Move Safe michiana

REGIONAL TRANSPORTATION SAFETY ACTION PLAN

MOVE SAFE MICHIANA
Safe Streets for All
Draft May 2025

MACOG
Michiana Area Council of Governments

THIS PAGE INTENTIONALLY LEFT BLANK.

Contents

Information contained in this document is for planning purposes and should not be used for final design of any project. All results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data and information and on existing conditions that are subject to change.

Geographic and mapping information presented in this document is for informational purposes only, and is not suitable for legal, engineering, or surveying purposes. Mapping products presented herein are based on information collected at the time of preparation. Toole Design Group, LLC makes no warranties, expressed or implied, concerning the accuracy, completeness, or suitability of the underlying source data used in this analysis, or recommendations and conclusions derived therefrom.

Acknowledgments

Michiana Area Council of Governments (MACOG) Staff

Caitlin Stevens, Director of Transportation, Project Manager
James Turnwald, Executive Director
Dustin New, Active Transportation Planner
Katie Dominguez, Graphic Design & Communications Manager
David Harker, Traffic Data Planner
Raj Parikh, Transportation Analyst

Policy Board

Jesse Bohannon, Marshall County Councilman
Mike Burroughs, Marshall County Commissioner
Matt Deitchley, INDOT LaPorte Deputy District Commissioner
Dwight Fish, City of Elkhart Councilman
Douglas Graham, Elkhart County Counciman
Cary Groninger, Kosciusko County Commissioner
Kathy Groninger, Kosciusko County Councilwoman
Jeff Grose, City of Warsaw Mayor
Phil Jenkins, City of Nappanee Mayor
Todd Johnson, INDOT Ft. Wayne Deputy District Commissioner
Canneth Lee, City of South Bend Councilman
Gina Leichty, City of Goshen Mayor
Robert Listenberger, City of Plymouth Mayor
James Mueller, City of South Bend Mayor
Rod Roberson, City of Elkhart Mayor
Bryan Tanner, St. Joseph County Councilman
Anthony Violi, City of Mishawaka Councilman
Suzanne Weirick, Elkhart County Commissioner
David Wood, City of Mishawaka Mayor

Transportation Technical Advisory Committee

Ty Adley, Marshall County
Leslie Biek, City of South Bend
Chris Dressel, City of South Bend
Amy Hill, Transpo
Bill Holder, Kosciusko County
Tim Jackson, Elkhart County
Chris Jamrose, City of Mishawaka
Natasha Kauffman, Elkhart County
Shawn Klein, St. Joseph County
Andrew Lund, City of Goshen
Marsha McSherry, Kosciusko County
Sky Medors, St. Joseph County
Steve Moriarty, Kosciusko County
Angela Nicholson, INDOT Fort Wayne District
Emmanuel Nsonwu, INDOT Central Office
Jason Peters, Marshall County
Jeffrey Schaffer, City of Elkhart
Daniel Sellers, City of Plymouth
Lisa Shrader, INDOT LaPorte District
Derek Spier, City of Mishawaka
Justin Taylor, City of Warsaw
Alan Tio, South Bend International Airport
Brent Warren, City of Nappanee

Move Safe Michiana Task Force

Jason Able, City of Elkhart
Ty Adley, Marshall County/City of Plymouth
Craig Allebach, Winona Lake
Karla Ann Fales, REAL Service
Leigh Anne Jessop, North Webster
Elizabeth Bennion, IUSB
Leslie Biek, City of South Bend
Jesse Bohannon, Marshall County
T. Bohner, Indiana State Police (Bremen District 24)
Kara Boyles, City of South Bend
Charlie Brach, City of South Bend
Mark Brinson, City of Goshen
Mike Burroughs, Marshall County
Rossa Deegan, City of Goshen
Chris Dressel, City of South Bend
Roger Ecker, LaPaz
Lidya Feleke, City of South Bend
Dwight Fish, City of Elkhart
Tina Fraley, Council on Aging of Elkhart County
Latorya Greene, St. Joseph Health System
Cary Groninger, Kosciusko County
Amy Hill, Transpo
Bill Holder, Kosciusko County
Alan Holderread, La Porte District
Tory Irwin, City of Elkhart
Timothy Jackson, Elkhart County
Jitin Kain, City of South Bend
Natasha Kauffmann, Elkhart County
Shawn Klein, St. Joseph County
Wesley Kuric, Elkhart County Health Department
Bryce Lacosse, St. Joseph County
Holly Landis, Wakarusa
Gina Leichty, City of Goshen
Beckie Lies, Purdue Extension
Mark Lucas, City of Elkhart
Andrew Lund, City of Goshen
Charlie McKensie, Elkhart County
Marsha McSherry, Kosciusko County
Sky Medors, St. Joseph County
Steve Moriarty, Kosciusko County
Tara Morris, Minority Health Coalition
Todd Nunemaker, City of Nappanee
Aaron Ott, City of Warsaw
Lisa Parrette, Sidney
Jason Peters, Marshall County
John Pinter, United Religious Community (URC)
Dana Platner, Fort Wayne District
Ken Prince, City of Mishawaka
Taylor Ruble, INDOT
Dustin Sailor, City of Goshen
Allie Shook, Plymouth Complete Streets
Derek Spier, City of Mishwaka
Justin Taylor, City of Warsaw
Abby Wiles, St. Joseph County

Toole Design

Catherine Girves, Project Manger
Ayden Cohen, Deputy Project Manager
Tobi Otulana, Policy Lead
Tariq Shihadah, Lead Data Analyst
Dr. Theja Putta, Prioritization Lead
Mariel Colman, Lead Engineer
Katie Sieb, Pavement Playbook Lead
Carli Goode, Plan Layout
Sara Schooley, Plan Writer

Health by Design

Marjorie Hennessey, Public Engagement Lead

American Structurepoint

Rahul Rajbhara, Local Engineering Lead

Prepared By:

We are dedicated to working towards zero roadway fatalities and serious injuries in the region by 2050.

Resolution of Adoption

Page left blank for future resolution

5,389 people died or were seriously injured between 2019 and 2023 in the act of moving from one place to another on public roads in the Michiana region. We **do not** accept these life altering crashes as status quo.

CHAPTER 1. Introduction

Between 2019 and 2023, 377 people died and 5,012 people were seriously injured in crashes throughout the Michiana area. Move Safe Michiana is a safety action plan that sets forward a blueprint and new focus on how to rethink our street design, adopt policy, and, ultimately, promote a culture of safety within the region so that no one's life is taken while on the transportation network. This plan offers recommendations that, when implemented, will create a safer transportation system and community for everybody.

This plan, created by the Michiana Area Council of Governments (MACOG) in collaboration with local municipalities and stakeholders, will guide municipal staff, elected officials, community advocates, residents, businesses, and other stakeholders in the Michiana area as we work together to eliminate deaths and serious injuries on our roadways, as well as change the region's transportation safety narrative. This plan includes four major sections:

- **Chapter 2. Current Roadway Conditions**
  This section is an overview of our region's roadways, and discusses how existing policies, programs, and projects impact people throughout the region.
-
- **Chapter 3. Safety Driven by Public Input**
  This chapter summarizes the public outreach done for the plan to better understand how Michiana residents use our streets, their thoughts about transportation safety, and ideas about how to make the region's roads safer.
- **Chapter 4. Time to Act**
  This section identifies roadways that should be prioritized for infrastructure improvements; policies and programs to institutionalize roadway safety; and specific projects that should be completed first in the region's roadway safety efforts.
- **Chapter 5. Moving Forward**
  This final section describes implementation strategies and methods that will take this document from a plan to a reality.

What is MACOG?

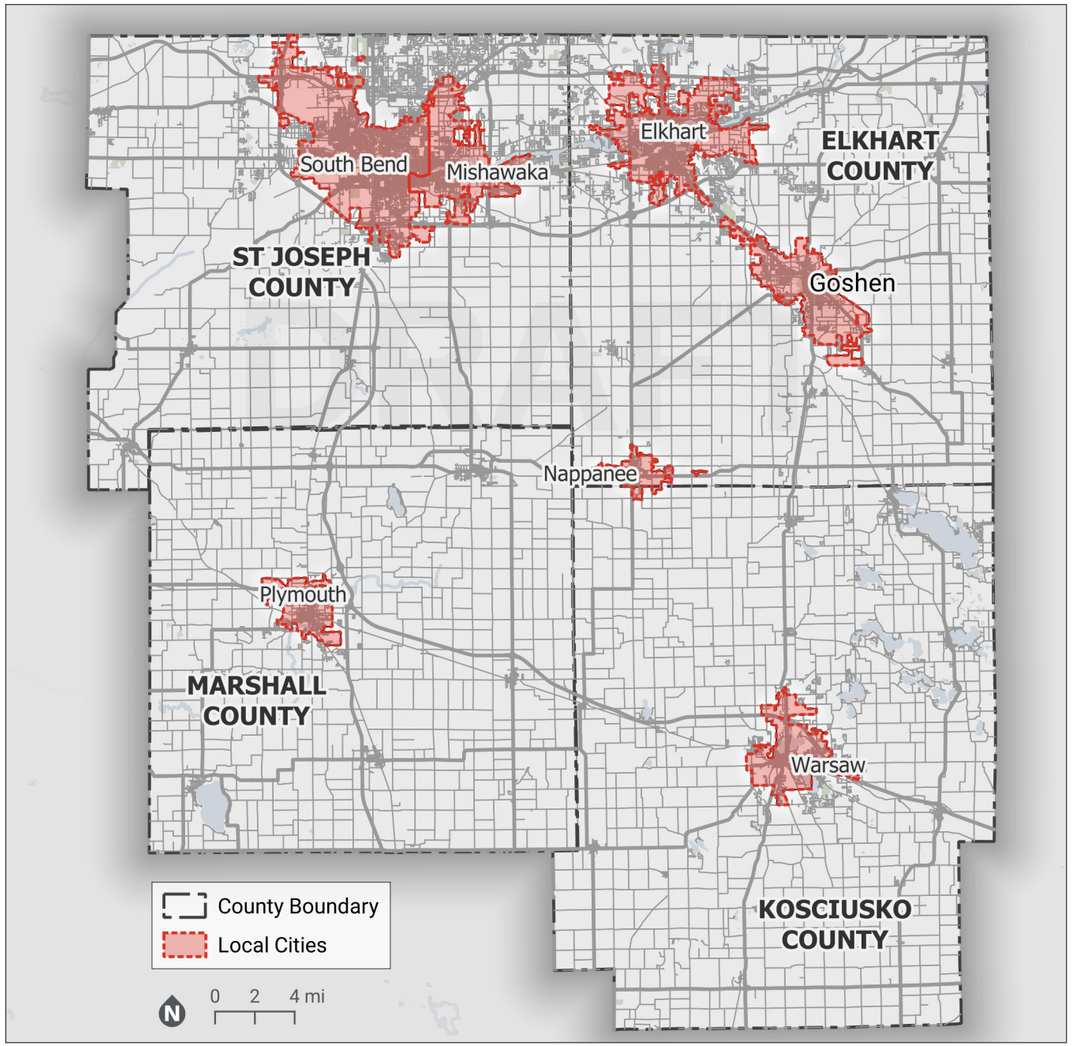
The Michiana Area Council of Governments (MACOG) is a metropolitan planning commission serving the northern Indiana counties of Elkhart, Kosciusko, Marshall, and St. Joseph. These jurisdictions voluntarily work with MACOG to study and resolve regional issues related to transportation, transit, economic development, and the environment,.

As the region's Metropolitan Planning Organization and Rural Planning Organization, MACOG plans and programs federal transportation funds to support the safe movement of people and goods, a thriving economy, and the enhancement of high-quality hometowns. More about MACOG can be found at www.macog.com/.

The Region

Michiana consists of Elkhart, Kosciusko, Marshall, and St. Joseph counties, which include the cities of Elkhart, Goshen, Mishawaka, Nappanee, Plymouth, South Bend, and Warsaw (see Map 1).Nearly 700,000 people call the area home and are part of thriving communities with vibrant industry, business, educational, and tourist opportunities.

Map 1: MACOG Study Area



The Safe System Approach

MACOG and its local jurisdictions have long sought to make our region's transportation network safer. However, serious injuries and fatalities are still happening, resulting in over 5,300 life-altering crashes between 2019 and 2023. A new approach is needed where safety is at the core of every decision. This approach is the Safe System Approach.

The Safe System Approach includes resources, tools, methods, and programs that create a holistic and comprehensive approach to eliminate fatal and serious injuries for all road users. It recognizes that humans make mistakes, and that responsibility for street safety is shared among stakeholders to prevent death and serious injuries on roadways throughout the Michiana area.[1]

Safe System Approach Principles and Elements

The Safe System Approach is based on six principles, as defined by the U.S. Department of Transportation's National Roadway Safety Strategy.[2]

Principles of the Safe Systems Approach

1. Death and Serious Injuries are Unacceptable: Although the goal is to have no crashes entirely, the Safe System Approach prioritizes eliminating crashes that result in death and serious injuries. No one should face these results when traveling from place to place.

2. Humans Make Mistakes: Humans will inevitably make mistakes that can lead to crashes, but the transportation system can be designed to accommodate these mistakes and prevent crashes that result in serious injuries and/or death.

3. Humans are Vulnerable: Humans can only tolerate crash forces to a certain extent before death and serious injuries occur. The Safe System Approach emphasizes the importance of designing the transportation system to accommodate the vulnerabilities of humans.

4. Responsibility is Shared: All stakeholders - drivers, vehicle manufacturers, roadway designers, elected officials, and community leaders - must play their part in ensuring crashes don't lead to fatalities or serious injuries.

5. Safety is Proactive: There should be proactive tools in place to identify and mitigate risks in the transportation system before they happen, rather than waiting for a tragedy to occur.

6. Redundancy is Critical: In order to adequately reduce risks in the transportation system, all parts of the system must be strengthened. That way, if one part of the system fails, the other parts still protect people.

