local development guidelines. The following accounts serve as the local source of revenue to implement various transportation projects:

- Local Road and Street Account (LR&S)
- Motor Vehicle Highway Account (MVHA)
- Tax Increment Financing (TIF)
- Local Option Highway User Tax (Wheel Tax)
- Economic Development Income Tax (EDIT)

Other tools include establishing an Capital Improvement Plan Set-Aside. This creates a dedicated set-aside that can be used to implement bikeways, trails, and other projects to improve conditions. Additionally, local governments can adopt local ordinances imposing an impact fee on new development in order to fund infrastructure improvements. This could include parks and recreational facilities.

Northern Indiana and Northeastern Indiana both received an Indiana Economic Development Corporation (IEDC) Regional Cities competition grant for $42 million over the next two years. The program includes projects that promote economic growth in the region. Many of the projects proposed include active transportation elements. Using a combination of local, state, and private funds, several key projects could get built using the Regional Cities funds.

There are several nonprofits and community organizations that can help fund and support active transportation. These organizations include the Indiana Trails Fund, the Indiana Greenways Foundation, the Trust for Public Land, and the People for Bikes Community Grants Program. Local businesses and hospitals may also provide some support for bike infrastructure.

Evaluation

An important component of the planning process is to understand how to measure the success of the plan. Evaluating consists of monitoring plan progress; documenting outcomes, trends, and attitudes; and periodically revisiting the plan to realign recommendations with the changing values and needs of our communities. The following evaluation action and programs support an accountable and transparent implementation process and create feedback loops through which future needs, issues, and opportunities can be identified.

Performance Measures and the Transportation Academy

In early 2016, MACOG was one of seven regions to be selected in a yearlong transportation academy created by the national nonprofit Transportation for America in partnership with the Federal Highway Administration. This program will educate teams of local business, civic, elected leaders, and transportation professionals at the early stages of performance measure development, prepare participants to act on opportunities within their communities, and plug them into a dynamic national network of like-minded leaders throughout the county. Through this process, MACOG will be developing performance measures for the Michiana on the Move: 2040 Transportation Plan which will also address active transportation goals. This process will be valuable in ensuring that our region can more carefully measure the impacts of all transportation spending decisions to ensure that every dollar is aligned with the public's goals and brings the greatest return possible for citizens.

Public bike counter in the City of Vancouver

Biennial Bicycling and Walking Progress Report

Every two years, MATC should publish a report summarizing the implementation progress of the Active Transportation Plan. This report will highlight completed projects, share stories of successful programs, and use data collected over time to quantify the impact of the plan on health, transportation, equity, and economic activity.

Communicating the success of the plan will depend on data gathering and analysis. Over time, the data collected can show the impact of recommendations of this plan. Table 6.1 contains a list of data that should be collected over time to monitor the impact of this plan and used in the Progress Report.

Table 6.1 - List of Data to collect for Progress Report

Data	Source
Journey to work (mode share)	American Community Survey (ACS), US Census Bureau
Bicycle and pedestrian crash data	Indiana's Automated Reporting Information Exchange System (ARIES)
Miles of active transportation facilities	MACOG GIS
Bicycle Level of Service	MACOG GIS
Bicycle and pedestrian activity	Manual and automated counts
Residents' perception, attitudes and behaviors	Online surveys
Economic impact	Property values, sales tax revenue
Number of education and encouragement programs and participants	Partnering organizations
Network coverage (percent of population within ¼ and ½ mile of active transportation facilities)	MACOG GIS, US Census Bureau
Equity (percent of environmental justice populations within ¼ and ½ miles of active transportation facilities)	MACOG GIS, US Census Bureau
Average Annualized Daily Traffic on bikeway corridors	MACOG GIS
Complete Street Policy Adoptions/Ranking	Smart Growth America
# of Bike Friendly Communities	League of American Bicyclists
# of Walk Friendly Communities	Walk Friendly Communities
# of Bike Friendly Businesses/Universities	League of American Bicyclists
# of bicycle parking and other amenities	MACOG GIS, City GIS

APPENDIX A : LIST OF PROPOSED PROJECTS

Elkhart County

Figure A-1: Elkhart County Proposed Projects

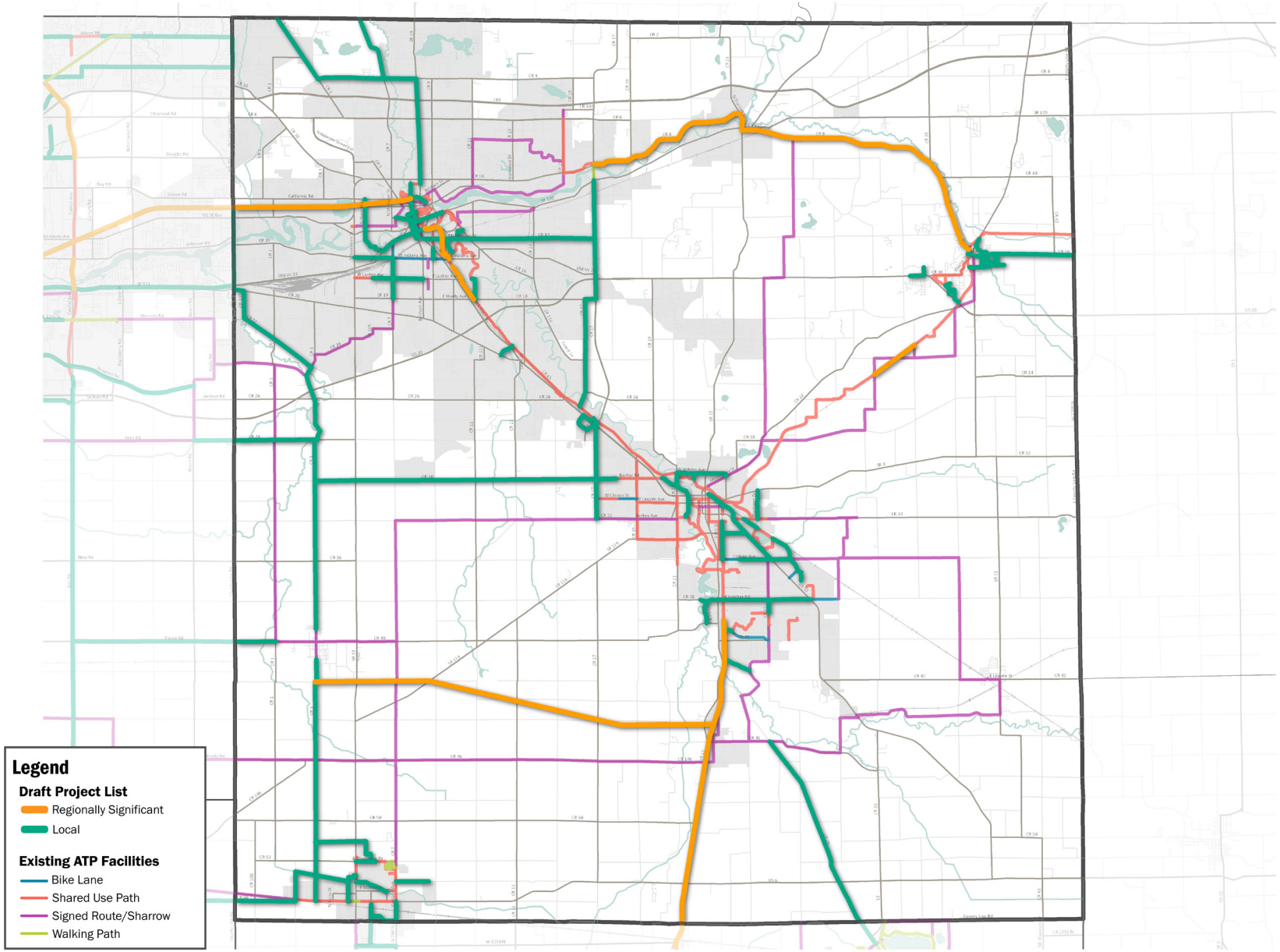


Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
1	Bristol	Quaker Trace (Elkhart St)	Bristol Town Limit	Division St	Shared Use Path	0.8	High	x
2	Bristol	Quaker Trace (Divsion St)	Elkhart St	River Rd (CR 8)	Shared Use Path	0.4	High	x
3	Bristol	Quaker Trace (River Rd)	Division St	Arrowhead Dr	Shared Use Path	0.9	High	x
4	Elkhart	Mapleheart Connector (Princeton Blvd)	McDonald St	Indiana Ave	Shared Use Path	0.3	High	x
5	Elkhart	E&W Rail Trail	Main St	CR 1	Shared Use Path	3.4	High	x
6	Elkhart	Sycamore St	Island Park	Langle Park	Walking Path	0.2	High	
7	Elkhart	Cassopolis St	Bristol St	Windsor St	Walking Path	1.7	High	
8	Elkhart	Waterfall Dr	Elkhart Ave	Middlebury St	Cycle Track	0.6	High	x
9	Elkhart	Mapleheart Connector (Richmond St)	Middlebury St	McDonald St	Bike Lane	0.4	High	x
10	Elkhart	Main St	Jackson Blvd	Potawattomi Dr	Bike Lane	0.3	High	
11	Elkhart	Middlebury St	Goshen Ave	Main St	Signed Route	1.1	High	
12	Elkhart	Sherman St	3rd St	Riverside Dr	Signed Route	0.3	High	
13	Elkhart	Franklin St	Waterfall Dr	Arcade Ave	Signed Route	1.2	High	
14	Elkhart	Arcade Ave	Franklin St	West Blvd	Signed Route	0.3	High	
15	Elkhart	West Blvd	Arcade Ave	Lexingtons Ave	Signed Route	0.6	High	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
16	Elkhart	West Blvd	Lexington Ave	Mishawaka Rd	Signed Route	0.8	High	
17	Elkhart	Oakland Ave	Hively Ave	Indiana Ave	Signed Route	1.0	High	
18	Elkhart	Eddy St	Mapleheart Greenway	Greenway Trail	Shared Use Path	0.6	Medium	
19	Elkhart	Greenway Trail (Tipton St)	Existing Greenway Trail	Middlebury St	Shared Use Path	0.4	Medium	
20	Elkhart	Greenway Trail (Cemetery/ Church St)	Middlebury St	Goshen Ave	Shared Use Path	0.3	Medium	
21	Elkhart	Prarie St	Main St	Indiana Ave	Shared Use Path	0.3	Medium	
22	Elkhart	Lusher Ave	17th St	Benham Ave	Shared Use Path	1.3	Medium	
23	Elkhart	Middlebury St	Goshen Ave	CR 15	Shared Use Path	2.1	Medium	
24	Elkhart	Park Connector	High Dive Park	Wellfield Botanic Gardens	Shared Use Path	0.4	Medium	
25	Elkhart	Cassopolis St	Lawrence St	Bristol St	Walking Path	0.1	Medium	
26	Elkhart	Cassopolis St	Windsor St	CR 4	Walking Path	0.8	Medium	
27	Elkhart	Jackson Blvd	Waterfall Dr	Bowers Ct	Bike Lane	0.6	Medium	
28	Elkhart	3rd St	Sycamore St	Division St	Bike Lane	0.6	Medium	
29	Elkhart	2nd St	Jeffeson St	Division St	Bike Lane	0.5	Medium	
30	Elkhart	Indiana Ave	Oakland Ave	Nappanee St	Bike Lane	1.0	Medium	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
31	Elkhart	Mapleheart (Sterling Ave)	Mapleheart Greenway	Ren St	Shared Use Path	1.0	Low	x
32	Elkhart	Middlebury St	CR 15	CR 17	Shared Use Path	1.0	Low	
33	Elkhart	Main St	Potawattomi Dr	Lawrence St	Complete Street	0.6	Low	
34	Elkhart County	Quaker Trace (CR 8)	Echo Ln	CR 17	Shared Use Path	0.5	In Progress	x
35	Elkhart County	Pumpkinvine Trail	CR 35	CR 20	Shared Use Path	0.5	In Progress	x
36	Elkhart County	Quaker Trace (CR 8)	Bonneyville Mill	Bristol Town Limit	Shared Use Path	2.0	High	x
37	Elkhart County	Quaker Trace (CR 8)	Cedar Creek Dr	Bonneyville Mill	Shared Use Path	3.5	High	x
38	Elkhart County	Quaker Trace (CR 8)	Arrowhead Dr	Echo Ln	Shared Use Path	2.6	High	x
39	Elkhart County	Pumpkinvine Trail	CR 20	CR 33	Shared Use Path	0.7	High	x
40	Elkhart County	Old CR 17	CR 18	CR 15	Shared Use Path	2.7	High	
41	Elkhart County	E&W Rail Trail	CR 1	Ash Rd	Shared Use Path	1.0	High	x
42	Elkhart County	Concord Mall Dr	Mishawaka Rd	CR 45	Walking Path	0.4	High	
43	Elkhart County	CR 3	CR 42	US 6	Wide Shoulders/ Signed Route	5.4	High	
44	Elkhart County	CR 29	CR 46	Elkhart County/Kosciusko County Line	Signed Route	5.1	High	
45	Elkhart County	CR 4	Cassopolis St	CR 5	Signed Route	2.5	High	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
46	Elkhart County	CR 5	CR 4	Indiana State Line	Signed Route	1.8	High	
47	Elkhart County	CR 7	CR 4	Indiana State Line	Signed Route	1.7	High	
48	Elkhart County	CR 56	CR 101	County Line Rd	Signed Route	1.5	High	
49	Elkhart County	CR 17 Bike-Ped Bridge	CR 45	Rieth Blvd	Shared Use Path	1.0	Medium	
50	Elkhart County	CR 3	CR 42	Railroad St	Shared Use Path	0.6	Medium	
51	Elkhart County	Wabash 4th District Railroad	CR 42	SR 15	Shared Use Path	10.0	Medium	x
52	Elkhart County	SR 15/Winona Railway Corridor	Winona Railway Trail Terminus	Elkhart County/Kosciusko County Line	Shared Use Path	7.6	Medium	x
53	Elkhart County	CR 28	Ash Rd	CR 3	Signed Route	2.0	High	
54	Elkhart County	CR 30	CR 3	Reliance Rd	Wide Shoulders/ Signed Route	7.0	High	
55	Elkhart County	CR 40	Ash Rd	CR 1	Signed Route	1.0	High	
56	Elkhart County	CR 17	Jackson Blvd	CR 18	Shared Use Path	1.9	Low	
57	Elkhart County	CR 18	CR 17	Old CR 17	Shared Use Path	3.0	Low	
58	Elkhart County	CR 16	River Park Dr	Elkhart County/LaGrange County Line	Shared Use Path	0.3	Low	
59	Elkhart County	CR 3	Wakarusa Town Limits (Wildcat Dr)	CR 24	Wide Shoulders/ Signed Route	6.7	Low	
60	Elkhart County	CR 22	CR 3	CR 100	Wide Shoulders/ Signed Route	2.1	Low	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
61	Elkhart County	CR 100	CR 22	CR 20	Wide Shoulders/ Signed Route	0.7	Low	
62	Elkhart County	CR 20	CR 100	Ash Rd	Wide Shoulders/ Signed Route	0.3	Low	
63	Elkhart County	CR 42	Winona Railway Trail	CR 142	Signed Route	0.7	Low	
64	Goshen	Northwest Trail (US 33)	Rieth Blvd	Reliance Rd	Shared Use Path	0.4	In Progress	
65	Goshen	Northwest Trail (Bashor Rd)	Reliance Rd	Tanglewood Dr	Shared Use Path	0.5	In Progress	
66	Goshen	NorthwestTrail (Reliance Rd)	US 33	Bashor Rd	Shared Use Path	1.3	In Progress	
67	Goshen	US 33 Northern Connector	Monroe St	Main St	Shared Use Path	1.4	High	
68	Goshen	Horn Ditch Trail	Fiddlers Pond Trail	Walmart	Shared Use Path	0.6	High	
69	Goshen	Plymouth Ave	9th St	US 33	Shared Use Path	0.9	High	
70	Goshen	9th St	Washington St	US 33 Northern Connector	Shared Use Path	0.1	High	
71	Goshen	Wilden Ave	Rock Run Creek	6th St	Shared Use Path	0.7	High	
72	Goshen	Waterford Mills Parkway	Regent St	Winona Railway Trail	Bike Lane	0.2	High	
73	Goshen	Kercher Rd	US 33	Violet Rd	Complete Street	2.8	High	
74	Goshen	US 33	College Ave	Monroe Ave	Shared Use Path	1.4	Medium	
75	Goshen	9th St	College Ave	Purl St	Shared Use Path	1.0	Medium	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
76	Goshen	Shanklin-Mullet Trail	Existing Shanklin-Mullet Trail	Lincoln Ave	Shared Use Path	0.4	Medium	
77	Goshen	Chicago Ave	Lincoln Ave	Bashor Rd	Shared Use Path	1.0	Medium	
78	Goshen	Indiana Ave	Chicago Ave	Mapleheart Greenway	Shared Use Path	0.3	Medium	
79	Goshen	Wilden Ave	CR 21	Rock Run Creek	Shared Use Path	0.2	Medium	
80	Goshen	Fiddlers Pond Trail	Existing Fiddlers Pond Trail	Monroe Ave	Shared Use Path	0.4	Medium	
81	Goshen	1st St	Wilden Ave	Mapleheart Greenway	Shared Use Path	0.1	Medium	
82	Goshen	College Ave	15th St	Horn Ditch	Bike Lane	1.3	Medium	
83	Goshen	Reliance Rd	Bashor Rd	Berkley Ave	Signed Route	1.0	Medium	
84	Goshen	Dierdorff Rd	Kercher Rd	Regent St	Shared Use Path	0.3	Low	
85	Goshen	Wilden Ave	6th St	Middlebury St	Shared Use Path	0.4	Low	
86	Goshen	Blackport Dr	Monroe St	SR 4	Signed Route	0.7	Low	
87	Goshen	Violett Rd	Kercher Rd	CR 40	Signed Route	0.6	Low	
88	Middlebury	River Bend Park Trails	Warren St	River Park	Walking Path	0.7	In Progress	
89	Middlebury	Quaker Trace (Bristol Ave)	Railroad St	Cedar Creek Dr	Shared Use Path	1.0	High	x
90	Middlebury	Warren St	River Park Dr	State St	Signed Route	0.5	High	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
91	Middlebury	Church St	Brown St	Pumpkinvine Trail	Signed Route	0.1	High	
92	Middlebury	Spring St	Pumpkinvine Trail	End of street	Signed Route	0.3	High	
93	Middlebury	Mill St	Spring St	Warren St	Signed Route	0.4	High	
94	Middlebury	Lawrence St	Mill St	End of street	Signed Route	0.1	High	
95	Middlebury	Essenhaus Trail	Essenhaus Trail	Pumpkinvine Trail	Shared Use Path	1.9	Medium	
96	Middlebury	Old Mill Park Trail	Warren St	Warren St	Walking Path	0.4	Medium	
97	Middlebury	Northridge SRTS (US 20)	Westlake Dr	Heritage Dr	Walking Path	0.6	Medium	
98	Middlebury	Old Mill Park Trail	Old Mill Park Trail	York Dr (Pumpkinvine Trail)	Walking Path	0.4	Low	
99	Middlebury	River Park Dr	Warren St	CR 116	Walking Path	0.8	Low	
100	Nappanee	Stauffer Park Trail	Main St	Stauffer Park	Shared Use Path	0.3	High	
101	Nappanee	Northside Trail	Main St	Nappanee St	Shared Use Path	0.3	High	
102	Nappanee	Woodview Dr	Main St	McCormick Dr	Shared Use Path	0.5	High	
103	Nappanee	Derksen Dr	Stauffer Park	Miriam Ave	Bike Lane	0.5	High	
104	Nappanee	NorthWood High School Connector	CR 3	NorthWood High School	Shared Use Path	1.0	Medium	
105	Nappanee	Northside Trail	Nappanee St	Arnott St	Shared Use Path	0.8	Medium	

Table A-1: Elkhart County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
106	Nappanee	NorthWood School Connector	SR 19	Woodview Dr	Shared Use Path	0.9	Medium	
107	Nappanee	Oakland Ave	US 6	Elkhart/Kosciusko County Line	Shared Use Path	0.5	Medium	
108	Nappanee	Jackson St	US 6	Elkhart/Kosciusko County Line	Shared Use Path	0.4	Medium	
109	Nappanee	Nappanee Industrial Connector	Oakland Ave	Jackson St	Shared Use Path	0.7	Medium	
110	Nappanee	Nappanee St	US 6	Northside Trail	Signed Route	0.5	Medium	
111	Nappanee	Northside Trail	Arnott St	Tomhawk Trail	Shared Use Path	0.5	Low	
112	Nappanee	Tomahawk Trl	Northside Trail	US 6	Shared Use Path	0.7	Low	
113	Nappanee	CR 54	Oakland Ave	Blackstone Blvd	Shared Use Path	0.8	Low	
114	Elkhart/St. Joseph County	Ash Rd	CR 20	Ferrettie/ Baugo Creek Park Enterence	Shared Use Path	0.2	Low	
115	Elkhart/St. Joseph County	Ash Rd	Ferrettie/ Baugo Creek Park Enterence	Elkhart & Western Railroad	Shared Use Path	1.8	Low	
116	Elkhart/St. Joseph County	Ash Rd	Adams Rd	Anderson Rd	Shared Use Path	0.7	Low	

Kosciusko County

Figure A-2: Kosciusko County Proposed Projects

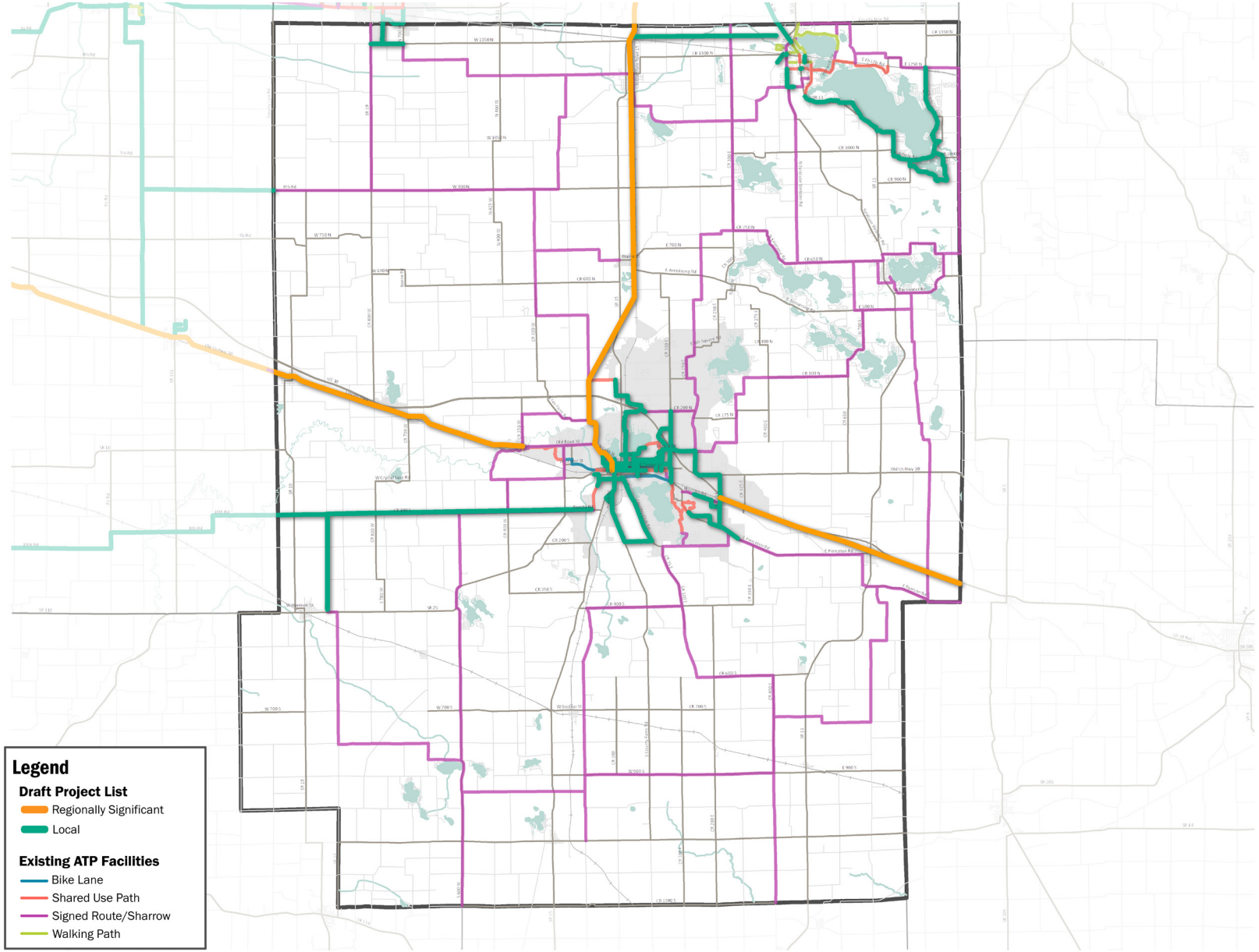


Table A-2: Kosciusko County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
117	Kosciusko County	SR 15/Winona Railway Corridor	Elkhart/Kosciusko County Line	W 300 N	Shared Use Path	11.3	High	x
118	Kosciusko County	W 100 S	Kosciusko/Marshall County Line	S 950 W	Signed Route	1.5	High	
119	Kosciusko County	S 250 E	Sunset Dr	Old Road 30	Signed Route	1.0	High	
120	Kosciusko County	Old Road 30	S 250 E	N 175 E	Signed Route	0.8	High	
121	Kosciusko County	N 175 E	Old Road 30	E 75 N	Signed Route	0.6	High	
122	Kosciusko County	Lincolnway	N 350 W	Kosciusko/Marshall County Line	Shared Use Path	8.0	Medium	x
123	Kosciusko County	Fox Farm Rd	Lake St	US 30	Bike Lane	1.7	Medium	x
124	Kosciusko County	US 30/RR Corridor	S 250 E	Kosciusko/Whitley County Line	Shared Use Path	7.8	Low	x
362	Kosciusko County	Path Connection to Syracuse	SR 15/Winona Railway Corridor	Syracuse	Shared Use Path	4.75	Low	
363	Kosciusko County	Connection from Warsaw to Mentone	Warsaw	Mentone	Complete Street	11.22	Low	
125	Nappanee	Jackson St	Elkhart/Kosciusko County Line	W 1350 N	Shared Use Path	0.6	Medium	
126	Nappanee	W 1350 N	SR 19	N 700 W	Shared Use Path	1.0	Low	
127	Syracuse	Pickwick Dr	SR 13	Pickwick Dr	Shared Use Path	0.1	High	
128	Syracuse	Syracuse Elementary SRTS	New Syracuse Elementary	Main St	Shared Use Path	0.4	High	
129	Syracuse	Main St/Railroad Crossing	Railroad Ave	Boston St	Shared Use Path	0.0	High	

Table A-2: Kosciusko County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
130	Syracuse	Syracsue-Wawasee Trail (SR 13)	Harkless Dr	Grandview Dr	Shared Use Path	1.1	High	
131	Syracuse	Huntington St	Elkhart/Kosciusko County Line	Main St	Signed Route	0.7	High	
132	Syracuse	Syracuse Webster Rd	Pickwick Dr	E 1200 N	Shared Use Path	0.6	Low	
133	Syracuse	Syracuse-Wawasee Trail (Hatchery Rd)	N 850 E	Turkey Creek Rd	Shared Use Path	0.7	Low	
134	Syracuse	Syracuse-Wawasee Trail (Hatchery Rd)	N 800 E	N 850 E	Shared Use Path	0.3	Low	
135	Syracuse	Syracuse-Wawasee Trail (Vawter Park Rd)	Southshore Dr	N 800 E	Shared Use Path	0.5	Low	
136	Syracuse	Syracuse-Wawasee Trail (Southshore Dr)	Grandview Dr	Vawter Park Rd	Shared Use Path	1.7	Low	
137	Syracuse	Syracuse-Wawasee Trail (N 800 E)	Vawter Park Rd	Hatchery Rd	Shared Use Path	1.0	Low	
138	Syracuse	Syracuse-Wawasee Trail (N 850 E)	Hatchery Rd	Koher Rd	Shared Use Path	0.2	Low	
139	Syracuse	Syracuse-Wawasee Trail (Koher Rd)	N 850 E	E 1000 N	Shared Use Path	2.1	Low	
140	Syracuse	Syracuse-Wawasee Trail (E 1000 N)	Koher Rd	Turkey Creek Rd	Shared Use Path	0.4	Low	
141	Syracuse	Syracuse-Wawasee Trail (Turkey Creek Rd)	Hatchery Rd	Buttermilk Dr	Shared Use Path	0.5	Low	
142	Syracuse	Syracuse-Wawasee Trail (Eastern Trail)	Turkey Creek Rd	E 1250 N	Shared Use Path	2.6	Low	
143	Syracuse	E 1200 N	Syracuse Webster Rd	Brook Pointe Inn	Shared Use Path	0.2	Low	
144	Syracuse	Front St	Railroad	Chicago St	Walking Path	0.2	Low	

Table A-2: Kosciusko County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
145	Warsaw	County Farm Rd	W 200 S	SR 15	Shared Use Path	1.6	High	
146	Warsaw	SR 15	Kincaid St	Herscher Dr	Shared Use Path	0.2	High	
147	Warsaw	Silveus Crossing	US 30	W 300 N	Shared Use Path	0.5	High	x
148	Warsaw	Shelden St	W 300 N	W 250 N	Shared Use Path	0.5	High	
149	Warsaw	Herscher Dr	Ranch Rd	SR 15	Walking Path	0.2	High	
150	Warsaw	Center St	Columbia St	Detroit Street	Cycle Track	0.4	High	
151	Warsaw	E 200 N	Sunset Dr	US 30	Signed Route	0.7	High	
152	Warsaw	Husky Trl	Mariner Dr	E 200 N	Complete Street	0.9	High	
153	Warsaw	SR 15	Kincade St	Winona Ave	Shared Use Path	0.6	Medium	
154	Warsaw	Logan St	Current Trail	Winona Ave	Shared Use Path	0.5	Medium	
155	Warsaw	Market St	Detriot St	Bronson St	Shared Use Path	1.2	Medium	
156	Warsaw	Country Club Rd	Smith St	E 200 S	Shared Use Path	0.8	Medium	
157	Warsaw	Buffalo St	Center Lake	Winona Ave	Bike Lane	2.1	Medium	
158	Warsaw	Lake St	Market St	Fox Farm Rd	Bike Lane	1.1	Medium	x
159	Warsaw	W 250 N	Shelden St	Rainbow Dr	Signed Route	0.5	Medium	

Table A-2: Kosciusko County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
160	Warsaw	Rainbow Dr/Bell Dr	E 250 N	Biomet Dr	Signed Route	0.4	Medium	
161	Warsaw	Biomet Dr	E 200 N	Bell Dr	Signed Route	0.6	Medium	
162	Warsaw	Harrison St	Market St	Dubois Dr	Shared Use Path	0.1	Low	
163	Warsaw	Dubois Dr	Harrison St	Parker St	Shared Use Path	0.7	Low	
164	Warsaw	Arthur St	Detriot St	Beyer Farm Trail	Shared Use Path	0.2	Low	
165	Warsaw	Springhill Rd	Provident Dr	Northpoint Dr	Shared Use Path	0.9	Low	
166	Warsaw	Provident Dr	Dubois Dr	Springhill Rd	Shared Use Path	0.2	Low	
167	Warsaw	Parker St	Dubois St	Husky Trl	Shared Use Path	0.5	Low	
168	Warsaw	North Point Dr	Mariner Dr	Husky Trl	Shared Use Path	0.1	Low	
169	Warsaw	E 200 S	Country Farm Rd	Country Club Rd	Shared Use Path	0.3	Low	
170	Warsaw	West St	Lake St	Ft Wayne St	Bike Lane	0.8	Low	
171	Warsaw	Ft Wayne St	West St	Lincoln St	Bike Lane	0.3	Low	
172	Warsaw	Main St	Union St	Huron St	Bike Lane	1.7	Low	
173	Warsaw	Prarie St	Logan St	Smith St	Bike Lane	0.5	Low	
174	Warsaw	Park St	Market St	Anchorage Rd	Bike Lane	0.8	Low	

Table A-2: Kosciusko County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
175	Warsaw	Cook St	Main St	Arthur St	Bike Lane	1.8	Low	
176	Warsaw	Sheridan St	Cook St	Harrison St	Bike Lane	0.4	Low	
177	Warsaw	Ft Wayne St	Lincoln St	Parker St	Bike Lane	0.9	Low	
178	Warsaw	Parker St	Center St	Dubois Dr	Bike Lane	0.4	Low	
179	Warsaw	Lincoln St	Market St	Beyer Farm Trail	Bike Lane	0.6	Low	
180	Warsaw	Argonne Rd	Center St	Winona Ave	Bike Lane	0.6	Low	
181	Warsaw	Scott St	Smith St	Sheridan St	Bike Lane	0.4	Low	
182	Warsaw	Husky Trl/Patterson Rd	N 175 E	Mariner Dr	Complete Street	0.5	Low	
183	Winona Lake	Heritage Trail (Pierceton Rd)	Miller Field Park	Stonehenge Golf Club	Shared Use Path	1.0	High	
184	Winona Lake	Jefferson SRTS (Wooster Rd)	Jefferson Elementary School	S 250 E	Shared Use Path	1.9	Medium	
185	Winona Lake	Heritage Trail (S 250 E)	Lakeland Christian Academy	Pierceton Rd	Shared Use Path	0.5	Medium	

Marshall County

Figure A-3: Marshall County Proposed Projects

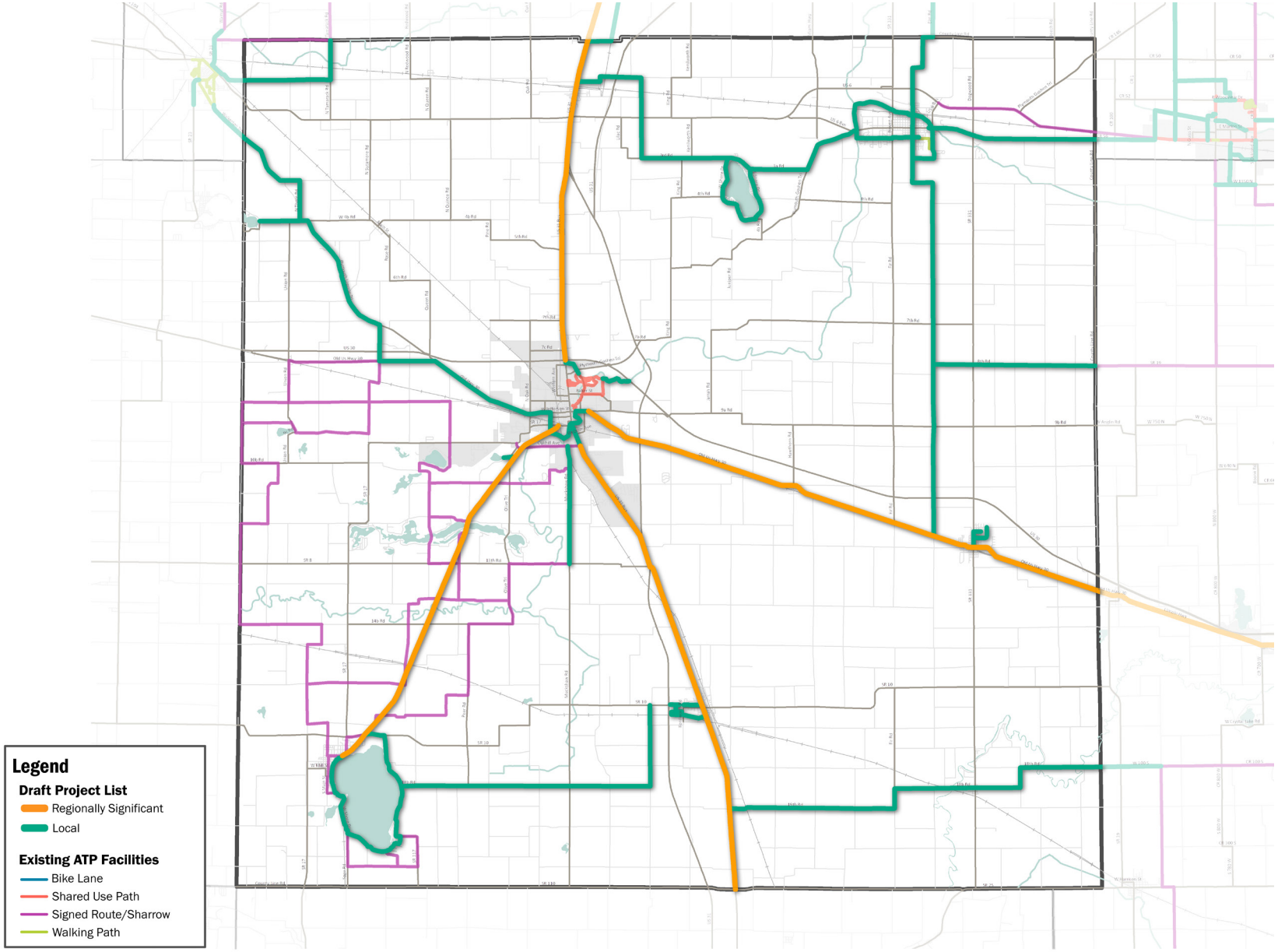


Table A-3: Marshall County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
186	Argos	Indiana Ave	US 31	Argos Community Park	Shared Use Path	0.2	High	
187	Argos	Pond Trail	Indiana Ave	Indiana Ave	Shared Use Path	0.8	Medium	
188	Argos	Indiana Ave	Argos Community Park	1st St	Shared Use Path	0.4	Medium	
189	Argos	Railroad Trail	Kenilworth Rd	Michigan St	Shared Use Path	0.6	Low	
190	Bourbon	Florence St	Thompson St	Triton Elementary School	Shared Use Path	0.4	High	
191	Bourbon	Thompson St	Florence St	Center St	Complete Street	0.2	Medium	
192	Bourbon	Liberty Ave/Triton Ave	Thompson St	Shaffer Rd	Shared Use Path	0.6	Low	
193	Bremen	Grant St	Sunnyside Park	Yellow River	Shared Use Path	1.6	High	
194	Bremen	Bremen Greenway	Yellow River Greenway	Plymouth St	Shared Use Path	2.2	Medium	
195	Bremen	Woodies Ln	Plymouth St	3rd Rd	Bike Lane	0.8	Medium	
196	Bremen	Center St	4th St	3rd Rd	Signed Route	1.4	High	
197	Bremen	3rd Rd	Elm Rd	Woodies Ln	Signed Route	0.5	Medium	
198	Bremen	Yellow River Greenway	Grant St	Bremen Greeway	Shared Use Path	0.8	Low	
199	Culver	Lake Maxinkuckee Trail	Culver	Culver	Shared Use Path	7.4	High	
200	Marshall County	Abandoned Rail	Culver	Plymouth	Shared Use Path	10.1	High	x