1 FHWA. Zero Deaths and Safe System, 2023. https://highways.dot.gov/safety/zero-deaths
2 USDOT. Principles of the Safe System Approach, 2023. https://www.transportation.gov/NRSS/SafeSystem

Elements of the Safe System Approach

The U.S. Department of Transportation identifies five elements that work in tandem to create a safe system. Implementing all of the elements creates layers of protection against harm on the roads.

1. **Safe Roads:** By designing roads to accommodate human mistakes and injury tolerances, the severity of crashes can be reduced. This includes separating road users traveling at different speeds, providing dedicated times for different modes to move through space, and alerting users to hazards and other road users.
2. **Safe Speeds**: Given that humans are vulnerable, they are unlikely to survive high-speed crashes. By reducing speeds, there is less force in crashes that do occur, resulting in less severe or no injuries. Additionally, slower speeds allow for increased visibility and greater reaction time for all roadway users, which can reduce the number of crashes that may occur.
3. **Safe Vehicles:** Vehicles are regularly designed and regulated to incorporate the latest technologies that minimize the occurrence of fatal and serious injury crashes.
4. **Safe Road Users:** The Safe System Approach addresses the safety of all road users. This includes those walking, bicycling, driving, taking transit, and traveling by horse and buggy
5. **Post-Crash Care:** When involved in a crash, those involved rely on the quick response of emergency first responders to locate, stabilize, and transport them when injured. Post-crash care also includes analysis of crash sites, traffic incident management, and other follow up

Creating Safe Roads for Everybody

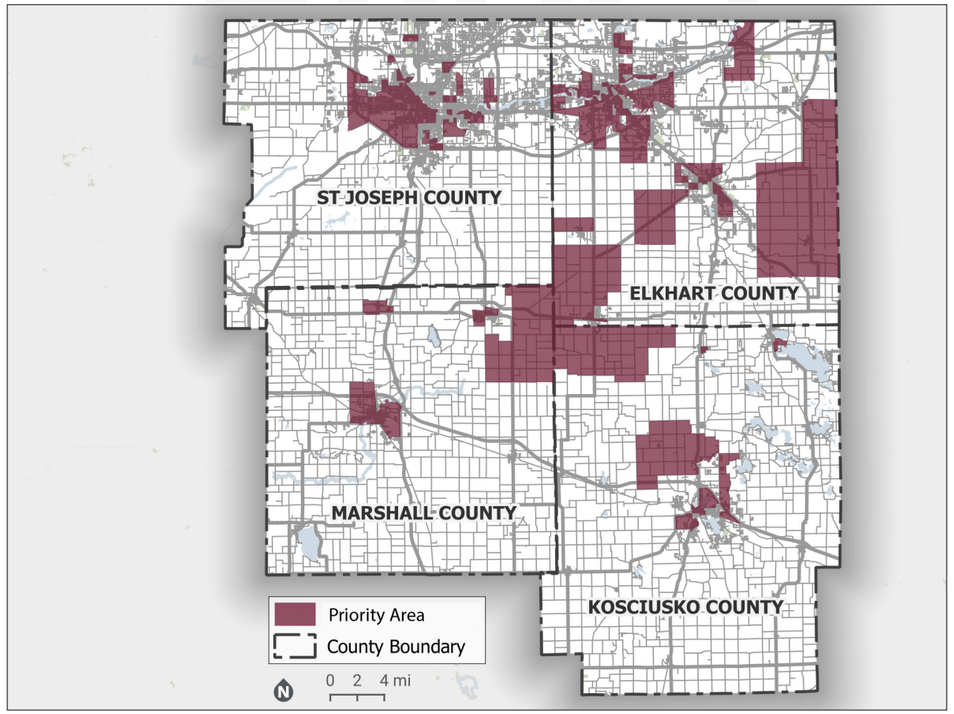
Past transportation policies, programs, and projects in the Michiana Area and nationwide have contributed to differences in access and safety across the transportation system. These differences affect the ability to reach schools, jobs, and recreational opportunities, as well as contribute to variations in crash rates across the region.

This plan acknowledges the differences experienced by all roadway users and recognizes that any effort to reduce traffic fatalities or severe injuries needs to consider them while also ensuring that efforts do not widen existing gaps.

Map 2 shows the Priority Areas in the MACOG region, which are locations where relatively higher populations of people with lower incomes, people of color, and those with disabilities live. More details on the process used to create this map are in Appendix A. Priority Area Analysis. These Priority Areas and other findings from its analysis were used to create and prioritize recommendations made in this plan.

In addition, crashes that involve children, older adults, people walking or bicycling, horse and buggy users, and individuals with a disability, are more likely to result in serious injury or death. **Making investments with these groups in mind can create system-wide benefits for all roadway users in Michiana.**

Map 2: Priority Areas



CHAPTER 2. Current Roadway Conditions

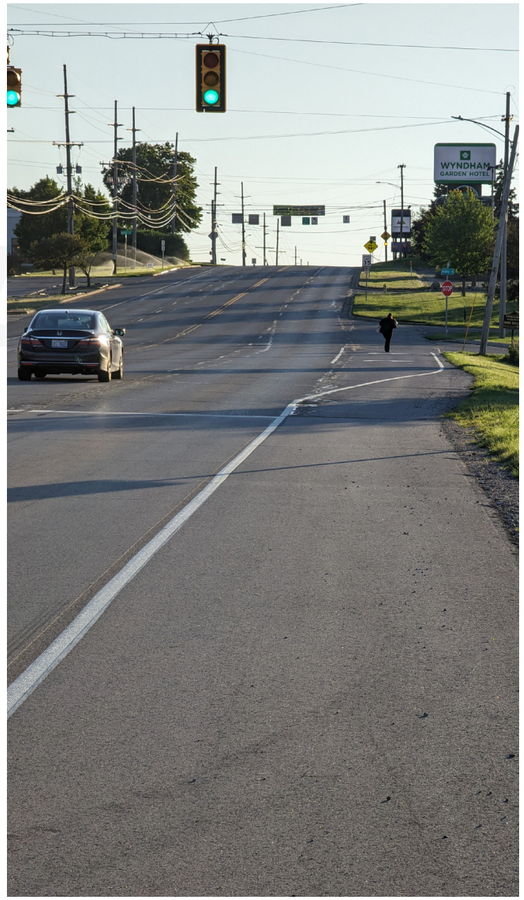
The Safe System Approach is data driven and proactive. As such, this approach requires examining locations of past fatal and serious injury crashes and understanding what factors contributed to those crashes. It also requires examining roads that may have characteristics that are often correlated with fatal and serious crashes, even if serious injury crashes have yet to occur.

Understanding Our Roads

The project team conducted the following analysis and created two networks to better understand and document roadway conditions, historic trends, and systemic issues in Michiana:

1. **Descriptive Crash Analysis**. This analysis delves into historic crash trends with a focus on fatal and serious injury crashes.
2. **High Injury Network (HIN)**. High Injury Networks show corridors with a higher density of fatal and serious injury crashes over the study period.
3. **High Risk Network (HRN).** A High Risk Network uses past crash data to identify roadways that have characteristics that have been shown to result in crashes.

The following sections provide an overview of the analysis and networks, all of which used crash data from 2019 through 2023. More details about their development can be found in Appendix B. Descriptive Statistics Analysis, Appendix C. High Injury Network, and Appendix D. Systemic Safety Analysis.



Center Street, City of Warsaw

Crash Data and Limitations

Local law enforcement agencies use ARIES (Automated Reporting Information Exchange System) to submit crash reports that provide the raw crash data used in traffic crash analysis. Although crash reports are currently the best way to obtain information about a large quantity of crashes, they have limitations.

Crash severity may have limited accuracy because the officials completing reports typically don't have medical training, and victims of crashes may be unaware of internal injuries masked by adrenaline. The total number of crashes may be higher than reported due to unreported crashes because of financial concerns, language barriers, or other fears about interacting with law enforcement.

Crash reports may not capture accurate speed of crashes, as the first responders are typically on the scene after the crash has occurred and witnesses outside a crash are not typically interviewed about operator speed. Even when crash reports are perfect, they do not record near misses or the self-limiting behavior of travelers who don't feel safe in currently configured networks. It is useful to keep these limitations in mind when using crash data and to vet data with priority populations as part of the planning process.

MACOG has spent a number of years ensuring that crash data retrieved is cleaned and spatially located, resulting in a more accurate data set to be used in further crash analyses. Additionally, MACOG maintains two dashboards that display fatal and serious injury crashes, and all vulnerable road user crashes (pedestrians, bicyclists, and horse and buggy users) that have occurred throughout the region since 2019. These dashboards enable local jurisdictions and the public to view crash data utilizing interactive filters to view specific years, locations, or crash types.

MACOG assists and coordinates with communities to ensure that priority transportation projects are implemented efficiently and effectively. MACOG shares various data including traffic counts and crash data to ensure that communities have the best information to make the most informed decisions for improvements to the transportation network.

Descriptive Crash Analysis

Between 2019 and 2023, the MACOG region recorded a total of 5,389 fatal and serious injury crashes. Crashes happen in different ways, places, and times, and to different people in the Michiana area.

That said, there are notable crash trends that are important to understand to create recommendations that reduce fatal and serious injury crashes. More details and additional crash analysis can be found in Appendix B. Descriptive Statistics Analysis.

TREND 1. Fatalities on our roadways have remained consistent, and while severe injury crashes have decreased, much of that decrease may be due to changes in reporting thresholds. Between 2019 and 2023, there were 5,389 reported fatal and serious injury crashes (Figure 1). In 2020, the Federal Highway Administration (FHWA) introduced new rules for counting and reporting serious injuries. As a result, ARIES (Automated Reporting Information Exchange System) updated its reporting requirements in 2021, leading to a significant decrease in the number of crashes reported at this severity level in 2022 and subsequent years.

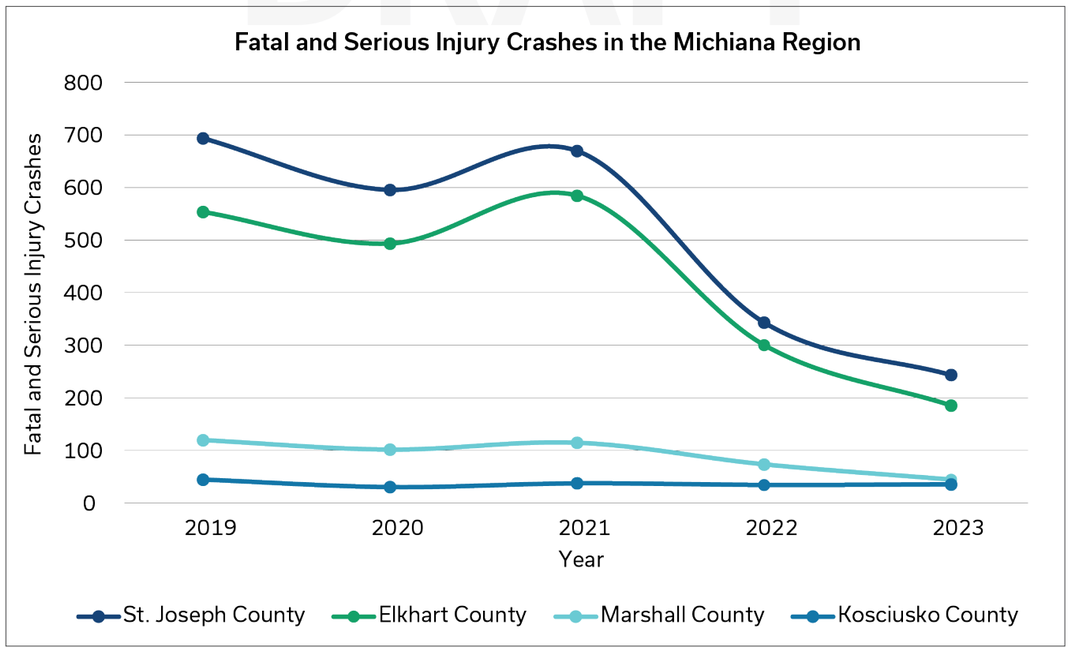


Figure 1: Fatal and serious injury crashes

TREND 2. Right angle and roadway departure crashes are the most prevalent fatal and serious injury crash type. These two types of crashes contribute to nearly 28% and 20% of the regions fatal and severe, crashes, respectively. It should be noted that roadway departure crashes are especially prevalent in the more rural Kosciusko and Marshall counties, which have lower volumes and less urban development.

Right Angle Crashes

1,506 Fatal and Serious Injury Crashes

28% of Fatal and Serious Injury Crashes

Roadway Departure Crashes

1,069 Fatal and Serious Injury Crashes

20% of Fatal and Serious Injury Crashes

TREND 3. Pedestrian, bicycle, buggy, and motorcycle crashes disproportionately result in severe injuries or fatalities. Pedestrian crashes account for 7% of all fatal and serious injury crashes, but account for 15% of all fatal crashes. Similarly, motorcycle crashes account for 10% of all fatal and serious crashes, but account for 18% of all fatal crashes. Vehicle crashes account for 81% of all fatal and serious injury crashes, but only account for 64% of fatal crashes.

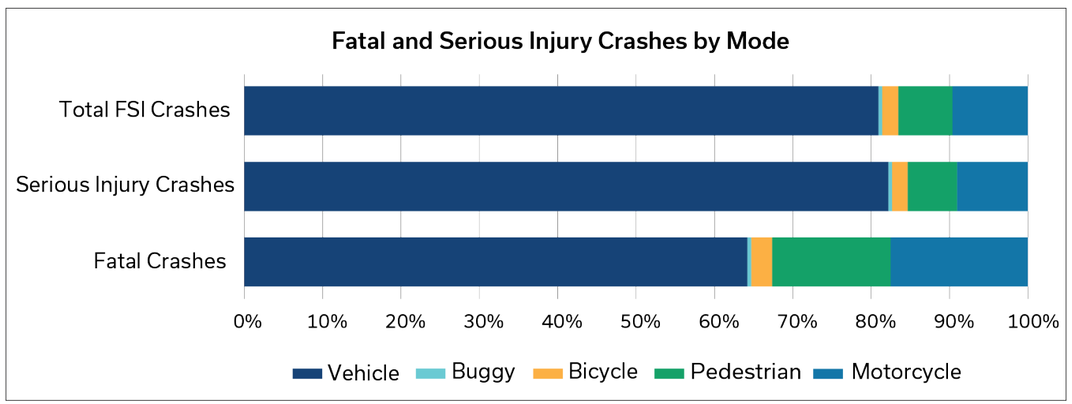


Figure 2: Fatal and serious injury crashes by mode

TREND 4. Failure to yield and speeding/aggressive driving were the two most prevalent contributing factors for fatal and serious injury crashes.

That said, other contributing actions vary depending on the land use environment – roadway and lane departures contributed to more crashes in rural areas, whereas distraction and pedestrian action are more likely to be reported in urban areas.

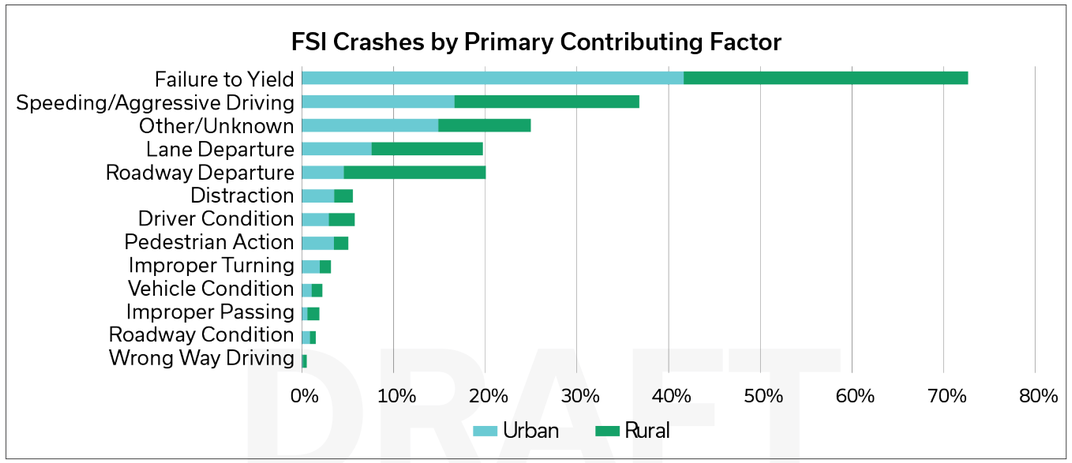


Figure 3: Fatal and serious injury crash contributing factors for both urban and rural areas

TREND 5. While more crashes happen during the day and in clear conditions, darkness poses a threat to visibility.

Visibility is an important consideration when evaluating whether a crash will happen and its severity. Most crashes do occur in daylight (67%) and clear conditions (65%), but given that fewer people are traveling during dark hours, the number of crashes happening during that time (28%) is notable.

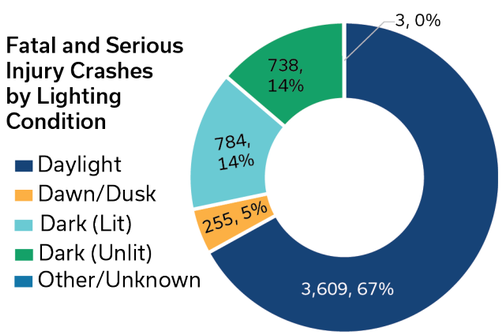


Figure 4: Fatal and serious injury crashes by lighting condition

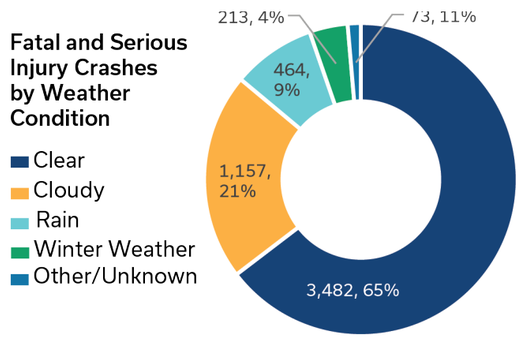
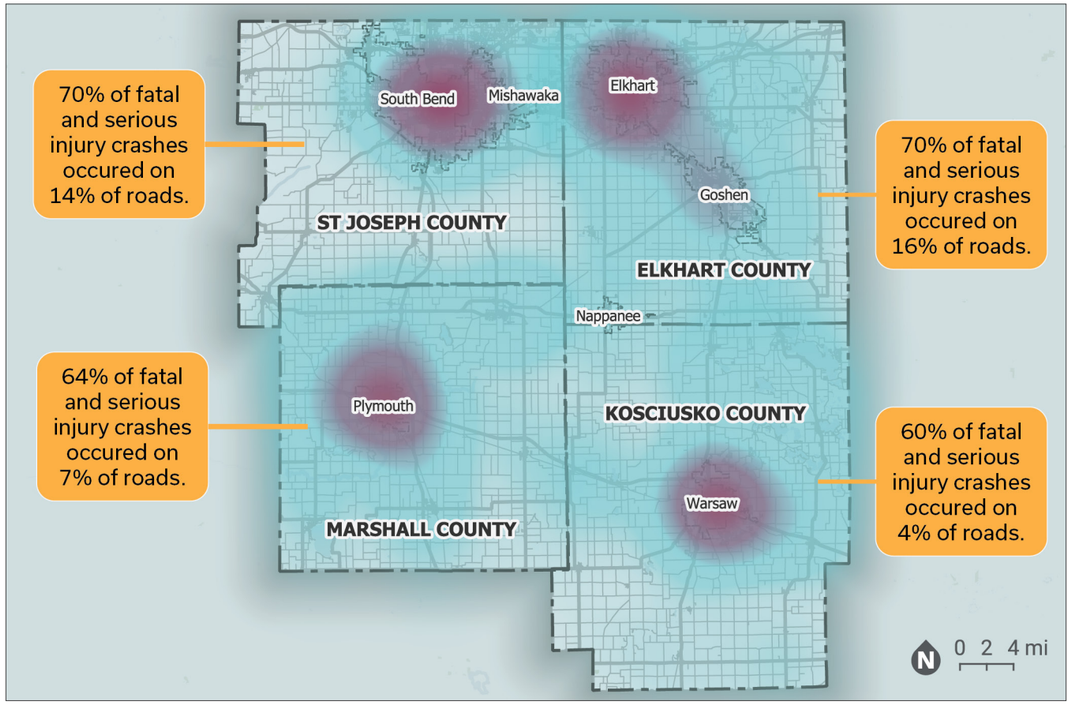


Figure 5: Fatal and serious injury crashes by weather condition

TREND 6. Fatal and serious injuries happen more often in urban areas and are distributed on all types of roadways.

However, the type of roadway where the most fatal or severe crashes occur vary dramatically between county. St. Joseph County has a significantly large share of fatal or severe crashes occurring on local roads, with just under 80% occurring on local roads. Kosciusko County sees the largest share of crashes occurring on state roads across all four counties, with just under 30% of all fatal or severe crashes occurring on state roads. In Marshall County, more than a third of fatal or severe crashes occur on US routes.

Map 3: Share of fatal and incapacitating injury crashes weighted by county and the respective amount of roadway miles they've occurred on.



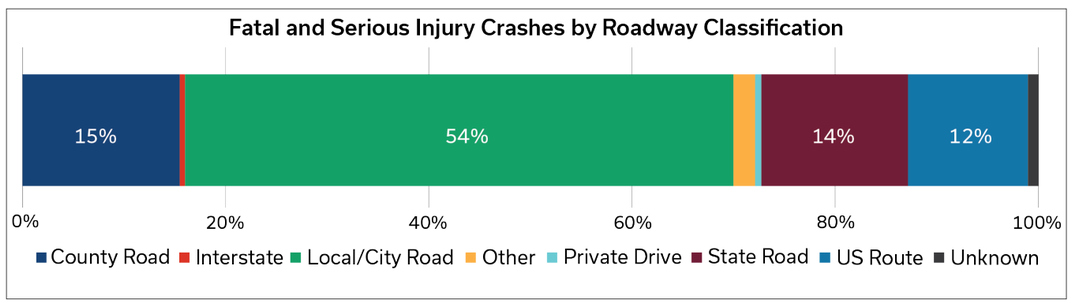


Figure 6: Fatal and serious injury crash by roadway classification

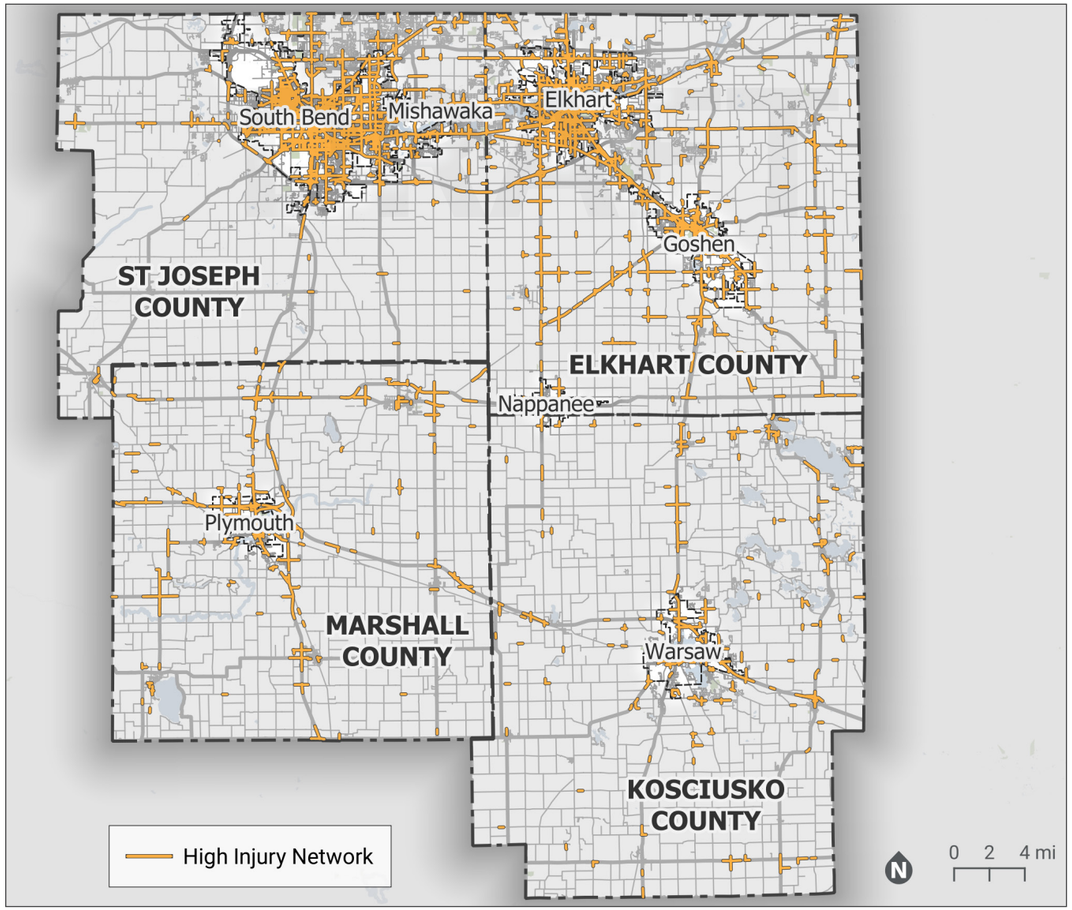
High Injury Network

A High Injury Network (HIN) includes roadways that, historically, have the highest frequency of fatal and serious injury crashes. HINs were created for each county in the Michiana Area using crash data from 2019 - 2023.

The HIN was created using a sliding window analysis, which uses 1/4 mile "windows," that "slide" in 1/10 mile increments, counting the crashes that fall within that window.

The HIN maps developed for each county show the roads that had crash scores in the top 15%. This knowledge will help focus stakeholders and determine the location of future transportation safety projects to reach zero fatal or serious injury crashes in the Michiana region.