Table A-3: Marshall County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
201	Marshall County	Michigan Rd/Old 31	Marshall/St. Joseph County Line	US 30	Shared Use Path	8.1	High	x
202	Marshall County	Muckshaw Rd	Oakhill Ave	13th Rd	Wide Shoulders/ Signed Route	2.9	High	
203	Marshall County	Lincolnway	Kosciusko/Marshall County Line	Plymouth City Limits	Signed Route	12.9	High	x
204	Marshall County	Michigan Road	US 31	Marshall County/Fulton County Line	Signed Route	8.4	High	x
205	Marshall County	Michigan Rd	US 31	Eastwood Dr	Signed Route	1.9	High	x
206	Marshall County	19th Rd	Michigan Rd	Fir Rd	Signed Route	4.1	High	
207	Marshall County	Fir Rd	19th Rd	18b Rd	Signed Route	0.5	High	
208	Marshall County	18b Rd	Fir Rd	Cedar Rd	Signed Route	3.1	High	
209	Marshall County	Cedar Rd	18b Rd	18th	Signed Route	0.5	High	
210	Marshall County	18th Rd	Cedar Rd	Kosciusko/Marshall County Line	Signed Route	2.0	High	
211	Marshall County	Elm Rd	Lincolnway	3rd Rd	Signed Route	9.9	High	
212	Marshall County	8th Rd	Elm Rd	County Line Rd	Signed Route	4.0	High	
213	Marshall County	2b Rd	County Line Rd	Bremen Town Limits	Signed Route	4.2	High	
214	Marshall County	3rd Rd/N Shore Dr	Plymouth Goshen Trl	Linden Rd	Signed Route	4.2	High	
215	Marshall County	Plymouth Goshen Trl	Plymouth St	3a Rd	Signed Route	1.6	High	

Table A-3: Marshall County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
216	Marshall County	Linden Rd	3rd Rd	1st Rd	Signed Route	2.0	High	
217	Marshall County	1st Rd	Linden Rd	Michigan Rd	Signed Route	1.7	High	
218	Marshall County	Lake of the Woods	3rd Rd	3rd Rd	Signed Route	3.5	High	
219	Marshall County	Lincolnway	Rose Rd	Lincolnway	Signed Route	1.4	High	
220	Marshall County	Rose Rd	Lincolnway	Plymouth LaPorte Trl	Signed Route	0.9	High	
221	Marshall County	Plymouth LaPorte Trl	Rose Rd	4b Rd	Signed Route	3.3	High	
222	Marshall County	4b Rd	Plymouth LaPorte Trl	Koontz Lake	Signed Route	1.2	High	
223	Marshall County	Thorn Rd	4b Rd	3b Rd	Signed Route	1.0	High	
224	Marshall County	3b Rd	Thorn Rd	Plymouth LaPorte Trl	Signed Route	0.5	High	
225	Marshall County	Plymouth LaPorte Trl	3b Rd	County Line Rd	Signed Route	1.4	High	
226	Marshall County	Linden Rd	SR 10	18b Rd	Signed Route	2.0	High	
227	Marshall County	18b Rd	Linden Rd	Shore Dr	Signed Route	6.2	High	
228	Marshall County	1st Rd	Tamarack Rd	County Line Rd	Signed Route	2.1	High	
229	Marshall County	Tamarack Rd	County Line Rd	1st Rd	Signed Route	1.0	High	
230	Marshall County	Lincolnway	Lincolnway	Plymouth City Limits	Signed Route	2.2	High	

Table A-3: Marshall County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
231	Marshall County	Elm Rd	Tyler Rd	4th St	Signed Route	2.1	High	
232	Marshall County	US 31/Michigan Rd	13th Rd	Michigan Rd	Shared Use Path	0.8	Medium	x
233	Plymouth	Plymouth Greenway	Jefferson St	5th St	Shared Use Path	1.4	High	
234	Plymouth	Lincolnway	Plymouth City Limits	Jefferson St	Signed Route	0.7	High	x
235	Plymouth	Michigan Rd	Eastwood Dr	Oakhill Ave	Signed Route	0.8	High	x
236	Plymouth	Lincolnway/Jefferson St	Plymouth City Limits	5th St	Signed Route	1.0	High	
237	Plymouth	5th St	Jefferson St	Cromer St	Signed Route	0.5	High	
238	Plymouth	Plymouth Greenway	Existing Greenway	US 30	Shared Use Path	0.7	Medium	
239	Plymouth	Jefferson St	Plymouth Greenway Crossing	Lincolnway	Bike Lane	0.3	Medium	
240	Plymouth	Michigan St	Pennsylvania Ave	Oakhill Ave	Signed Route	0.5	Medium	
241	Plymouth	Plymouth Greenway	Dixon Lake	Railroad Trail	Shared Use Path	0.3	Low	
242	Plymouth	Greenway-Michigan Rd Connector	Existing Greenway	Michigan Rd	Shared Use Path	0.5	Low	

St. Joseph County

Figure A-4: St. Joseph County Proposed Projects

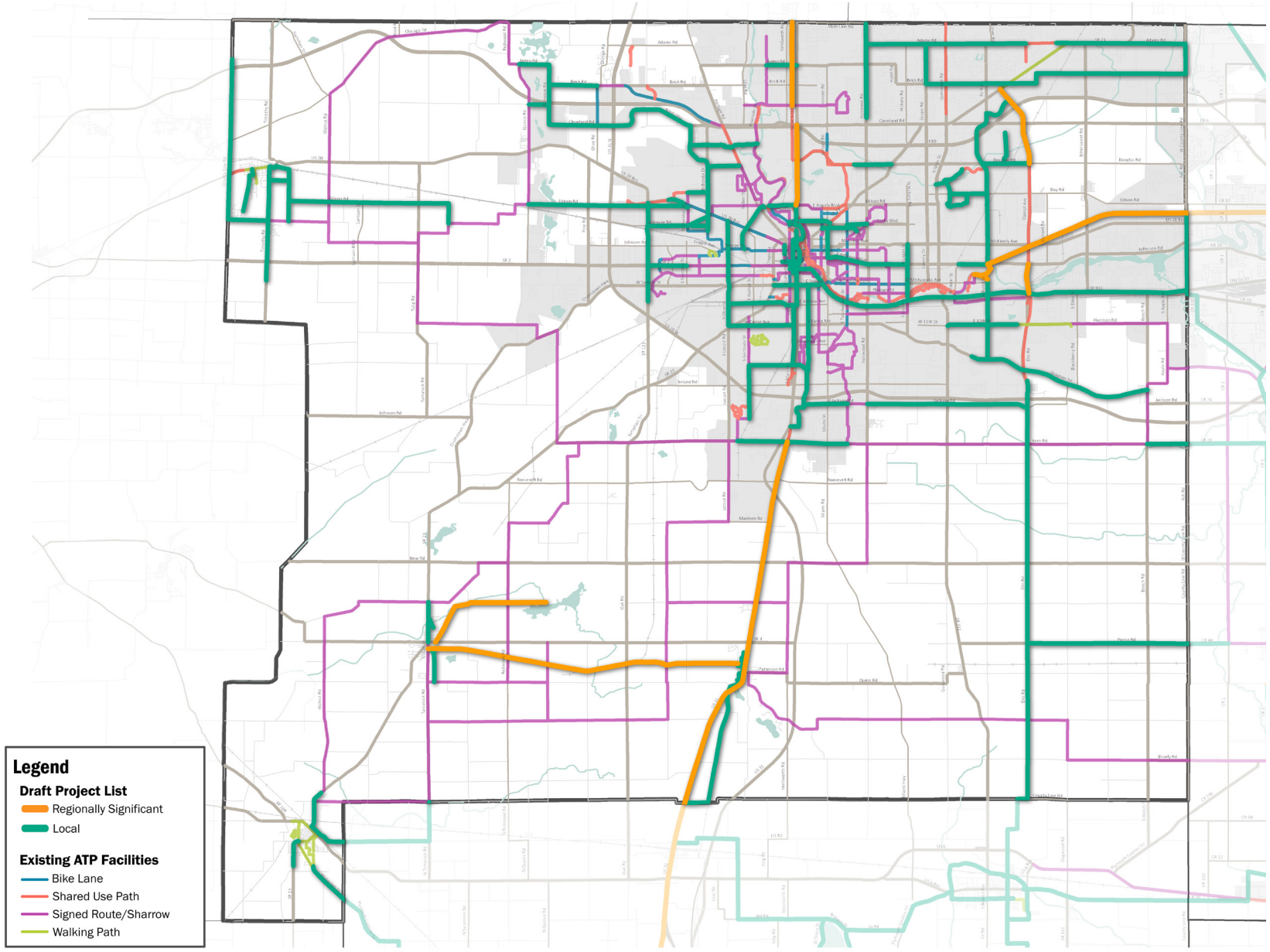


Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
243	Lakeville	Motts Alley	Michigan Rd	Wilson Dr	Shared Use Path	0.9	High	
244	Lakeville	Wetland Walkway			Walking Path	0.5	High	
245	Lakeville	Abandoned Railroad Corridor	Michigan Rd	LaVille Schools	Shared Use Path	3.4	Medium	
246	Lakeville	Wilson Dr	Motts Alley	Mangus St	Shared Use Path	0.2	Medium	
247	Lakeville	Newton Park Trail	Wilson Dr	Newton Park	Shared Use Path	0.4	Low	
248	Mishawaka	Beacon Parkway	Capital Ave	Fir Rd	Shared Use Path	0.8	In progress	
249	Mishawaka	Douglas Rd	Fir Rd	Capital Ave	Shared Use Path	1.2	High	
250	Mishawaka	Juday Creek Golf Course Trail	Douglas Rd	Lindy Dr	Shared Use Path	0.8	High	
251	Mishawaka	12th St	Union St	Downey Ave	Shared Use Path	1.8	High	
252	Mishawaka	Capital Ave	Lincolnway	Jefferson Blvd	Shared Use Path	0.7	High	x
253	Mishawaka	Jefferson Blvd	Byrkit St	Cedar St	Walking Path	0.7	High	
254	Mishawaka	Fir Rd/Byrkit Ave	Beacon Pkwy	Jefferson Blvd	Shared Use Path	4.0	Medium	
255	Mishawaka	Byrkit Ave	Prospect Dr	Dragoon Trl	Shared Use Path	2.0	Medium	
256	Mishawaka	Byrkit Ave Pedestrian Bridge	Jefferson Blvd	Prospect Dr	Shared Use Path	0.4	Medium	x
257	Mishawaka	Prospect Dr	Merrifield Park	Byrkit Ave	Shared Use Path	0.4	Medium	x

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
258	Mishawaka	Holy Cross Pkwy	Trinity Place	Edison Lakes Pkwy	Shared Use Path	0.6	Medium	
259	Mishawaka	Juday Creek Trail	Edison Lakes Pkwy	Main St	Shared Use Path	0.2	Medium	
260	Mishawaka	Edison Lake Pkwy	Holy Cross Pkwy	Park Place	Shared Use Path	0.7	Medium	
261	Mishawaka	Park Place	Edison Lakes Pkwy	Filbert Rd	Shared Use Path	0.6	Medium	
262	Mishawaka	Filbert Rd	Park Place	Day Rd	Shared Use Path	0.2	Medium	
263	Mishawaka	Day Rd	Edison Lakes Pkwy	Fir Rd	Shared Use Path	0.9	Medium	
264	Mishawaka	Dragoon Trl	Blair Hills Ave	Clover Rd	Shared Use Path	0.7	Medium	
265	Mishawaka	Lincolnway	Ironwood Dr	Capital Ave	Complete Street	4.1	Low	
266	Mishawaka	Lincolnway	Capital Ave	Mishawaka City Limits	Complete Street	2.1	Low	
267	New Carlisle	College St	Lincolnway	Bourissa Hills Park	Walking Path	0.3	High	
268	New Carlisle	County Line Rd	Early Rd	Spicer Lake	Wide Shoulders/ Signed Route	4.0	High	
269	New Carlisle	Dunn Rd	Race St	Wintergreen Rd	Signed Route	0.5	High	
270	New Carlisle	Bourissa Hills Park Trail Connector	Bourissa Hills Park	Woodmont Ridge Dr	Shared Use Path	2.8	Medium	
271	New Carlisle	Timothy Rd	Lincolnway	Bendix Woods	Wide Shoulders/ Signed Route	0.8	Medium	
272	New Carlisle	Trail	Race St	Wintergreen Rd	Shared Use Path	0.8	Low	

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
273	North Liberty	Potato Creek State Park Trail	North Liberty	Potato Creek State Park	Shared Use Path	3.3	In progress	x
274	North Liberty	Tamarack Trail	Quinn Rd	Main St	Shared Use Path	0.9	In progress	
275	North Liberty	Safe Routes to School	School Dr	Wrenwood Dr	Shared Use Path	0.2	In progress	
276	North Liberty	SR 23	Osborne Rd	SR 4	Signed Route	1.0	High	
277	South Bend	Coal Line Phase I	Lincolnway	Riverside Dr	Shared Use Path	1.3	In progress	
278	South Bend	Michigan St	Marion St	Bartlet St	Shared Use Path	0.2	In progress	
279	South Bend	Coal Line Trail Ph II	Riverside Dr	Michigan Rd	Shared Use Path	0.7	In progress	
280	South Bend	Boland Dr	Portage Ave	Riverside Dr	Shared Use Path	0.6	In progress	
281	South Bend	St. Joseph St/Michigan St	Jefferson Blvd	Marion St	Cycle Track	0.6	In progress	
282	South Bend	Michigan St	Jefferson Blvd	Broadway St	Bike Lane	1.0	In progress	
283	South Bend	Main St	Marion St	South St	Bike Lane	0.9	In progress	
284	South Bend	Lafayette Blvd	Riverside Dr	North Shore Dr	Shared Use Path	0.1	High	
285	South Bend	Jefferson Blvd	Eddy St	Logan St	Bike Lane	2.0	High	
286	South Bend	Ardmore Trl	Sheriden St	Bendix Dr	Complete Street	0.6	High	
287	South Bend	Chippewa Ave	Gertude St	Fellows St	Complete Street	1.5	High	

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
288	South Bend	Jackson Rd	York Rd	Fellows St	Complete Street	1.1	High	
289	South Bend	Olive St	Ewing Ave	Ford St	Complete Street	1.3	High	
290	South Bend	Ewing St	Olive St	Main St	Complete Street	1.6	High	
291	South Bend	Eddy St	Chalfant St	Jefferson Blvd	Complete Street	0.7	High	
292	South Bend	Corby Blvd	Twykenham Dr	Ironwood Dr	Complete Street	0.5	High	
293	South Bend	Riverside Dr	Michigan St	Michigan St	Shared Use Path	0.6	Medium	
294	South Bend	Riverside Dr	Michigan St	Lafayette Blvd	Shared Use Path	0.2	Medium	
295	South Bend	Michigan Rd	Angela Blvd	Cleveland Rd	Shared Use Path	2.0	Medium	x
296	South Bend	Indiana Ave/Railroad	Olive	Main St	Shared Use Path	1.7	Medium	
297	South Bend	Main St	Chippewa Ave	Indiana Ave	Shared Use Path	1.5	Medium	
298	South Bend	Indiana Ave/Michigan St	Main St	Broadway St	Shared Use Path	0.2	Medium	
299	South Bend	Wayne St	Michigan St	Taylor St	Complete Street	0.4	Medium	
300	South Bend	Western Ave	St. Joseph St	Lafayette Blvd	Complete Street	0.2	Medium	
301	South Bend	Monroe St/Lincolnway	Lafayette Blvd	Bronson St	Complete Street	0.8	Medium	
302	South Bend	Lincolnway West	Maplewood Ave	Lexington Ave/Airport Blvd	Complete Street	0.4	Medium	

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
303	South Bend	William St	Lincolnway	Washington St	Complete Street	0.2	Medium	
304	South Bend	Michigan St	North Shore Dr	Angela Blvd	Complete Street	0.4	Medium	
305	South Bend	Olive St	Ford St	Western Ave	Complete Street	0.3	Medium	
306	South Bend	Sample St	SR 23	Lafayette Blvd	Complete Street	0.4	Medium	
307	South Bend	Railroad (Bendix Dr)	Westmore St	Nimtz Pkwy	Shared Use Path	2.9	Low	
308	South Bend	Lathrop St	Bendix Dr	Portage Ave	Shared Use Path	0.8	Low	
309	South Bend	Boland Dr	Portage Ave	Railroad (Bendix Dr) Trail	Shared Use Path	1.1	Low	
310	South Bend	Fellows St	Sample St	Ireland Rd	Complete Street	2.5	Low	
311	South Bend	Fellows St	Ireland Rd	Jackson Rd	Complete Street	0.5	Low	
312	South Bend	Mayflower Rd	Dogwood Dr	Lincolnway	Complete Street	2.5	Low	
313	South Bend	Olive St	Western Ave	Lincolnway	Complete Street	1.1	Low	
314	South Bend	Howard St	North Shore Dr	SR 23	Complete Street	0.8	Low	
315	South Bend	Campeau St	South Bend Ave	Rockne Dr	Complete Street	0.9	Low	
316	South Bend	Sample St	Lafayette Blvd	High St	Complete Street	0.7	Low	
317	South Bend	Western Ave	Sheriden St	Mayflower Rd	Complete Street	1.0	Low	

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
318	South Bend	Voorde Dr	Sheriden St	Bendix Dr	Complete Street	0.5	Low	
319	South Bend	Prast Blvd	Ardmore Trl	Bendix Dr	Complete Street	0.5	Low	
320	South Bend	Nimtz Pkwy	Railroad (Bendix Dr) Trail	Olive Rd	Complete Street	2.7	Low	
321	South Bend	Lincolnway	Bronson St	Ironwood Dr	Complete Street	1.5	Low	
322	South Bend/ Mishawaka	Logan St	Bethel College	Northside Blvd/Wilson Blvd	Complete Street	1.3	Low	
323	St. Joseph County	Auten Rd	SR 933	Laurel Rd	Shared Use Path	0.8	In progress	
324	St. Joseph County	La Salle Trail	Darden	State Line Rd	Shared Use Path	2.1	In progress	x
325	St. Joseph County	Old US 31/Michigan Rd	Marshall/St. Joseph County Line	Kern Rd	Shared Use Path	9.6	High	x
326	St. Joseph County	E&W Rail Trail	Elkhart/St. Joseph County Line	Fir Rd	Shared Use Path	5.2	High	x
327	St. Joseph County	Capital Ave	SR 23	Douglas Rd	Shared Use Path	2.1	High	x
328	St. Joseph County	Kern Rd	Lilac Rd	York Rd	Signed Route	2.8	High	
329	St. Joseph County	Walkerton Trl	Marshall/St. Joseph County Lin	Walkerton Town Limits	Signed Route	1.1	High	
330	St. Joseph County	Dragoon Trl	Clover Rd	Beech Rd	Signed Route	4.0	High	
331	St. Joseph County	Elm Rd	Ireland Rd	Tyler Rd	Signed Route	10.5	High	
332	St. Joseph County	Jackson Rd	Ironwood Rd	Elm Rd	Signed Route	4.0	High	

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
333	St. Joseph County	Edison Rd	Quince Rd	Sheridan St	Signed Route	4.0	High	
334	St. Joseph County	Ardmore Trl	Mayflower Rd	Sheridan St	Signed Route	1.0	High	
335	St. Joseph County	Old Cleveland Rd	Olive Rd	Primrose Rd	Signed Route	1.2	High	
336	St. Joseph County	Primrose Rd	Old Cleveland Rd	Auten Rd	Signed Route	1.5	High	
337	St. Joseph County	Auten Rd	Primrose Rd	Quince Rd	Signed Route	0.8	High	
338	St. Joseph County	Darden Rd	Primrose Rd	Quince Rd	Signed Route	0.5	High	
339	St. Joseph County	Brick Rd	Olive Rd	Primrose Rd	Signed Route	1.2	High	
340	St. Joseph County	Linden Rd	Chippewa Ave	Johnson Rd	Signed Route	1.3	High	
341	St. Joseph County	Dice St	Michigan Rd	St. Joseph St	Signed Route	0.2	High	
342	St. Joseph County	St. Joseph St	Dice St	Ruth Ave	Signed Route	0.5	High	
343	St. Joseph County	Ruth Ave	St. Joseph St	Carroll St	Signed Route	0.1	High	
344	St. Joseph County	Carroll St	Ruth Ave	Jackson Rd	Signed Route	0.1	High	
345	St. Joseph County	Wintergreen Rd	Dunn Rd	Early Rd	Signed Route	1.0	High	
346	St. Joseph County	Sage Rd	Early Rd	Edison Rd	Signed Route	0.5	High	
347	St. Joseph County	Edison Rd	Sage Rd	Wintergreen Rd	Signed Route	4.0	High	

Table A-4: St. Joseph County Proposed Project List

ID	Sponsor	Project Name	Beginning Termini	Ending Termini	Type	Length (Miles)	Priority	Regionally Significant
348	St. Joseph County	Early Rd	Timothy Rd	County Line Rd	Signed Route	1.0	High	
349	St. Joseph County	Kern Rd	Beech Rd	Ash Rd	Signed Route	1.0	High	
350	St. Joseph County	Pierce Rd	Elm Rd	Ash Rd	Signed Route	4.0	High	
351	St. Joseph County	4th District of the Wabash RR Trail	North Liberty	Lakeville	Shared Use Path	7.8	Medium	x
352	St. Joseph County	Douglas Rd	Twykenham Dr	SR 23	Shared Use Path	0.9	Medium	
353	St. Joseph County	Adams Rd	Ironwood Rd	Elm Rd	Shared Use Path	4.0	Low	
354	St. Joseph County	Brick Rd/Anderson Rd	Grape Rd	Ash Rd	Shared Use Path	6.8	Low	
355	St. Joseph County	Adams Rd	Bittersweet Rd	Ash Rd	Shared Use Path	3.2	Low	
356	St. Joseph County	Grape Rd	Brick Rd	Adams Rd	Shared Use Path	1.0	Low	
357	St. Joseph County	Lincolnway	Mishawaka City Limits	Ash Rd	Complete Street	1.9	Low	
361	St. Joseph County	Ironwood Rd	Cleveland Rd	State Line Rd	Shared Use Path	2.54	Low	
358	Walkerton	SR 23	Harrison St	Walnut Crossing Dr	Walking Path	0.9	High	
359	Walkerton	Harrison St/Underwood Rd	County Line Rd	SR 23	Signed Route	1.0	High	
360	Walkerton	SR 23	Walkerton Trl	Walkerton Town Limits	Walking Path	0.7	Medium	

APPENDIX B: ENVIRONMENTAL JUSTICE

Environmental Justice & Title VI

Federal law requires the Michiana Area Council of Governments (MACOG) to ensure that citizens are not excluded from participating in, denied the benefits of, or be subjected to discrimination under any of its federally funded programs on the basis of race, color, or native origin. Federal Law also requires that MACOG indentifies and addresses areas of disproportionately high adverse human health or environmental effects on minority and low income populations in all of its programs, policies, and activities.

Indicators of Potential Disadvantage

In order to best accomplish the federal requirements of Environmental Justice (EJ), MACOG has identified several indicators of potential disadvantage defined as groups that may have specific planning related challenges. Potentially disadvantaged population groups include minorities, low income populations, carless households, persons with physical disabilities, seniors, Hispanics, and people with limited English Proficiency (LEP). MACOG has an EJ analysis process that uses the above population groups as "Indicators of Potential Disadvantage (IPD)".

Using the American Community Survey (ACS) five-year estimates data set from the U.S. Census, population groups are identified and located at the census tract level. Data is gathered at the regional level, combining populations from each of the four counties, to determine the regional average for that population group. Any census tract that meets or exceeds the regional average level, or threshold for that population group, is considered an EJ-sensitive tract for that group. Each sensitive groups that exceeds the regional threshold within a census tract.

Proposed Project Impacts

By overlaying the Active Transportation Plan proposed projects over the IPD classified census tracks, impacts to potential concentrated IPD populations can be evaluated. Nearly all census tracks with a concentration of IPD populations have proposed projects in the Active Transportation Plan (Table B-1). All groups, including IPD populations, will benefit from the proposed active transportation projects in the area. The proposed projects will provide improved accessibility and connectivity to the area, which provides increased access to community services.

Each project will bring short-term impacts to residents in the area, such as delays, increased detour traffic, noise, or right-of-way purchases. These impacts will be experienced by all population groups, not just the IPD populations. During project development, considerations will need to be made at the project level if there are any adverse impacts to the potentially disadvantaged populations. Figures B-1, B-2, B-3, and B-4 illustrate the distribution of transportation projects. The projects are located throughout the region, without a disproportionately high impact to the IPD populations.

Table B-1: Summary of Potential Environmental Justice Impacts

Indicators of Potential Disadvantage (IPDs)	Number of Tracts Served by Plan	Percentage of Tracts Served by Plan
3-4	40/40	100%
5-6	24/25	96%
7	2/3	67%
Greater than 3	**66/68**	**97%**

Figure B-1: Elkhart County Environmental Justice

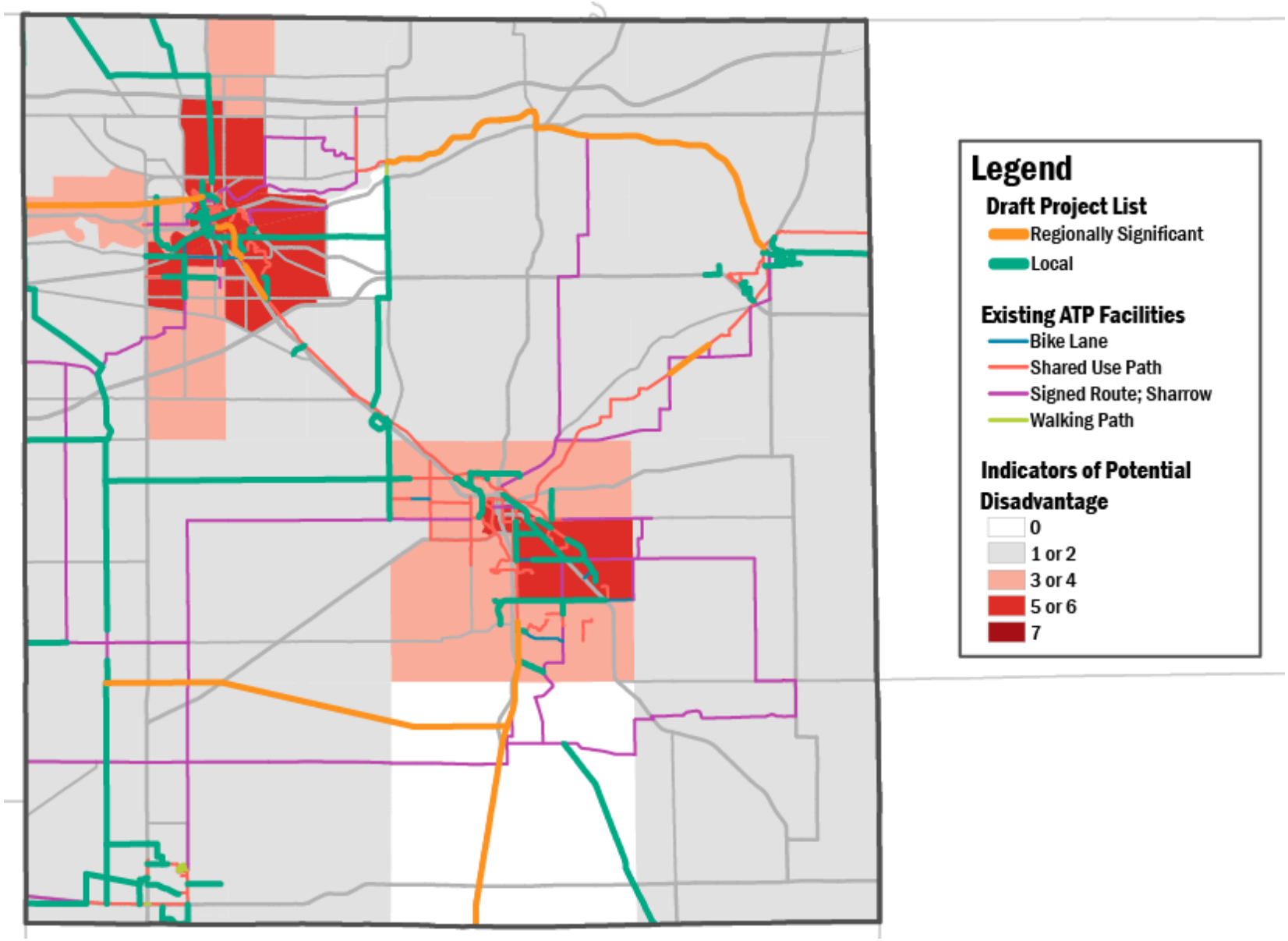


Figure B-2: Kosciusko County Environmental Justice

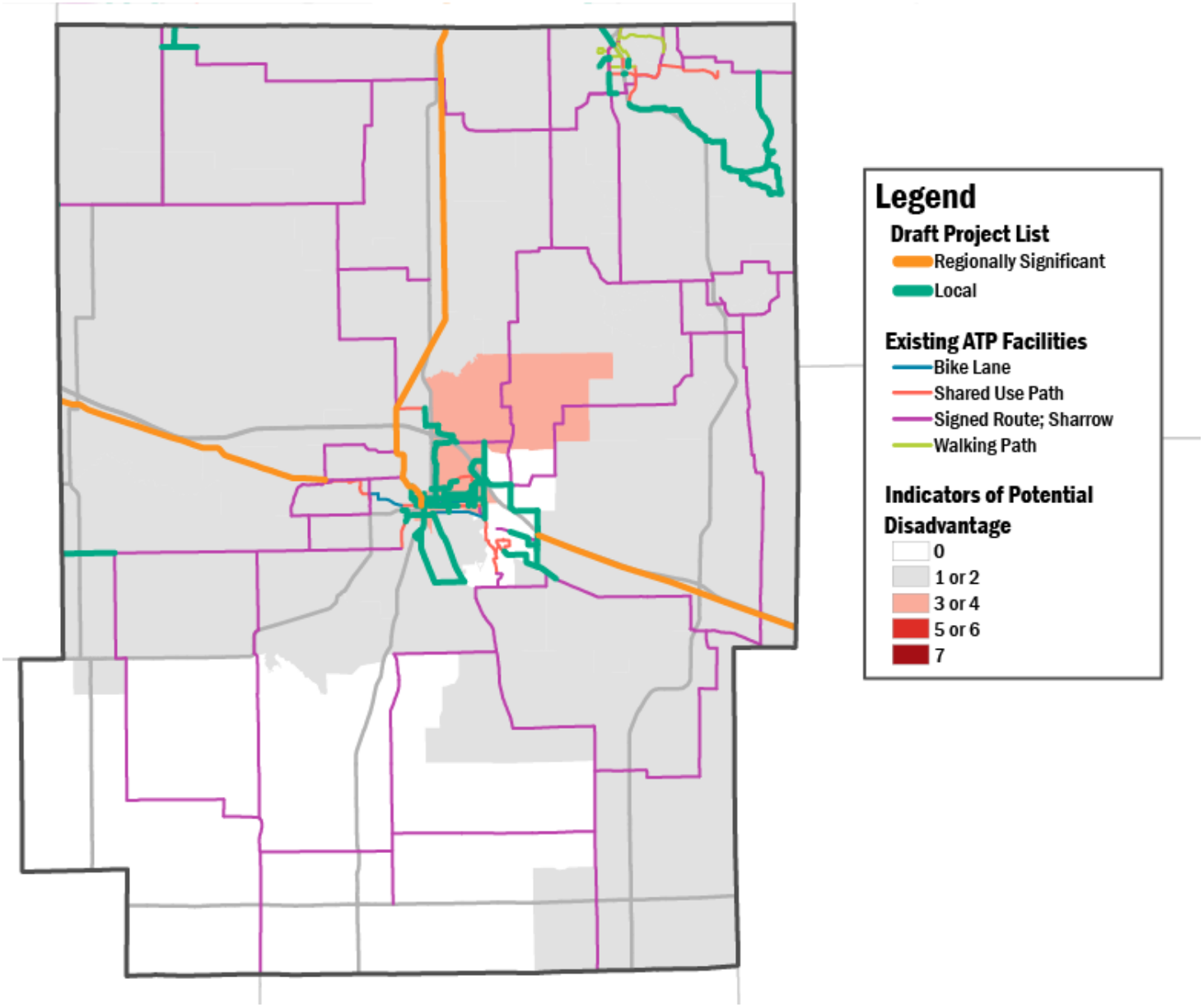


Figure B-3: Marshall County Environmental Justice

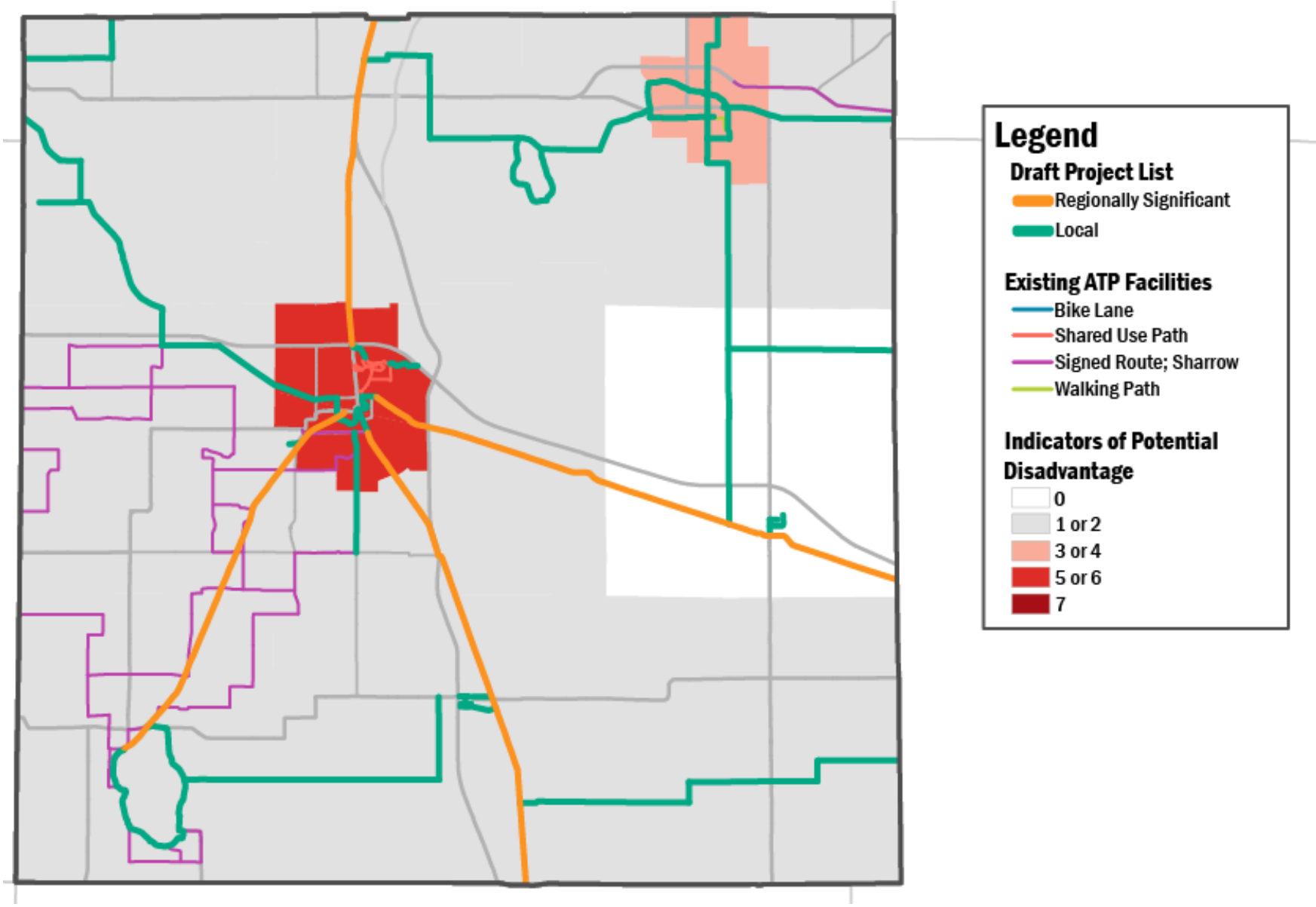
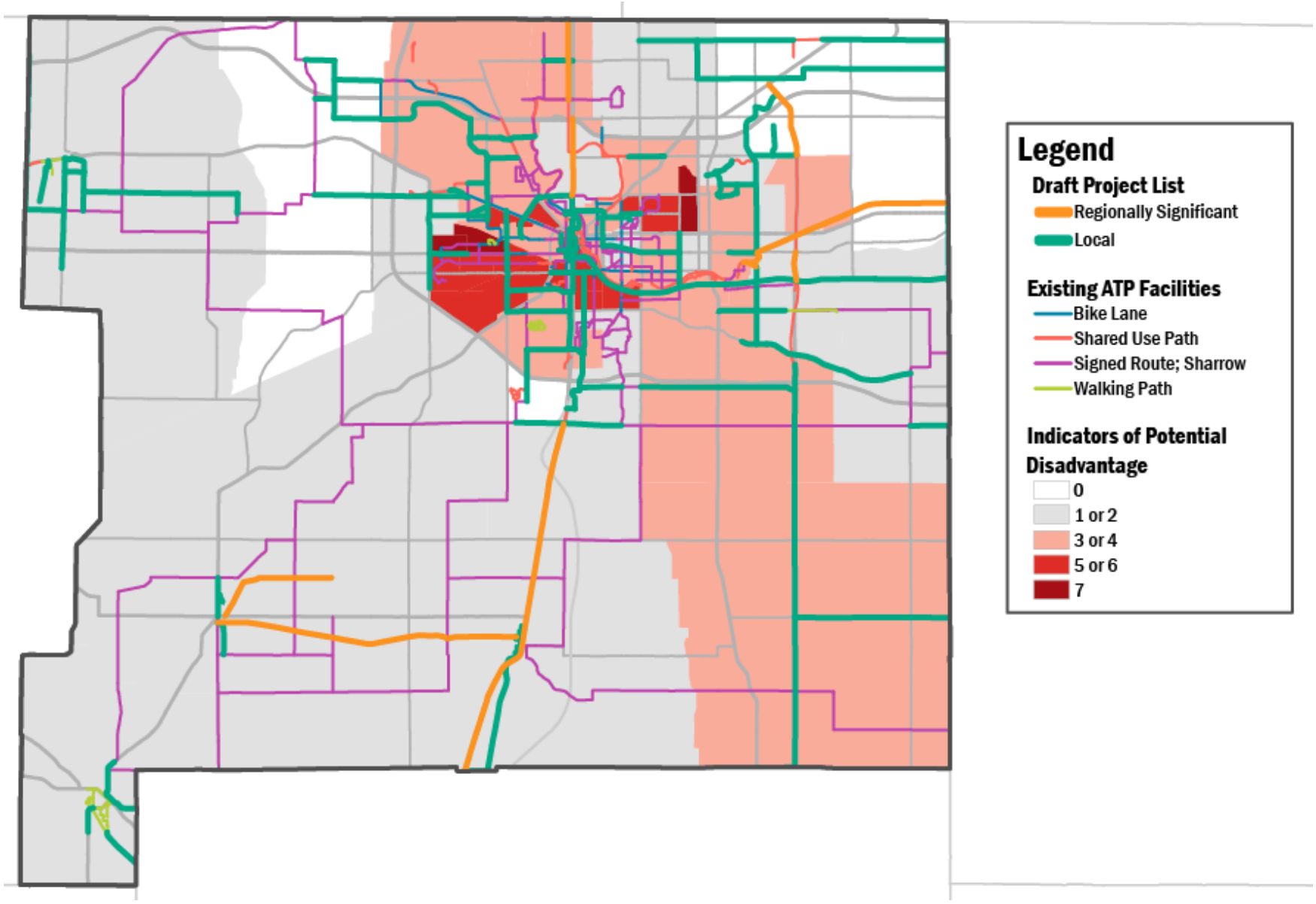


Figure B-4: St. Joseph County Environmental Justice



APPENDIX C: NON-MOTORIZED FACILITY DEMAND ANALYSIS

Introduction

MACOG conducted a bicycle and pedestrian demand analysis that summarizes where people live, work, play and learn. This demand model identifies the areas for expected bicycle and pedestrian travel by overlaying the locations of the land use mix where people live, work, play and learn into a composite map of regional demand, as shown in **Figure C.26** on page 30. This level of analysis can be useful to identify roadways in need of improvement and where there is high demand for bicycle and pedestrian facilities.