Map 4: High Injury Network



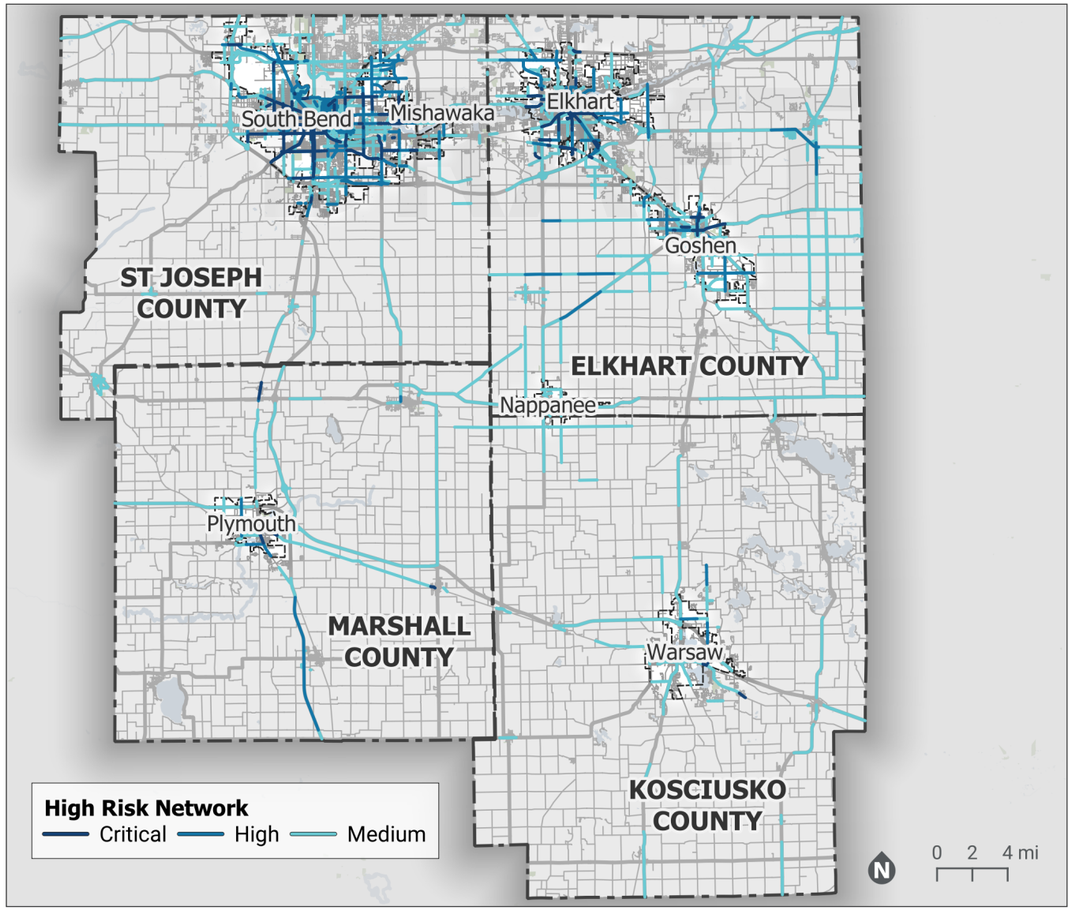
High Risk Network

One of the primary reasons to conduct a crash analysis is to see what has happened in the past and where. Additionally, a crash analysis can identify roadway characteristics and behavioral risk factors to determine which roads have a higher risk for future fatal and serious injury crashes. By examining the frequency of past crashes and identifying roadway and behavioral risk factors, we can determine which roads have the highest risk for future fatal and serious injury crashes.

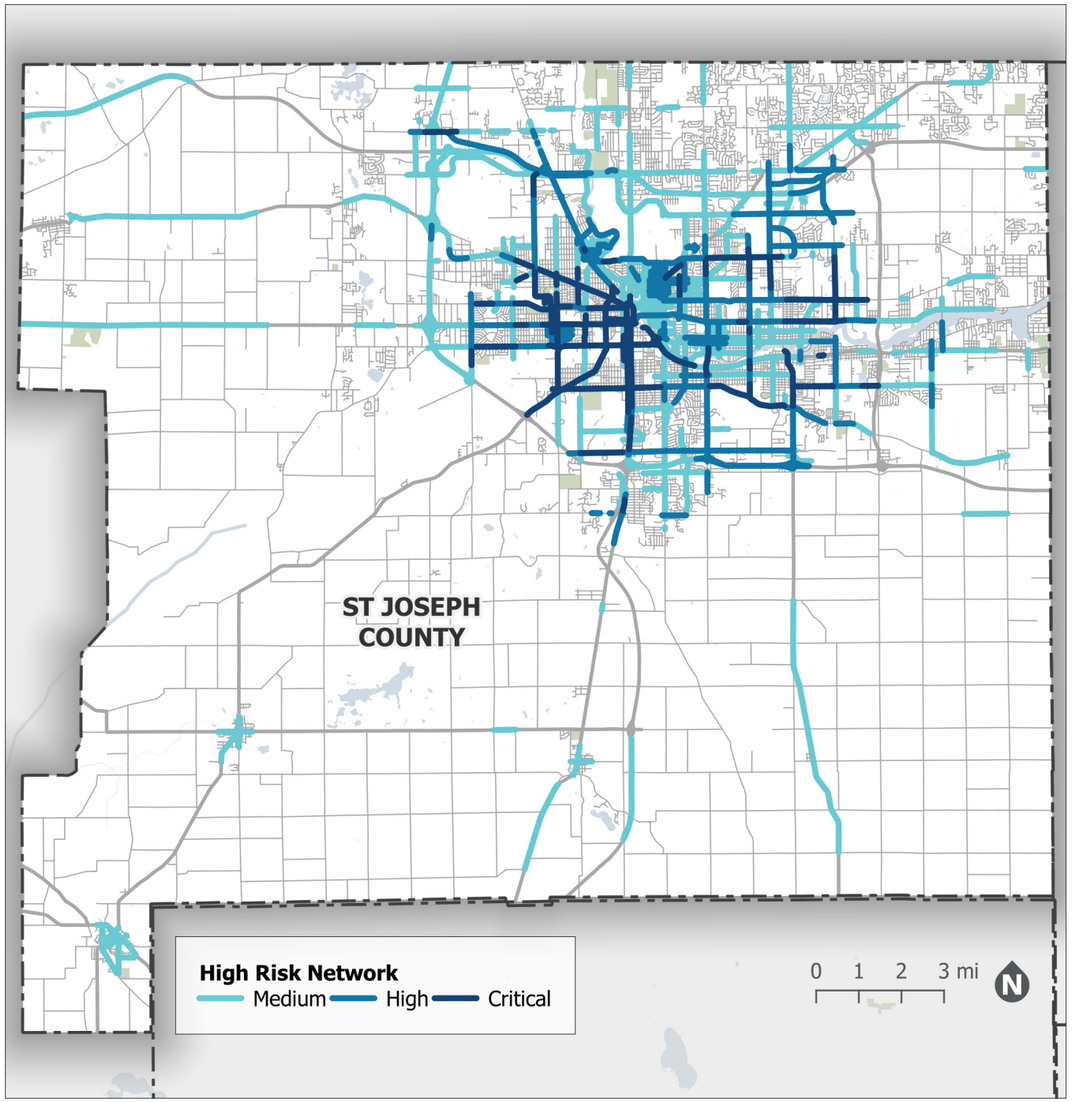
The maps on the following pages display each county's High Risk Network (HRN), which include roads where travelers are at the highest risk of dying or being seriously injured in a crash (assuming current conditions remain unchanged—such as width of travel lanes, number of lanes, speed limit, etc.) (see Map 6, Map 7, Map 8, and Map 9).

These HRNs account for all roadway users — pedestrians, bicyclists, horse and buggy users, and motorists. For more details on how the HRNs were developed, refer to Appendix D. Systemic Safety Analysis.

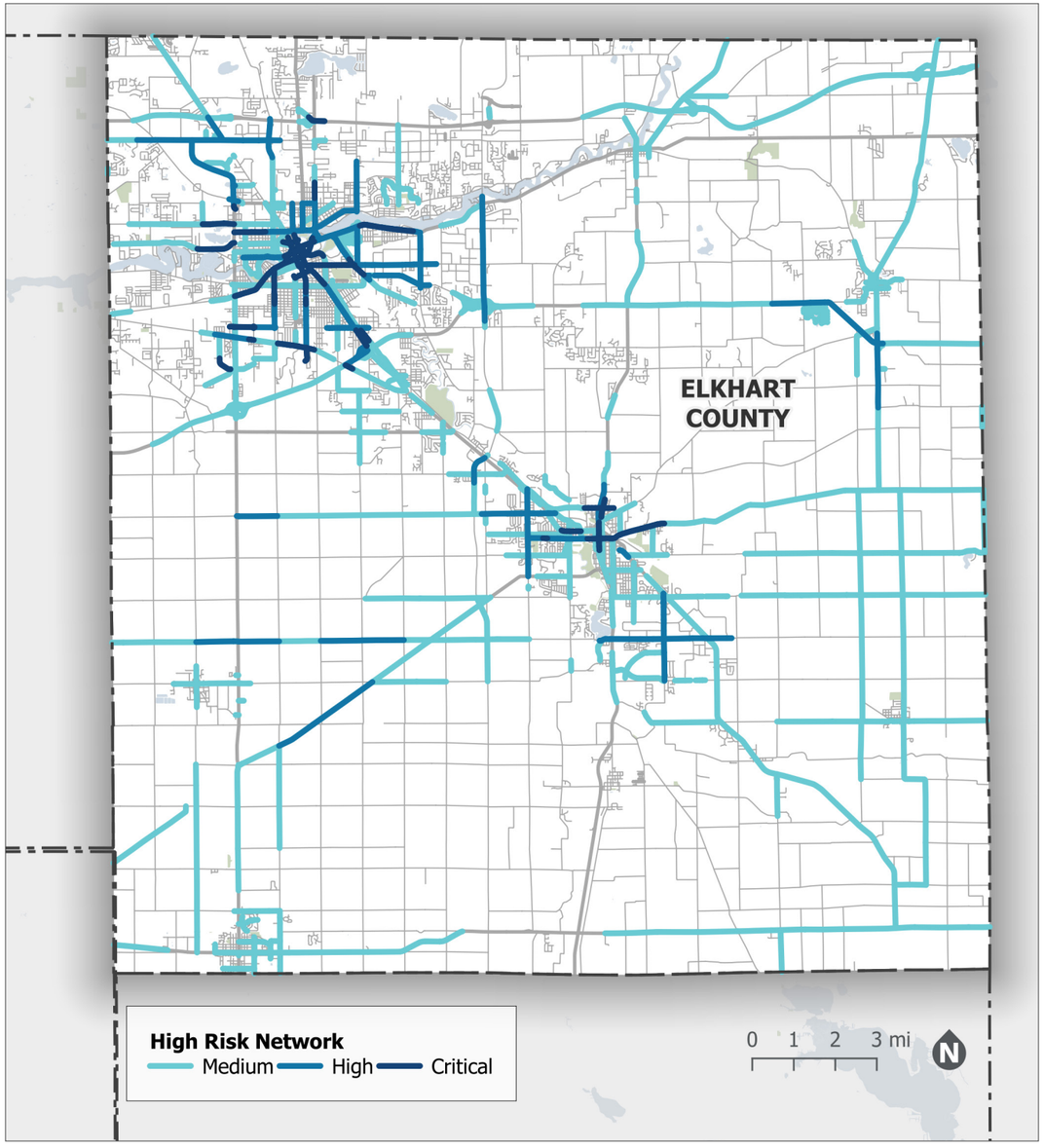
Map 5: High Risk Network



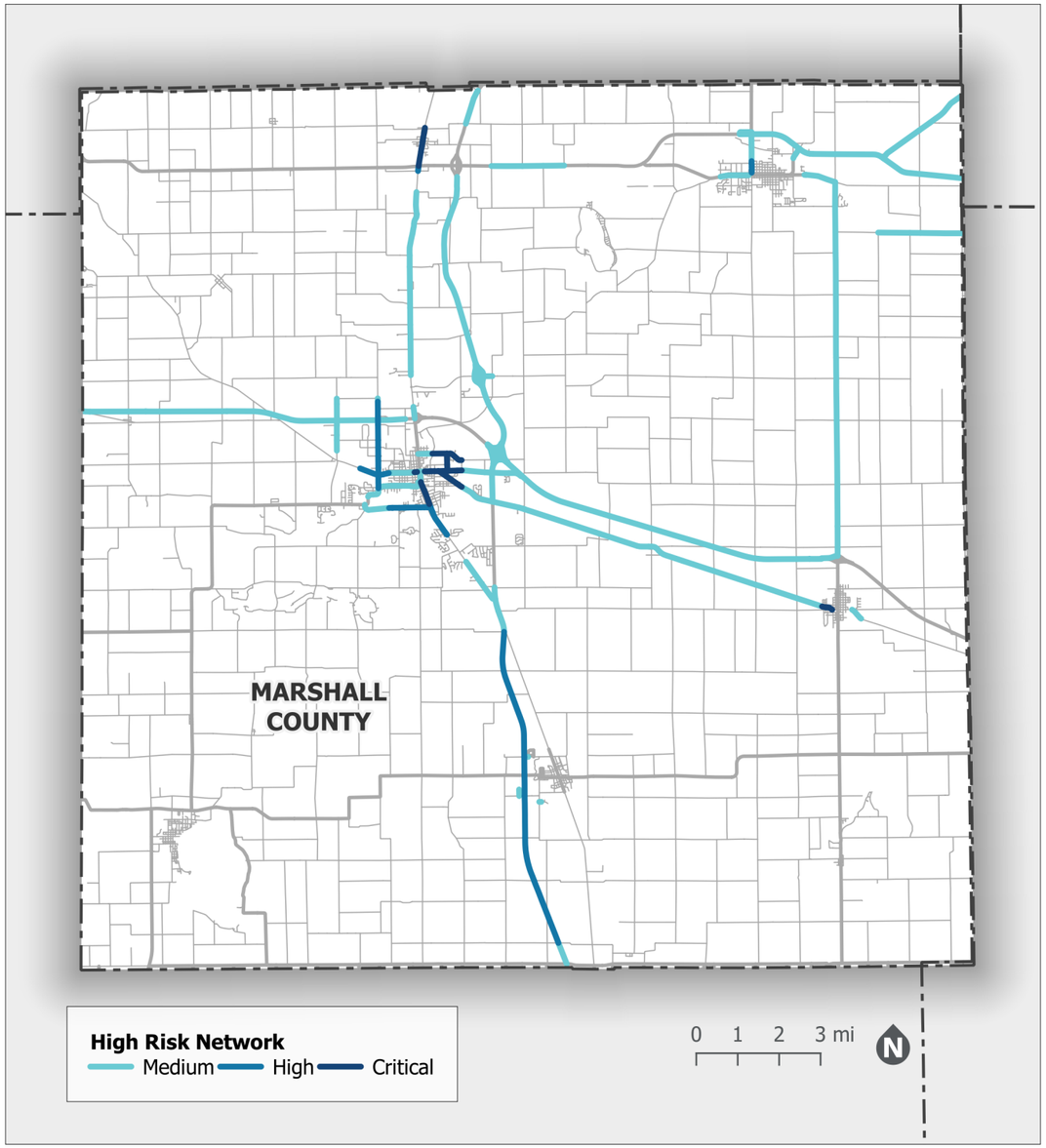
Map 6: St. Joseph County High Risk Network