Appendix C summarizes the methodology and results of the Live, Work, Play and Learn analysis for the MACOG planning region. Sources for each of the variable inputs includes: population density was determined using 2010 US Census at the census block level; employment density was calculated from 2015 InfoUSA employment data; schools, parks, and tourist based amenities were obtained by MACOG's points of interest layer.

Live, Work, Play & Learn Analysis

Overview

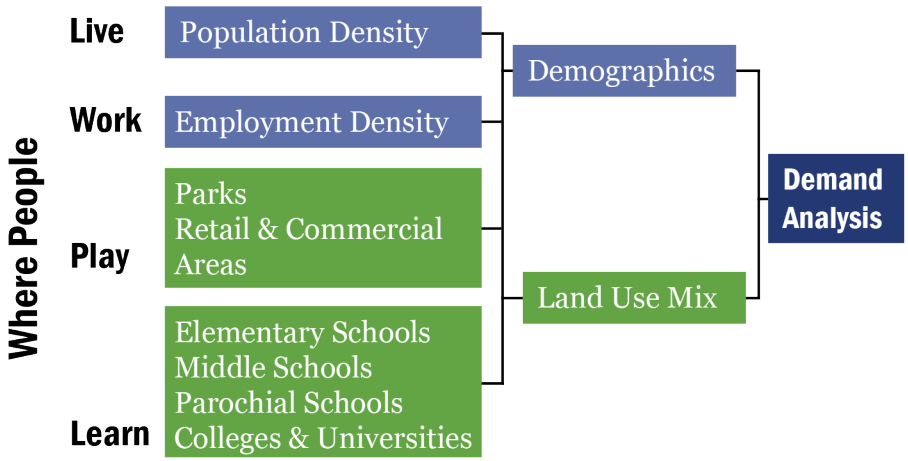
The Live, Work, Play and Learn analysis is a data-driven process to identify the areas in need of improvements that have a high demand for bicycle and pedestrian travel. The demand was measured based on the density per square mile of trip generators, i.e. places of residencies and workplaces, and trip attractors, i.e. parks and retail centers, to establish the demand for bicycle and pedestrian trips. As a result, each model input was represented as heat maps to visually display the hot spots of where people live, work, play and learn.

Demand Model

Methodology

In order to properly map this information, MACOG set up the demand model that summarizes the above approach, shown in **Figure C.1** as a flow chart. This demand model identifies the areas for expected bicycle and pedestrian travel by overlaying the locations of the land use mix and demographics into a composite map, outlining the regional demand, as shown in **Figure C.26** on page 30.

Figure C.1 - Demand Model



Scale of Analysis

In order to generate proper distance and density patterns, each of the model inputs had to be displayed at the smallest geographic setting, where feasible, such as the census block level because census blocks closely represent the street network to help narrow down where bicycle and pedestrian traffic is more prevalent. This approach is based on the *Low-Stress Bicycling and Network Connectivity Report*, published by the Mineta Transportation Institute in May 2012, which suggests using the

smaller geographic setting rather than the more traditional larger regional capture via census block groups or census tracts.

Additionally, due to MACOG providing planning services to a large geographic region that includes multiple local public agencies, each of the model inputs were generated as a series of heat maps for each of the four counties, as well as the five urbanized areas, as shown in the following pages under the Demand Model Results section. In order to accurately display each variable input, the demand model was tailored to a search radius applicable to county and urban scale levels; 3,960 feet (3/4 mile) and 2,640 feet (1/2 mile) for each respective geographic scale. Smaller urban communities, like the City of Nappanee, had a search radius of 1,320 feet (1/4 mile).

Demand Model Results

The results of the demand analysis are described under each of the model input sections and presented in the series of maps for the MACOG planning region, as well the region's urbanized areas. Heat maps were created to help establish the relationship between the proximity of uses and its density. Uses further away from one another and in lower density areas yields lower demand for bicycle and pedestrian facilities than those in higher density areas and close together.

Where People Live

Beginning at the regional level and then focused in to each of the five urban areas, this model input represents the locations of people's trip origins, i.e. their place of residency within the MACOG planning region, as shown in **Figures C.2** through **C.7**. All types of housing density options were included in the analysis; ranging from single-family homes to apartments.

Where People Work

This model input represents the locations of trip ends; people working throughout the MACOG planning region regardless of residency, as shown in **Figures C.8** through **C.13**. Additionally, certain type of jobs can act as a trip attractor or trip generator. Those serving as a trip attractor are ones that residents and tourists are inclined to travel to outside of work, i.e. retail stores, cafes, entertainment/performance centers or restaurants. Likewise, trip generators would be jobs housed in office parks and office buildings. Employment serving as trip attractors are therefore used in the "where people play" category as it can serve as entertainment for residents and tourists.

Where People Play

As mentioned beforehand, this model input is a combination of varied land use types and destinations, as shown in **Figures C.14** through **C.19**. Land use types such as retail centers, cafes, and restaurants, as well as recreational areas were included in this category as these types identify people's source of entertainment and also indicates tourist attractions.

Where People Learn

This model input represents the locations of all school levels, from elementary schools to colleges and universities, as shown in **Figures C.20** through **C.26**. In order to establish the demand for non-motorized trips, MACOG weighed each of the institutions that are conducive for biking and walking trips using the criteria shown in **Table C.1** on the following page. Elementary schools and colleges and universities were weighted higher than middle and high schools as these institutions are more prone to have bicycle and pedestrian trips.

Table C.1 - Weighing of "Where People Learn" Demand Input

Category	Input	Score
Where People Learn	College & University	5
	Elementary Schools	5
	Middle Schools	1
	High Schools	1

Composite Demand

Figure C.26 displays the results of the Live, Work, Play and Learn demand analysis. The analysis shows that there is a strong composite density in the downtown areas of South Bend, Mishawaka, Elkhart, Goshen, Nappanee, Plymouth and Warsaw due to the high concentrations of jobs, entertainment and recreational amenities. There is also strong demand in the Notre Dame area as it is a prominent employer and learning institution with pockets of high-density residential and recreational amenities nearby. The Elkhart urban area has a high linear demand along CR 9/Johnson Street and Prairie Street from Bristol Street through Downtown to Indiana Avenue/Main Street area. Much of this area is served by a continuous north/south connection via the Riverwalk Trail and on-street dedicated bike lanes along Richmond Street, Tipton Street and Sterling Avenue. However, there are limited east/west connections from this continuous route into Downtown and other high-demand areas, which make this corridor a primary candidate receiving improved bicycle and pedestrian facilities to properly connect these areas.

Additionally, this analysis highlights areas of demand that are not being sufficiently served by the current active transportation network. To better represent this, a Bicycle Level of Traffic Stress Analysis was conducted to establish the reach of facilities and where the supply can be improved to match the current demand.

Similar analysis was conducted in detail for all urbanized areas within the MACOG planning region to aid its local public agencies in identifying areas of high-demand to support biking and walking travel.

Figure C.2 - Where People Live in the Region

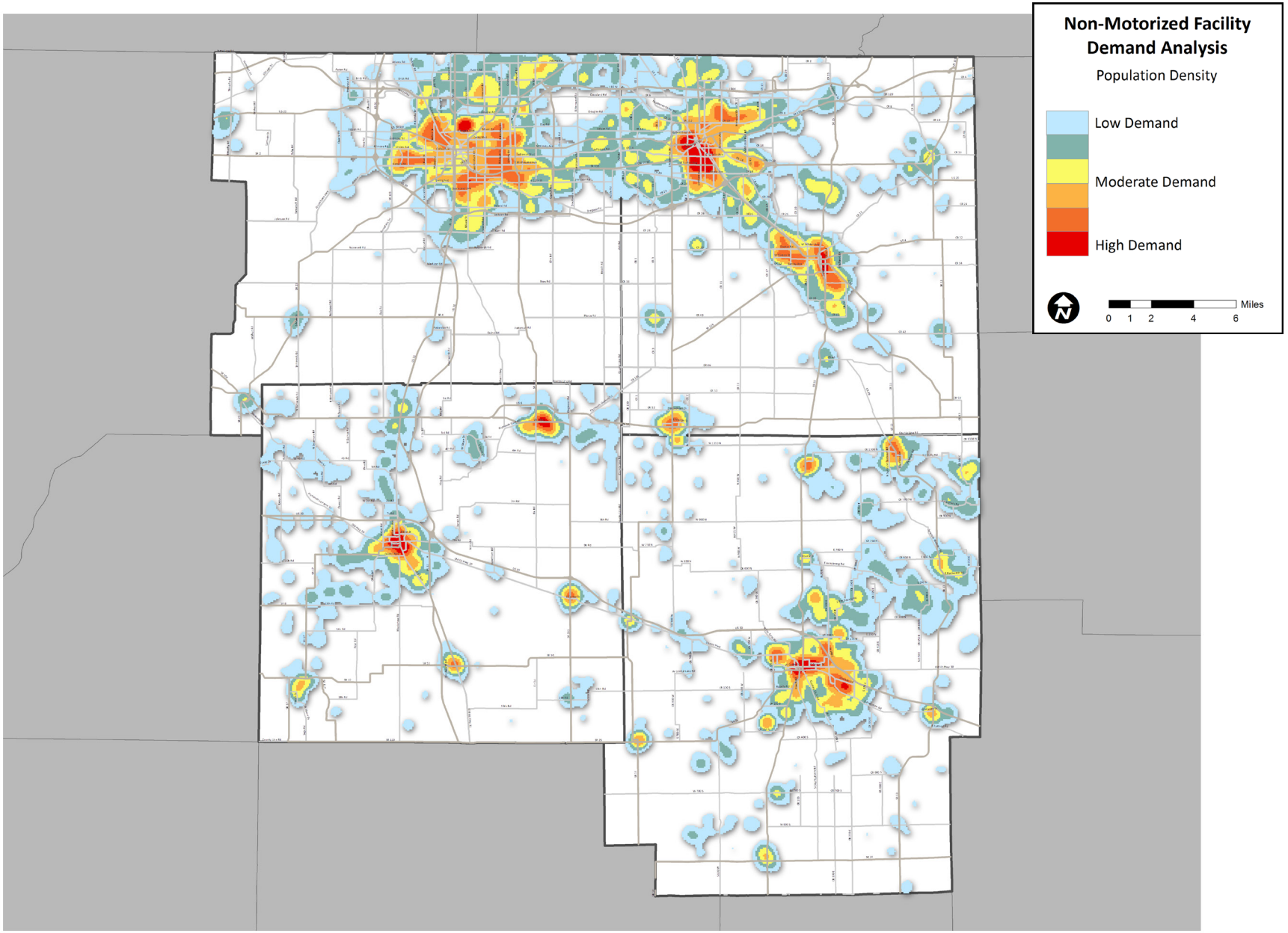


Figure C.3 - Where People Live in Elkhart and Goshen of Elkhart County

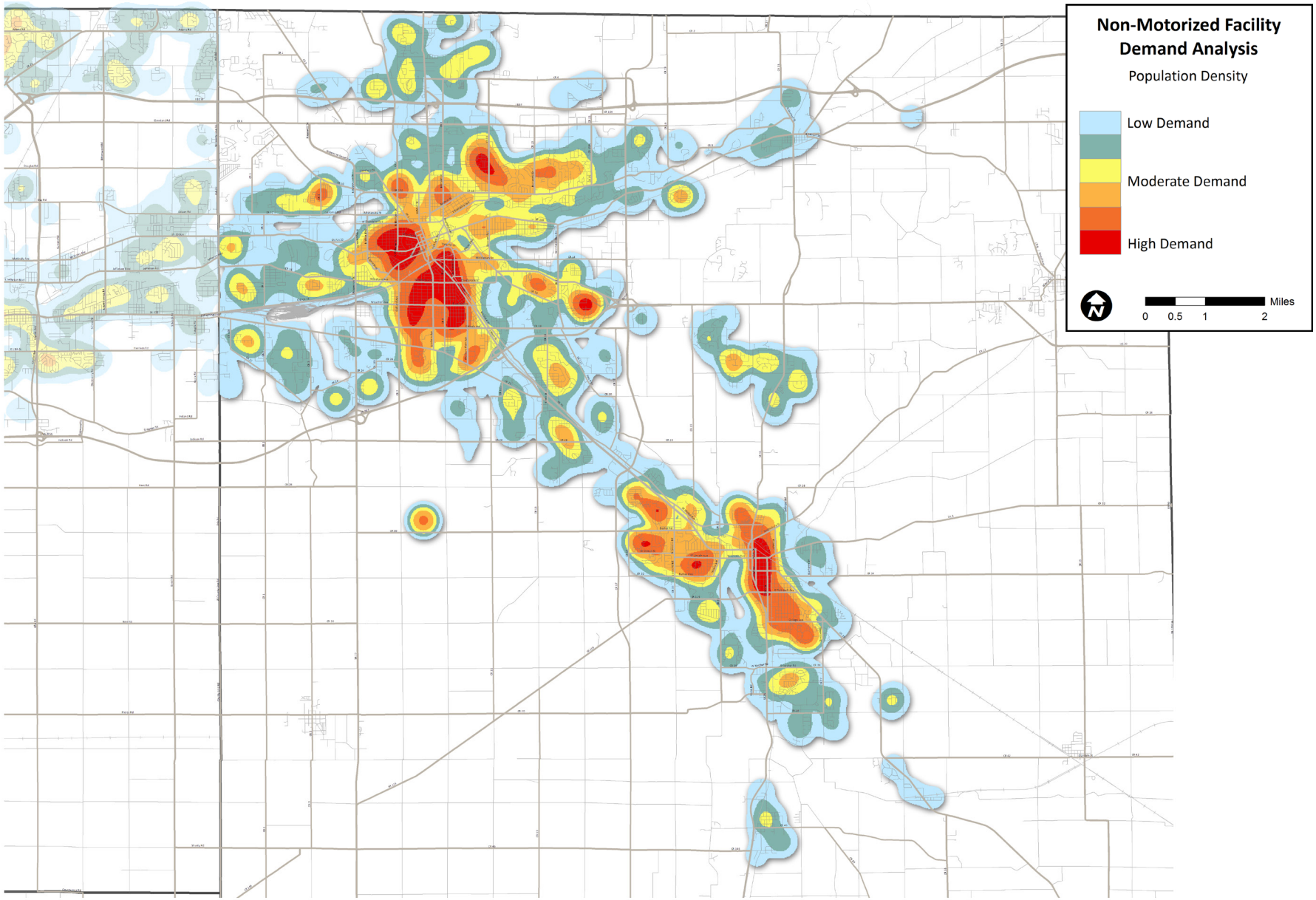


Figure C.4 - Where People Live in Nappanee of Elkhart County

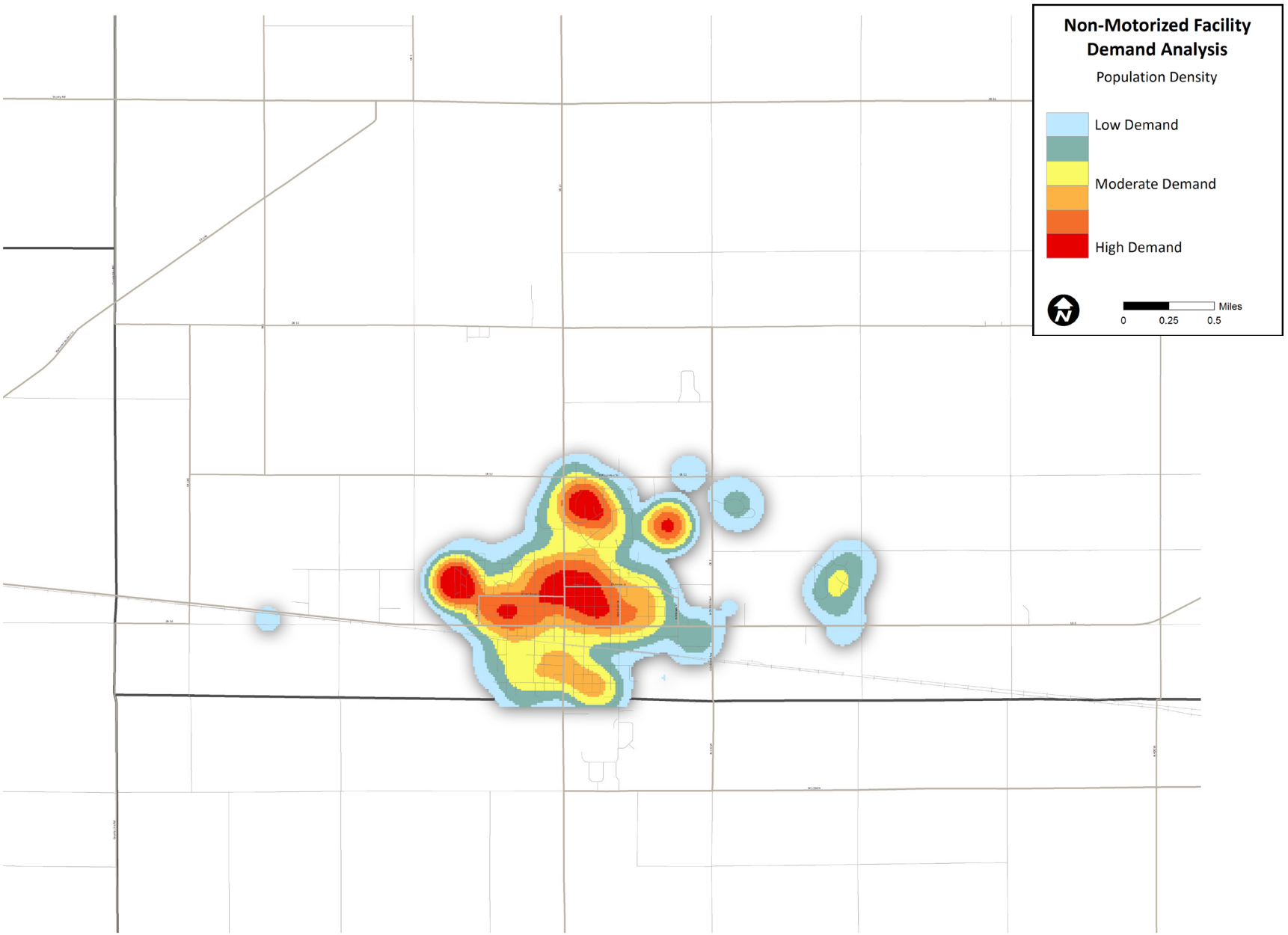


Figure C.5 - Where People Live in Warsaw of Kosciusko County

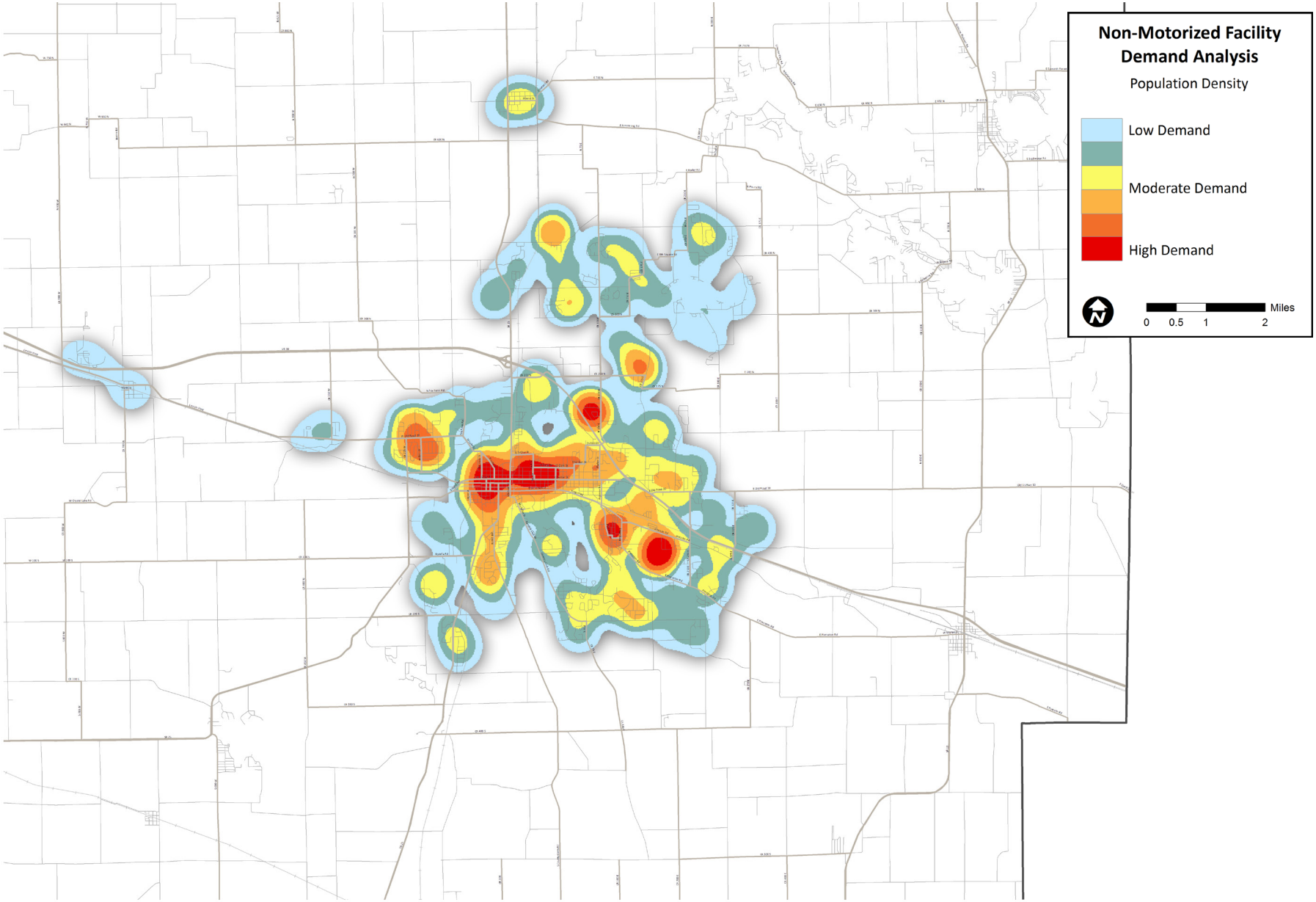


Figure C.6 - Where People Live in Plymouth of Marshall County

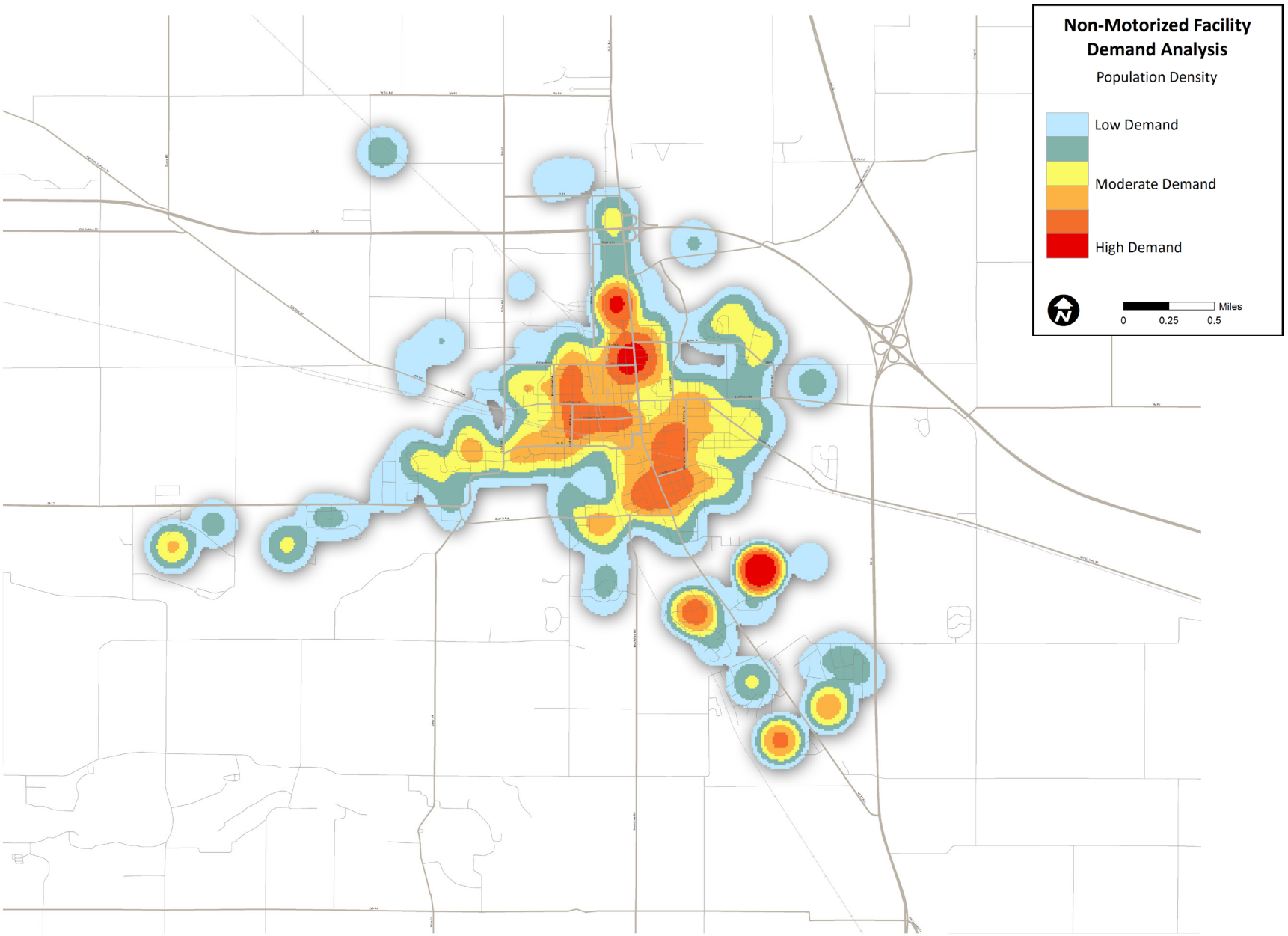


Figure C.7 - Where People Live in South Bend and Mishawaka of St. Joseph County

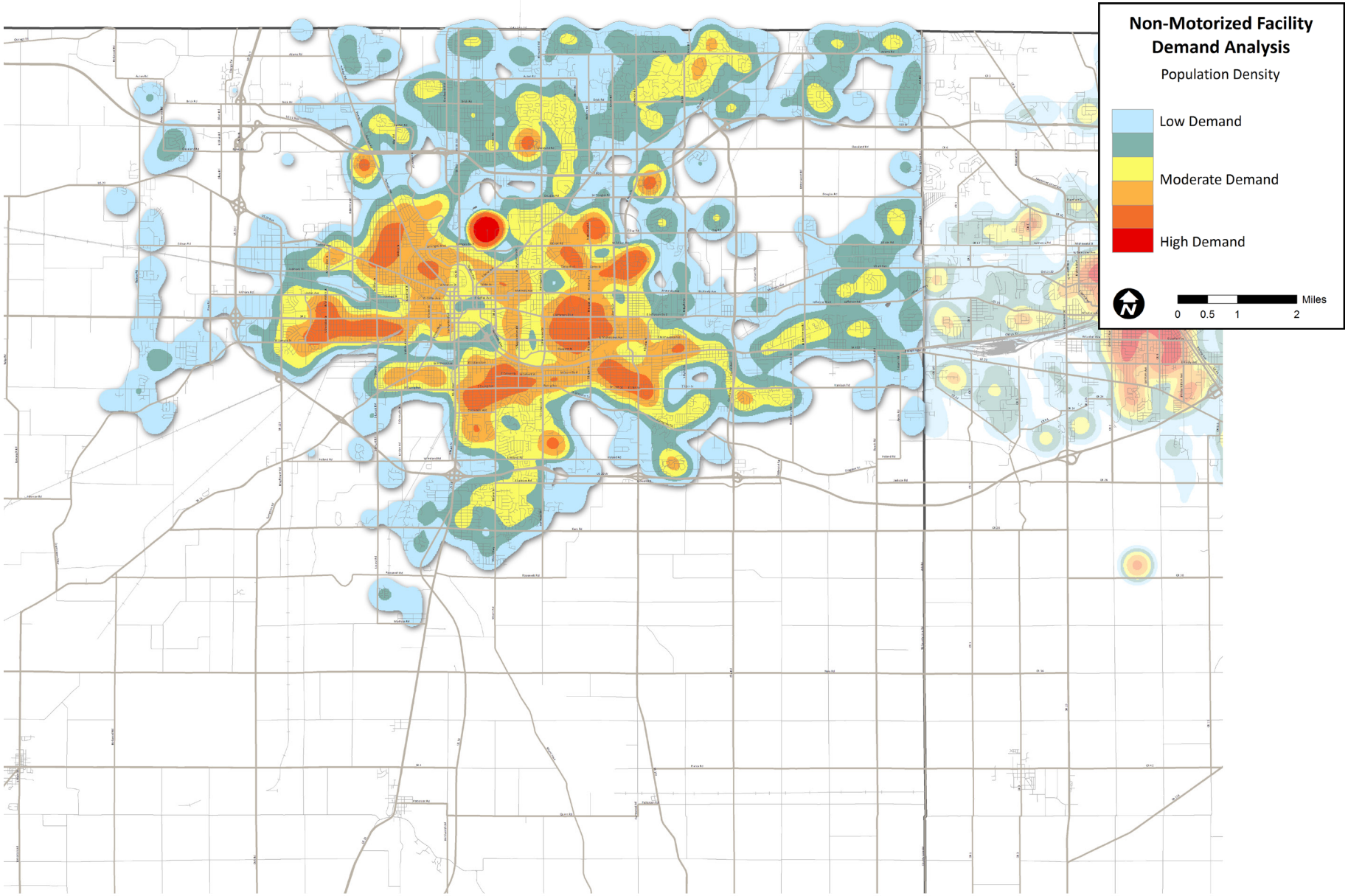


Figure C.8 - Where People Work in the Region

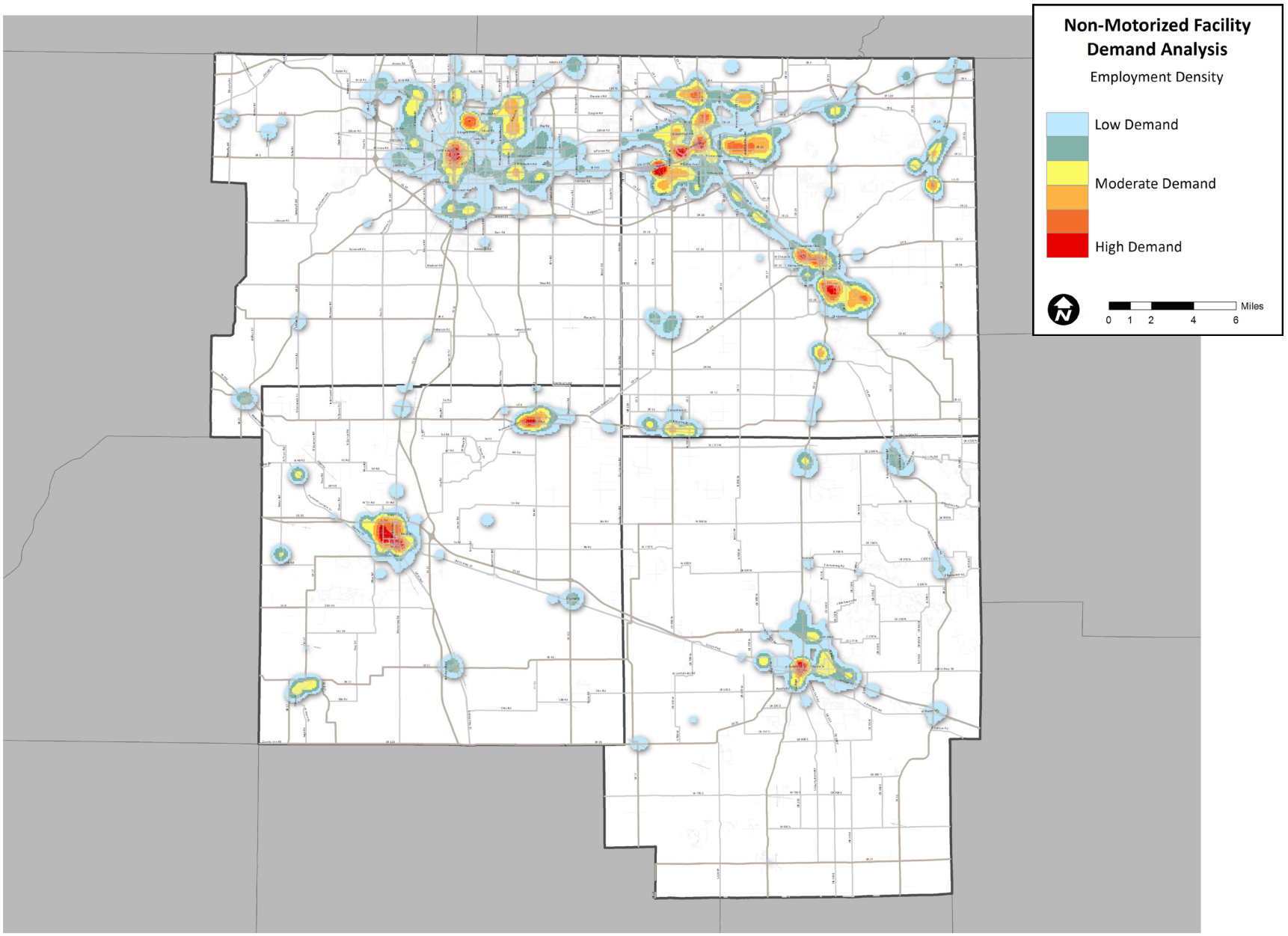


Figure C.9 - Where People Work in Elkhart and Goshen of Elkhart County

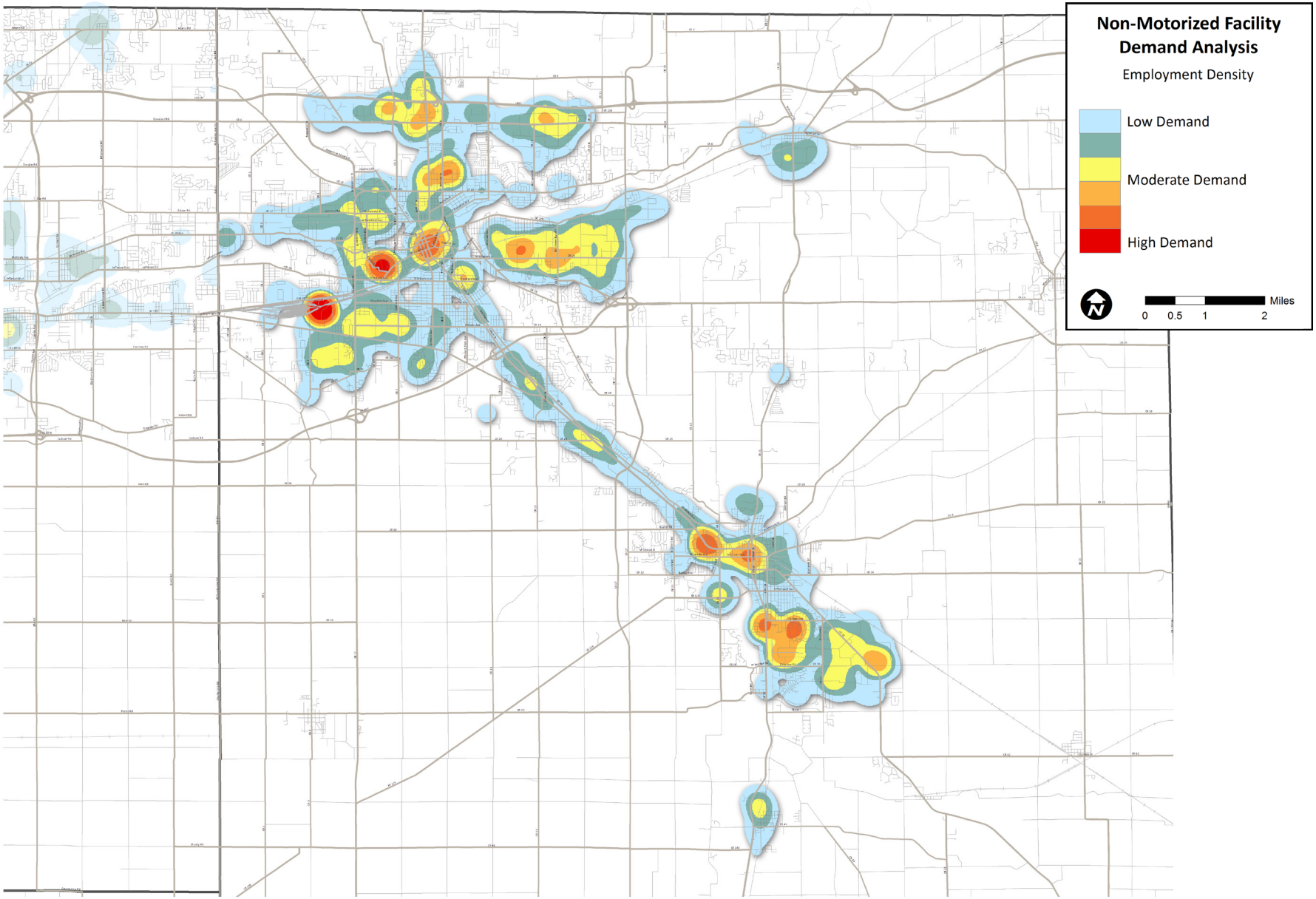


Figure C.10 - Where People Work in Nappanee of Elkhart County

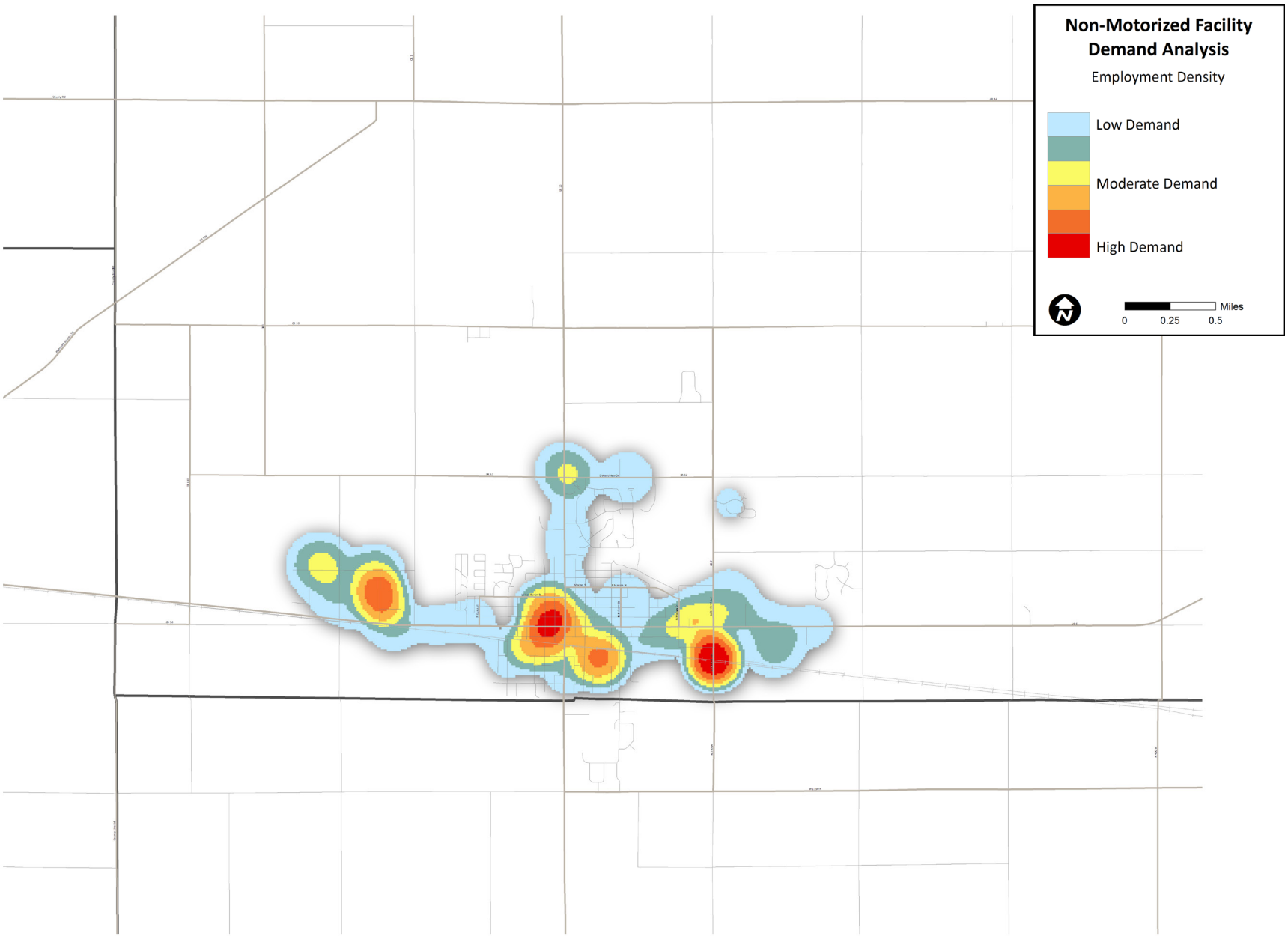


Figure C.11 - Where People Work in Warsaw of Kosciusko County

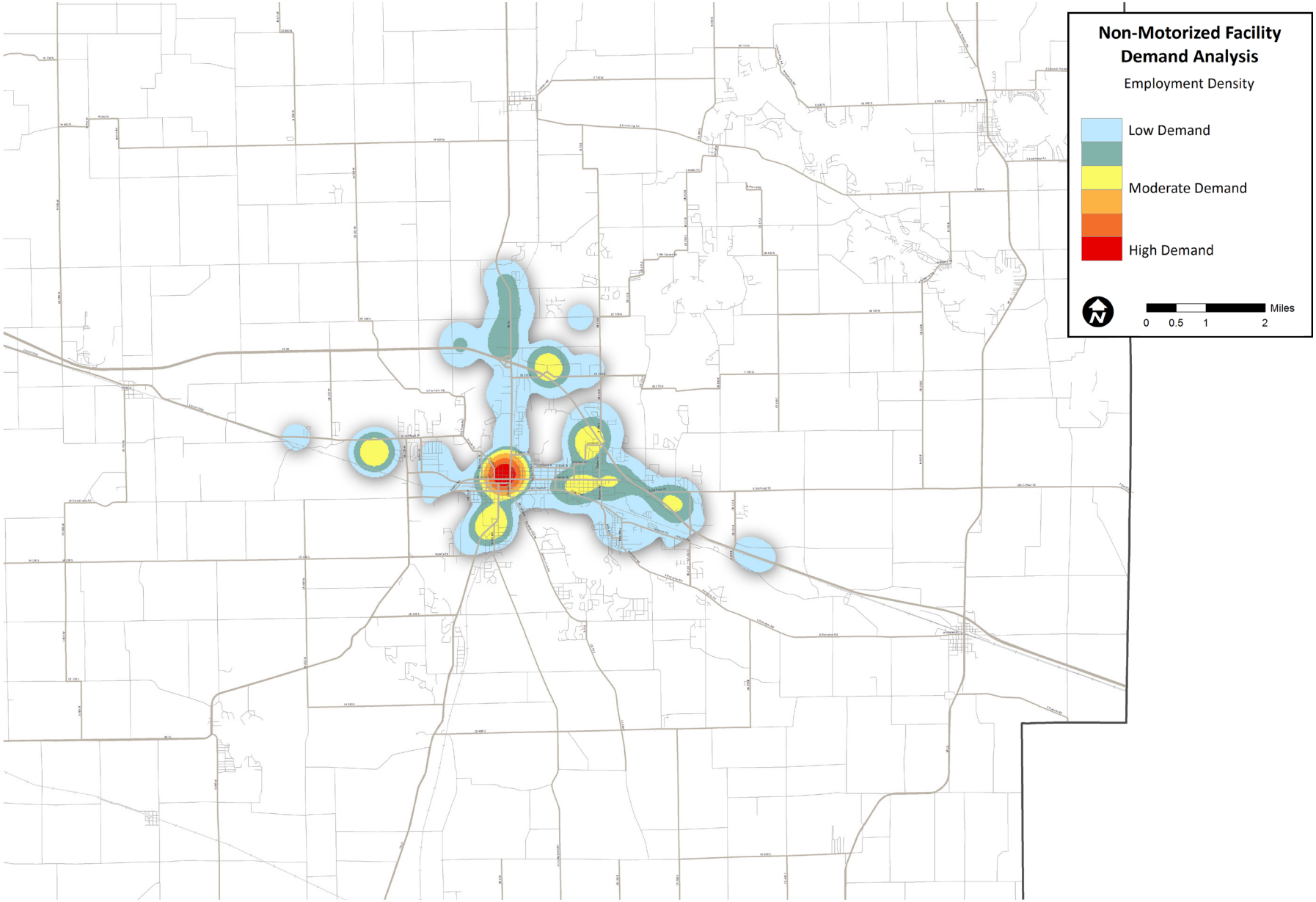


Figure C.12 - Where People Work in Plymouth of Marshall County

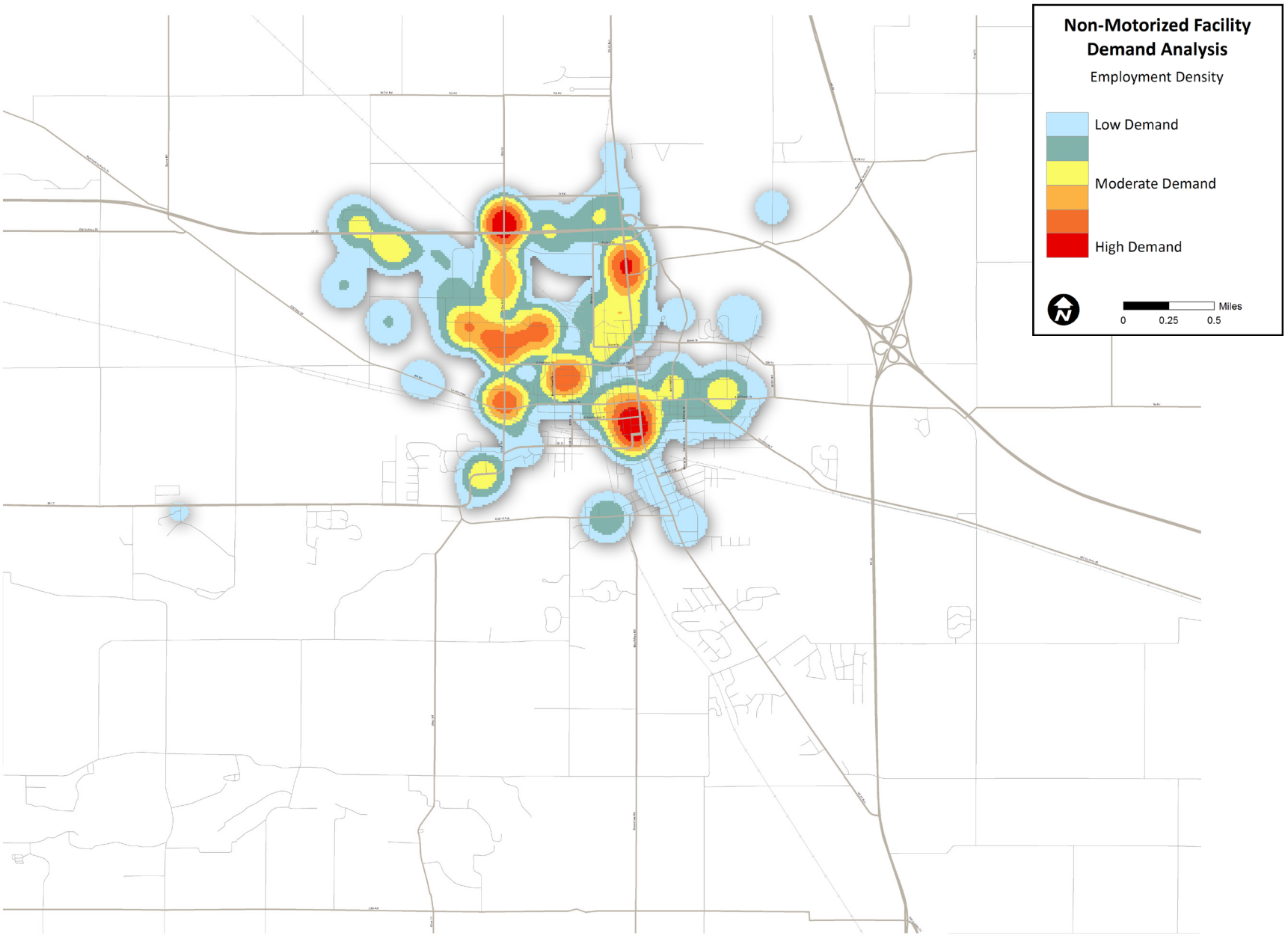


Figure C.13 - Where People Work in South Bend and Mishawaka of St. Joseph County

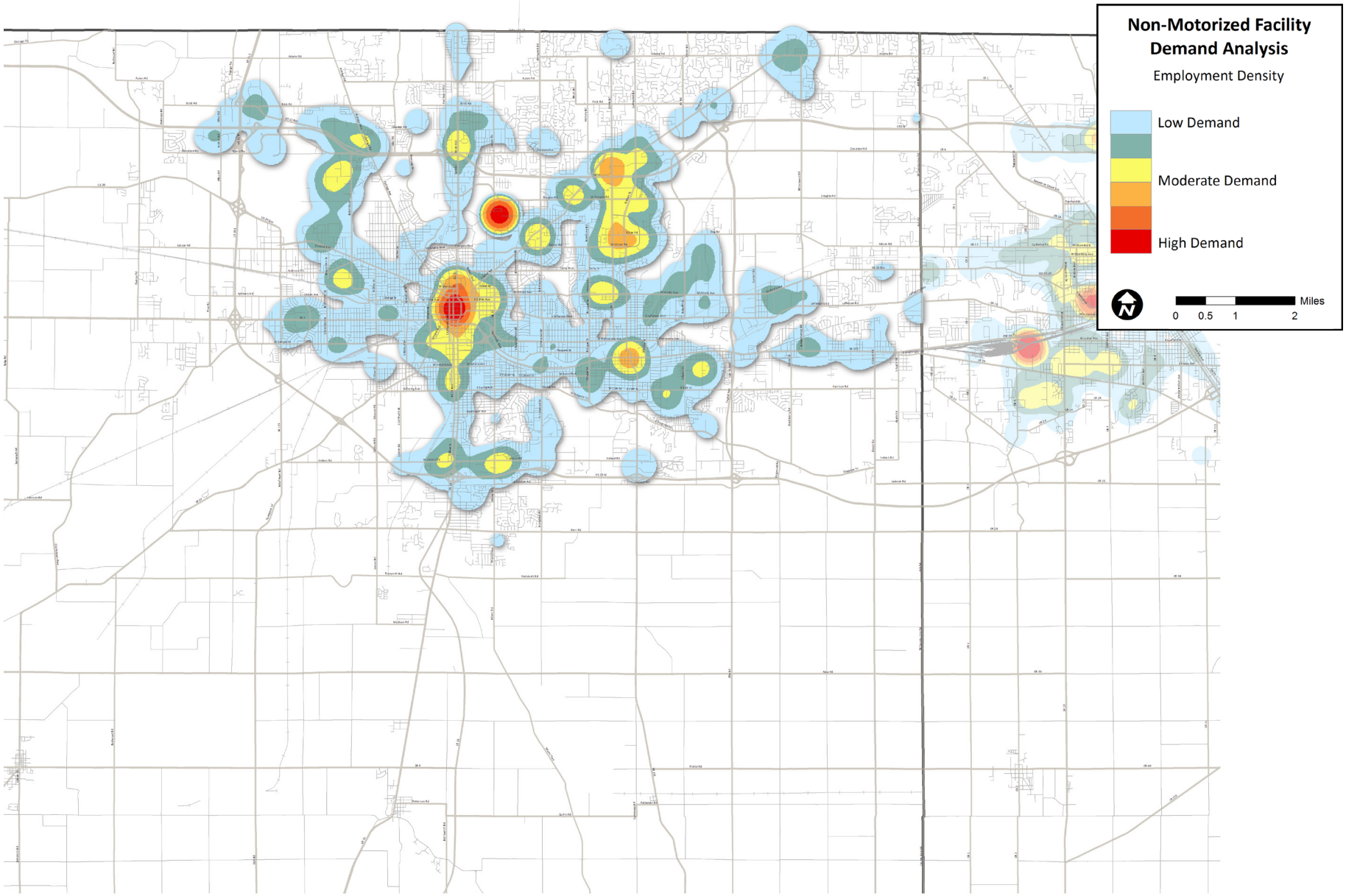


Figure C.14 - Where People Play in the Region

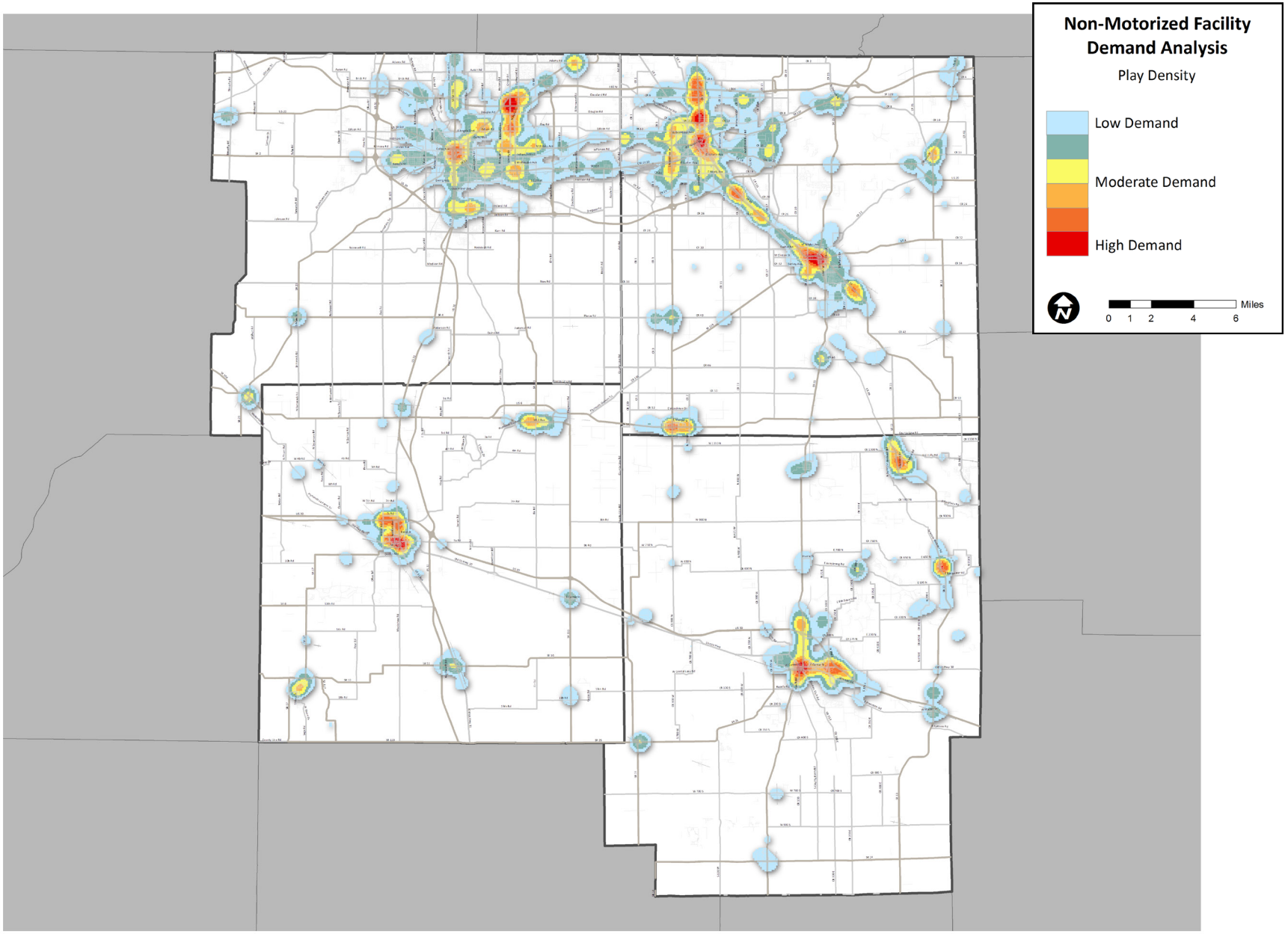


Figure C.15 - Where People Play in Elkhart and Goshen of Elkhart County

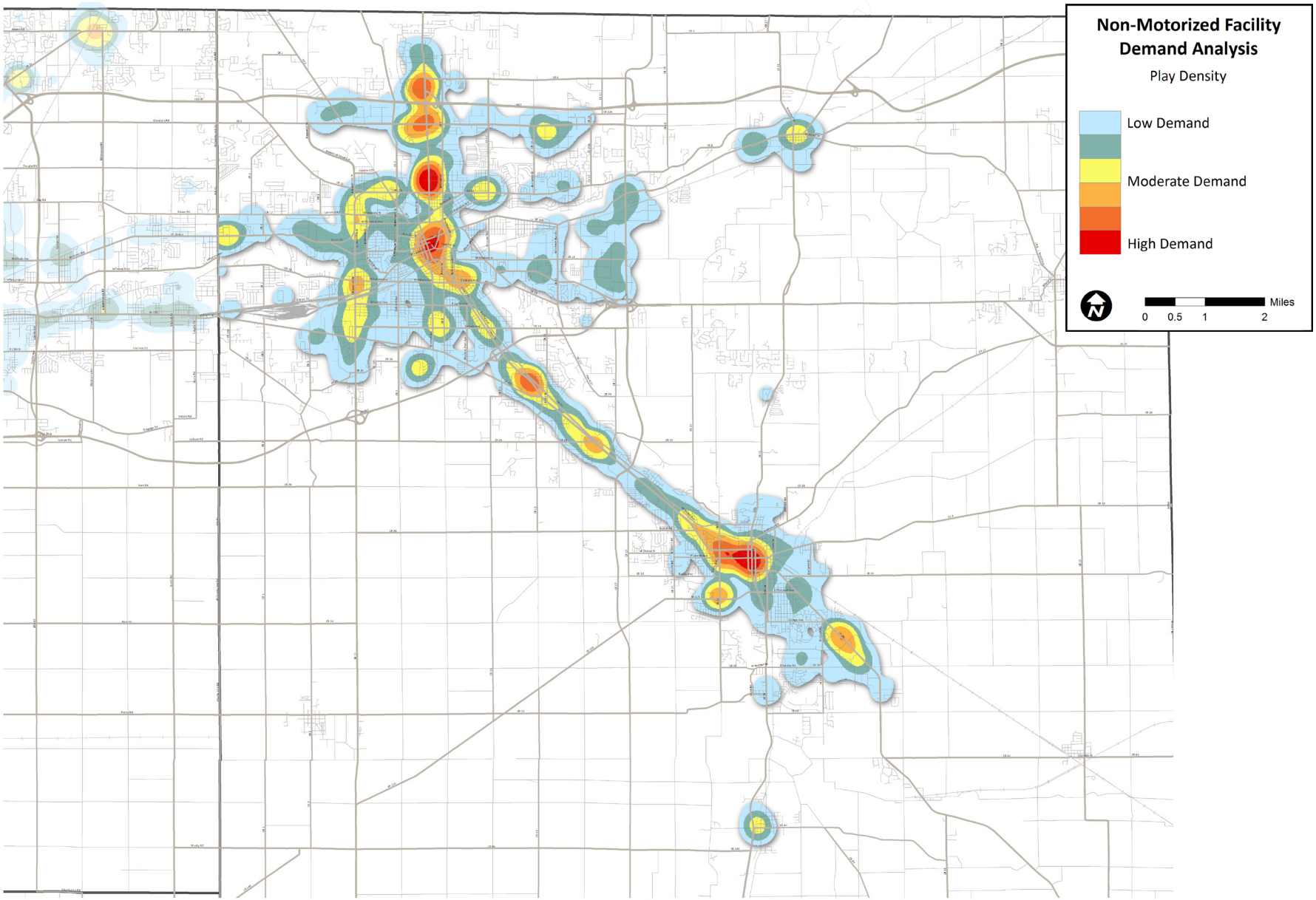


Figure C.16 - Where People Play in Nappanee of Elkhart County

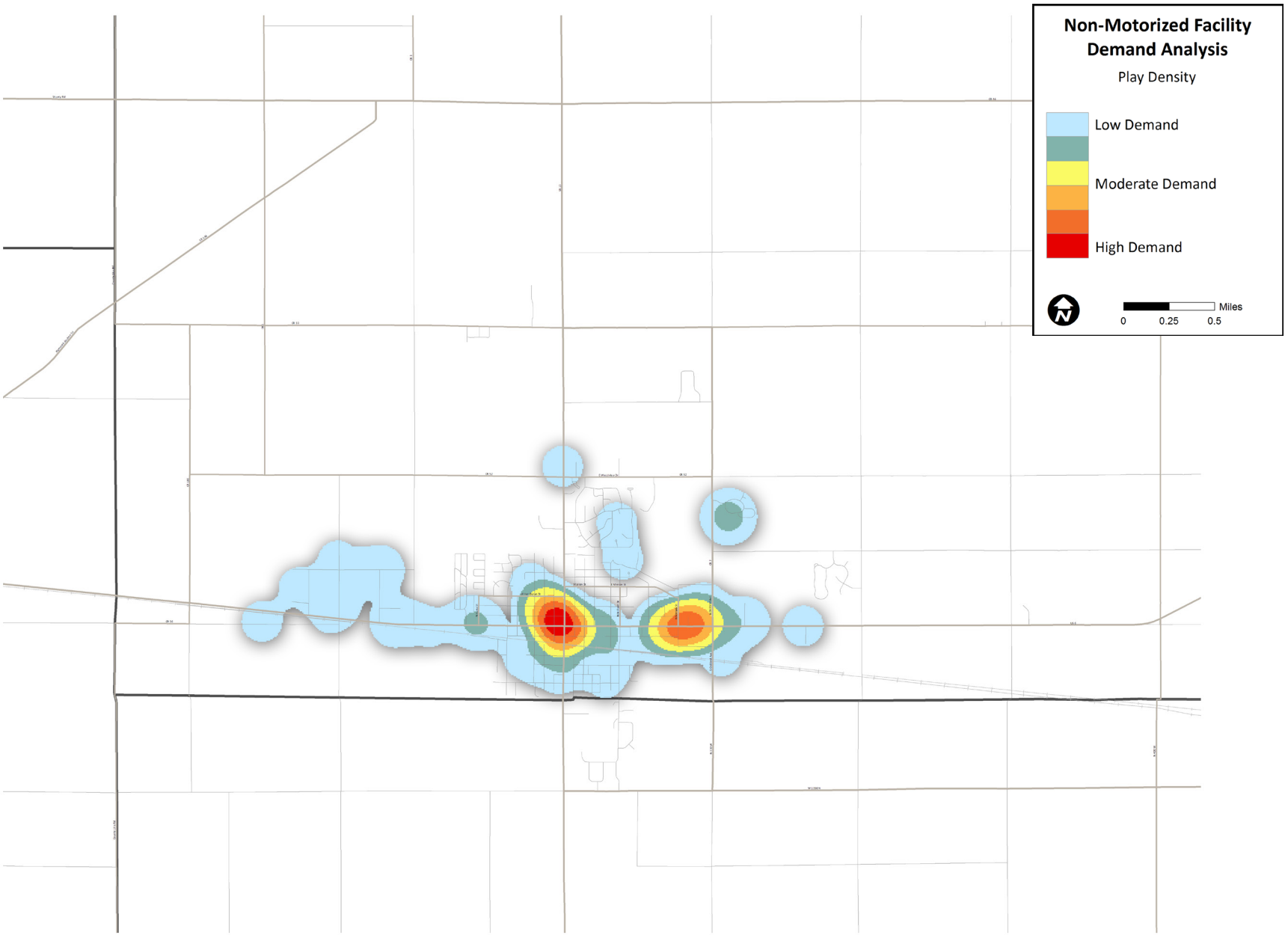


Figure C.17 - Where People Play in Warsaw of Kosciusko County

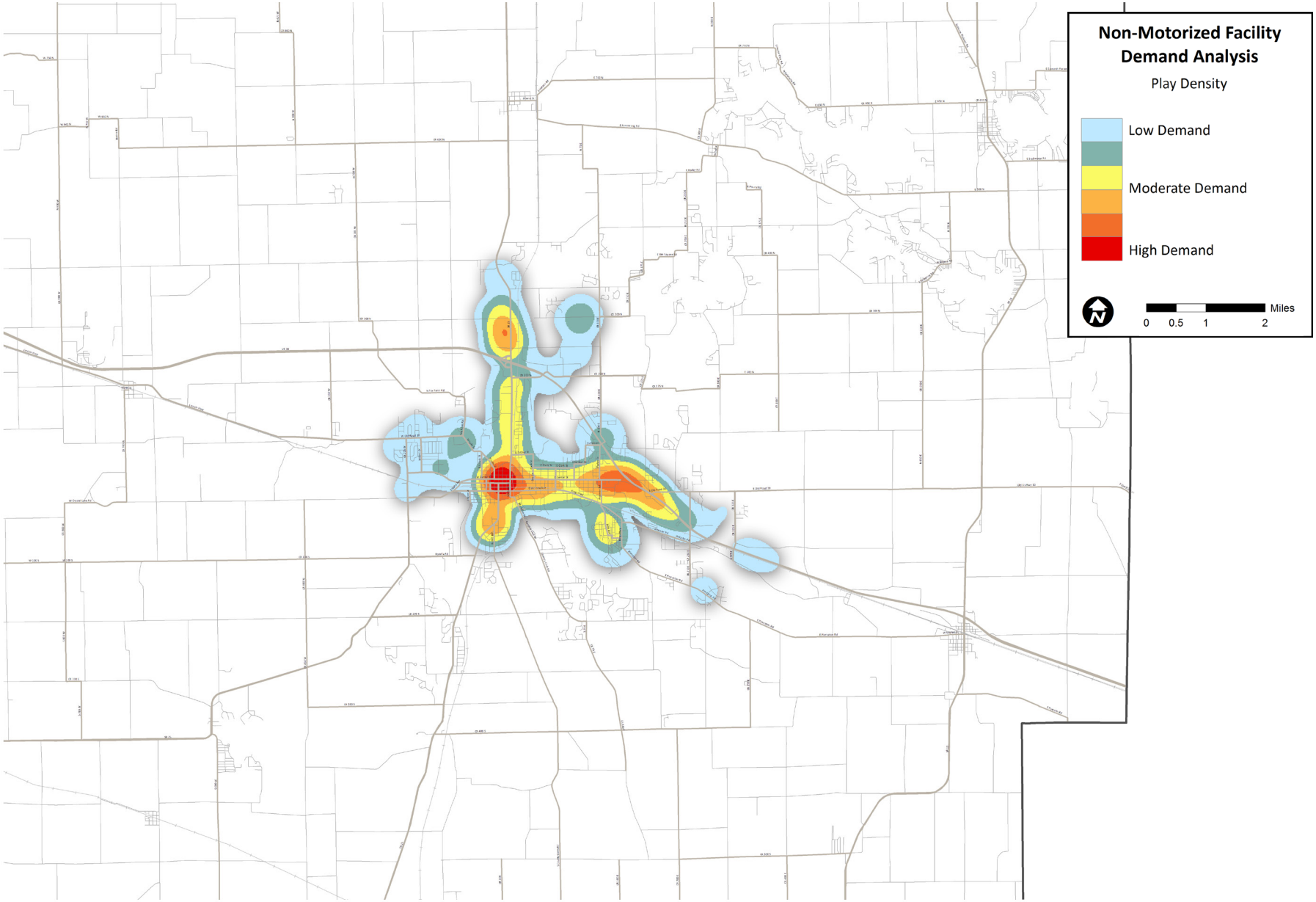


Figure C.18 - Where People Play in Plymouth of Marshall County

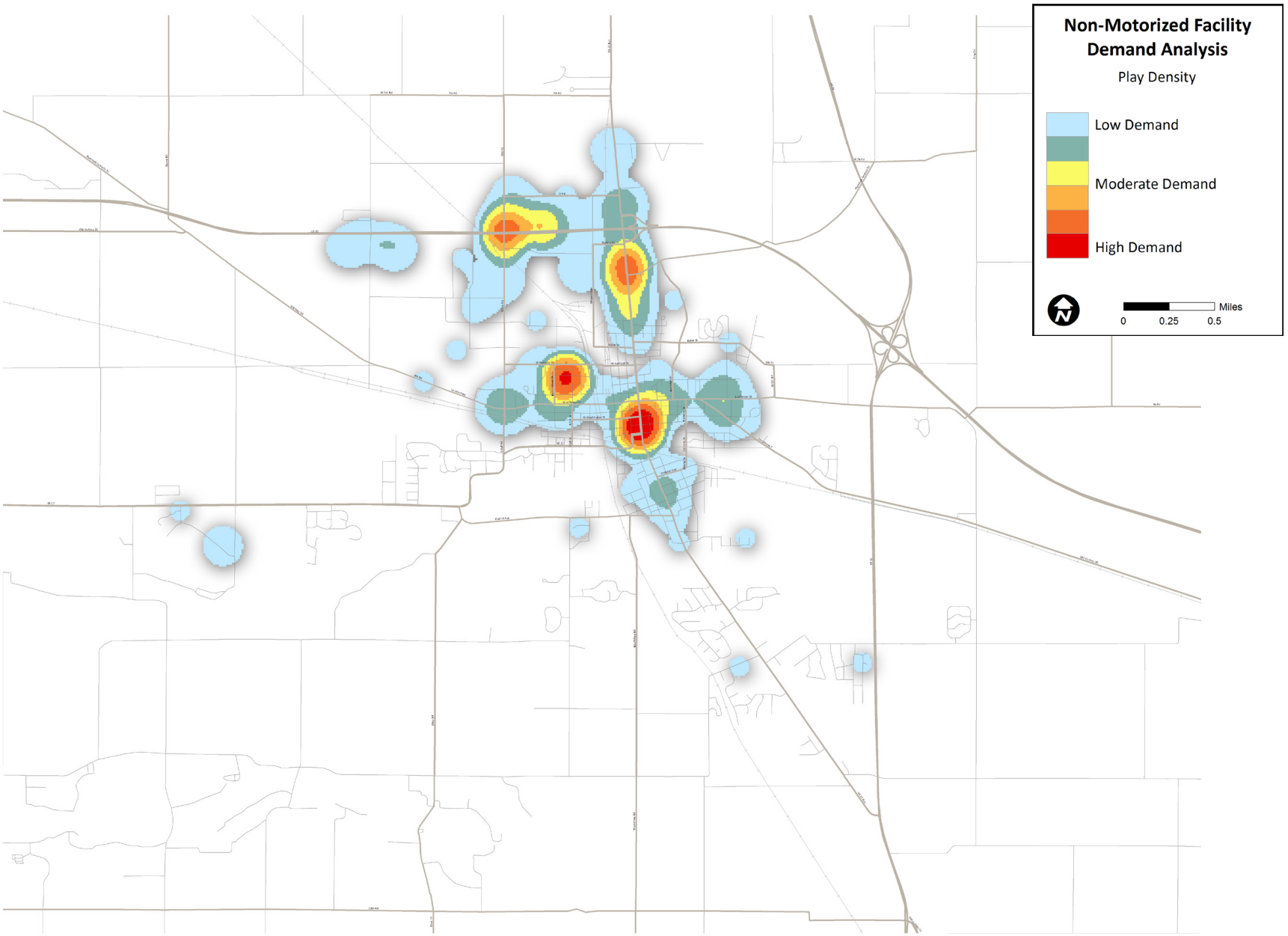


Figure C.19 - Where People Play in South Bend and Mishawaka of St. Joseph County

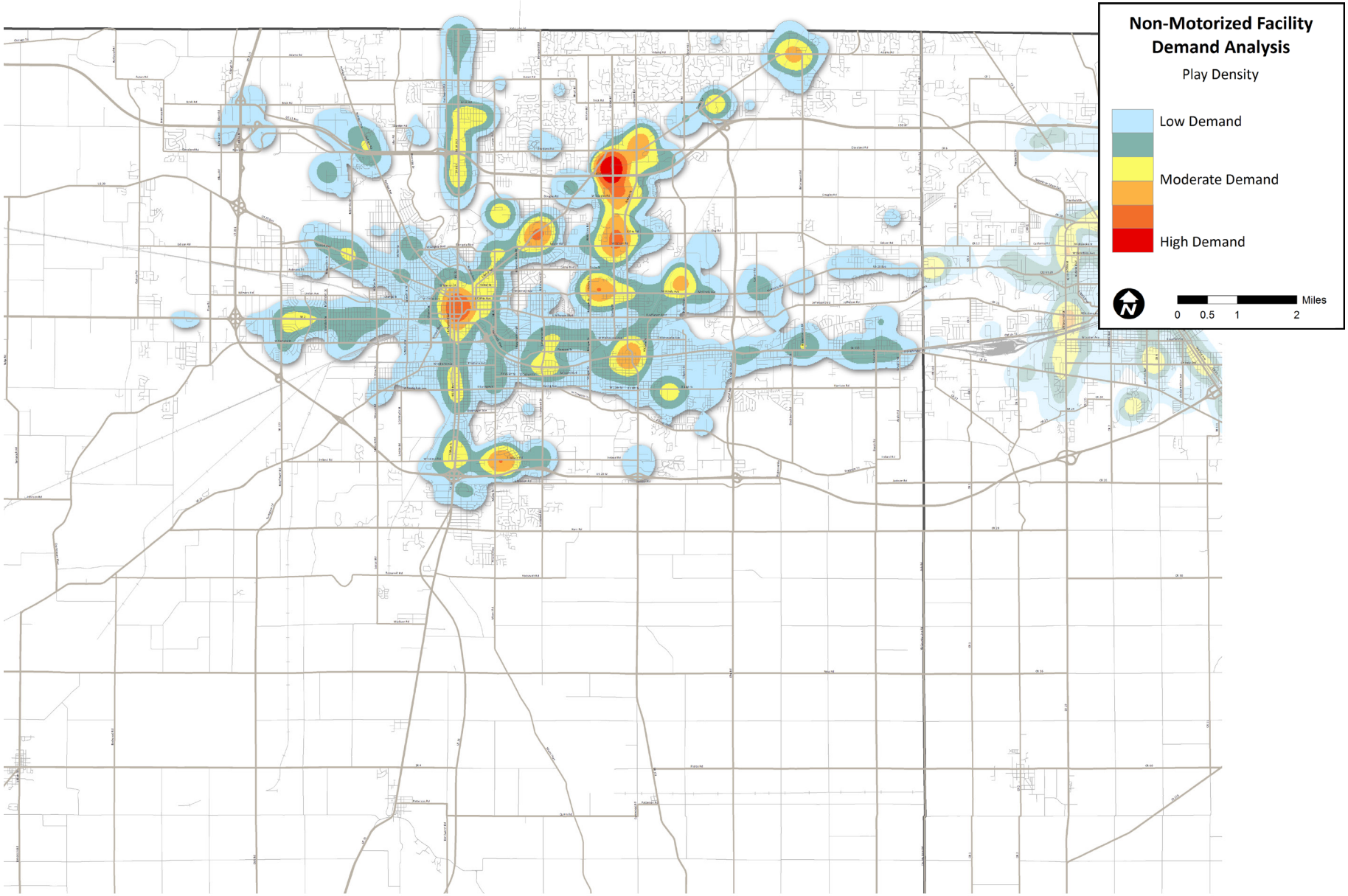


Figure C.20 - Where People Learn in the Region

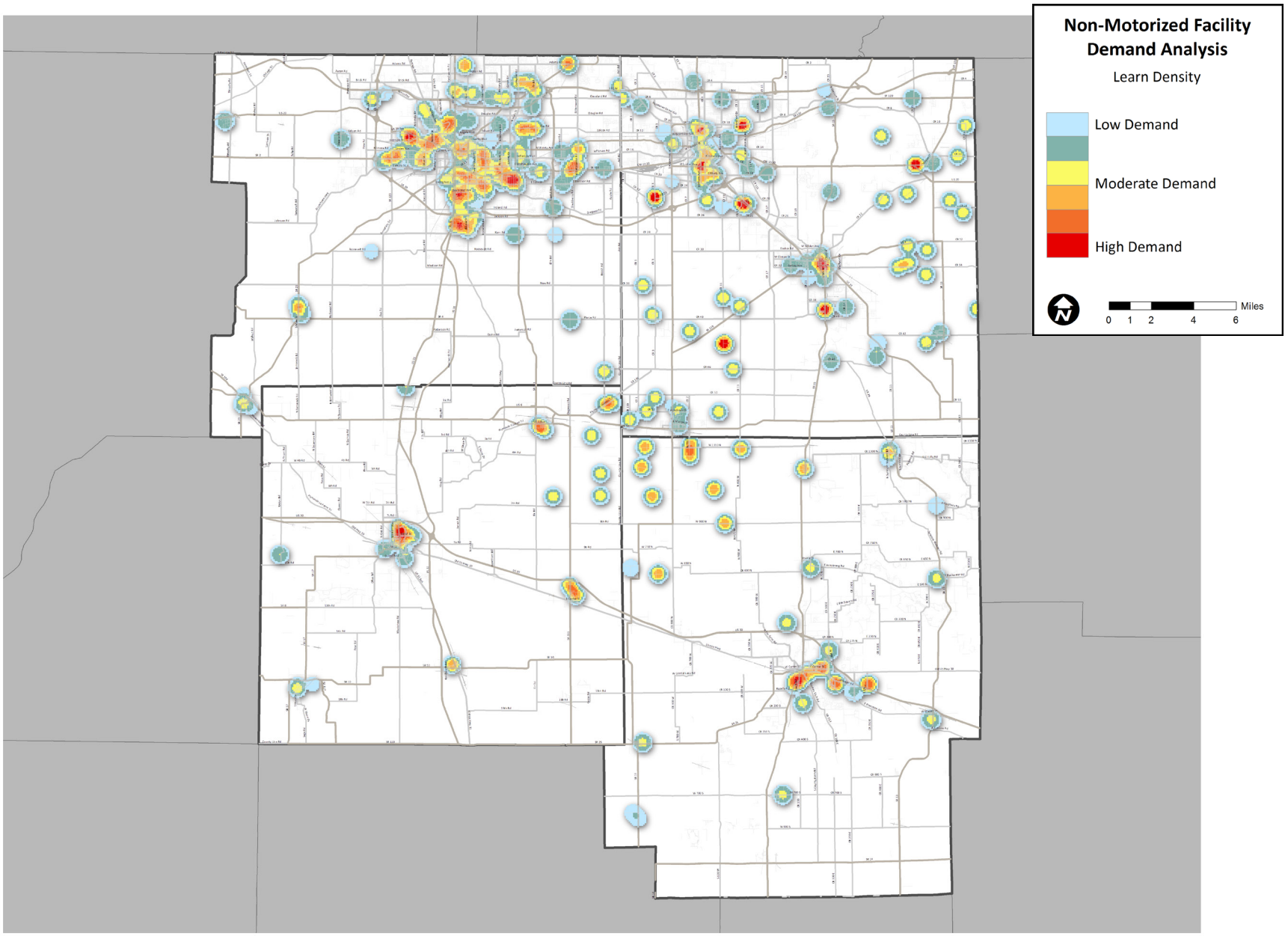


Figure C.21 - Where People Learn in Elkhart and Goshen of Elkhart County

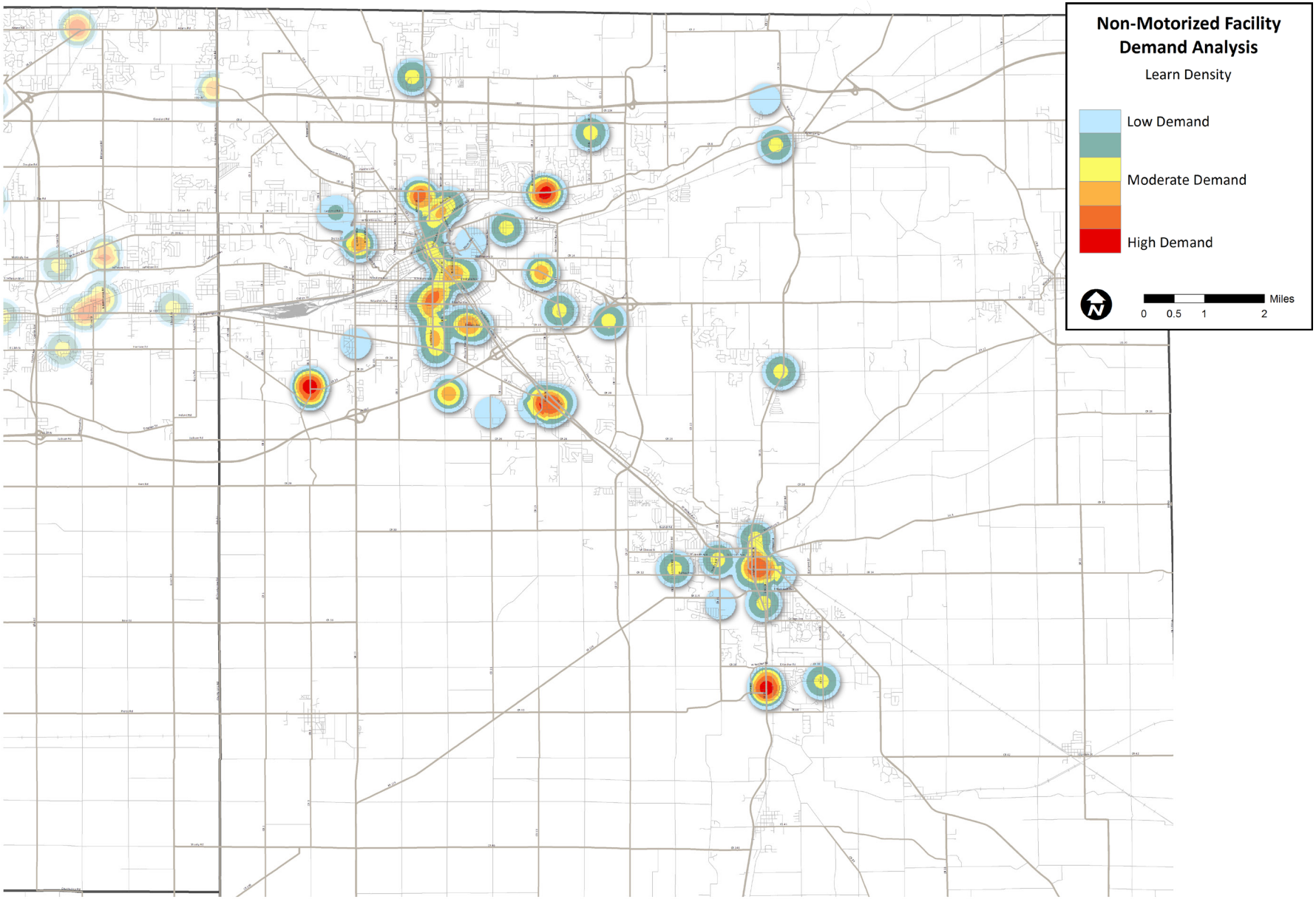


Figure C.22 - Where People Learn in Nappanee of Elkhart County

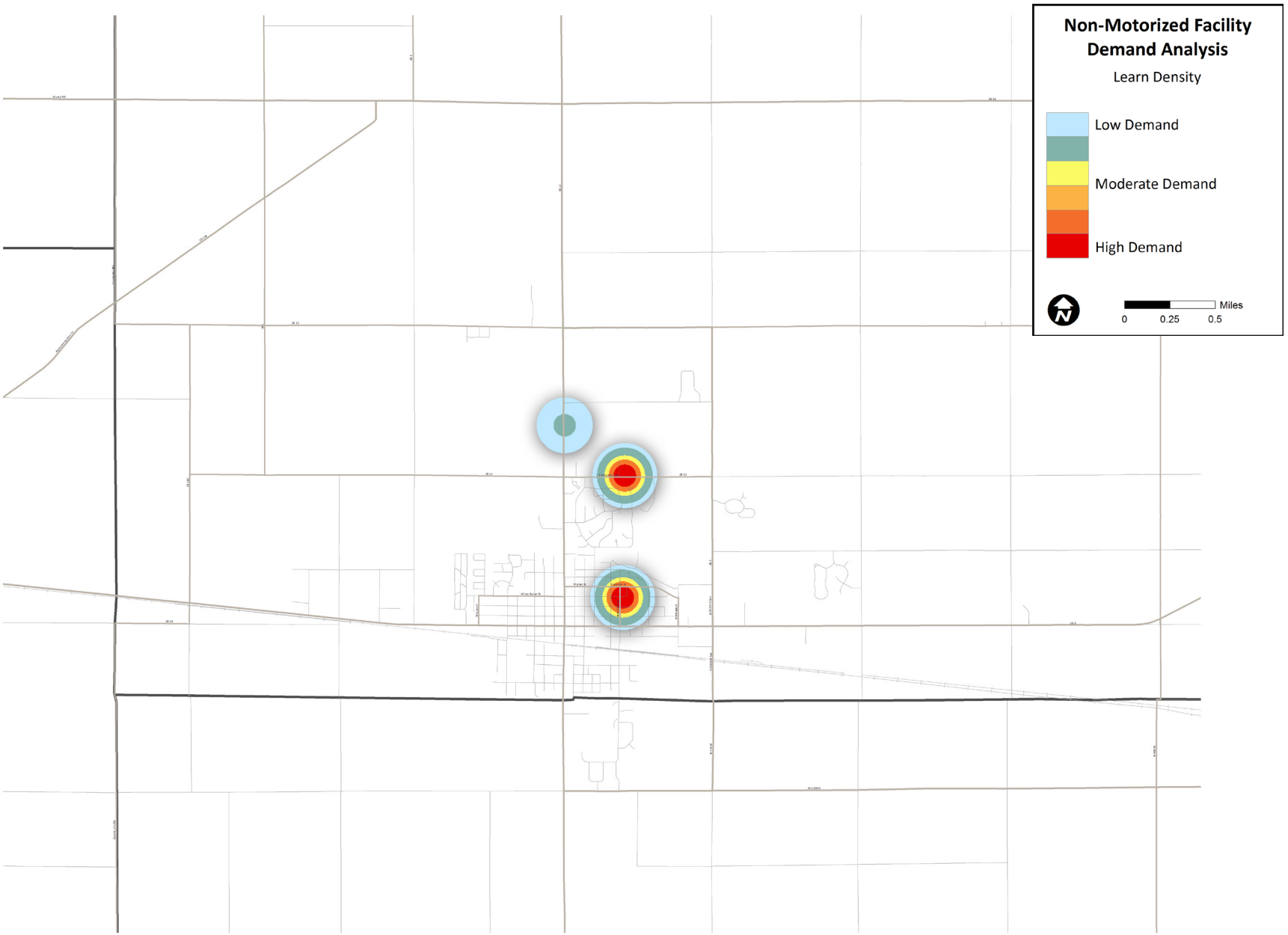


Figure C.23 - Where People Learn in Warsaw of Kosciusko County

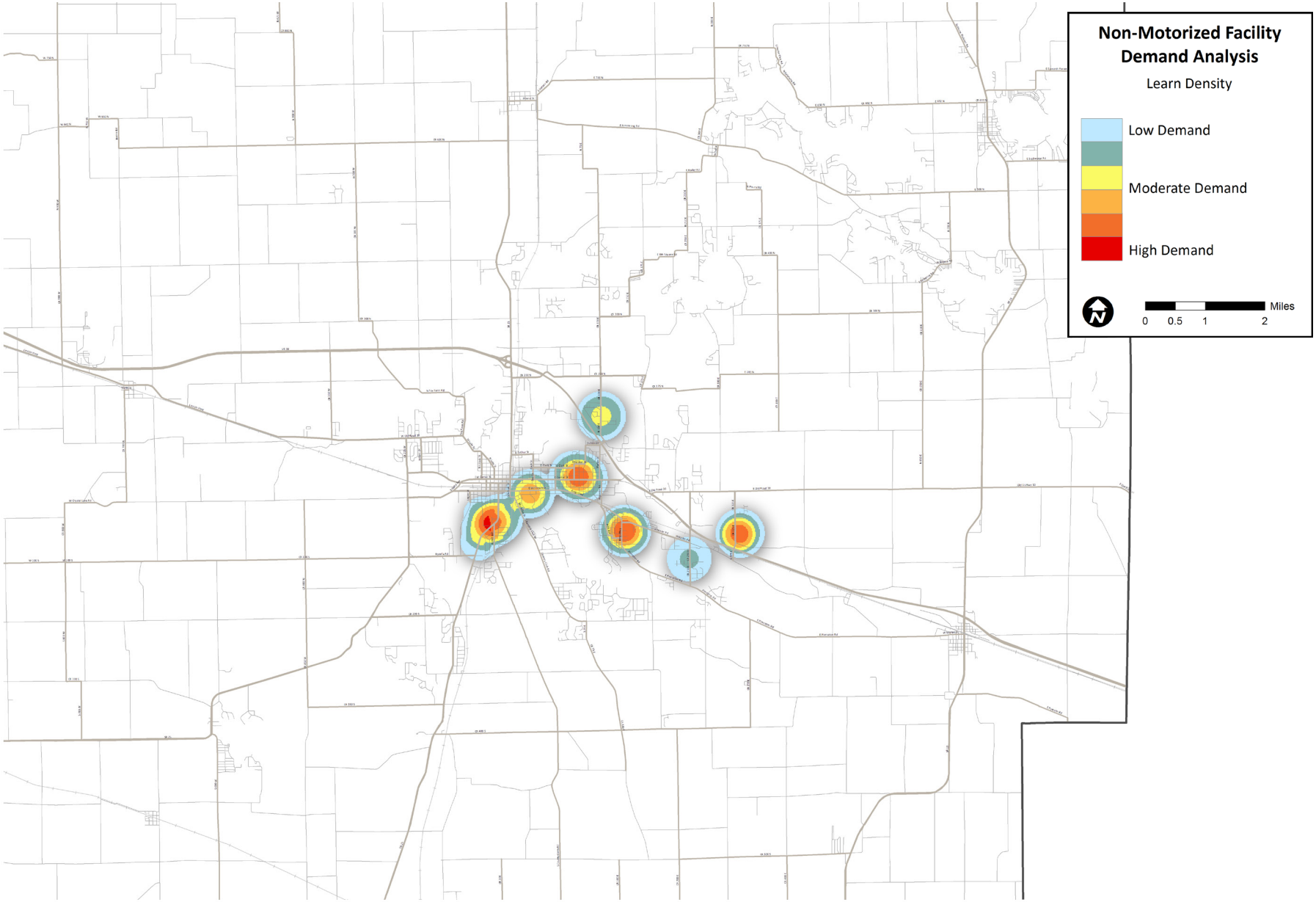


Figure C.24 - Where People Learn in Plymouth of Marshall County

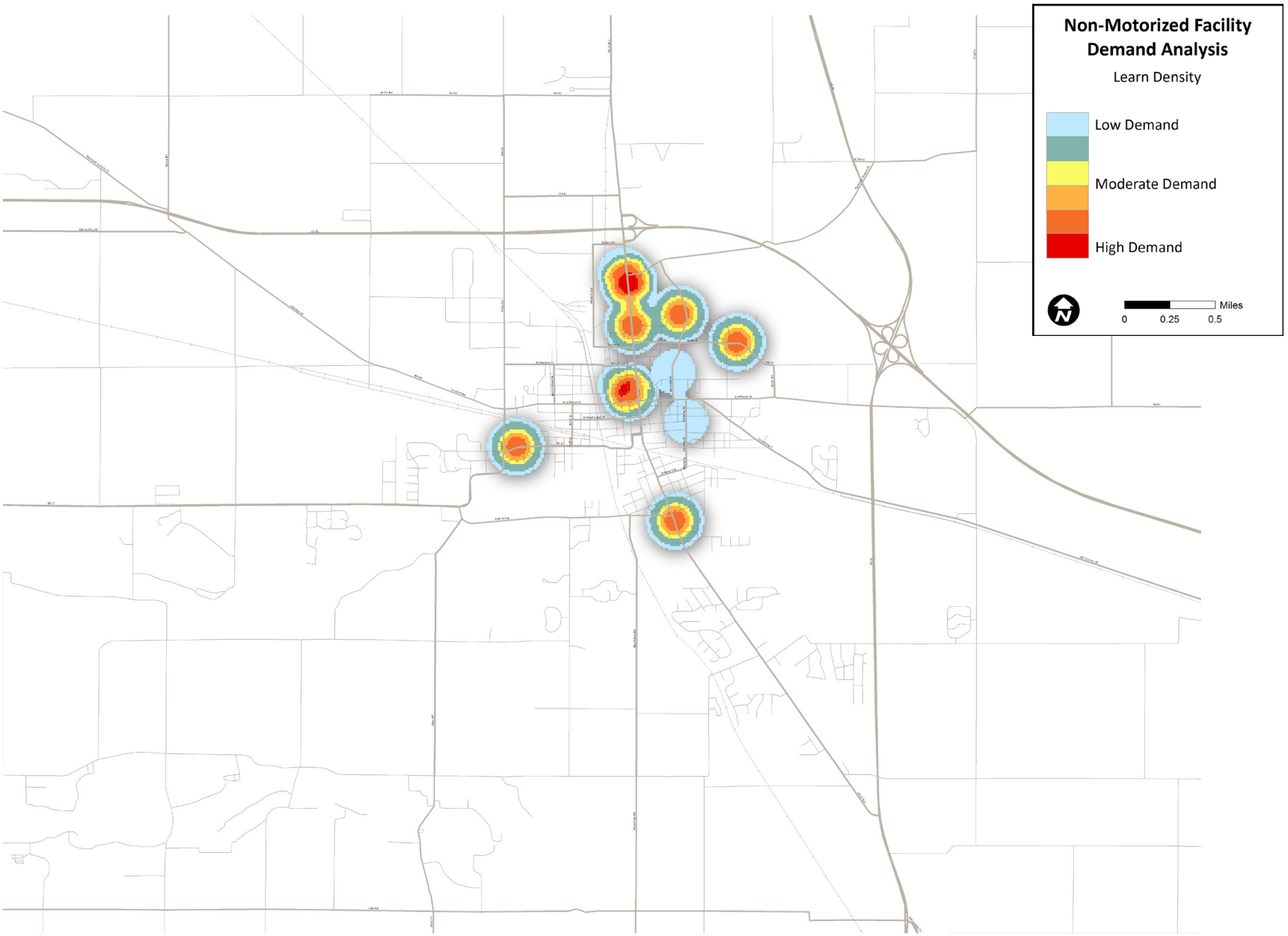


Figure C.25 - Where People Learn in South Bend and Mishawaka of St. Joseph County

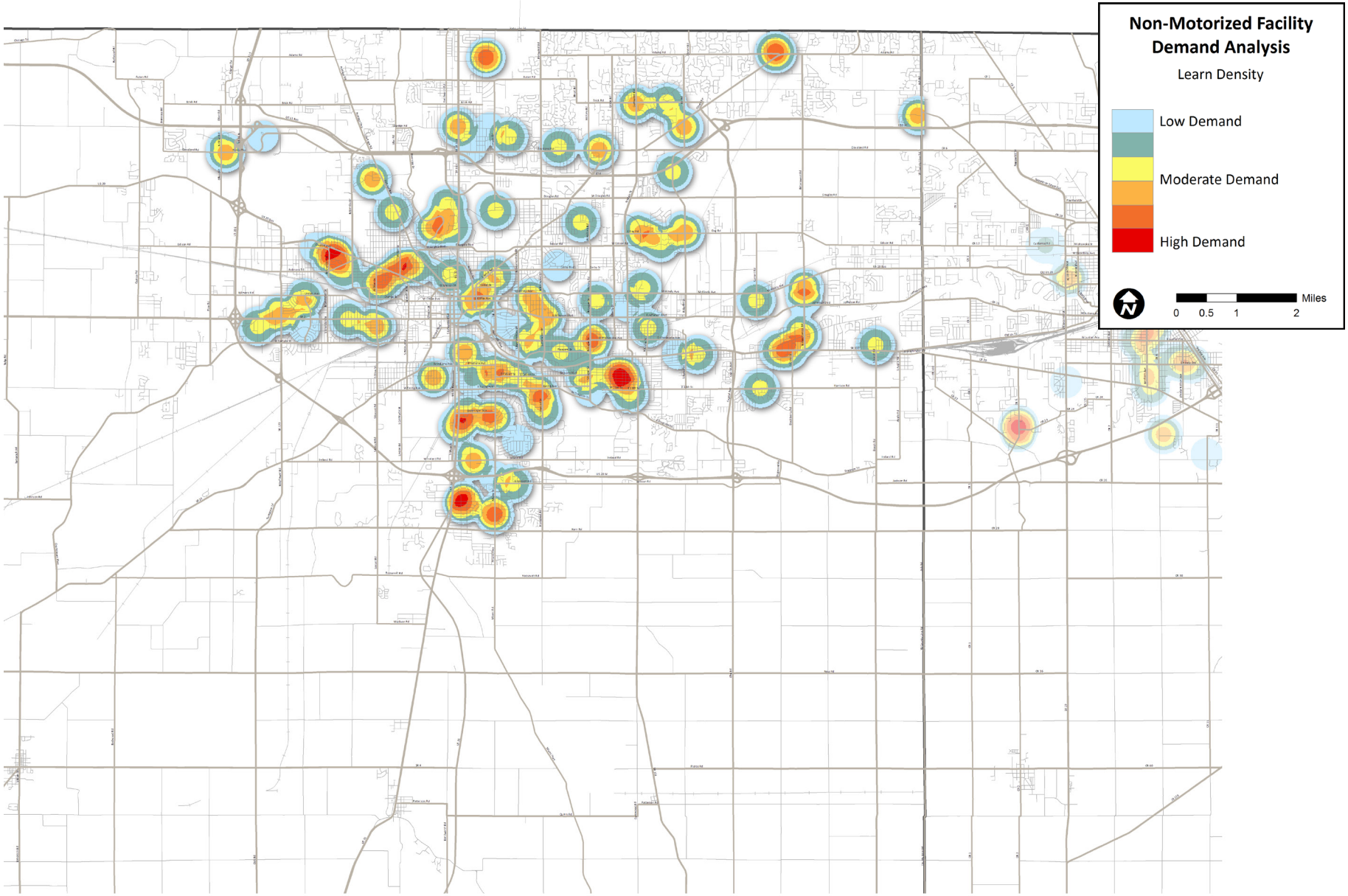
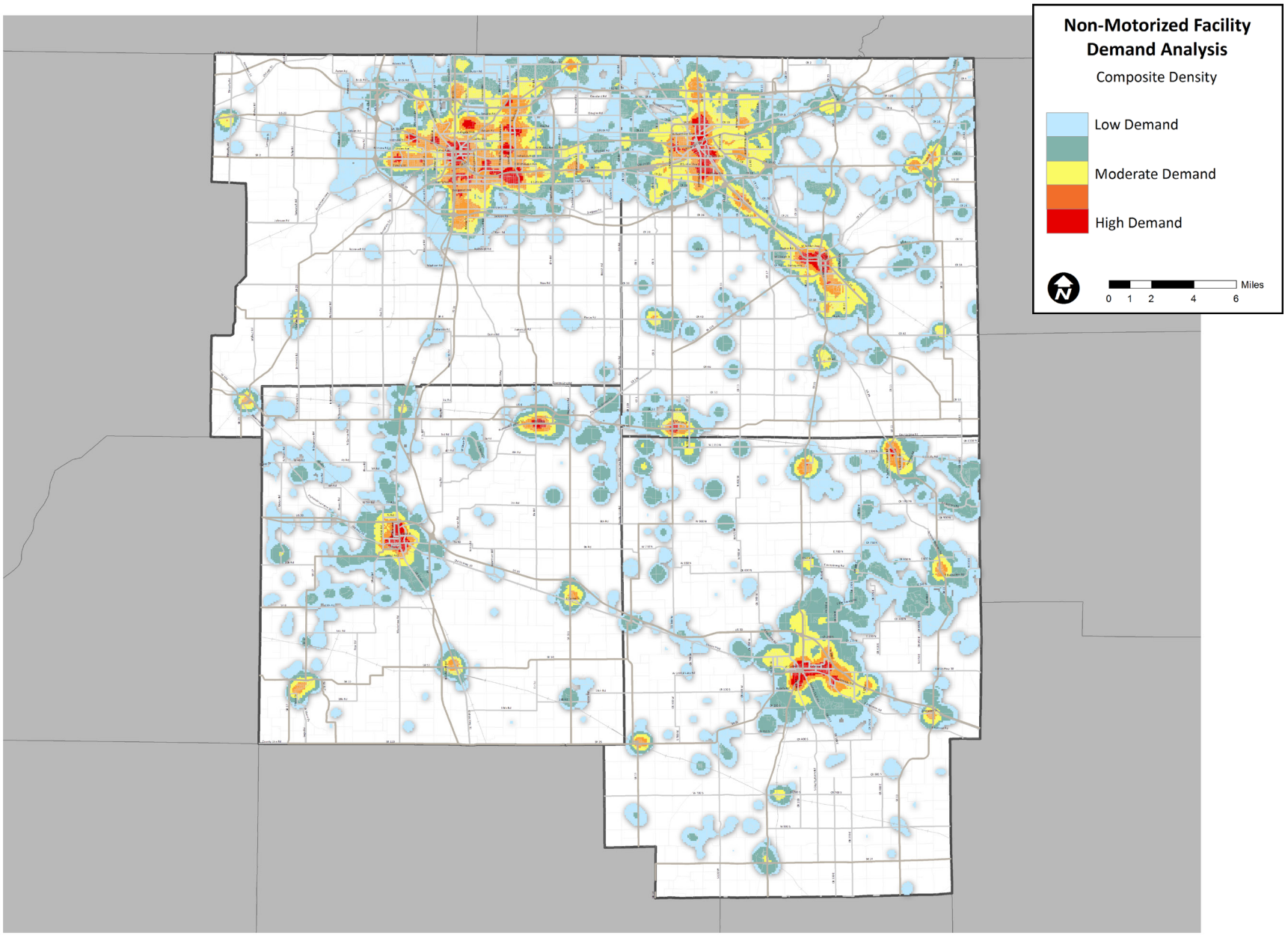


Figure C.26 - Composite Demand



APPENDIX D: BICYCLE SUITABILITY ANALYSIS

Introduction

Appendix D describes in further details the methods and results of the Bicycle Level of Traffic Stress (BLTS) for the MACOG planning region. The BLTS suitability analysis took into consideration the factors that impact bicyclists' level of comfort and safety, and analyzed the entire road network within the planning region, excluding limited access highways, alleys, and service roads, to give a general picture of connectivity throughout the planning region. Data for the analysis was provided via MACOG's road and traffic count databases.

Bicycle Level of Traffic Stress

MACOG based the suitability analysis from the *2012 Mineta Transportation Institute (MTI) Report 11-19: Low-Stress Bicycling and Network Connectivity*. The method outlined in the MTI report uses factors from road data, including posted speed limit, number of travel lanes, impact of traffic volumes, and presence of bicycle facilities. Each road segment was classified into one of four levels of traffic stress, as identified in the MTI report, see **Table D.1** for complete definitions of each level of traffic stress.

The lowest bicycle level of traffic stress, BLTS 1, is assigned to roads that would be tolerable for most children to ride, as well as multi-use trails that are separated from automobile traffic. The next rating, BLTS 2, is roads that can easily be ridden by most adults. BLTS 3 is the next level; assigned to road segments that would be comfortable for cyclists who are "confident" riding with or alongside traffic whether a bicycle facility is provided or not. Lastly, BLTS 4 is assigned to road segments that would only be acceptable to "strong and fearless" cyclists who tolerate riding on roadways with higher traffic volumes, speeds and limited pavement width. A fifth category was created to highlight roads that showed up with a rating of a four, but ultimately are not suitable for on-road cyclists.