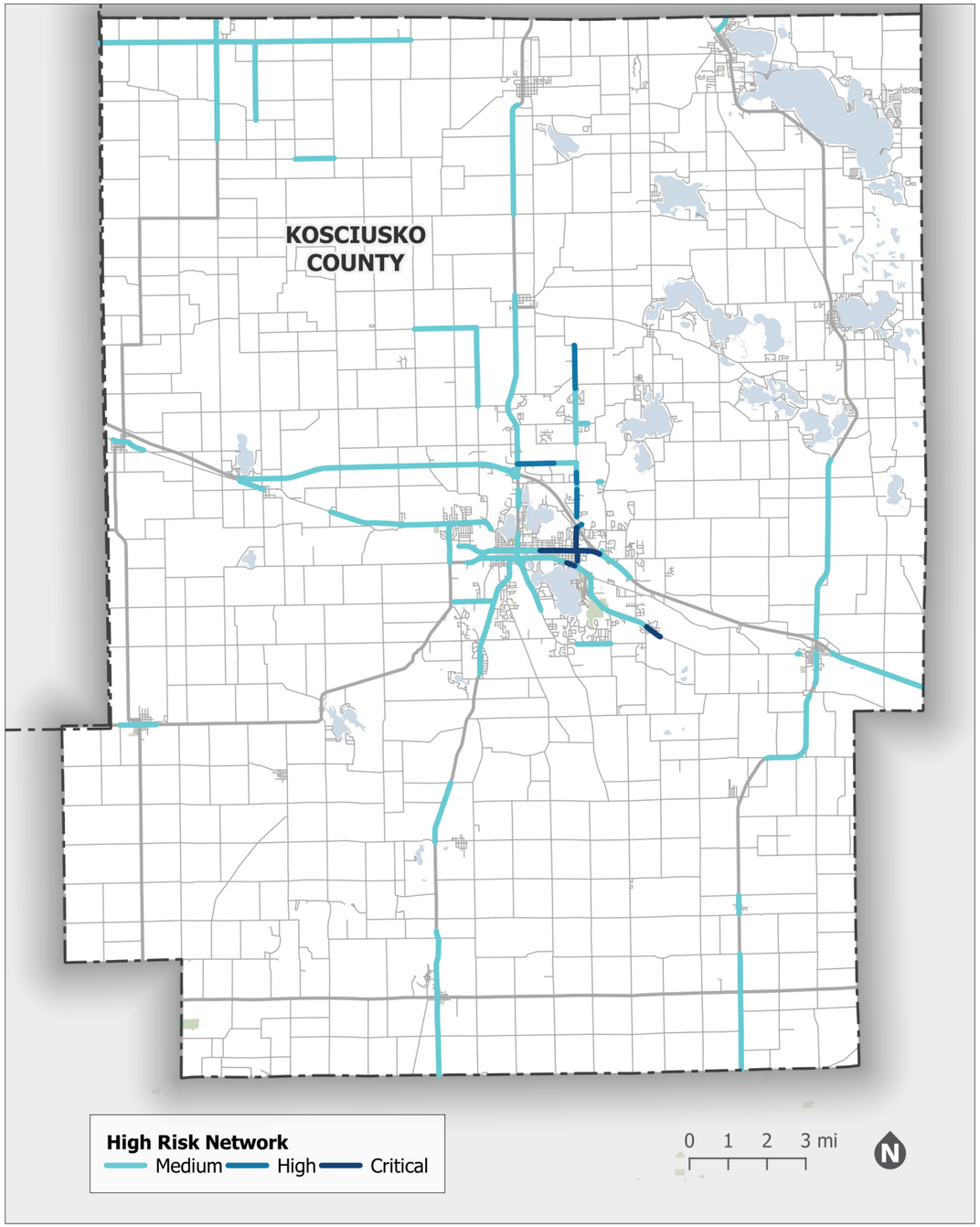
Map 7: Elkhart County High Risk Network



Map 8: Marshall County High Risk Network



Map 9: Kosciusko County High Risk Network



CHAPTER 3. Safety Driven by Public Input

Community engagement helps to understand how residents experience their roadways and delves into why people act and feel the way they do.

Engagement Strategies

For this plan, the project team employed a variety of engagement strategies to solicit feedback on roadway safety, including a Safety Action Plan Task Force, stakeholder interviews, interactive webmap and survey, pop-ups, a stakeholder bicycle ride, virtual community meetings, charettes, and Amish-specific engagement. These strategies were implemented in two phases:

Phase 1. This phase focused on general input related to where residents currently feel safe or unsafe traveling and why.

Phase 2. This phase focused on specific feedback for recommendation

The project team focused on identifying and listening to the voices of community members whose lived experiences are typically underrepresented in conventional planning efforts. These community members include people with disabilities, older adults, school-age children, low-income households, Spanish language speakers, and racial and religious minorities who are overrepresented in fatal and serious injury crashes due to historical investments.[3] More details on each of the engagement strategies are on the following pages.

3 Smart Growth America Dangerous by Design Report, 2024

Task Force

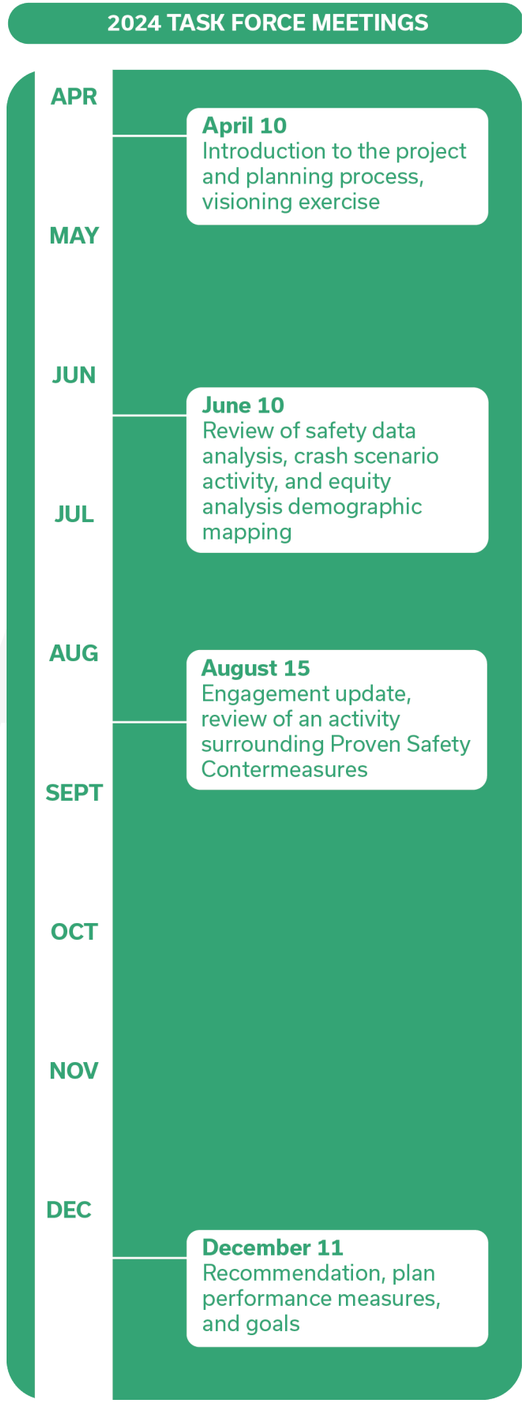
Over 120 individuals were invited to participate in the Task force, including transportation professionals, elected officials, health professionals, advocates, law enforcement officials, faith leaders, and educators from throughout the Michiana Area, representing a diverse set of expertise and lived experience.

Each Task Force meeting was attended by 20-30 people; everyone invited received updates via email and were encouraged to provide feedback. The Task Force assisted in defining goals and actions for the plan, and identifying implementation partners.

Stakeholder Interviews

Task Force members came from all part of the Michiana Area representing residents from both large and small communities. But some lived experiences were disproportionately represented in this group. The group was disproportionately wealthy enough to be able to afford to own, operate, and maintain a car. The group was of an age group and ability level that allowed them to independently travel by car for most daily trips. The same was true for the client staff and consulting team members that touched the plan on a weekly basis.

Stakeholder interviews sought to engage more directly with individuals who's perspectives were not represented on the Task Force, such as those with lower incomes, younger and older residents, and people who primarily travel by horse and buggy, bicycle, or transit. These conversations were important ways to understand the variety of experiences that Michiana residents have while traveling.



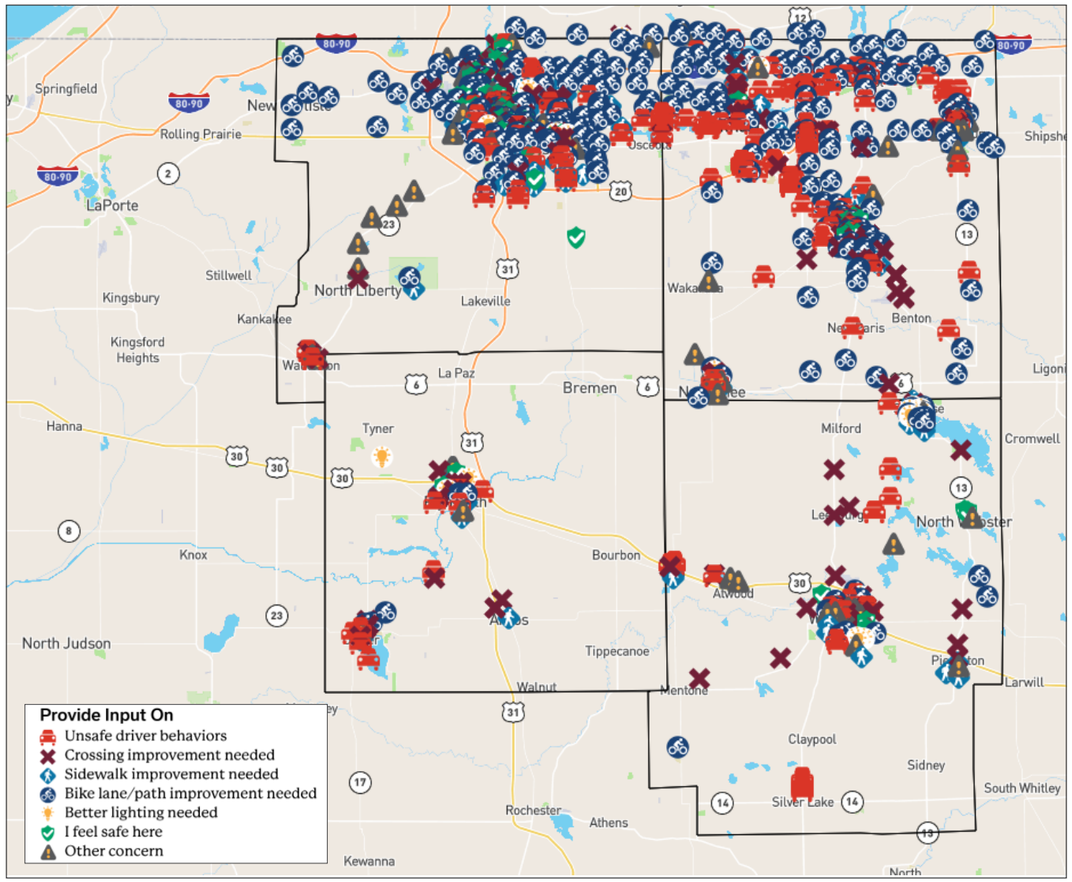
Interactive Webmap and Survey

An online map and survey, available in both English and Spanish, asked Michiana area residents about their impressions and feelings about traffic safety, driver behavior, and thoughts on how to improve travel in the region. The survey was open between July and August 2024. In total, 216 people completed the survey and an unknown number of people left a total of 762 comments on the webmap.

The survey included three multiple-choice questions about traffic safety concerns, respondents' usual mode of transport, and preferred transportation modes under safe conditions. There were also a few demographic questions (location, race, age, and income) to understand how representative respondents were of the general population.

The survey and webmap were publicized through a MACOG press release, social media, and Task Force members, as well as word of mouth and personal networks.

Map 10: Interactive Webmap Inputs



Pop-Ups

The project team completed 22 in-person pop-up events across the region. These events were held at a variety of locations, including food pantries, transit centers, libraries, and other community events. The pop-ups had multiple interactive materials that allowed for participants to share their thoughts on and experiences of traveling throughout the Michiana region. Over 400 residents participated in the pop-ups.

To ensure consistency with online survey participants, pop-up participants were asked to complete the same brief, three question survey about traffic safety concerns, their usual mode of transport, and preferred transportation modes under safe conditions. Demographic information was also collected to understand how representative respondents were of the general population.

Pre-Charrette Meetings

To help prepare for upcoming charrettes, 11 meetings were held with each of the communities. Ten meetings were virtual, and one meeting was conducted in-person by bicycle. In each meeting, the project team reviewed the high priority network maps with the participants. The maps guided the conversation, allowing potential projects to be identified. These meetings were invitation only and soley focused on potential infrastructure projects.

Community Charrettes

Following the pre-charrette meetings, the consultant team created long roll plots of the potential project corridors for the charrettes. The team met with each of the seven cities, two of the counties separately, and two of the counties together.

All members of the Task Force were invited to participate in each meeting, but they were primarily populated by jurisdiction staff. However, there was some attendance from some community based organizations and several members of INDOT attended the charrettes most relevant to them. Utilizing the roll plots, each group discussed details of what a starter project for the priority corridor might look like.

Each charrette ended with the identification of a potential community priority project, which was then researched and further developed by the consulting team. Further details on each project can be found in Section 5. Community Pull Outs.

Amish Engagement

In addition to the online and pop-up engagement efforts, the project team made additional efforts to engage with the Amish community in the Michiana area. There were two key points of Amish engagement during the project. The first was early in the planning process, at an annual safety event hosted by a group of Amish communities. This allowed for a proper understanding of existing safety issues for horse and buggy travelers during the data analysis.