Table D.1 - Level of Traffic Stress Definitions

LTS 1	Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross intersections. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where cyclists ride alongside a parking lane, they have ample operating space outside the zone into which car doors are opened. Intersections are easy to approach and cross.
LTS 2	Presenting little traffic stress and therefore suitable to most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a rightturn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speeds. Crossings are not difficult for most adults.
LTS 3	More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic, and therefore welcome to many people currently riding bikes in American cities. Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multilane and have moderately low speed. Crossings may be longer or across higher-speed roads than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians.
LTS 4	A level of stress beyond LTS3.
LTS 5	A level of stress of LTS4, but not suitable for on-road cyclists.

Bicycle Level of Traff Stress Methodology

The Bicycle Level of Traffic Stress (BLTS) analysis completed for the MACOG planning region is based on the 2012 MTI approach. The resulting categorization of each road segment in the MACOG planning region is termed as one of the four LTS categories; LTS 1 is the highest comfort level. Scoring was based off of the four basic categories: number of travel lanes, traffic volumes (AADT), type of bicycle facility, and posted speed limit, see **Table D.2** for the summarized scoring matrix.

As you can see in the scoring matrix table, LTS scoring decreases comfort as the number of travel lanes, traffic volumes, and posted speed limit increase. Traffic volumes and number of lanes reduce level of comfort more frequently where bicyclists have to share the road with motorists. On the other hand, comfort decreases for bicyclists riding in a bike lane where traffic volumes parallel to them increase.

Table D.2 - Scoring Matrix for Bicycle Level of Traffic Stress

Number of Travel Lanes	Traffic Volumes (AADT)	Type of Bicycle Facility											
		No Facility			Separated Facility (Buffered Bike Lane or Trail)			Bike Lane			Signed Route		
		Speed Limit											
		<= 25 mph	35 mph	> 35 mph	<= 25 mph	35 mph	> 35 mph	<= 25 mph	35 mph	> 35 mph	<= 25 mph	35 mph	> 35 mph
2 Lanes	<= 3k AADT	LTS 1	LTS 2	LTS 2	LTS 1	LTS 1	LTS 1	LTS 1	LTS 1	LTS 2	LTS 1	LTS 2	LTS 2
	3k - 10k AADT	LTS 2	LTS 2	LTS 3	LTS 1	LTS 1	LTS 1	LTS 1	LTS 2	LTS 3	LTS 2	LTS 2	LTS 3
	10k - 20k AADT	LTS 3	LTS 3	LTS 3	LTS 1	LTS 1	LTS 1	LTS 2	LTS 3	LTS 4	LTS 2	LTS 3	LTS 4
	>20k AADT	LTS 3	LTS 3	LTS 4	LTS 2	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4	LTS 3	LTS 4	LTS 4
3 Lanes	<= 3k AADT	LTS 2	LTS 2	LTS 2	LTS 1	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 2	LTS 2	LTS 3
	3k - 10k AADT	LTS 2	LTS 3	LTS 4	LTS 1	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 2	LTS 3	LTS 3
	10k - 20k AADT	LTS 3	LTS 3	LTS 4	LTS 1	LTS 1	LTS 1	LTS 3	LTS 3	LTS 4	LTS 3	LTS 4	LTS 4
	>20k AADT	LTS 3	LTS 4	LTS 4	LTS 2	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
4 - 5 Lanes	<= 3k AADT	LTS 2	LTS 3	LTS 3	LTS 2	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3	LTS 3	LTS 4
	3k - 10k AADT	LTS 3	LTS 3	LTS 4	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 3	LTS 3	LTS 4
	10k - 20k AADT	LTS 3	LTS 3	LTS 4	LTS 2	LTS 2	LTS 2	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	>20k AADT	LTS 4	LTS 4	LTS 4	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
6+ Lanes	All Volumes	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4

Bicycle Level of Traffic Stress Results

The BLTS model analyzed the roadway network within the MACOG planning region excluding limited access highways, alleys, and service roads, to provide a full picture of connectivity around the four counties. The results of this analysis are shown in the series of maps on the following pages, beginning with the overall look of the region as well as each of the five urban areas designated as a city; **Figures D.1** through **D.6**. Much of the roads in the MACOG planning region are deemed accessible for most adult riders. Disconnected clusters of low-stress streets characterize most of the urbanized street network; however, heavily traveled and high-speed roads like McKinley Avenue, SR-2/Western Avenue, SR-23, Cleveland Road, US 33 and US 30 function as barriers to bicycle mobility. The results of this analysis will be used later in the planning process to inform the recommendations for new bicycle and pedestrian infrastructure to improve connectivity, safety, and comfort.

Figure D.1 - Regional Bicycle Level of Traffic Stress

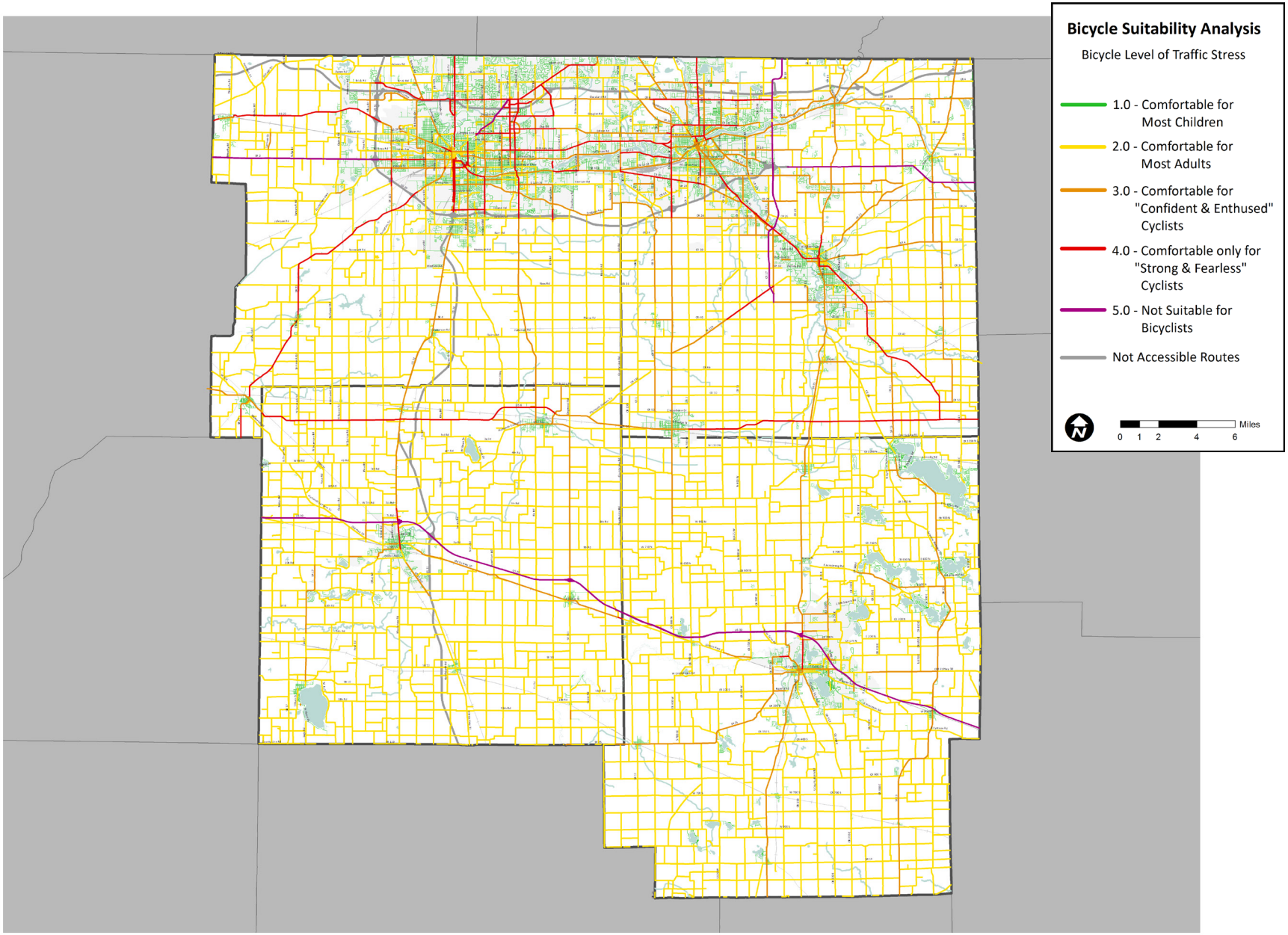


Figure D.2 - Bicycle Level of Traffic Stress in Elkhart and Goshen

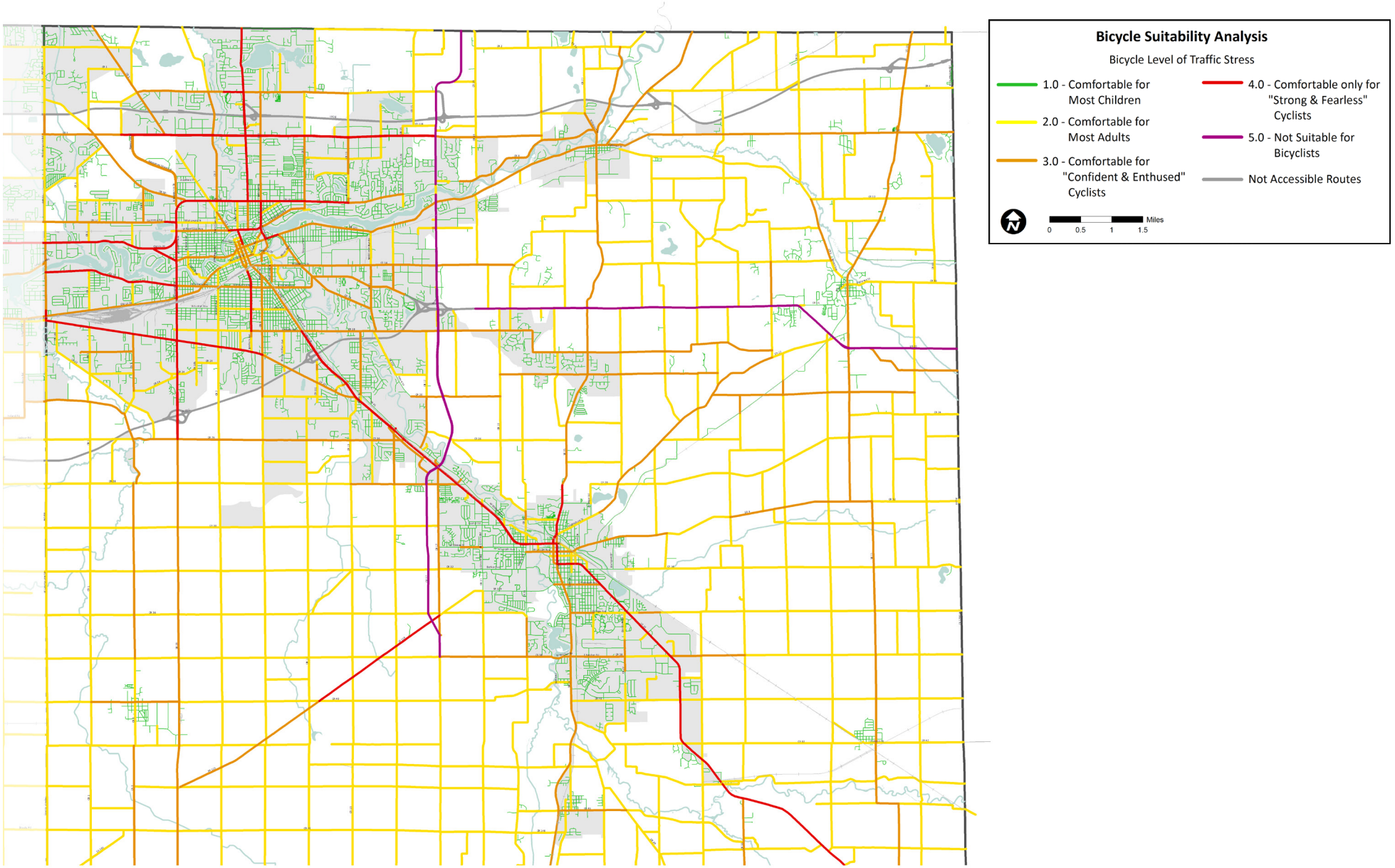


Figure D.3 - Bicycle Level of Traffic Stress in Nappanee

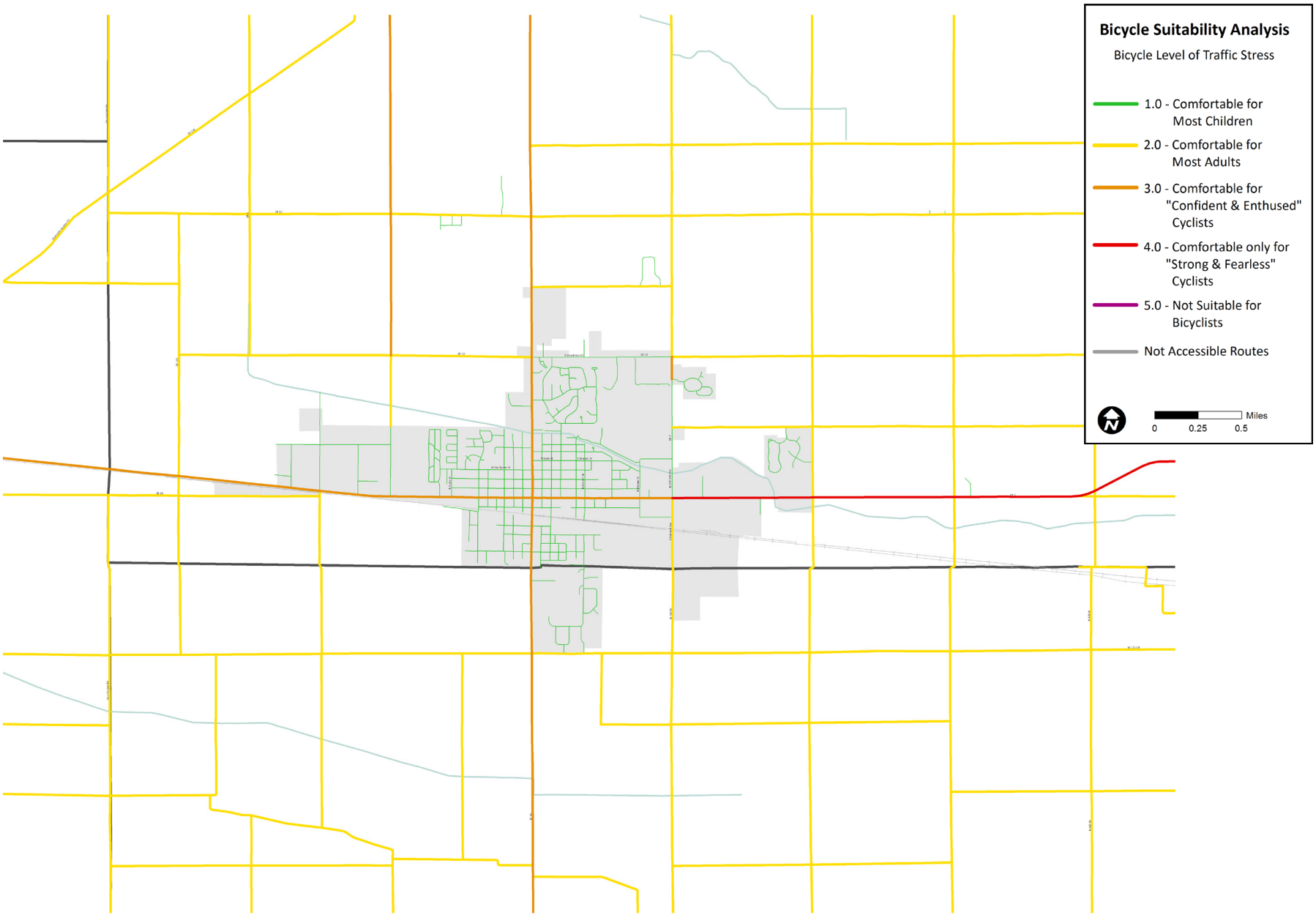


Figure D.4 - Bicycle Level of Traffic Stress in Warsaw

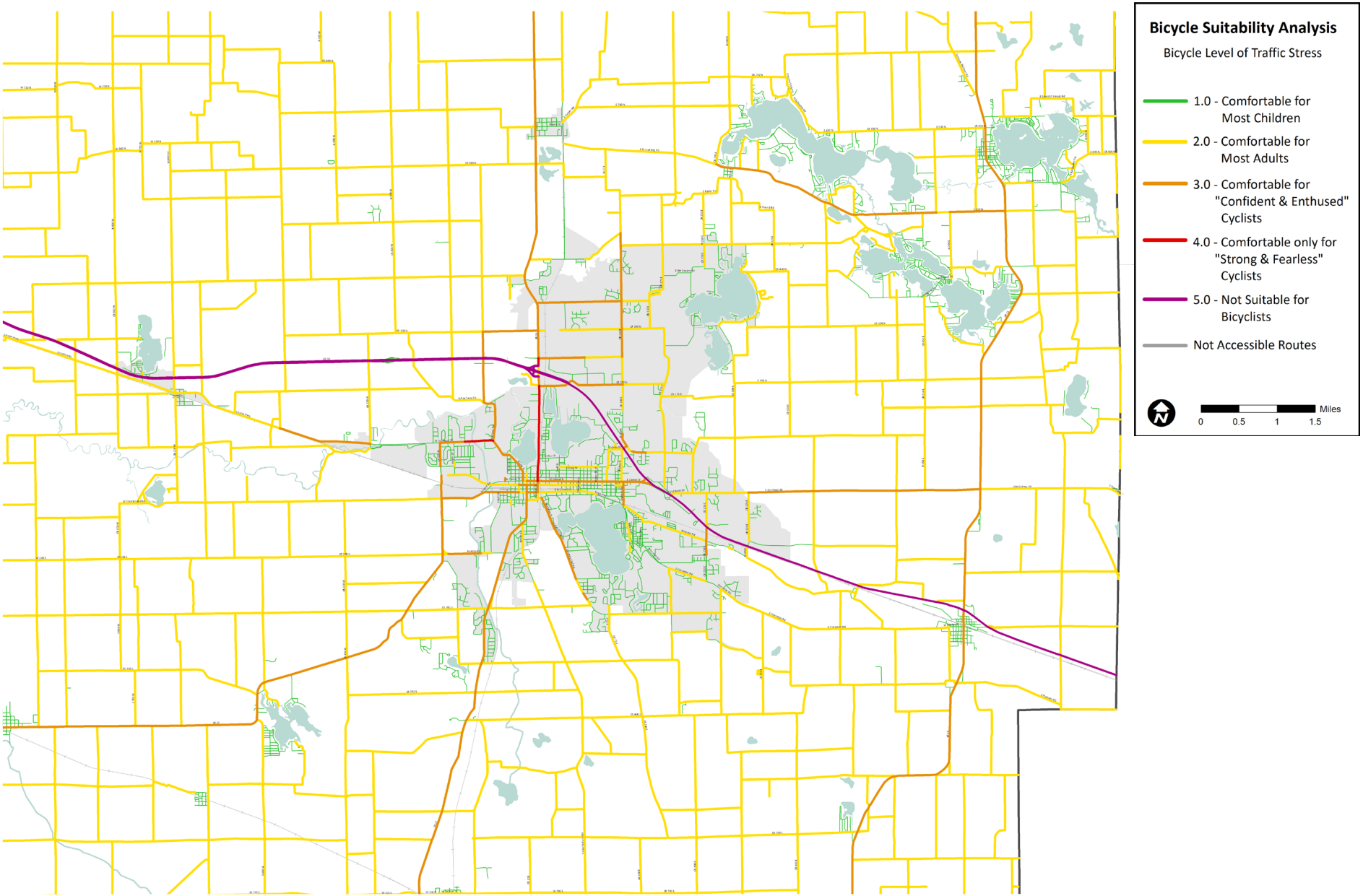
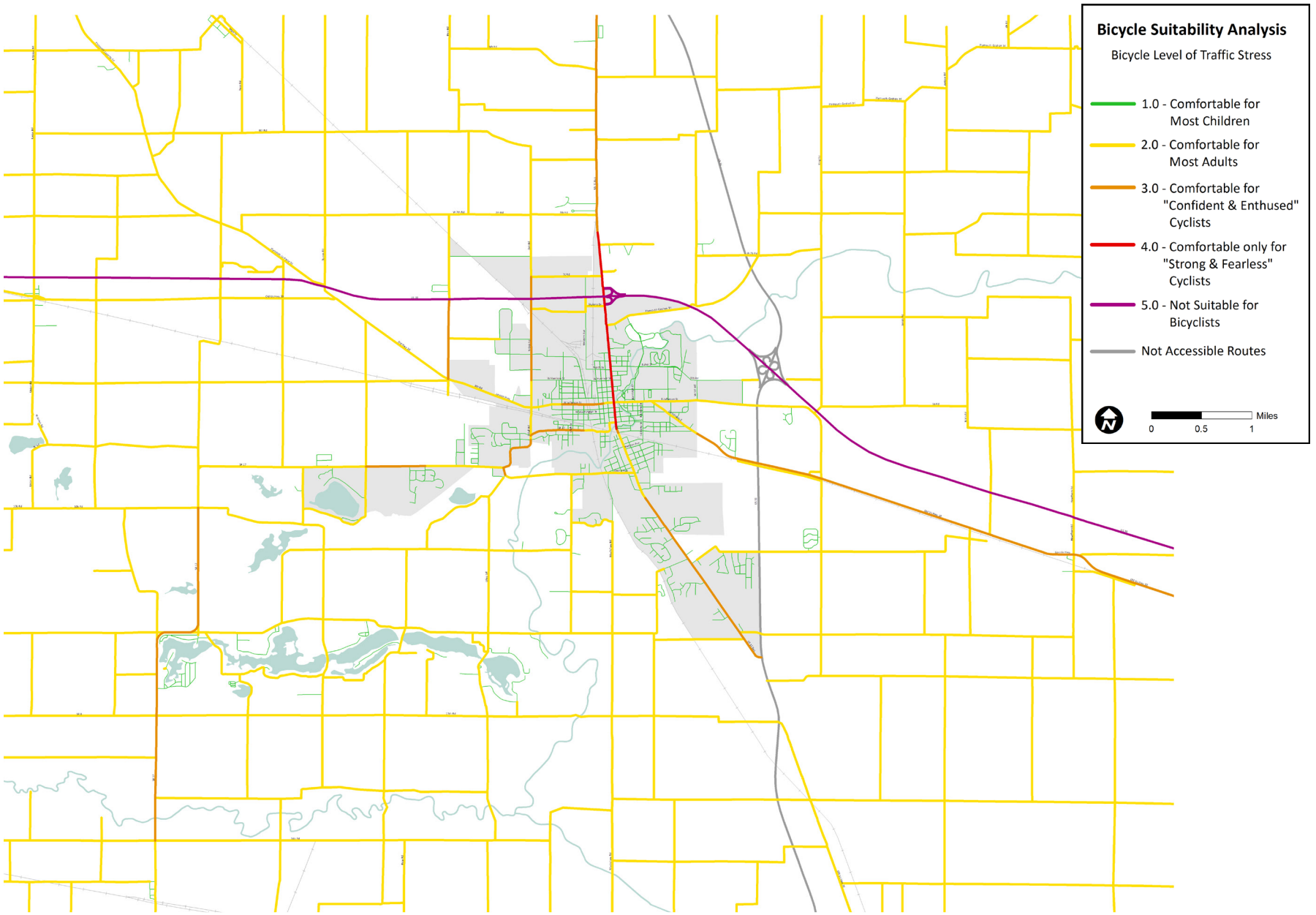
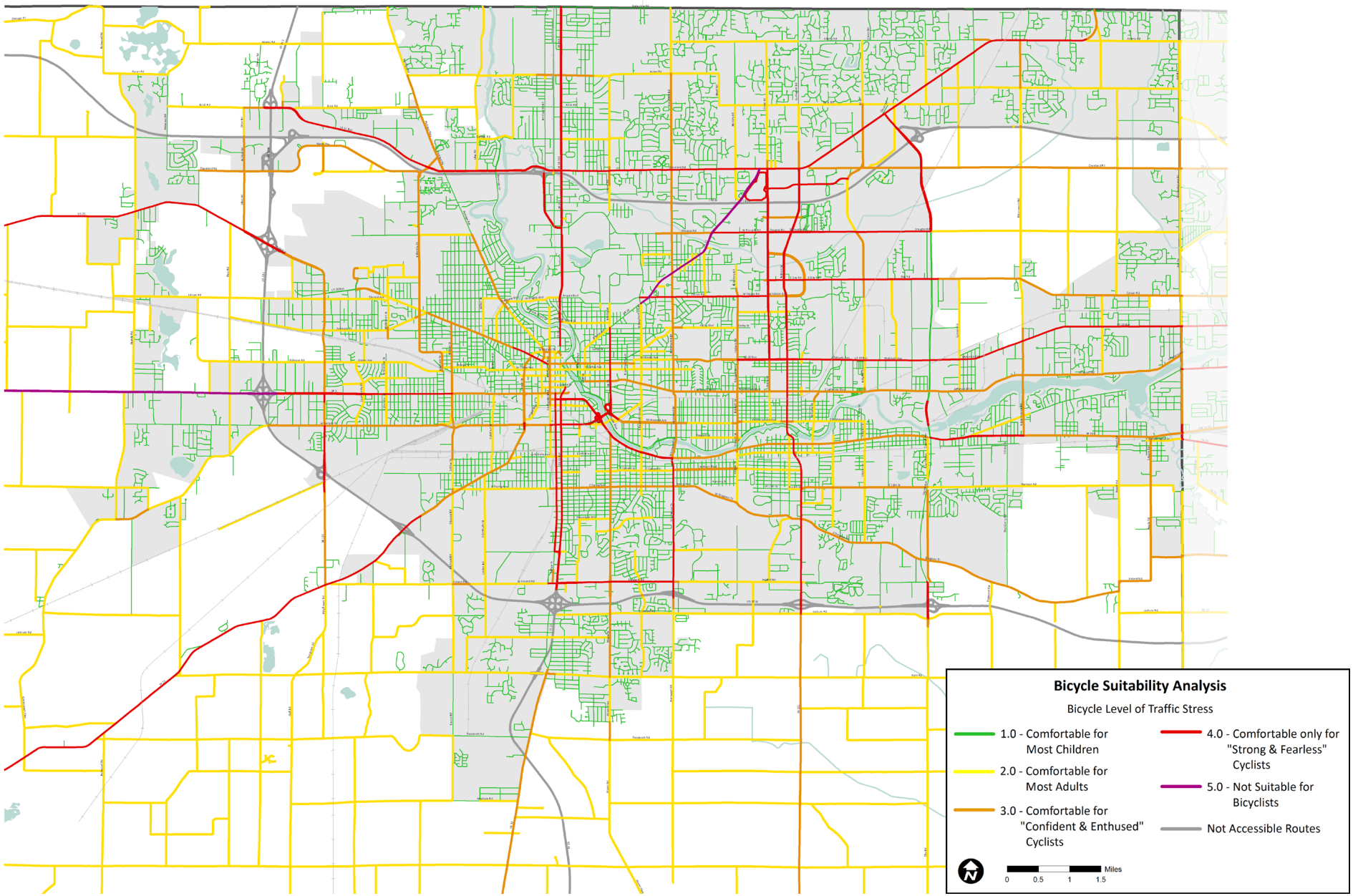


Figure D.5 - Bicycle Level of Traffic Stress in Plymouth




Bicycle Suitability Analysis
Bicycle Level of Traffic Stress
1.0 - Comfortable for Most Children
2.0 - Comfortable for Most Adults
3.0 - Comfortable for "Confident & Enthused" Cyclists
4.0 - Comfortable only for "Strong & Fearless" Cyclists
5.0 - Not Suitable for Bicyclists
Not Accessible Routes
Miles
0
0.5
1
1.5

APPENDIX E: CRASH ANALYSIS

Introduction

A person's level of perception on safety concerns will determine if an individual will choose to bike or walk over drive their automobile. Safety, convenience and weather are the most common reasons for people opting not to bicycle more often on the road. Even if the trip is over a short distance, if an individual does not feel safe biking on the road or there is a gap in the network, more often than not, the individual has made up his or her mind not to bike or walk and will use a different mode of travel. Likewise, crashes involving motor vehicles represent a significant threat, both real and perceived, to the safety of bicyclists and pedestrians and the decision to choose to bike or walk. A survey was polled during the planning process of this Plan throughout the planning region. Respondents stated they feel motorists' attitudes towards non-motorized users to that of being impatient having to wait at intersection crossings or passing bicyclists on the open road, and don't believe that bicyclists are entitled to be on the road. An examination of the impacts of crashes on bicyclists and pedestrians emphasizes the liability of these road users. According to the *2014 Indiana Crash Facts Report*, bicyclists and pedestrians represented less than 1% of all individuals in traffic collisions in Indiana, but made up 11% of all traffic fatalities. Only 0.2% of motor vehicle occupants involved in traffic collisions were killed, compared to 5.7% of all bicyclists and pedestrians.

MACOG is fortunate to have access to valuable collision data to help identify trends in crashes, understand crash characteristics, and develop safety promotions and other countermeasures to create a safer environment for bicyclists and pedestrians. This section of the Plan summarizes reported crashes in the MACOG planning region that involved bicyclists and pedestrians between 2012 and present (2016).

There are certain limitations to consider when interpreting bicycle and pedestrian related crash data. Firstly, a street or intersection that did not experience a crash during the analysis period is not an indication that people are not bicycling or walking there, nor is it evidence that the area does not have any challenges to bicycling or walking. Secondly, crash data does not take into consideration "near misses", attributed to conditions at many high-risk locations, such as bike lanes along roads with high volumes of traffic. Thirdly, in the absence of user count data, there is no way to measure "exposure" to crashes, defined as crashes per mile traveled or crashes per bicyclist. For example, consider two streets that experienced the same number of crashes but different cyclist volumes. Streets that experience high presence of bicyclists typically are safer than streets with a low presence of bicyclists.

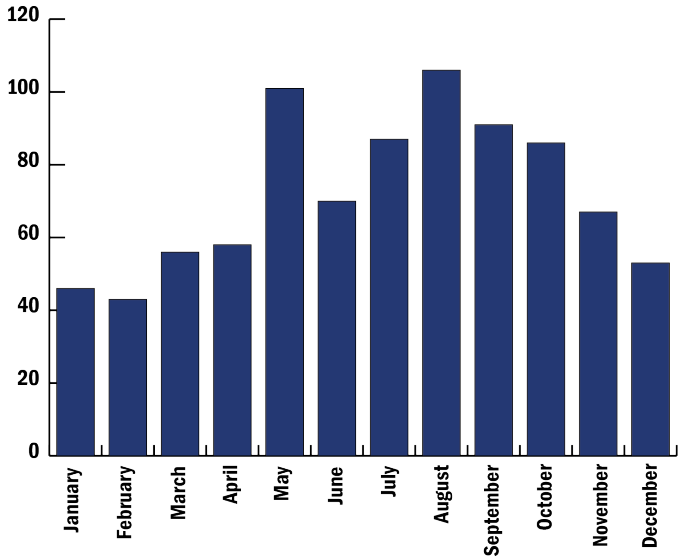
Non-Motorized Crashes

Over 864 non-motorized related collisions were reported in the MACOG planning region from 2012 to 2016. Of these 864 collisions, roughly 29 percent occurred in the City of South Bend, followed by the City of Elkhart with 23 percent. Approximately 769 incidents resulted in injuries with over 50 percent of those injuries were pedestrians. Additional, 35 occurrences resulted in a fatality with 66 percent being pedestrians. The nature of these crashes are further analyzed below to identify the correlations to help develop recommendations for bicycle and pedestrian infrastructure improvements and programs to make biking and walking safer, and easier mode of choice for transportation and recreation.

Crashes by Month, Day of Week, & Time

Figure E.1 through **E.3** show reported bicycle crashes by month, day of week, and time of day, respectively. As shown in **Figure E.1**, the greatest number of crashes occurs between the summer and fall months; peaking in May and August. This could correlate with May designated as National Bike Month and people may be more incline to bike as a means of transportation; weather may consistently be fair following what seems to be a daunting winter season; people going on summer vacations; or, increased civic activities.

Figure E.1 - Crashes by Month



As shown in **Figure E.2**, crashes occurred more frequently during the weekdays (Monday through Friday) than the weekends (Saturday and Sunday). This may attribute to people in the MACOG planning region choosing to commute by bike for their work and non-work trips rather than by car. **Figure E.3** shows crash occurrences by the time of day. The reported collisions occurred most frequently during mid-day hours between 9

Figure E.2 - Crashes by Day of Week

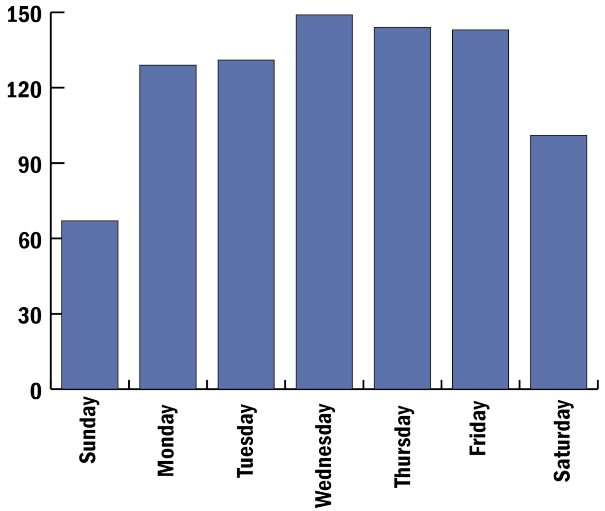
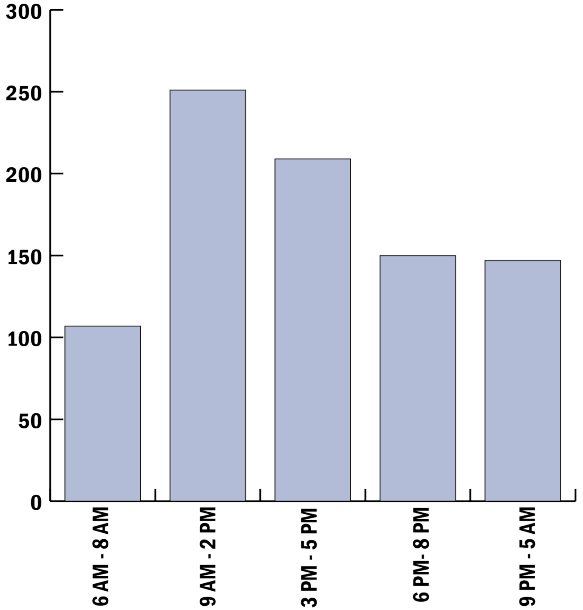


Figure E.3 - Crashes by Time of Day



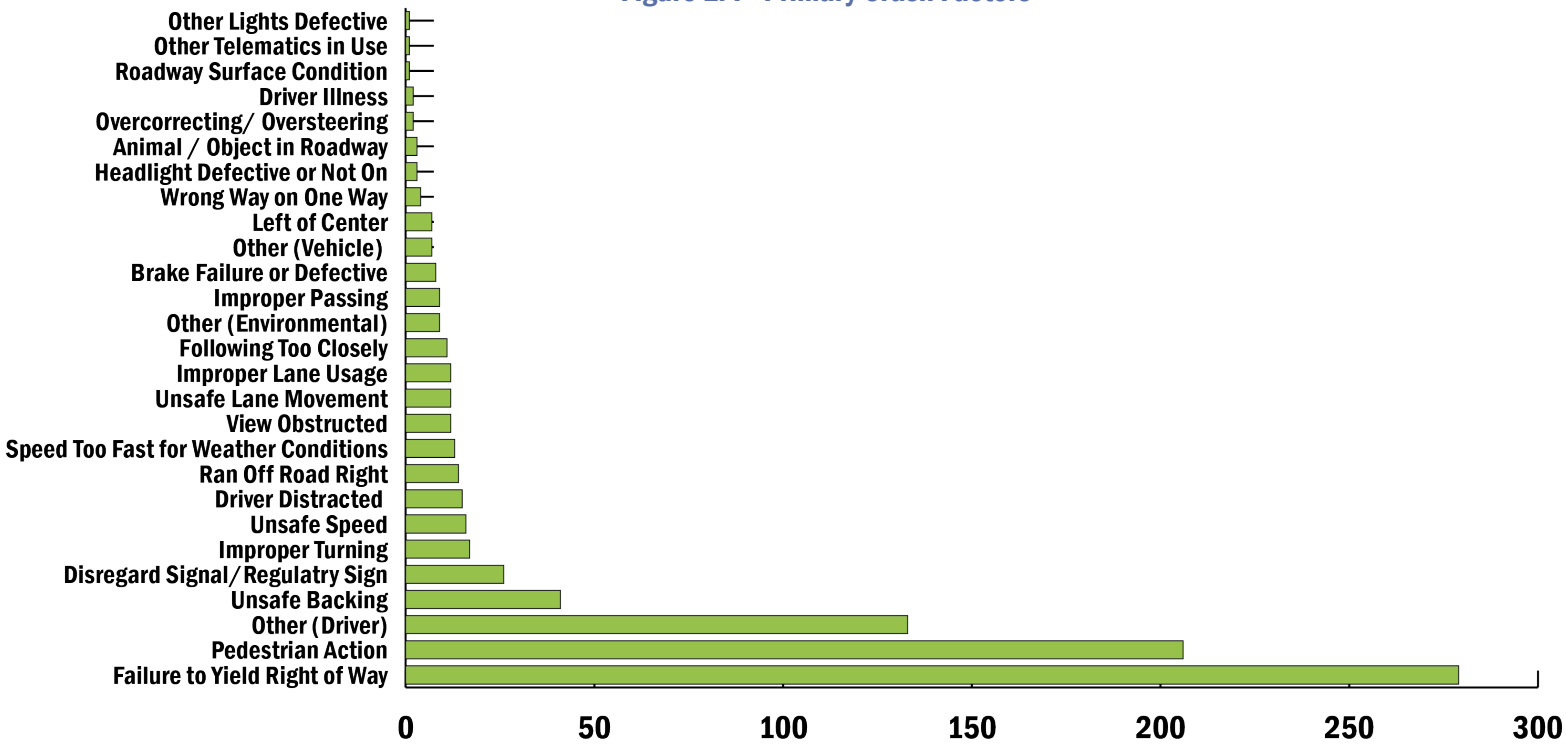
AM and 2 PM, which made up nearly 30 percent of total crash occurrences. Crash occurrences between the afternoon hours of 3 PM and 5 PM accounted for 25 percent of the total crashes. A great amount of the crash occurrences during the mid-day times occurred around the time people are leaving for lunch between 11 AM and 2 PM. Additionally, the spike at 3 PM may be associated with school dismissals.

Crash Characteristics

Knowing the crash characteristics can be helpful in assisting local communities to be proactive in developing countermeasures and solutions ahead of time for reducing the risk of collisions between bicyclists and motor vehicles. By analyzing the primary factors and manner of crashes, local communities and MACOG can identify common trends from the data and develop safety programs or recommend infrastructure improvements to counteract bicyclists' fear of riding on the street and driver behaviors.

There were 27 different primary factors reported in the details of the 864 non-motorized crashes. Of the 27 primary factors, failure to yield the right-of-way was the most frequently cited cause of crashes, accounting for 32 percent. Other frequently cited primary causes included pedestrian action (non-motorized user was the primary cause for accident) with 24 percent, other (driver) with 15 percent, and unsafe backing (motorist backing out of parking space) with 5 percent, see **Figure E.4**.

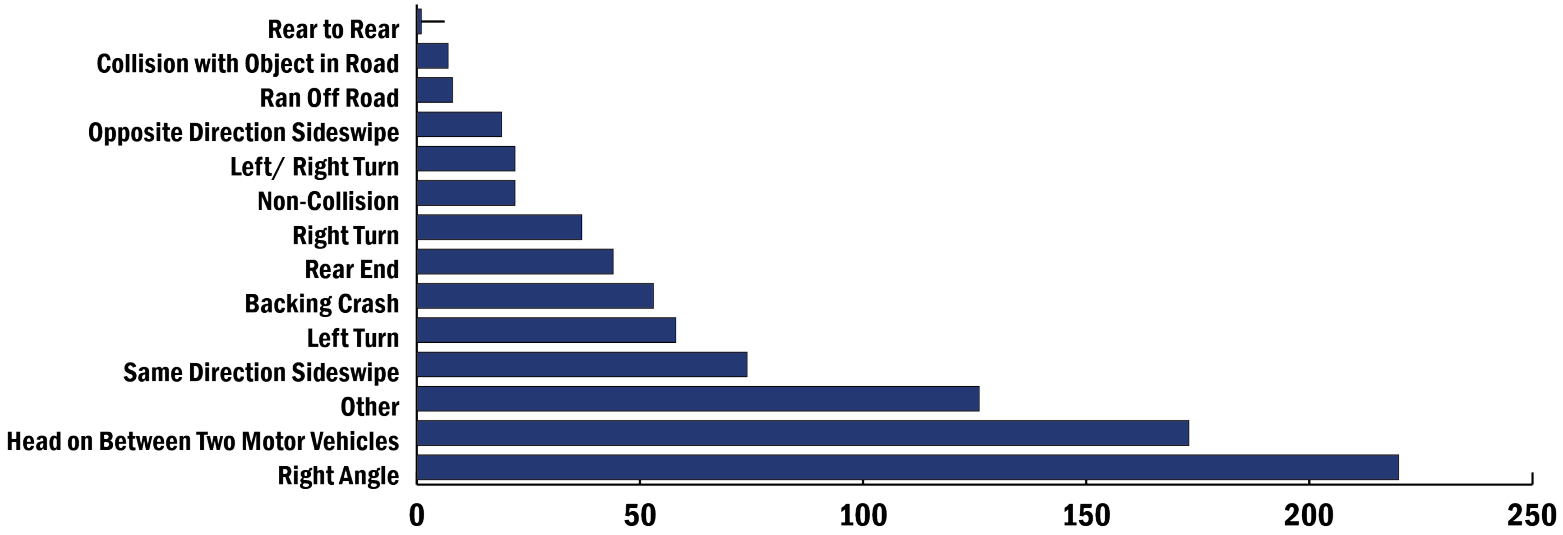
Figure E.4 - Primary Crash Factors



While most crashes are attributed to motorists being at fault by not being aware of non-motorized users, other crash factors are associated with a bicyclist's behavior, such as operating a bike with faulty brakes, minimal lights, or riding on the wrong side of the road. While MACOG does offer safety materials on rules of the road for bicyclists, more targeted educational classes and safety campaigns need to be installed to help empower the local communities to effectively spread the word.

Additional crash type data includes the manner in which the non-motorized user(s) and vehicle(s) collided. As shown in **Figure E.5**, right angle crashes was the main manner of collision between non-motorized users and motorists that made up for 25 percent of crashes. Over 75 percent of these right angle collisions occurred at an intersection. Other frequent manners included other (random manners) made up 20 percent, head on collisions constituted for 15 percent, and same directional sideswipes had 9 percent.

Figure E.5 - Manner of Collision



Top Crash Locations

In the absence of count data, crash location data can help decision makers visualize what roadways non-motorized users are likely traveling on and can ultimately help guide their efforts to improve those streets to have greater access to the uses these users are attracted to and improve safety conditions on the roadways non-motorized are likely using based on the frequency of crash location data.

Due to MACOG providing planning services to a large geographic region that includes multiple local public agencies, the crash location data was generated as a series of heat maps for each of the four counties, as well as the five urbanized areas, as shown in **Figures E.6** through **E.11** on the following pages. In order to accurately display each variable input, the demand model was tailored to a search radius applicable to county and urban scale levels; 3,960 feet (3/4 mile) and 2,640 feet (1/2 mile) for each respective geographic scale. Smaller urban communities, like the City of Nappanee, had a search radius of 1,320 feet (1/4 mile).