The second point of engagement with the Amish community was near the end of the process. The team hosted two focus groups with two different Amish communities, where the high priority network maps were shared. The communities were able to review and provide input on the maps, influencing both infrastructure and non-infrastructure recommendations.

POP-UP EVENT DATES AND LOCATIONS

Date	Event Location	Location
4.17.2024	Partners for Clean Air	Elkhart
5.15.2024	Bike to Work Week Clean Air	South Bend
6.05.2024	Amish Family Safety Day	Nappanese
6.07.2024	Downtown First Friday	South Bend
6.11.2024	St. Joseph County Library	South Bend
6.24.2024	Rosales Super Market	South Bend
6.25.2024	Kroc Food Pantry	South Bend
6.26.2024	SB Transpo	South Bend
7.05.2024	Downtown First Friday	South Bend
7.20.2024	Culver Lakefest	Culver
7.24.2024	Marshall Co. Council on Aging	Plymouth
7.24.2024	El Campito	South Bend
7.25.2024	REAL Serves- Enrichment Center	South Bend
7.25.2024	La Casa de Amistad	South Bend
7.26.2024	New Carlisle Hometown Days	New Carlisle
7.27.2024	One Roof- Southeast Neighborhood Center	South Bend
7.27.2024	New Carlisle Hometown Days	New Carlisle
7.31.2024	Regional Transit Advisory Committee	South Bend
8.02.2024	La Casa de Amistad Back to School Event	Elkhart
8.03.2024	Regional Transit Center Elkhart	Elkhart
8.10.2024	Elkhart Envirofest	Elkhart
8.14.2024	Culver-Union Township Public Library	Culver
8.14.2024	Argos Public Library	Argos
8.15.2024	Warsaw Community Public Library	Warsaw
8.26.2024	Kosciusko County Senior Services	Warsaw
8.27.2024	The Window, Inc.	Goshen

WEBMAP AND SURVEY OPEN-ENDED RESPONSES

"Slow down speed limit, please –this does not need to be 4-5 lanes, but a bike path and turn lane would be amazing."

"Heavily traveled by the Amish on bikes to/from school. No shoulder or any accomodations for bikes."

"I live in Osceola and there is no transit. No sidewalks. No lighting."

"Lots of speeding through here, hills make this dangerous and many neighborhood entrances."

"It is very common for drivers to drive 50+ mph through the school crossing while children are using it."

"Certain places in my neighborhood don't have sidewalks and you have to walk in the street."

"There is no pedestrian crossing at this location, but I routinely see people having to navigate 6 lanes of 50+ mph traffic to cross."

"I live close to the Kroger in my neighborhood, it is less than a 5-minute drive and I always drive because walking there is impossible, there are no sidewalks."

Who Was Engaged

In the first phase of engagement, the project team engaged with over 1,000 residents across the Michiana area. The following graphics show a breakdown of respondents.

Participant demographics were different depending on how the engagement was conducted. In-person engagement participants were more likely to be from underrepresented populations than those who participated online.

This discrepancy is typical of national planning outreach trends. As such, it is important to look closely at the in-person event feedback because those participants were more representative the communities as a whole and have more individuals from groups that are typically overrepresented in fatal and serious injury crashes on our roadways, and historically underrepresented in planning discussions.

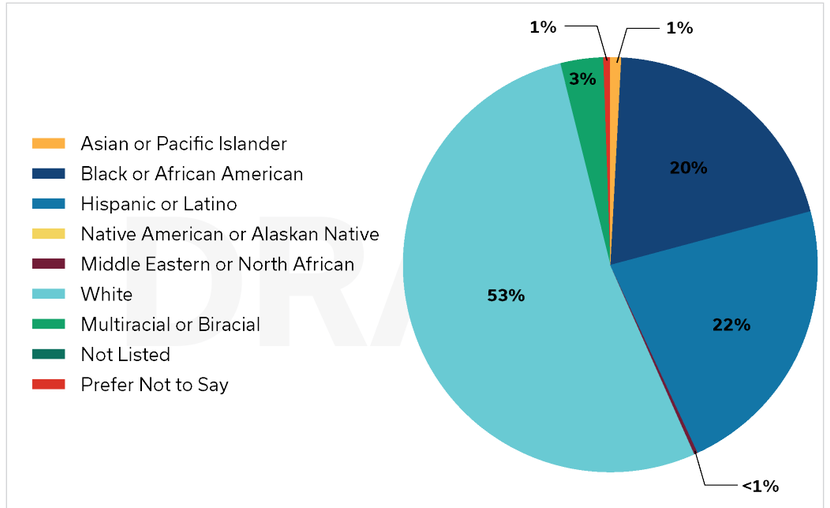


Figure 8: Race and ethnicity of engagement participants.

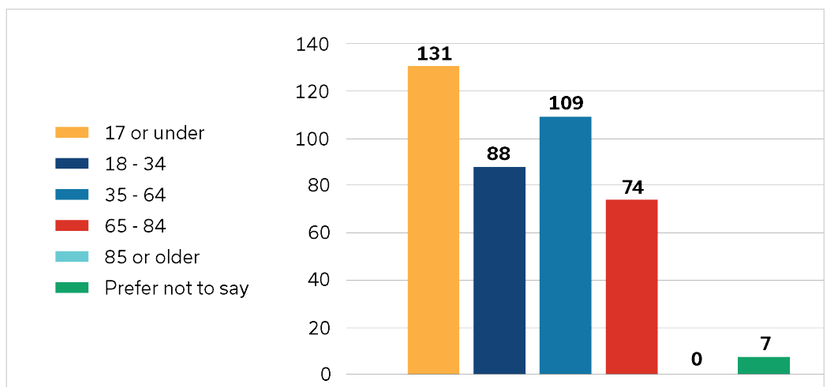


Figure 7: Age of engagement participants.

Key Engagement Takeaways

The following section details key messages heard throughout the first phase of the public engagement process, from both online and in-person events.

Engagement participants would prefer to walk or bicycle places if conditions allowed for it to be done safely. Despite personal vehicle travel being the most common form of travel, both online and in-person respondents consistently report the preference to walk or bicycle places if it were safe to do so.

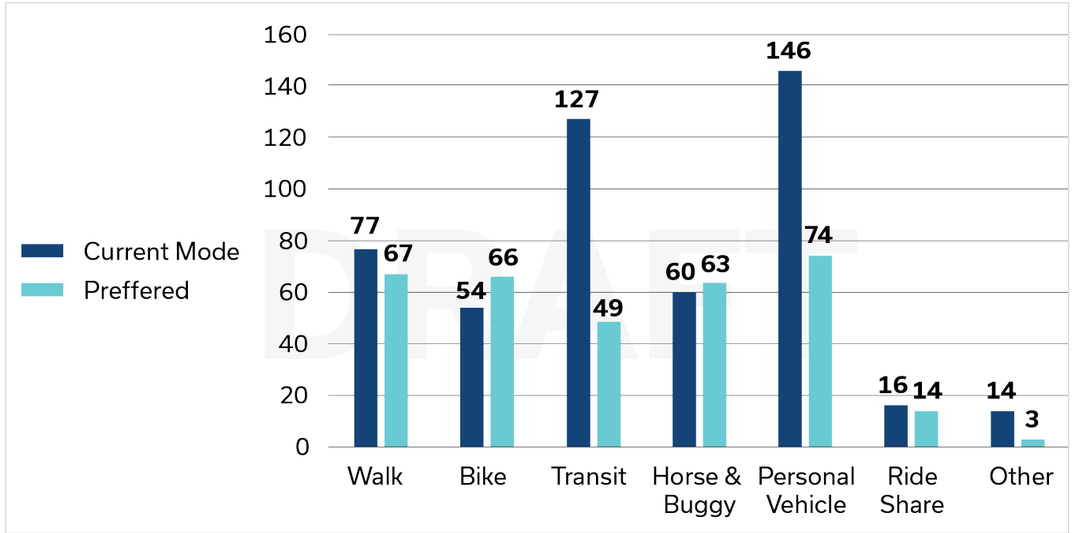


Figure 9: Current mode of commute compared to the preferred mode of commute.

Pop-up event in City of South Bend.

Pop-up event in City of South Bend.

Driver behaviors such as **speeding, distracted driving, and failure to yield** are the most prevalent safety concerns across respondents.

Michiana Area residents feel that there is **not adequate separation between vehicles and non-motorized travelers, including pedestrians, bicyclists, and horse and buggy travelers.**

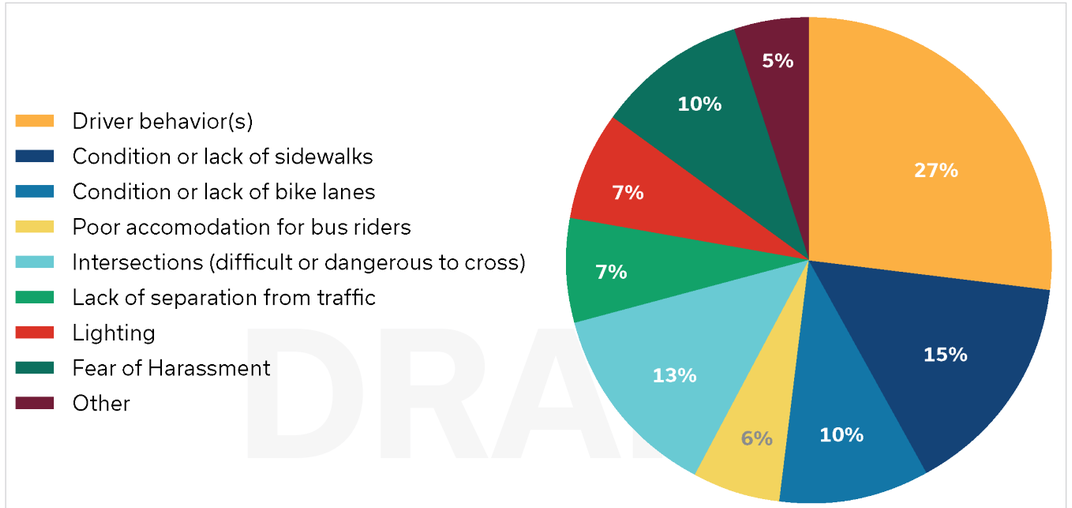


Figure 10: Transportation safety concerns from survey responses.

Amish Family Safety Day in Elkhart County.

Pop-up event in City of South Bend.

CHAPTER 4. Time To Act: Recommendations

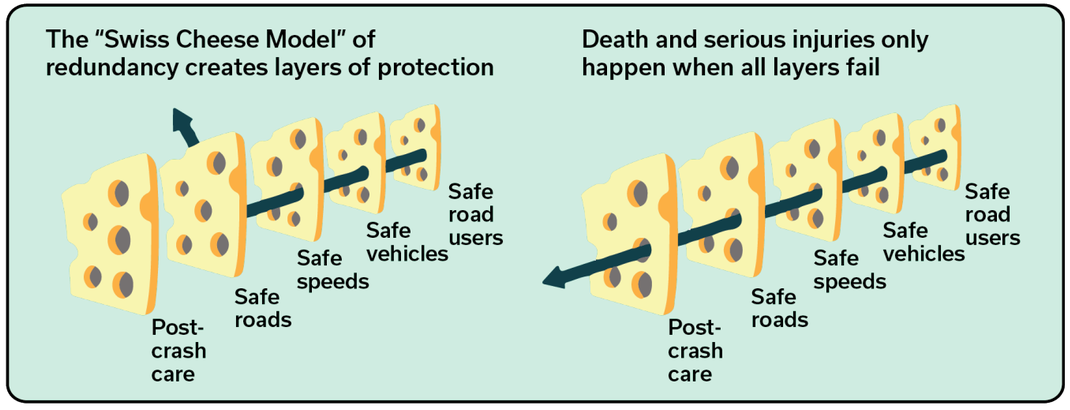
The life of every traveler in the Michiana Area is invaluable. Death should not be a necessary risk of daily travel. When communities change how the transportation system is designed and operated, and prioritize human life above everything else, it is possible to eliminate fatal crashes.

This plan follows the Safe System Approach, which has a central principle that it is possible to prevent fatal crashes. Achieving this goal requires a holistic approach.

Imagine every individual recommendation is a slice of Swiss cheese. Most slices of Swiss cheese have a unique set of holes. The size, location, and number of holes is different in each slice. Likewise, each recommendation has limits. No single action will perfectly prevent all fatal crashes. But when slices of Swiss cheese are stacked, holes become covered. When safety actions are employed by a variety of organizations, with access to different sets of resources, and implemented by people with a diverse set of perspectives and life experiences, the risk for traffic fatalities can be eliminated.

This planning process used a holistic approach to identify recommendations, as discussed in previous sections of this plan. Fatal and serious injury crash data from 2019 – 2023 were analyzed. A systemic safety analysis of roads was conducted to identify high risk locations. An online survey provided opportunities for members of the public to identify unsafe locations. Pop-up events were hosted at locations where people most likely to be impacted by traffic crashes could provide input in person.

The planning process also relied on conversations with transportation engineers, planners, elected officials, educators, land use planners, people in community-based organizations, law enforcement officials, advocates, health practitioners, emergency services staff, economic development specialists, and faith communities.



This input was used to create:

- **Each county's High Priority Network**, which is the network where infrastructure changes need to me made;
- **Community Priority Projects** throughout the region that focus on improving safety outcomes; and
- **Ten goals, twenty-six strategies, and related action items** that can guide the region in creating systems, plans, and programs to make roads safer.

The following pages provide an overview of these items — the Michiana area's stack of Swiss cheese — to create a tangible path to eliminate transportation fatalities in the region.

Kinetic Energy & Transportation Safety

Kinetic energy, the energy of a moving object, is determined by its mass and velocity. This is an important consideration in transportation safety because crashes that transfer high levels of kinetic energy cause severe injuries and fatalities. The human body cannot withstand the forces of high-speed collisions, and children and older adults are especially vulnerable.

There are three main ways that we can reduce kinetic energy on our roads - reducing vehicle size, promoting active transportation, and reducing speeds through design.

Impact of Vehicle Size on Crash Severity

It is important to recognize how vehicle characteristics influence crash outcomes. Larger, heavier vehicles with high front ends tend to cause more severe injuries in crashes, especially involving pedestrians and cyclists. For example, a person struck by a large SUV is far more likely to suffer serious injury than someone hit by a smaller, lighter vehicle at the same speed

Promoting Active Transportation

This plan prioritizes creating safe, attractive conditions for walking, bicyling, and rolling (e.g., wheelchairs, scooters). These modes naturally reduce kinetic energy in the system by relying on slower speeds and lighter vehicles, improving safety for all road users.

Reducing Speed Through Design

For decades, roadways and speed limits have been designed to prioritize fast car travel, often disregarding other modes of transportation, land uses, and the human body's vulnerability to impact forces. Lowering vehicle speeds significantly reduces the severity of crashes by limiting the kinetic energy transferred on impact. historic roadway design's focus on speed has come at the expense of vibrant public spaces, accessability, local economic development, and, most tragically, human lives.

By recommending projects and designs that reduce kinetic energy, this plan aims to create

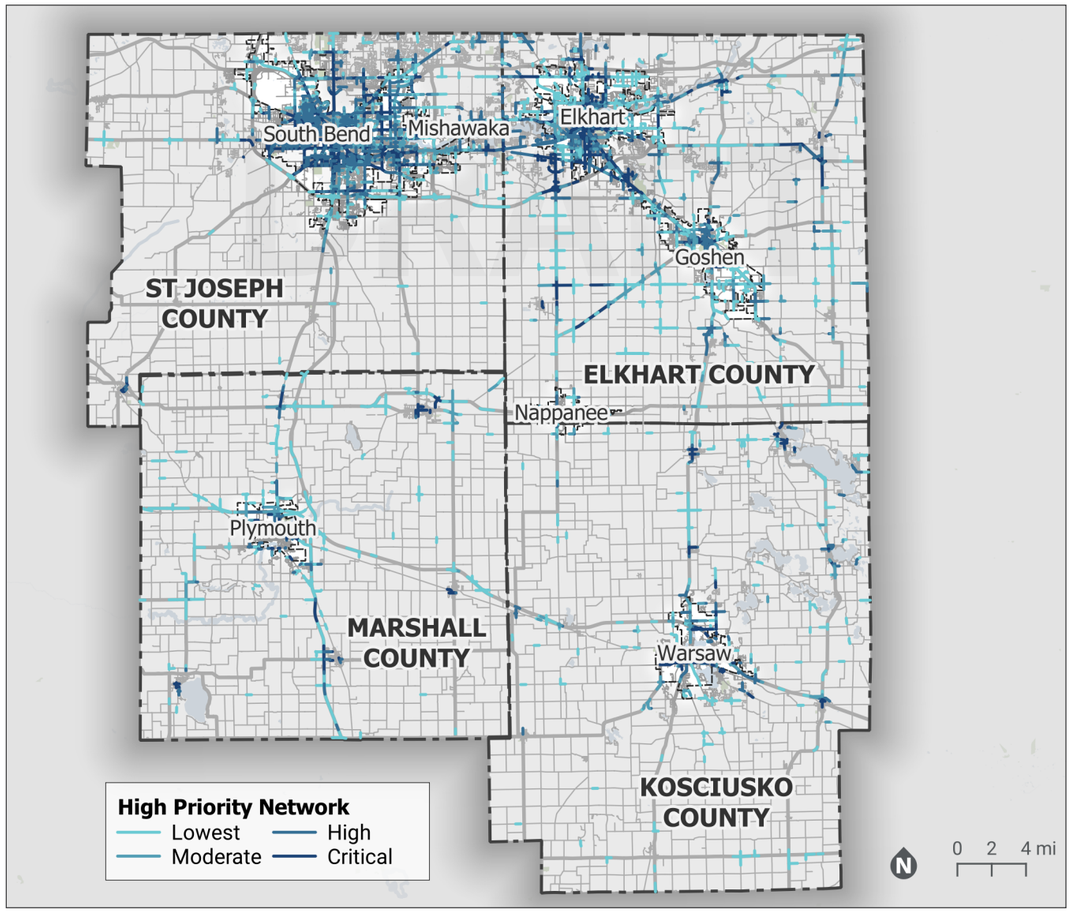
High Priority Network

The High Priority Network (HPN) is a network of roadways in the region that should be prioritized for safety improvements. **This network is where infrastructure improvements need to be made to improve roadway safety in the region.**

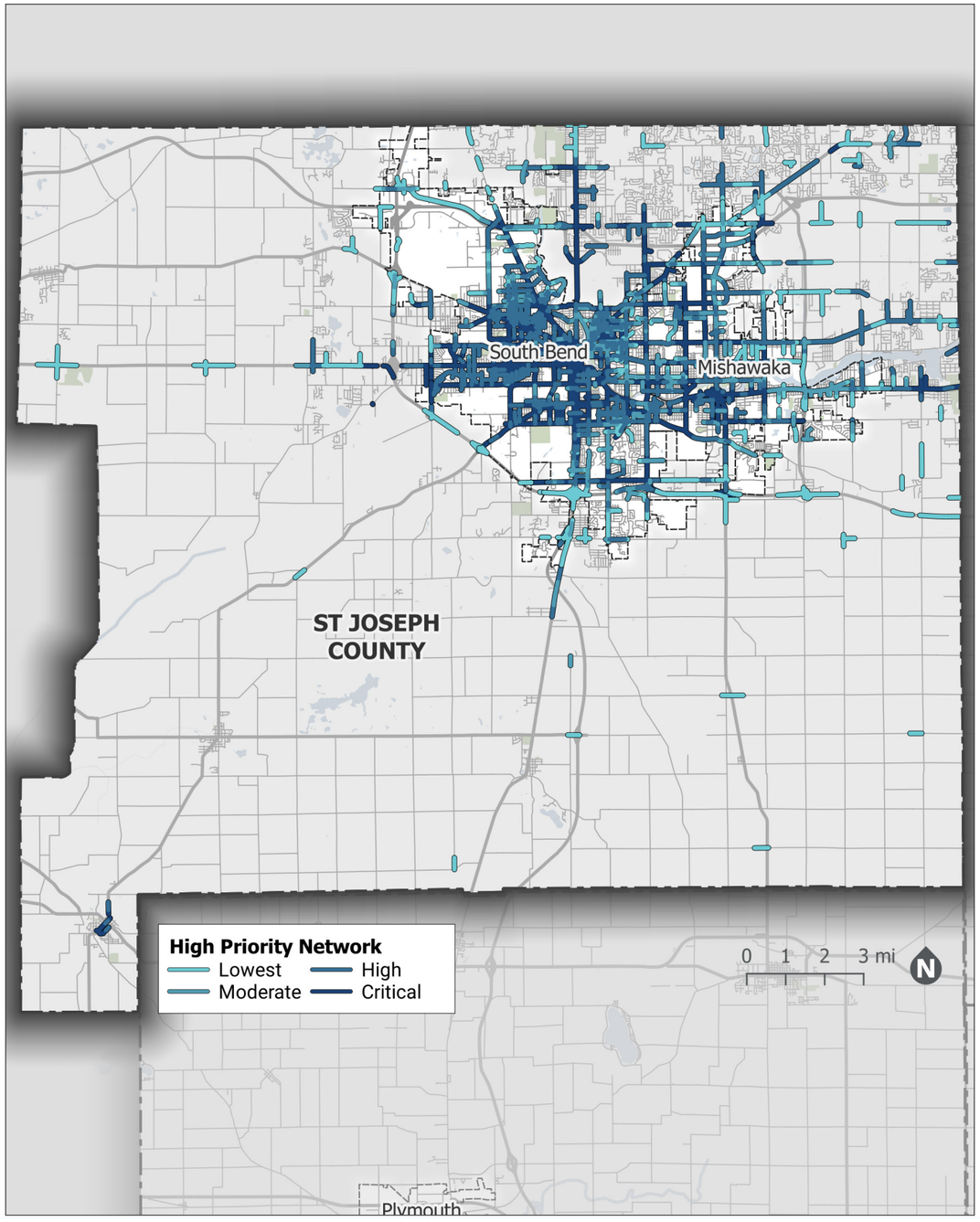
These networks were created using the crash analysis, High Injury Network, and High Risk Network that were discussed in Chapter 2, as well as considerations of roadway characteristics, land use and context, and demographics that have been shown to increase the risk of fatal and serious crashes.

More information on the methodology behind creating the High Priority Network can be found in Appendix E. Project Prioritization and Methodology.