Figure E.6 - Regional Crash Density

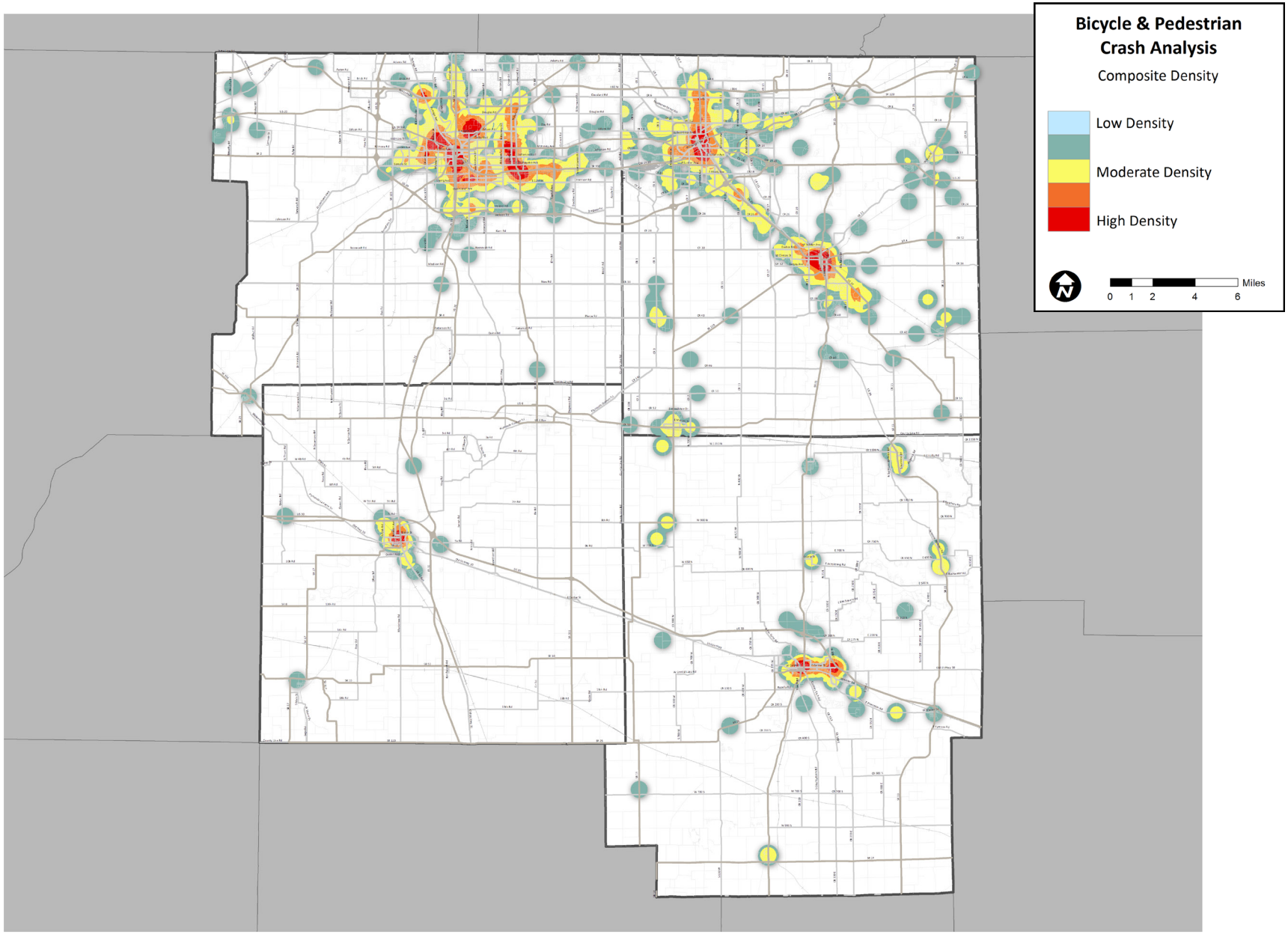


Figure E.7 - Crash Density in Elkhart and Goshen of Elkhart County

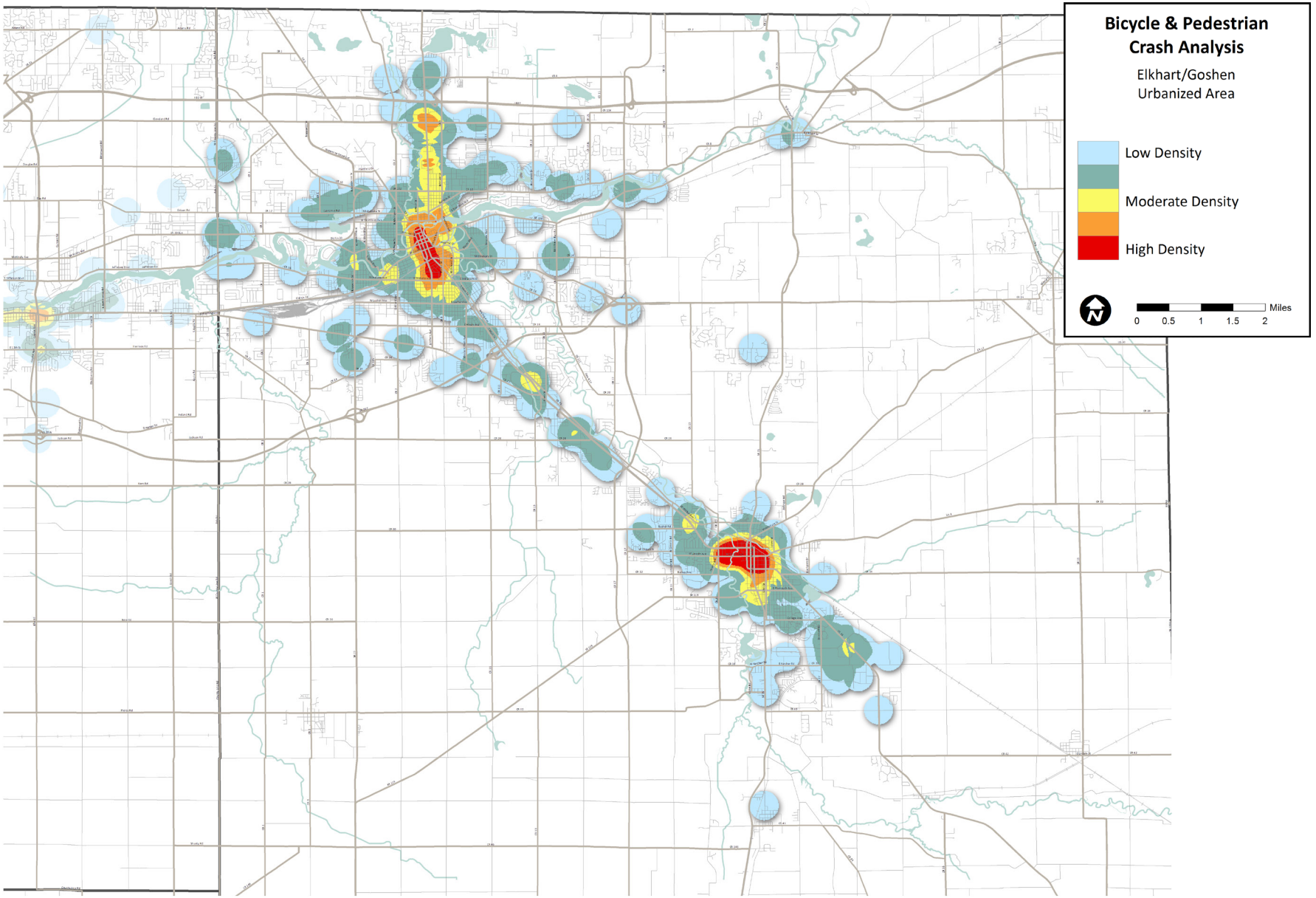


Figure E.8 - Crash Density in Nappanee of Elkhart County

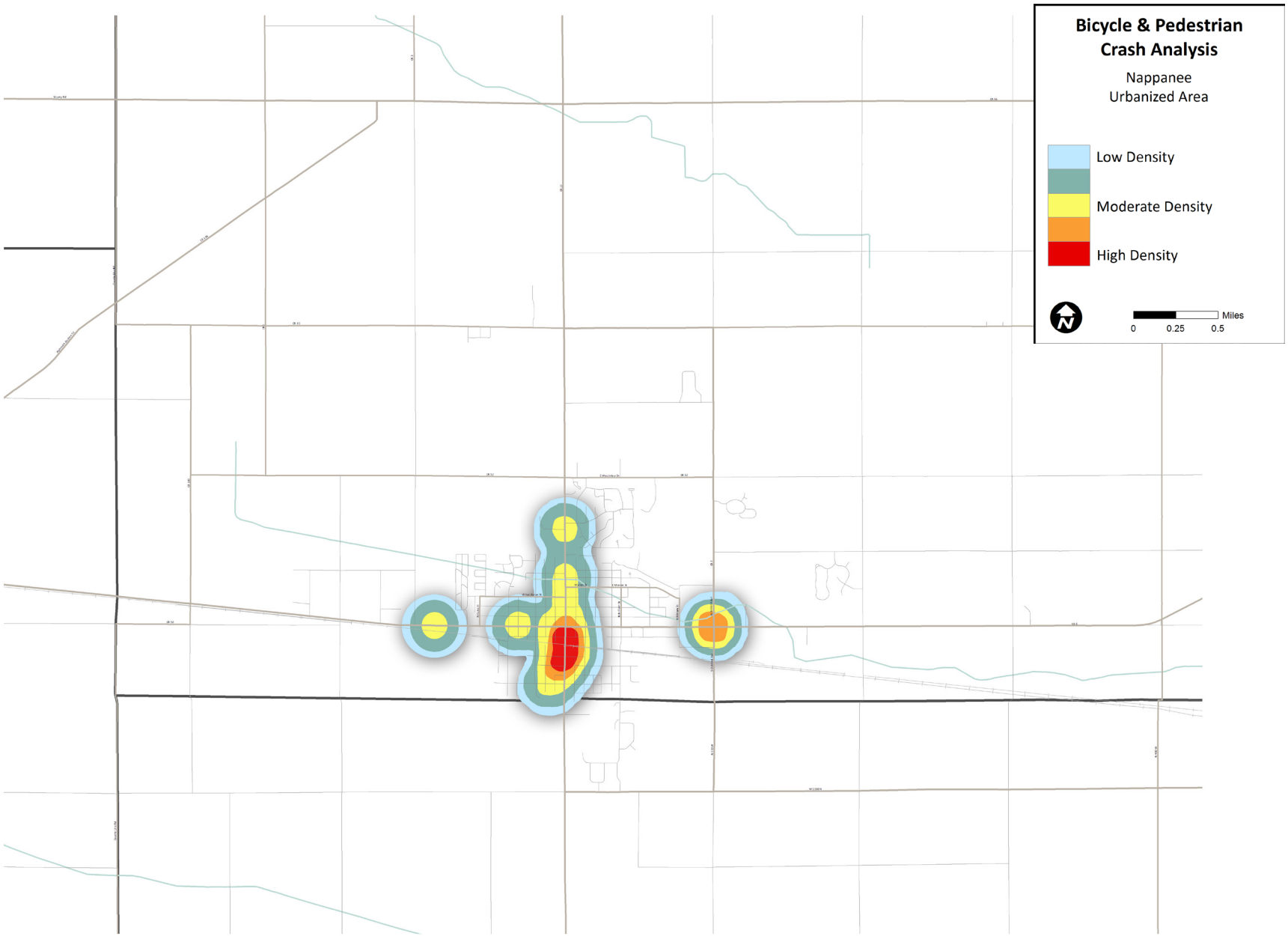


Figure E.9 - Crash Density in Warsaw of Kosciusko County

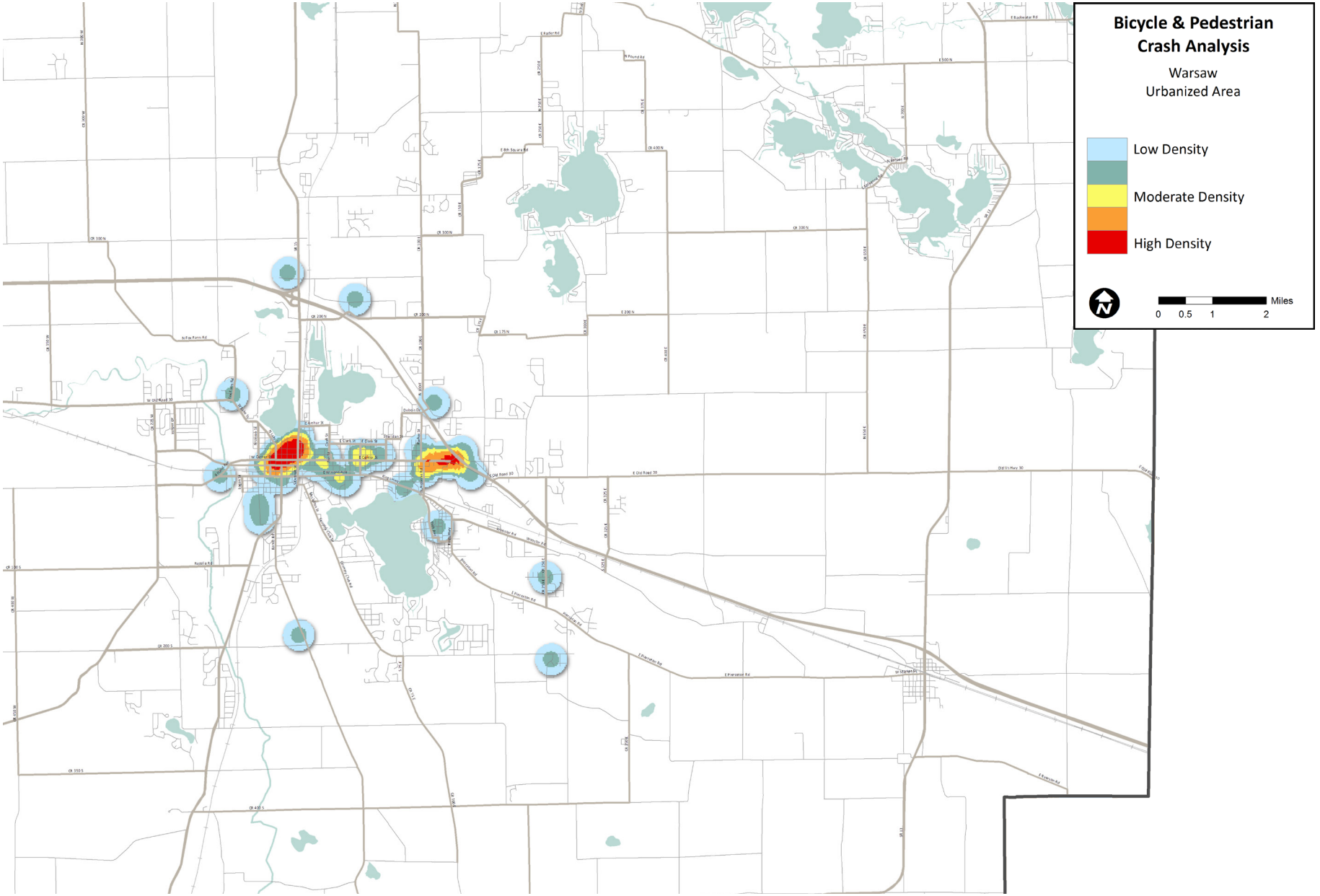


Figure E.10 - Crash Density in Plymouth of Marshall County

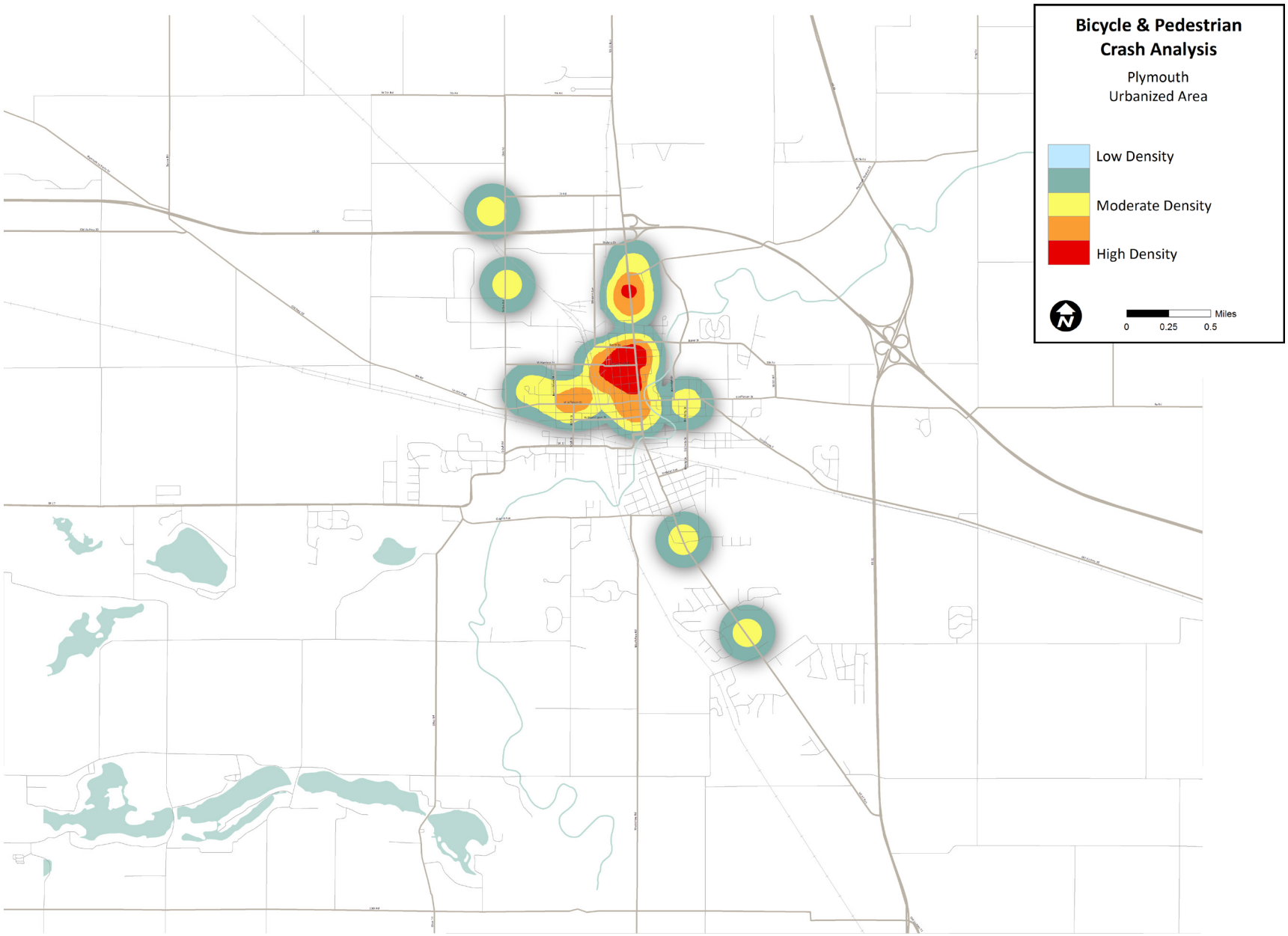
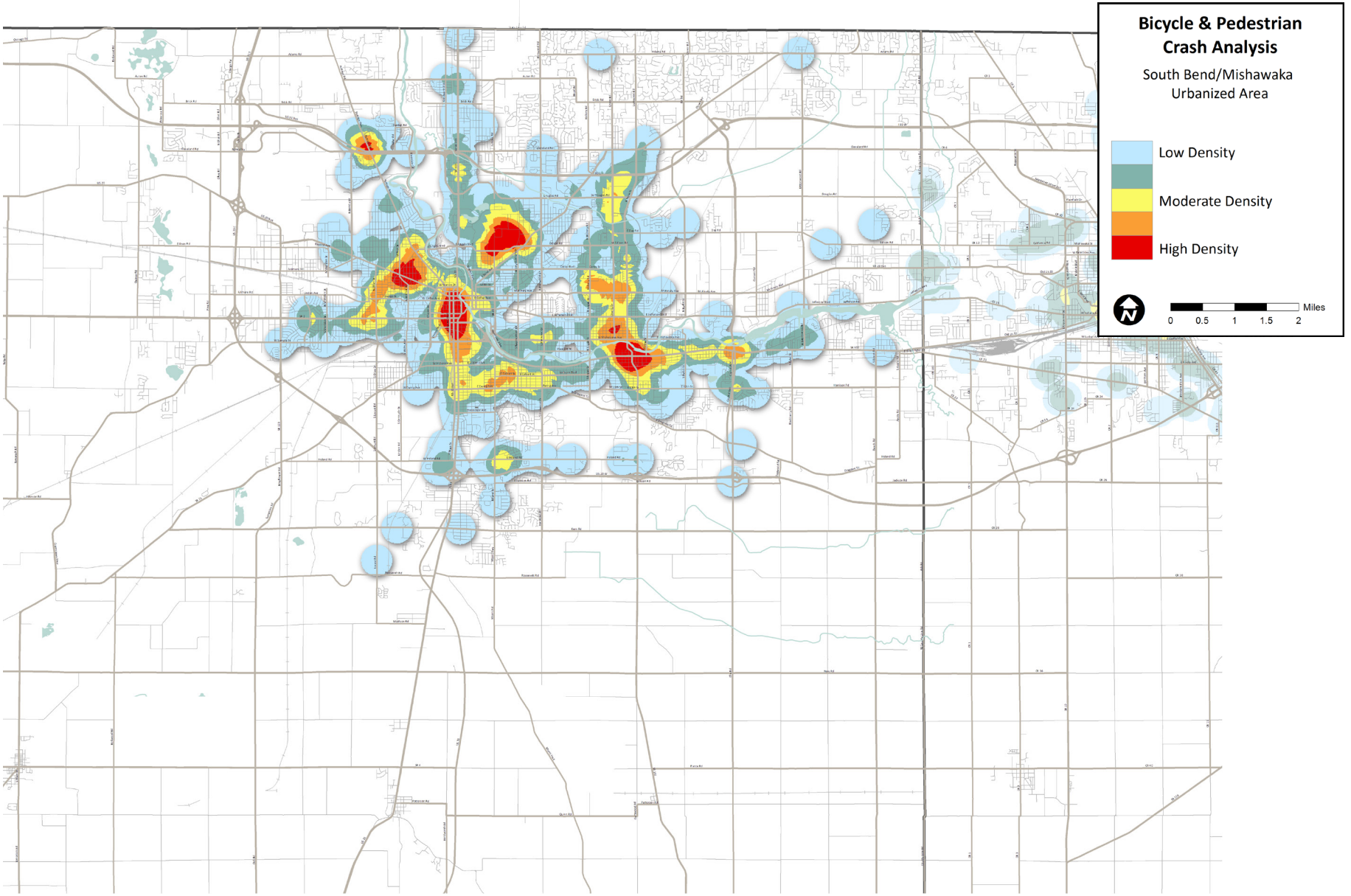


Figure E.11 - Crash Density in South Bend and Mishawaka of St. Joseph County



In addition to mapping where the reported crashes occurred, which are mapped at or near intersections as these are the more frequent locations for crashes to occur, MACOG wanted to further analyze the top crash locations at or near intersections in relation to where non-motorized users are going or areas in the planning region that are high demand. The areas of attraction in high demand were determined by using the hot spots from the Non-Motorized Facility Demand Analysis. This level of analysis will help justify that increased access and safety improvements should be focused on the streets that connects to uses in these hot spot areas as these are the areas where non-motorized users are attracted to and roadways they are commonly using. **Figure E.12** shows the top ten crash locations from 2012 to present by the non-motorized facility areas of high demand. **Table E.1** shows the total crashes of those top ten crash locations in the areas of high demand**.** Downtown Goshen had the highest frequency of reported crashes over the five year study period with 36 occurrences; making up 13.5 percent of the total crashes occurring in an area of high demand for non-motorized users. Downtown South Bend was the second highest frequent area with 27 reported crashes, and Elkhart was the third highest frequent area with 26 reported crashes. Each area made up nearly 10 percent of the total crashes in an area of high demand.

MACOG also recorded the frequency of crashes on roadway corridors of which had five or more crashes within the top ten non-motorized facility areas of high demand, as represented in **Table E.2**. The number of crashes for each corridor listed includes crashes at or near intersections on the roadway on which the crash occurred. The Cassopolis St/SR 19 corridor in Elkhart had the highest frequency of crashes with 15 total crashes. US 33 through downtown Goshen rated the second highest with 12 total crashes. Main Street in downtown South Bend was the third highest frequent roadway corridor with 11 total crashes.

Table E.1 - Top Ten Crash Locations by Non-Motorized Facility Demand Areas

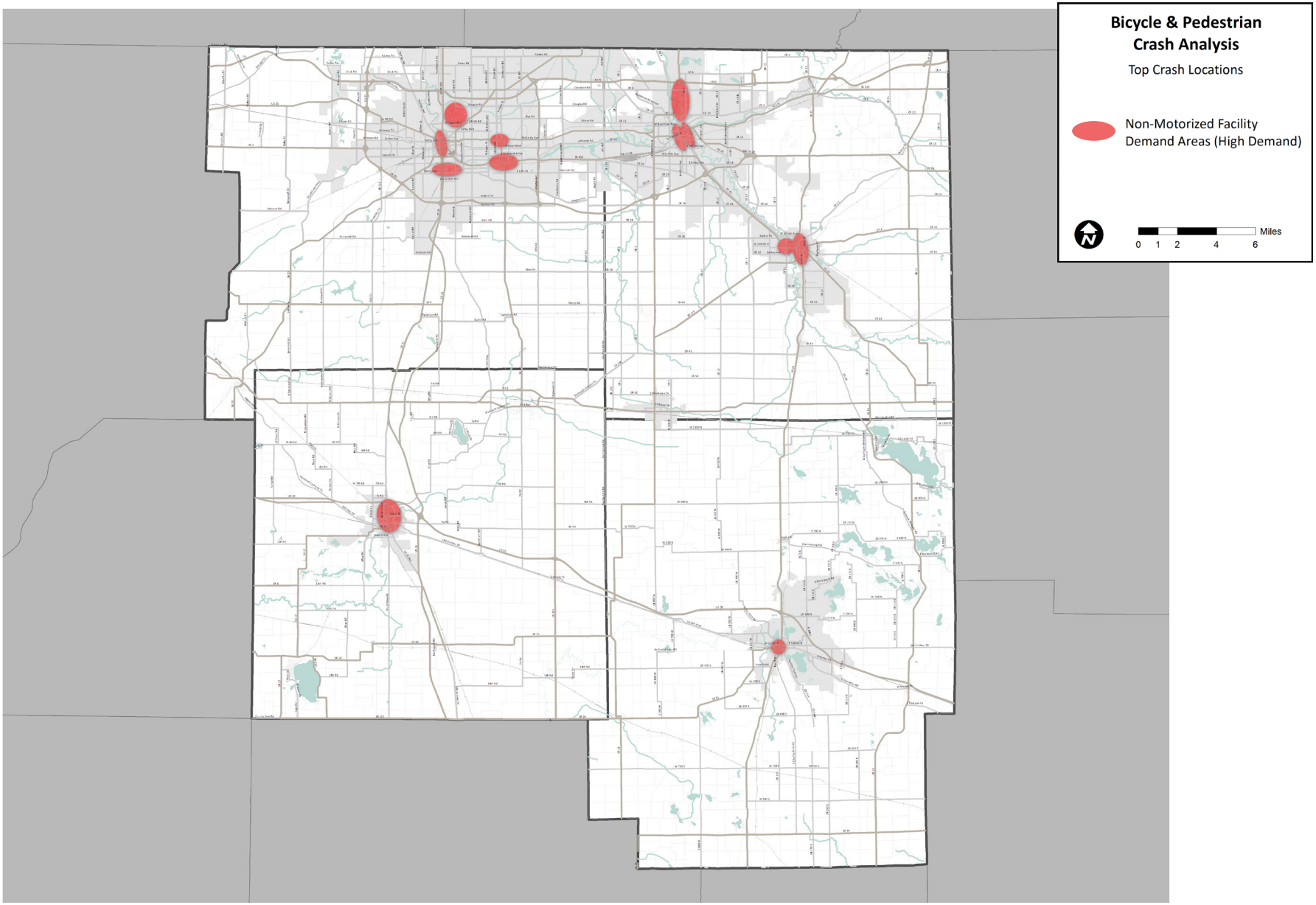
City	Non-Motorized Facility Demand Area	Total Crashes
Goshen	Downtown	36
South Bend	Downtown	27
Elkhart	Downtown	20
Mishawaka	Downtown	20
South Bend	Notre Dame	18
Elkhart	Cassopolis St/SR 19 Area	18
Goshen	Indiana Ave & Lincoln Ave Area	14
Elkhart	Riverwalk Area	13
South Bend	Ewing Ave Area	12
Mishawaka	Town & Country	10
Plymouth	Downtown	10
Warsaw	Downtown	10

*Although the Western Ave/SR 2 area was not amongst the top ten crash locations; overall, it was the third highest rated corridor in South Bend with 6 total crashes, see **Table E.2**.

Table E.1 - High Frequency Crash Roadway Corridors in the Top Ten Non-Motorized Facility Demand Areas

City	Non-Motorized Facility Demand Area	Top Corridor	From Street	To Street	Total Crashes
Elkhart	Cassopolis St/SR 19 Area	Cassopolis St	Windsor Ave	Bristol St	15
Elkhart	Downtown	Main St	Beardsley Ave	Dr. Martin Luther King Jr Dr	9
Elkhart	Riverwalk Area	Johnson St	Beardsley Ave	Waterfall Dr	7
Elkhart	Downtown	2nd St	Sycamore St	Harrison St	6
Elkhart	Downtown	Benham Ave	2nd St	Indiana Ave	5
Elkhart	Downtown	Beardsley Ave	Edwardsburg Ave	Johnson St	5
Goshen	Downtown	US 33	3rd St	Monroe St	12
Goshen	Indiana Ave & Lincoln Ave Area	Lincoln Ave	Riverside Blvd	Chicago Ave	9
Goshen	Downtown	SR 4/Lincoln Ave	3rd St	9th St	8
Goshen	Downtown	3rd St	US 33	Douglas St	8
Mishawaka	Downtown	Lincoln Way East/SR 933	Hill St	Merrifield Ave	8
Mishawaka	Town & Country	McKinley Ave	Hickory Rd	Main St	6
Mishawaka	Downtown	Main St	Grove St	Lincoln Way East/SR 933	5
Mishawaka	Town & Country	Main St	Leyte Ave	Omer Ave	5
South Bend	Downtown	Main St	Marion St	Monroe St	11
South Bend	Downtown	Michigan St/St Joseph St	LaSalle Ave	SR 23/Sample St	7
South Bend	Western Ave*	Western Ave/SR 2	Lake St	Olive St	6
South Bend	Notre Dame	Twyckenham Dr	Douglas Rd	Edison Rd	5
South Bend	Ewing Ave	Michigan St	Indiana Ave	Ewing Ave	5

Figure C.12 - Top Crash Locations Map



APPENDIX F : SURVEY RESULTS

Introduction

In order to gain more understanding of residents' attitudes and habits toward active transportation, the Michiana Area Council of Governments (MACOG) developed an online survey and interactive map for the region. The survey was conducted between March 3, 2016 through May 7, 2016 and available on our website as well as in paper form. MACOG encouraged residents in our region to take the survey through a variety of marketing and promotion, such as display boards, flyers, and postcards. The Active Transportation Steering Committee as well as other stakeholders also shared the survey through social media and newsletters.

The survey was divided into four section: bicycling, walking, values, and demographics. In total, MACOG received 350 responses from all four counties, all seven cities, and eight of the towns. MACOG also received several responses from communities in our surrounding region. The following section provides a summary of the survey results and information gathered from the interactive map.

Active Transportation Survey Summary

Bicycling

Most survey respondents were people who bike either casually or as experienced cyclists (157 and 127 people respectively) though a significant portion (57 people) described themselves as less confident cyclists. Only a small number of survey respondents (9 people) are not people who bike. (Figure F.1)

Figure F.1 - Level of Comfort Bicycling

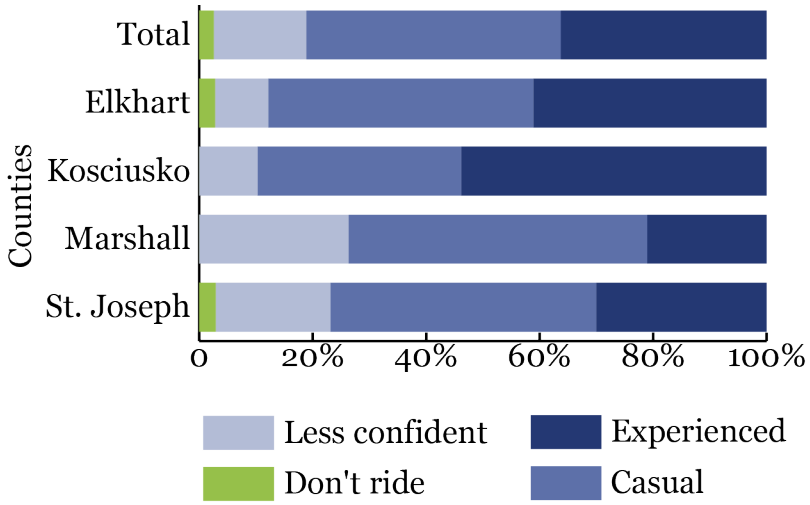


Figure F.2- Types of Places Traveled to by Bicycle

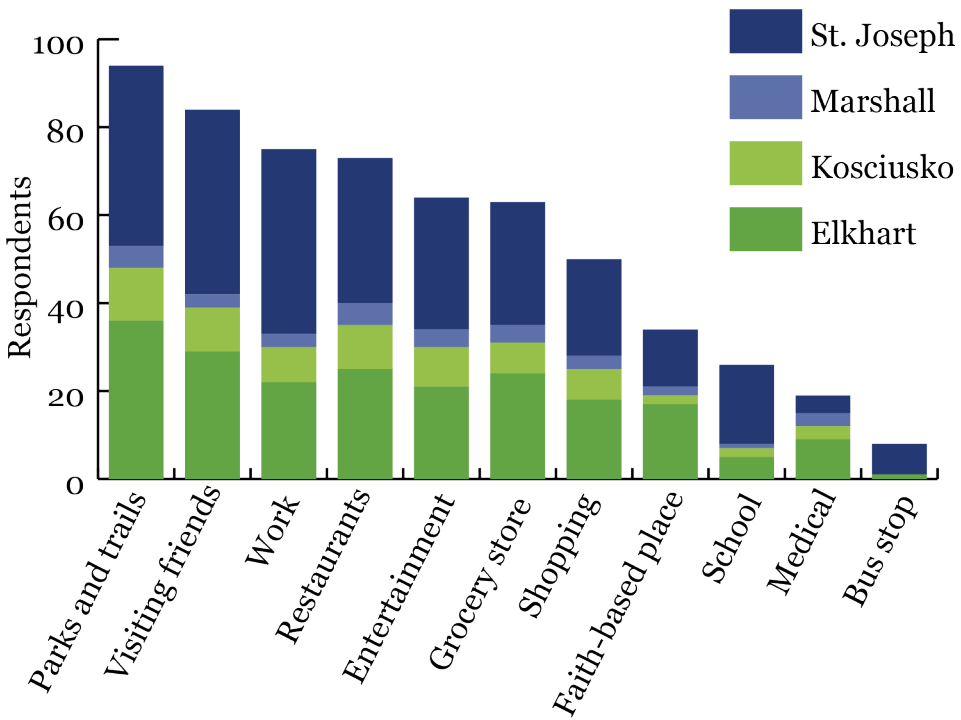
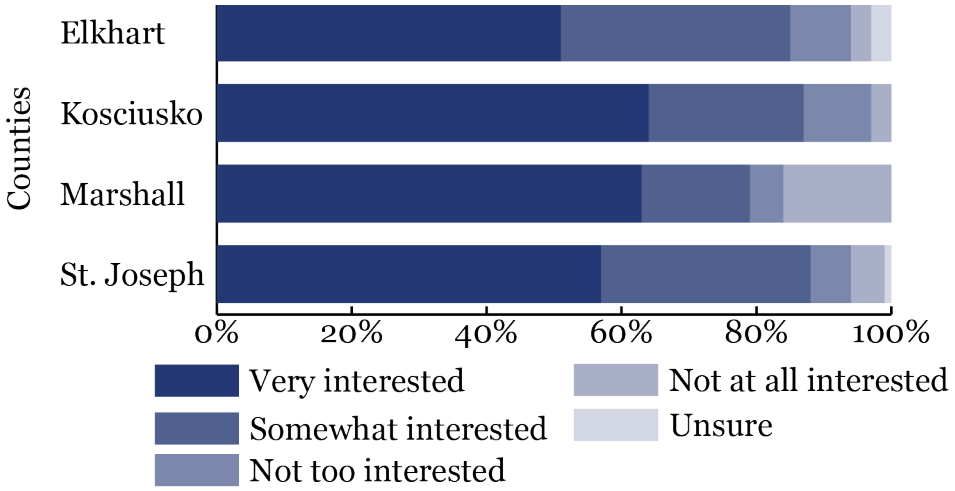


Figure F.3- Interest in Riding a Bike more often for Transportation



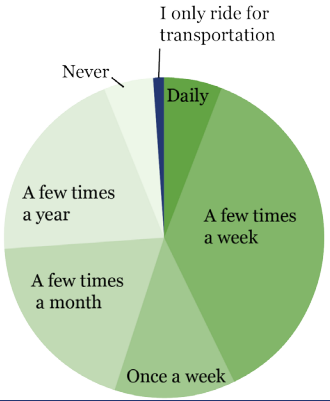
For Transportation

Despite an active group of respondents only 24% of respondents are people who bike for transportation purposes daily or a few times a week. Respondents indicated that they use their bike to travel to several places including parks, trails and nature (27% of respondents), visiting friends (25%), work (22%), and restaurants and eating out (21%) among other places (Figure F.2). Most respondents are interested in biking as a form of transportation with 56% very interested in biking as transportation and 29% somewhat interested in biking as transportation. Over half of respondents (54%) are willing to travel 5 miles or less on bike, with 25% willing to travel 15 - 10 miles and 21% willing to travel greater than ten miles (Figure F.3)

For Recreation

Almost a third of respondents (31%) only bike for recreation or exercise. There was a notable difference between genders with only 16% of male respondents but nearly half of female respondents only biking for recreation or exercise. Many respondents indicated that they ride for recreational purposes often with 37% of respondents riding for recreation a few times a week and an additionally 6% riding for recreation daily. A significant percentage (19%) of respondents bike a few times a month (Figure F.4).

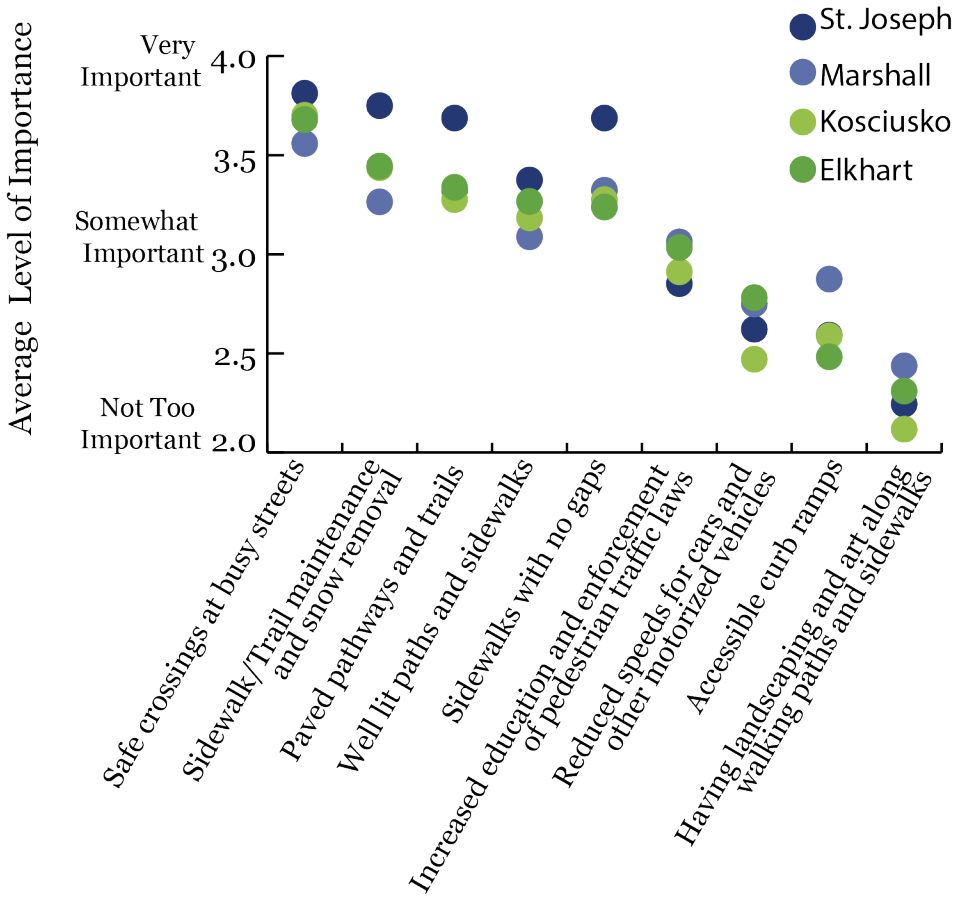
Figure F.4- Frequency of Riding a Bike for Recreation



Walking

Respondents indicated that, for walking, safe crossings at busy streets were most important to them, followed by sidewalk and trail maintenance and snow removal, paved pathway and trails, and well lit paths and sidewalks

Figure F.5- Importance of Factors related to Walking

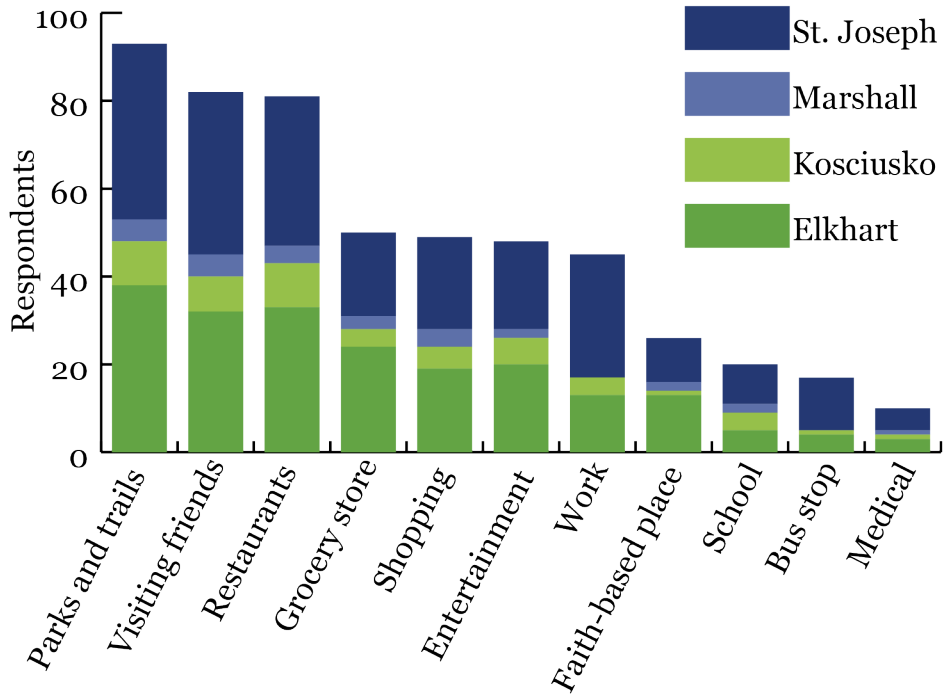


For Transportation

Few respondents walk every day with only 8% reporting daily walking without using their car. However, significant numbers of respondents walk for transportation a few times or at least once a week (30%). A quarter of respondents are only willing to walk less than half a mile, however over half of respondents (54%) are willing to walk ½ mile to 2 miles and 13% are willing to walk further.

Respondents indicated that they walk to several locations including parks, trails, and nature (27%), visiting friends (24%), and restaurants(24%) among other places with only 13% indicating that they walk to work. 33% of respondents are very interested in walking more as a form of transportation and an additional 33% are somewhat interested in walking more for transportation.

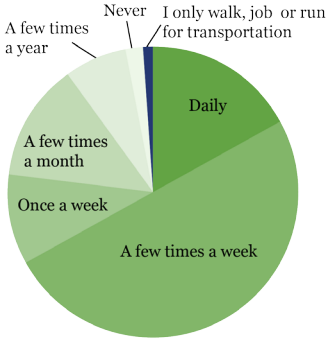
Figure F.6- Types of Places Traveled to by Walking



For Recreation

Many respondents (50%) walk for recreational purposes a few times a week and 17% of respondents walk for recreation daily. Many are willing to walk, jog, or run longer distances for recreation rather than transportation with 31% of respondents willing to travel 1/2 mile to 2 miles and 47% of respondents willing to travel 2-6 miles.

Figure F.7 Frequency of Walking for Recreation



Barriers and Opportunities for Biking and Walking

Major barriers to biking are vehicle speeds (indicated by 74% of respondents), weather (67%), and too few paths (54%). Respondents indicated that well connected routes were most important to them followed by paved and separated bike pathways or trails, street maintenance, dedicated bike lanes or roads, and increased education and enforcement for traffic laws. Major barriers to walking include a lack of sidewalks (indicated by 65% of respondents), travel time length (50%), and travel distances (43%). Respondents indicated that safe crossings at busy streets were most important to them followed by sidewalk and trail maintenance and snow removal, well lit paths and sidewalks, and paved pathways and trails for walking. Respondents are most comfortable on shared use paths, natural trails, and separated bike lanes.

Figure F.8 Barriers to Biking for Transportation

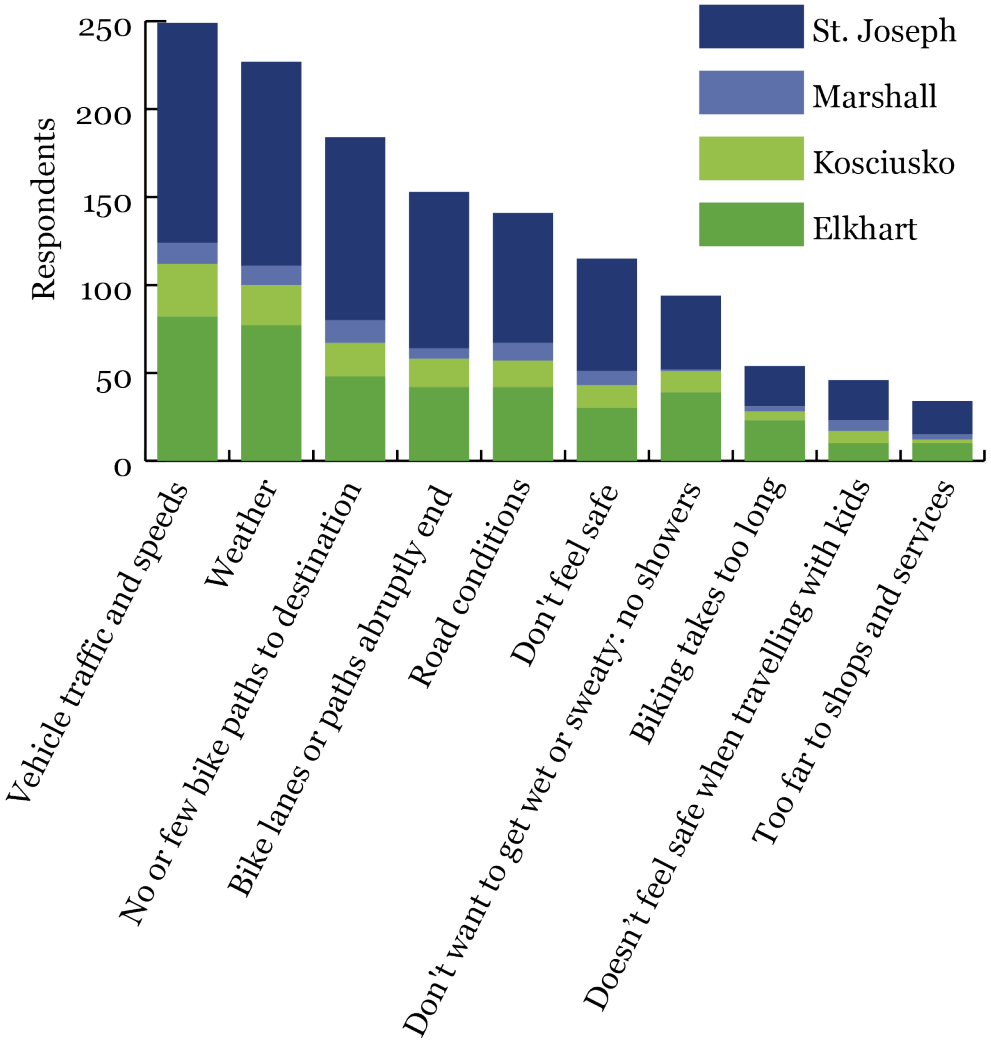


Figure F.9 Importance of Factors related to Biking

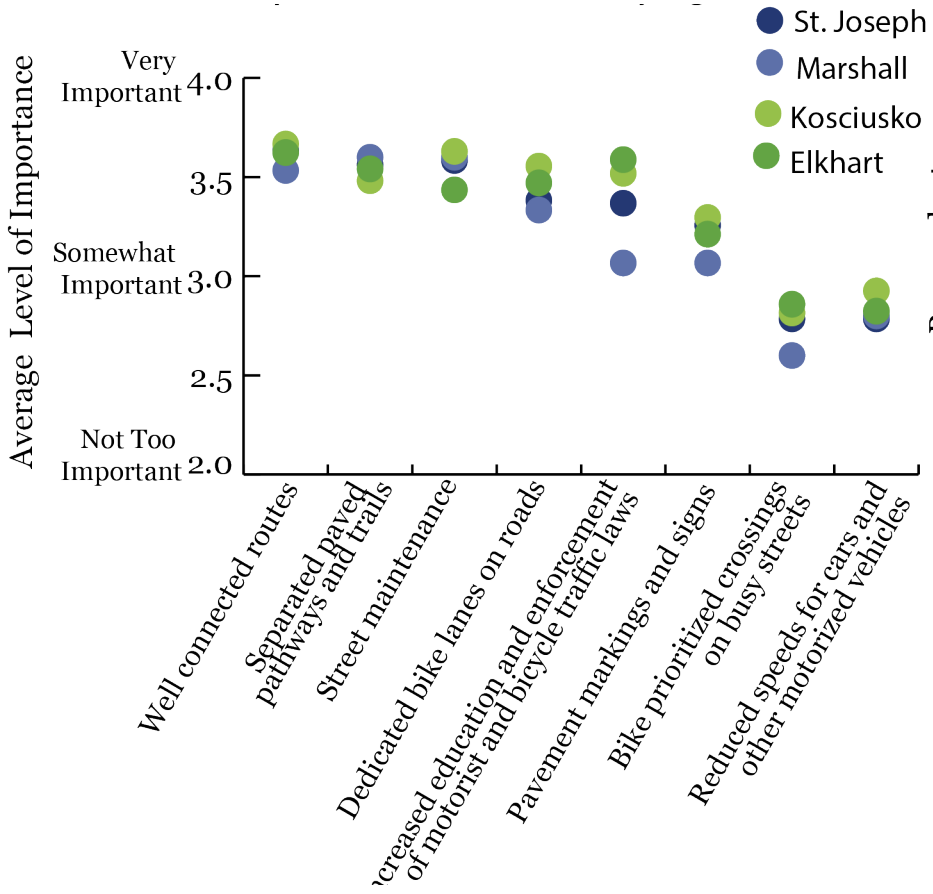
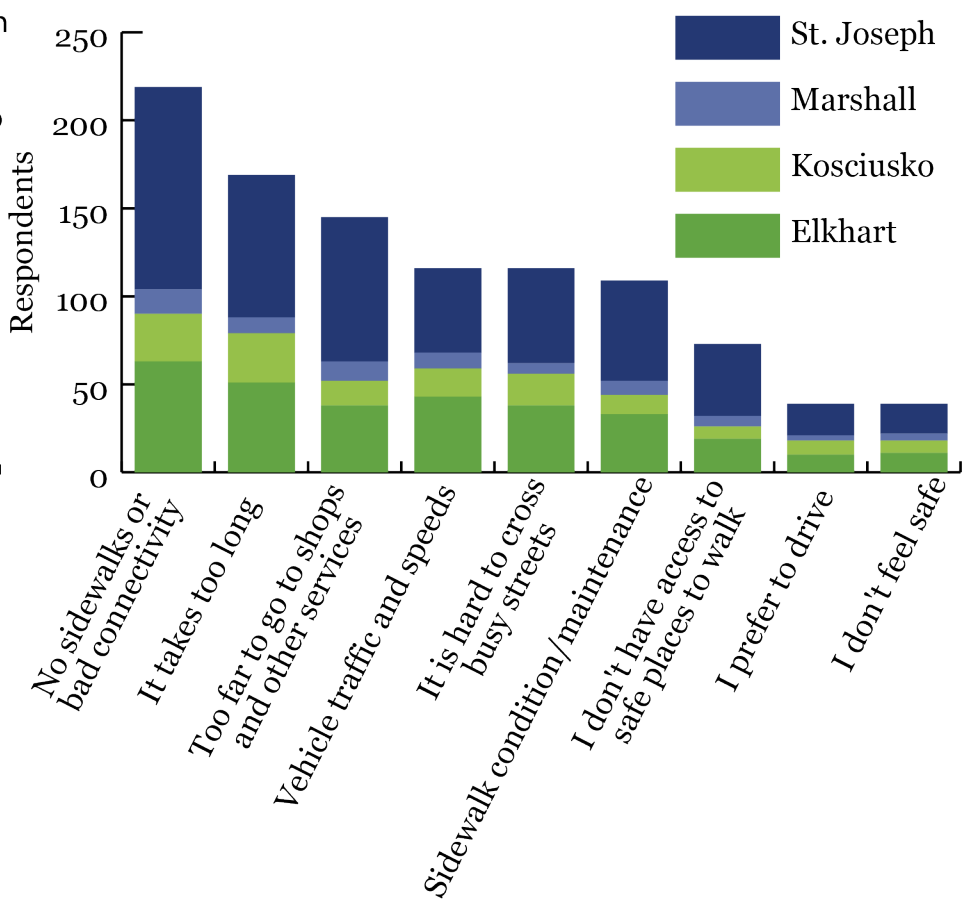


Figure F.10 Barriers to Walking for Transportation



Overall, the majority of respondents (86%) believe that it is very important to have access to safe and convenient bicycle and pedestrian routes in their community. Just over 3/4 of respondents consider bicycling and walking when looking for a place to live or work. 55% of respondents currently live 6 miles or closer to school or work, with 1/3 of respondents currently living 2 to 6 miles from school or work.

The top reasons why respondents walk or bike for transportation is because it is good for their health (84%), it is enjoyable (81%), and it is good for the environment (64%). The goal respondents thought most important was increasing health and physical activity, following by creating safe routes to school, enhancing access to natural environments, and improving facilities in downtowns, main streets, and transit stops. The average level of importance for all goals, however, were valued by the respondents, ranging from somewhat important to very important.

Figure F.11 Considering bicycling and walking when choosing a place to live or work

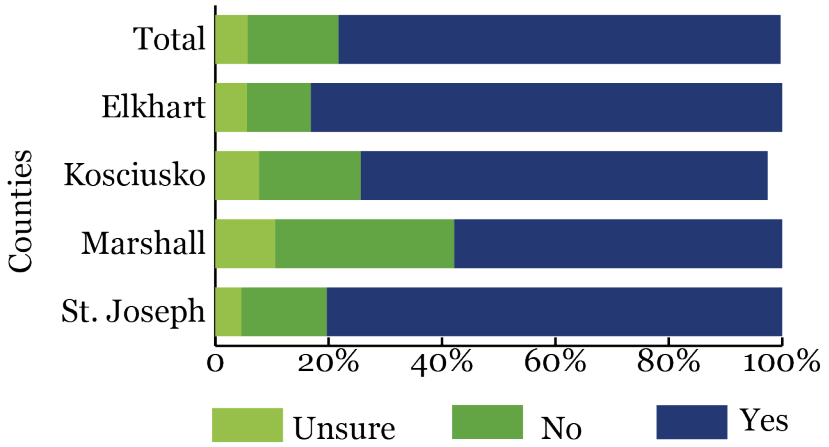


Figure F.12 Top reasons to walk or bike

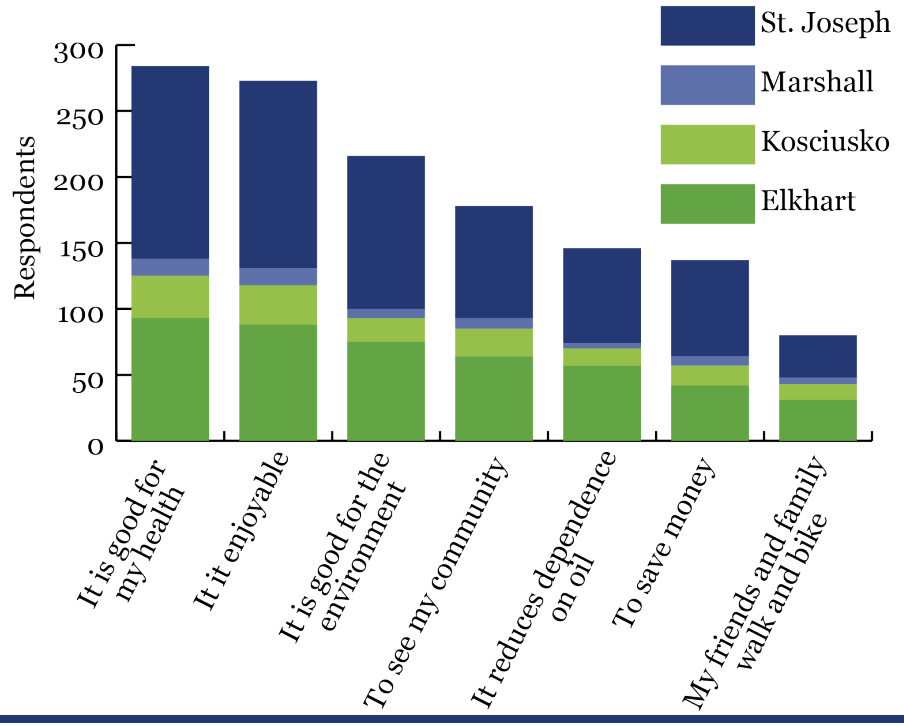
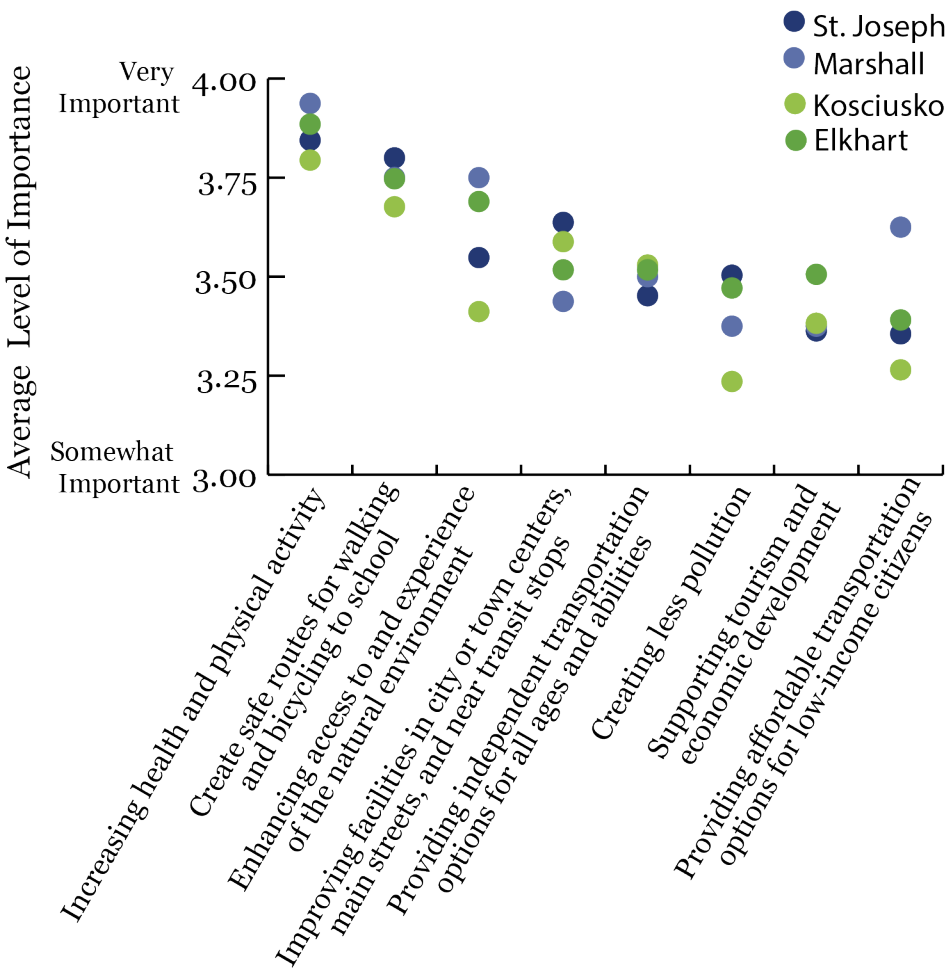
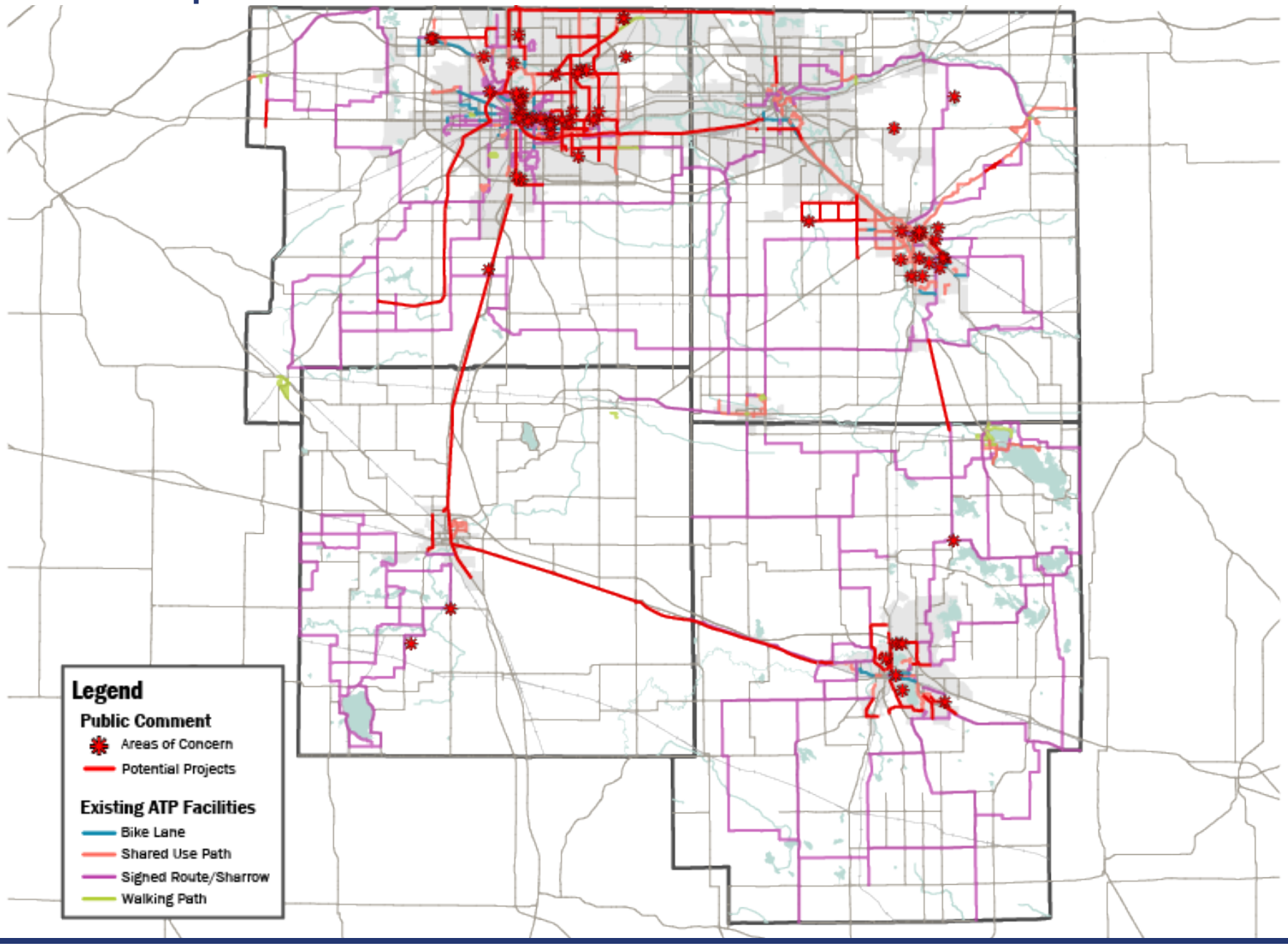


Figure F.13 Importance of various Goals



Interactive Map Results



Active Transportation Survey Results

Bicycling

Question #1: Which of the following best describes your level of comfort or confidence in bicycling?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
I don't ride a bicycle and have no plans to start	9	3%	3%	0%	0%	3%
Less confident: only feel safe on separated paths with few traffic crossings and local streets	57	16%	9%	10%	26%	20%
Casual: prefer separated paths, but will ride on some roads where space is available and traffic is manageable	157	45%	47%	36%	53%	47%
Experienced: confident and comfortable riding with traffic on the road in most traffic situations	127	36%	41%	54%	21%	30%

Transportation

Question #2: How often do you ride a bicycle for transportation purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Daily	22	6%	7%	0%	5%	7%
A few times a week	64	18%	21%	26%	21%	16%
Once a week	22	6%	9%	5%	5%	5%
A few times a month	49	14%	10%	18%	11%	16%
A few times a year	52	15%	15%	15%	11%	16%
Never	33	9%	7%	10%	11%	9%
I only ride my bike for exercise and/or recreation	107	31%	31%	26%	37%	31%
Unsure	1	0%	0%	0%	0%	1%

Question #3: How far are you willing to ride a bike for transportation purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Less than 2 miles (12 mins)	52	15%	15%	10%	11%	15%
2 - 5 miles (30 mins)	136	39%	43%	33%	32%	40%
5 - 10 miles (60 mins)	89	25%	19%	44%	37%	25%
10 - 15 miles (90 mins)	34	10%	10%	5%	11%	9%
More than 15 miles (90+ mins)	16	5%	6%	5%	0%	5%
Unsure	19	5%	6%	3%	11%	5%

Question #4: What type of places do you travel to by riding a bike? Check all that apply.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Grocery store	65	19%	22%	18%	21%	16%
Work	76	22%	21%	21%	16%	24%
Visiting friends	86	25%	27%	26%	16%	24%
Shopping	52	15%	17%	18%	16%	13%
Parks, trails and nature	96	27%	34%	31%	26%	24%
Entertainment	66	19%	20%	23%	21%	17%
Restaurant, eating out	75	21%	23%	26%	26%	19%
Bus stop	8	2%	1%	0%	0%	4%
Medical	21	6%	8%	8%	16%	2%
School	26	7%	5%	5%	5%	10%
Faith-based place	34	10%	16%	5%	11%	8%

Question #5: How interested are you in biking more often as a form of transportation?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Very interested	195	56%	51%	64%	63%	57%
Somewhat interested	103	29%	34%	23%	16%	31%
Not too interested	31	9%	9%	10%	5%	6%
Not at all interested	17	5%	3%	3%	16%	5%
Unsure	4	1%	3%	0%	0%	1%

Question #6: Thinking about your community, what are some barriers to riding a bicycle for transportation? Check all that you consider to be a barrier to you personally.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Vehicle traffic and speeds	258	74%	77%	77%	63%	72%
Bike lanes or paths abruptly end	158	45%	39%	41%	32%	51%
Weather (rain or snow)	234	67%	72%	59%	58%	67%
I don't want to get wet or sweaty: no showers	95	27%	36%	31%	5%	24%
I don't feel safe	119	34%	28%	33%	42%	37%
Hills	13	4%	2%	3%	11%	5%
It takes too long	59	17%	21%	13%	16%	13%
I travel with my kids, and it doesn't feel safe	49	14%	9%	18%	32%	13%
There are no or few bicycle paths to where I want to go	189	54%	45%	49%	68%	60%
It's too far to go to shops and other services	37	11%	9%	5%	16%	11%
Road conditions	147	42%	39%	38%	53%	43%
I don't have a bicycle	16	5%	5%	3%	0%	5%
I prefer to drive	31	9%	7%	15%	16%	7%
*Other	21	6%	4%	3%	5%	7%

* Other Responses (I don’t know where I can ride a bicycle, I don’t know anyone who rides a bicycle, I don’t like to ride a bicycle, I don’t know how to ride a bicycle, or Unsure.

Recreation

Question #7: How often do you ride a bicycle for recreational purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Daily	21	6%	6%	3%	16%	5%
A few times a week	129	37%	41%	49%	21%	35%
Once a week	42	12%	12%	10%	16%	13%
A few times a month	67	19%	19%	13%	21%	20%
A few times a year	69	20%	17%	21%	26%	20%
Never	18	5%	4%	5%	0%	6%
I only ride my bike for transportation purposes	3	1%	1%	0%	0%	1%
Unsure	1	0%	1%	0%	0%	0%

Question #8: How far are you willing to ride a bike for recreational purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Less than 2 miles (12 mins)	9	3%	2%	0%	5%	3%
2 - 5 miles (30 mins)	33	9%	9%	8%	0%	10%
5 - 10 miles (60 mins)	69	20%	19%	13%	37%	21%
10 - 15 miles (90 mins)	56	16%	12%	21%	16%	18%
More than 15 miles	169	48%	54%	54%	42%	44%
Unsure	6	2%	2%	3%	0%	2%

Question #9: When riding your bike for recreational purposes, what type of route would your prefer most? Check all that apply.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Shared Use Path	137	39%	48%	44%	26%	35%
Bike Lane	144	41%	44%	44%	53%	39%
Signed Route/Share the Road Sign	69	20%	24%	26%	32%	14%
Separated Bike Lane	118	34%	36%	44%	42%	31%
Cycle Track	23	7%	6%	13%	0%	6%

***Question #10: How important are each of the following?**

	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Bike prioritized crossings on busy streets (i.e. upfront before cars to have 1st priority)	2.8	2.7	2.7	2.6	2.8
Paved pathways and trails, separated from traffic	3.6	3.5	3.5	3.6	3.6
Dedicated bike lanes on roads	3.4	3.4	3.5	3.2	3.4
Reduced speeds for cars and other motorized vehicles	2.8	2.8	2.9	2.7	2.8
Street maintenance, like filling potholes or clearing debris/snow	3.5	3.4	3.5	3.4	3.6
Well connected routes	3.6	3.6	3.6	3.5	3.6
Pavement markings and signs	3.2	3.2	3.3	3.1	3.3
Increased education and enforcement of motorist and bicycle traffic laws	3.4	3.6	3.4	2.9	3.4

* Survey respondents were asked to rate the importance of each the above. To analyze the data more effectively the degree of importance was averaged as follows. (Very important = 4), (Somewhat Important = 3), (Not Too Important = 2), (Not at all Important = 1), (Unsure=0)

Walking

Transportation

Question #11: How often do you walk for transportation purposes that does not include using your car?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Daily	28	8%	4%	8%	16%	9%
A few times a week	77	22%	28%	18%	16%	20%
Once a week	28	8%	11%	8%	0%	7%
A few times a month	54	15%	11%	18%	11%	18%
A few times a year	56	16%	21%	21%	5%	14%
Never	39	11%	8%	13%	21%	11%
I only walk for exercise and/or recreation	65	19%	16%	13%	32%	20%
Unsure	3	1%	1%	3%	0%	1%

Question #12: How far would you be willing to walk for transportation purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Less than 1/2 mile (10 mins)	86	25%	25%	28%	32%	23%
1/2 - 2 miles (40 mins)	188	54%	59%	49%	47%	53%
2 - 3 miles (60 mins)	49	14%	8%	18%	16%	17%
3 - 6 miles (2 hrs)	13	4%	2%	5%	5%	4%
More than 6 miles (2+ hrs)	1	0%	0%	0%	0%	1%
Unsure	10	3%	3%	0%	0%	3%

Question #13: What type of places do you travel to by walking? Check all that apply.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Grocery store	53	15%	22%	10%	16%	11%
Work	46	13%	12%	10%	0%	16%
Visiting friends	83	24%	30%	21%	26%	21%
Shopping	52	15%	18%	13%	21%	12%
Parks, trails and nature	96	27%	36%	26%	26%	23%
Entertainment	49	14%	19%	15%	11%	12%
Restaurant, eating out	83	24%	31%	26%	21%	20%
Bus stop	17	5%	4%	3%	0%	7%
Medical	11	3%	3%	3%	5%	3%
School	20	6%	5%	10%	11%	5%
Faith-based place	26	7%	12%	3%	11%	6%

Question #14: How interested are you in walking more often as a form of transportation?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Very interested	114	33%	25%	33%	47%	37%
Somewhat interested	116	33%	36%	31%	16%	33%
Not too interested	86	25%	31%	26%	11%	21%
Not at all interested	28	8%	6%	5%	26%	8%
Unsure	6	2%	2%	5%	0%	1%

Question #15: Thinking about your community, what are some barriers to walking for transportation? Check all that you consider a barrier to you personally.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
It takes too long	175	50%	48%	72%	47%	47%
It is too far to go to shops and other services	151	43%	36%	36%	58%	47%
Sidewalks end/there are no sidewalks	228	65%	59%	69%	74%	66%
It is hard to cross busy streets	118	34%	36%	46%	32%	31%
Vehicle traffic and speeds	121	35%	40%	41%	47%	28%
Sidewalk condition/maintenance	114	33%	31%	28%	42%	33%
Hills	11	3%	1%	0%	11%	5%
I prefer to drive	43	12%	9%	21%	16%	10%
I don't have access to safe places to walk	75	21%	18%	18%	32%	24%
I don't feel safe	39	11%	10%	18%	21%	10%
I don't like to walk	8	2%	1%	3%	5%	3%
Unsure	3	1%	1%	0%	5%	1%

Recreation

Question #16: How often do you walk, jog or run for recreational purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Daily	59	17%	14%	21%	32%	16%
A few times a week	176	50%	55%	44%	42%	51%
Once a week	35	10%	8%	8%	11%	10%
A few times a month	46	13%	12%	21%	11%	12%
A few times a year	26	7%	7%	5%	5%	9%
Never	6	2%	3%	3%	0%	1%
I only walk, jog or run for transportation	2	1%	1%	0%	0%	1%
Unsure	0	0%	0%	0%	0%	0%

Question #17: How far would you be willing to walk, jog, or run for recreational purposes?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Less than 1/2 mile (10 mins)	12	3%	5%	5%	0%	3%
1/2 - 2 miles (40 mins)	107	31%	36%	26%	21%	29%
2 - 6 miles (2 hrs)	159	45%	47%	46%	53%	42%
6 - 12 miles (4 hrs)	33	9%	6%	3%	16%	13%
More than 12 miles	28	8%	4%	18%	11%	9%
Unsure	4	1%	1%	0%	0%	2%

Question #18: When you walk, jog or run for recreational purposes, what type of route would your prefer most? Check all that apply.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Shared Use Path	182	52%	55%	49%	37%	52%
Sidewalk	174	50%	51%	38%	42%	53%
Natural Trail	210	60%	67%	51%	79%	56%
Neighborhood Street	120	34%	40%	36%	37%	31%
Cycle Track	23	7%	6%	13%	0%	6%

***Question #19: How important are each of the following?**

	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Safe crossings at busy streets	3.7	3.7	3.7	3.7	3.7
Paved pathways and trails for walking	3.3	3.3	3.5	3.6	3.3
Sidewalks with no gaps	3.2	3.3	3.5	3.6	3.3
Reduced speeds for cars and other motorized vehicles	2.7	2.7	2.8	2.6	2.7
Well lit paths and sidewalks	3.3	3.1	3.3	3.3	3.4
Sidewalk/Trail maintenance and snow clearing	3.5	3.5	3.4	3.7	3.5
Accessible curb ramps	2.6	2.4	2.6	2.5	2.6
Having landscaping and art along walking paths and sidewalks	2.3	2.3	2.3	2.3	2.3
Increased education and enforcement of pedestrian traffic laws	3.0	3.1	3.0	2.7	2.9

* Survey respondents were asked to rate the importance of each the above. To analyze the data more effectively the degree of importance was averaged as follows. (Very important = 4), (Somewhat Important = 3), (Not Too Important = 2), (Not at all Important = 1), (Unsure=0)

Values

Question #20: How important is it to you to have access to safe and convenient bicycle and pedestrian routes in your community?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Very important	302	86%	90%	90%	89%	85%
Somewhat important	40	11%	8%	8%	11%	13%
Not too important	5	1%	1%	3%	0%	1%
Not at all important	3	1%	1%	0%	0%	1%
Unsure	0	0%	0%	0%	0%	0%

***Question #21: How comfortable are you with the following Active Transportation routes?**

	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Shared Use Path	3.5	3.6	3.5	2.8	3.4
Bike Lane	3.2	3.3	3.3	2.8	3.1
Signed Route/Share the Road Sign	2.7	2.8	3.1	2.6	2.6
Separated Bike Lane	3.3	3.4	3.5	3.5	3.2
Cycle Track	1.8	1.5	2.2	1.8	1.9
Sharrow	1.4	1.2	1.8	1.2	1.4
Natural Trail	3.4	3.6	3.4	3.4	3.3

* Survey respondents were asked to rate the importance of each the above. To analyze the data more effectively the degree of importance was averaged as follows. (Very important = 4), (Somewhat Important = 3), (Not Too Important = 2), (Not at all Important = 1), (Unsure=0)

Question #22: Do you consider bicycling and walking when looking for a place to live and/or work?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Yes	273	78%	83%	72%	58%	80%
No	56	16%	11%	18%	32%	15%
Unsure	20	6%	6%	8%	11%	5%

Question #23: How far do you live from where you work or go to school?

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Less than 1/2 mile	20	6%	3%	5%	0%	8%
1/2 - 2 miles	64	18%	21%	13%	11%	20%
2 - 6 miles	107	31%	27%	44%	21%	32%
6 - 12 miles	63	18%	16%	10%	11%	22%
More than 12 miles	54	15%	15%	18%	42%	10%
Not Applicable	36	10%	16%	10%	16%	6%

Question #24: Why do you walk and/or bicycle for transportation? Check all that apply.

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
It is good for my health	294	84%	87%	82%	68%	84%
It is good for the environment	224	64%	70%	46%	37%	67%
It it enjoyable	283	81%	82%	77%	68%	82%
To save money	142	41%	39%	38%	37%	42%
It reduces dependence on oil	150	43%	53%	33%	21%	42%
To see my community	183	52%	60%	54%	42%	49%
I do not like to drive	33	9%	7%	5%	5%	12%
It is the fastest way to get around	32	9%	14%	5%	11%	7%
I do not have access to a car	4	1%	1%	0%	0%	1%
My employer provides incentives	3	1%	1%	3%	0%	1%
My friends and family walk and bike	84	24%	29%	31%	26%	18%
Unsure	0	0%	0%	0%	0%	0%
I do not walk and/or bicycle for transportation	50	14%	12%	18%	32%	13%

***Question #25: How important are each of the following reasons for investing in bicycling or walking?**

	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Providing independent transportation options for all ages and abilities (youth, senior citizens, persons with disabilities)	3.5	3.6	3.5	3.3	3.5
Increasing health and physical activity	3.8	3.9	3.8	3.8	3.8
Improving facilities in city or town centers, main streets, and near transit stops	3.6	3.5	3.8	3.3	3.6
Creating less pollution	3.5	3.6	3.2	3.2	3.5
Create safe routes for walking and bicycling to school	3.8	3.8	3.7	3.8	3.8
Supporting tourism and economic development	3.4	3.5	3.6	3.3	3.3
Providing affordable transportation options for low-income citizens	3.4	3.4	3.4	3.4	3.4
Enhancing access to and experience of the natural environment	3.6	3.7	3.5	3.8	3.5

* Survey respondents were asked to rate the importance of each the above. To analyze the data more effectively the degree of importance was averaged as follows. (Very important = 4), (Somewhat Important = 3), (Not Too Important = 2), (Not at all Important = 1), (Unsure=0)

About You

Question #26: County of Residence

	Total Responses	MACOG Region
Elkhart	107	31%
Kosciusko	39	11%
Marshall	19	5%
St. Joseph (IN)	173	49%
Other	12	3%

Question #27: Age

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Under 18	1	0%	1%	0%	0%	0%
18-24	14	4%	3%	8%	0%	5%
25-34	73	21%	13%	15%	11%	29%
35-44	62	18%	11%	21%	21%	21%
45-54	80	23%	21%	28%	37%	20%
55-64	79	23%	30%	13%	16%	21%
65+	39	11%	21%	13%	16%	4%

Question #28: Gender

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Male	182	52%	64%	59%	42%	45%
Female	163	47%	36%	38%	58%	53%
NA	5	1%	0%	3%	0%	2%

Question #29: Ethnicity

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Hispanic	9	3%	2%	3%	11%	2%
Non-Hispanic	330	94%	94%	95%	89%	95%

Question #30: Race

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Asian	2	1%	0%	0%	0%	1%
Black/African American	4	1%	0%	0%	5%	1%
Native American	2	1%	1%	0%	0%	1%
Pacific Islander	0	0%	0%	0%	0%	0%
White/Caucasian	320	91%	93%	95%	89%	90%
Two or more races	6	2%	2%	0%	5%	2%
Some Other	5	1%	1%	3%	0%	2%

Question #31: Household Size

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
1 - Just me	54	15%	9%	10%	16%	21%
2	144	41%	58%	28%	21%	34%
3	45	13%	9%	13%	26%	13%
4	48	14%	10%	21%	21%	14%
5	31	9%	4%	15%	11%	10%
6+	23	7%	7%	10%	0%	5%

Question #32: Highest level of education completed

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
8th grade or less	0	0%	0%	0%	0%	0%
Some high school	2	1%	2%	0%	0%	0%
High school graduate	15	4%	3%	3%	5%	5%
Some college/community college/2-yr degree	54	15%	16%	18%	5%	16%
College degree/4-yr degree	144	41%	38%	38%	47%	43%
Post graduate	129	37%	41%	38%	42%	34%

Question #33: Employment status

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Full Time	241	69%	62%	72%	68%	72%
Part Time	33	9%	10%	10%	5%	10%
Student	16	5%	3%	3%	0%	7%
Not employed outside home	14	4%	2%	5%	5%	5%
Retired	34	10%	21%	5%	16%	4%
Other or Multiple	5	1%	2%	3%	5%	1%
Unemployed	2	1%	1%	0%	0%	1%

Question #34: Estimated household income before taxes

	Total Responses	MACOG Region	Elkhart	Kosciusko	Marshall	St. Joseph (IN)
Less than $10,000	7	2%	2%	3%	0%	2%
$10,000 - $14,999	4	1%	2%	0%	0%	1%
$15,000 - $24,999	10	3%	0%	0%	0%	6%
$25,000 - $34,999	15	4%	3%	0%	0%	6%
$35,000 - $49,999	30	9%	8%	13%	11%	8%
$50,000 - $74,999	67	19%	19%	5%	32%	21%
$75,000 - $99,999	56	16%	21%	8%	11%	16%
$100,000 - $149,999	79	23%	25%	36%	21%	18%
$150,000 - $199,999	29	8%	7%	15%	5%	7%
$200,000 or more	22	6%	3%	13%	16%	6%

ACTIVE TRANSPORTATION PLAN

Michiana Area Council of Governments
227 W. Jefferson Blvd.
County-City Building, Room 1120
South Bend, IN 46601