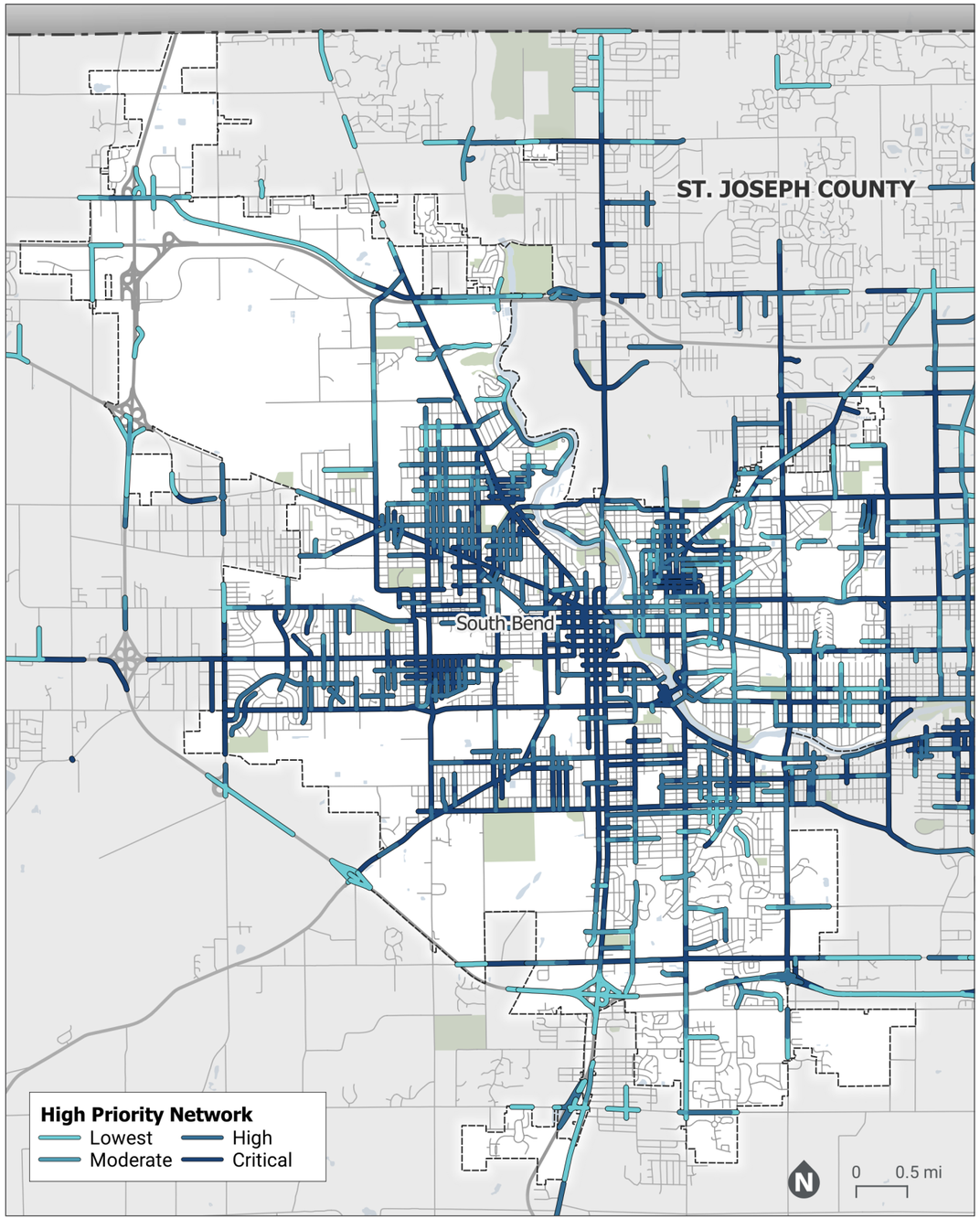
Map 11: High Priority Network



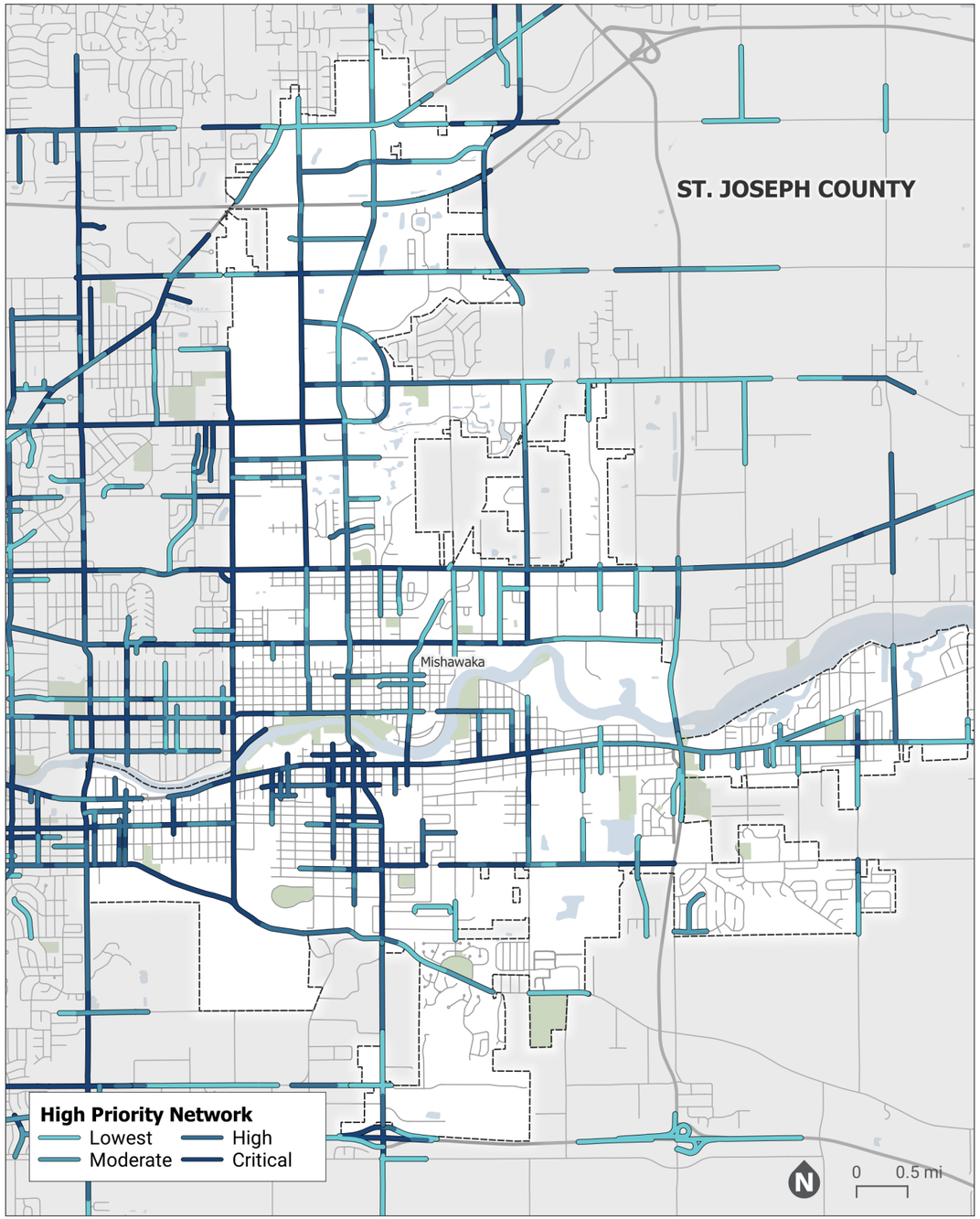
Map 12: Priority Network (St. Joseph County)



Map 13: Priority Network (City of South Bend, St. Joseph County)

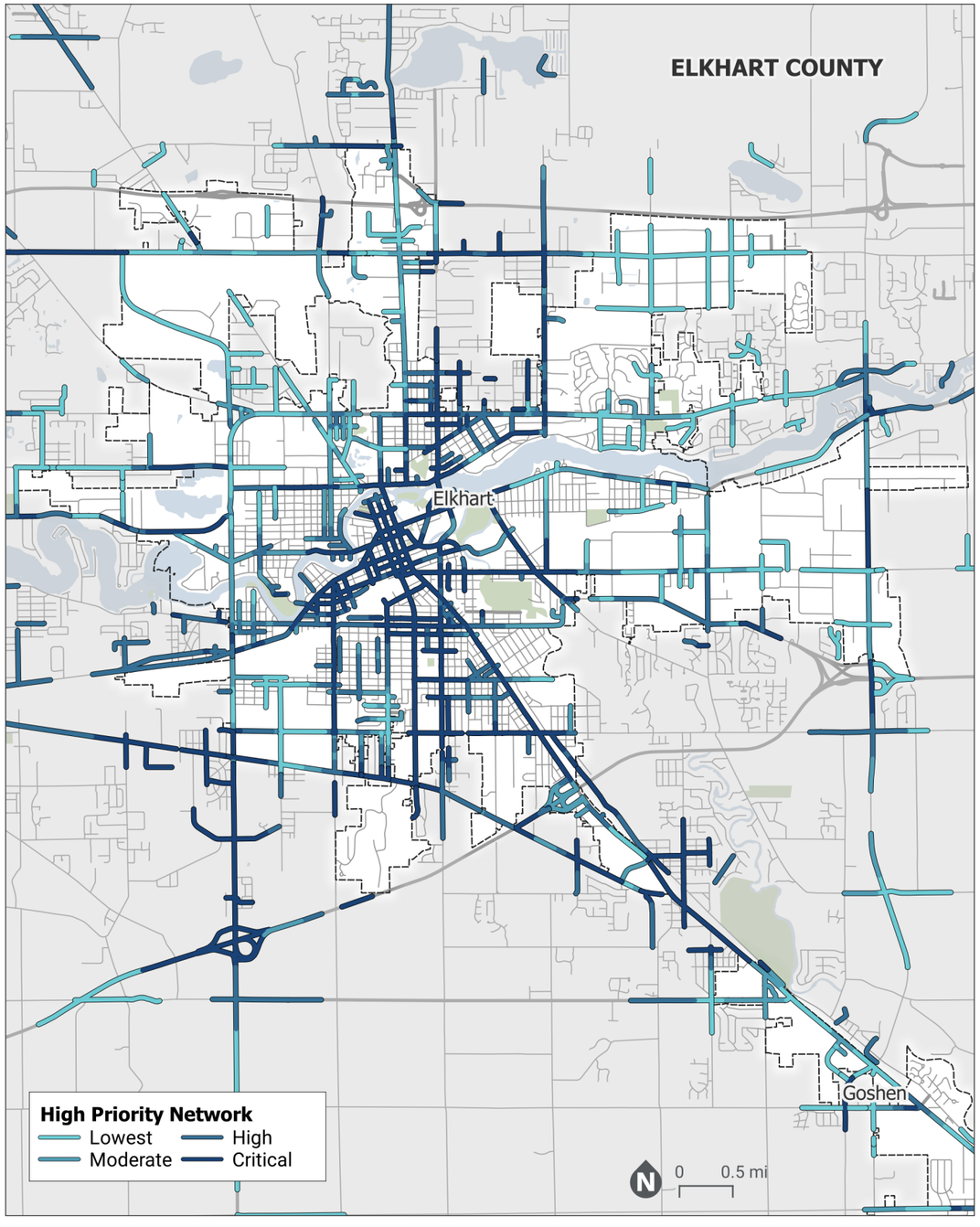


Map 14: Priority Network (City of Mishawaka, St. Joseph County)

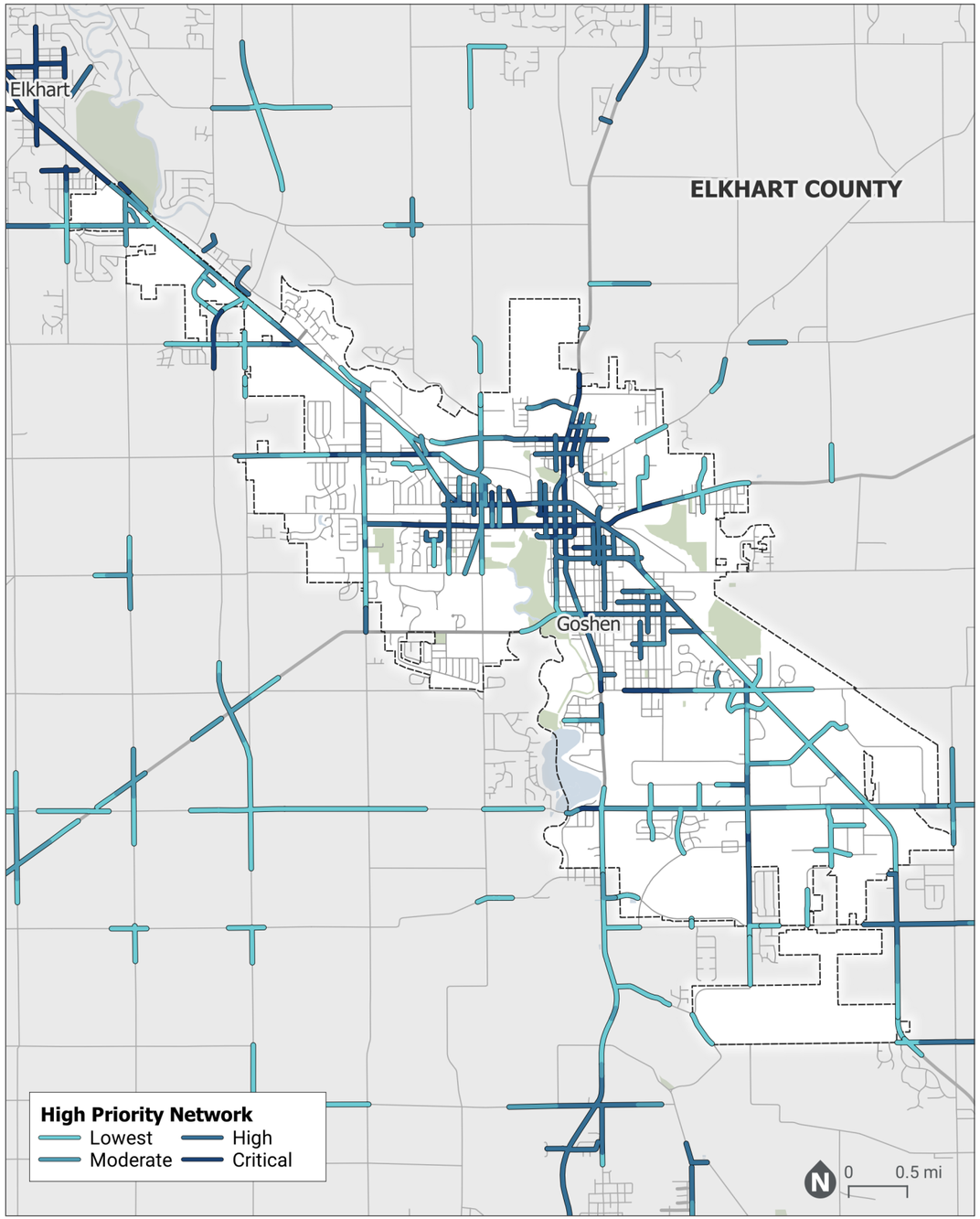


Map 15: Priority Network (Elkhart County)

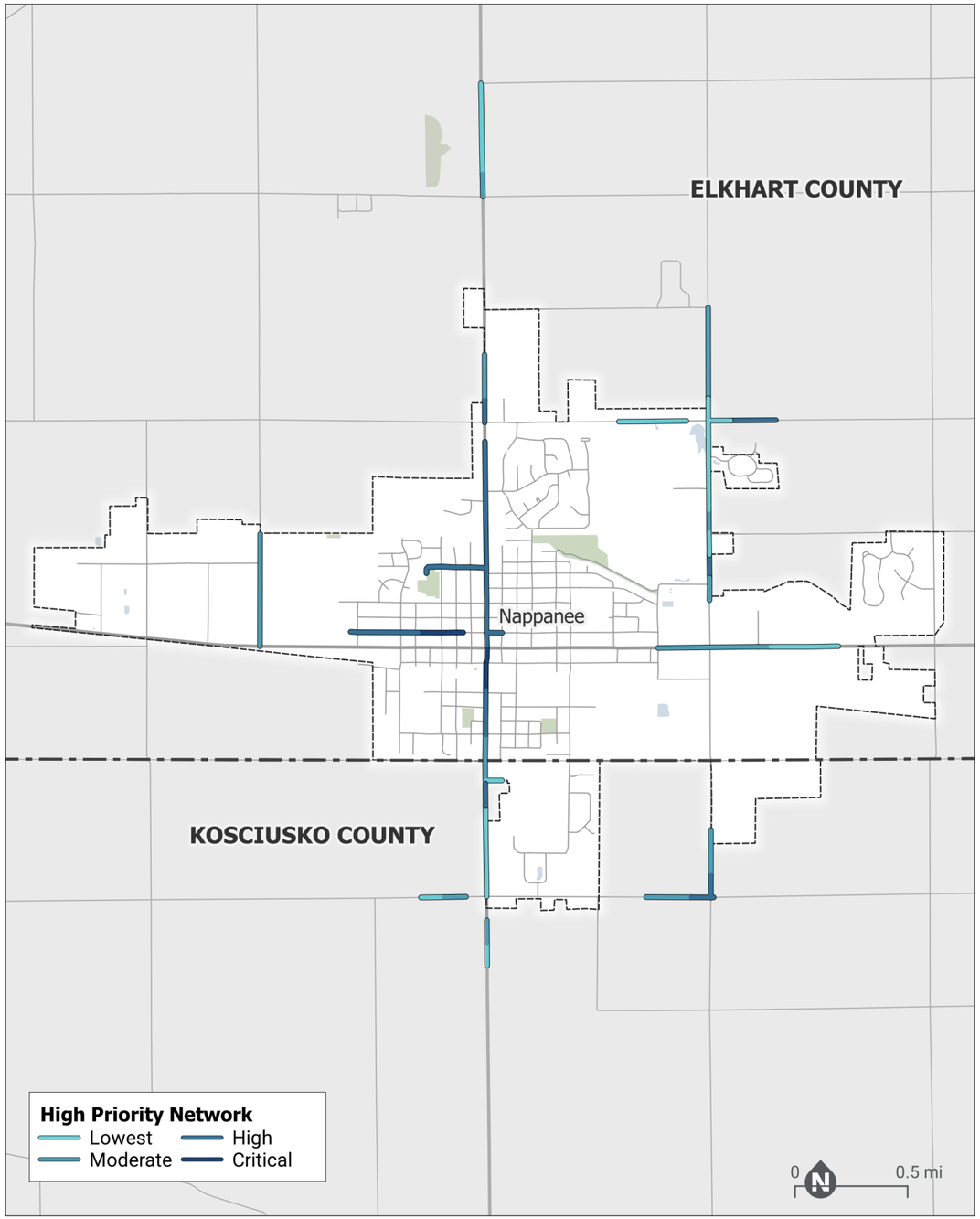
Map 16: Priority Network (City of Elkhart, Elkhart County)



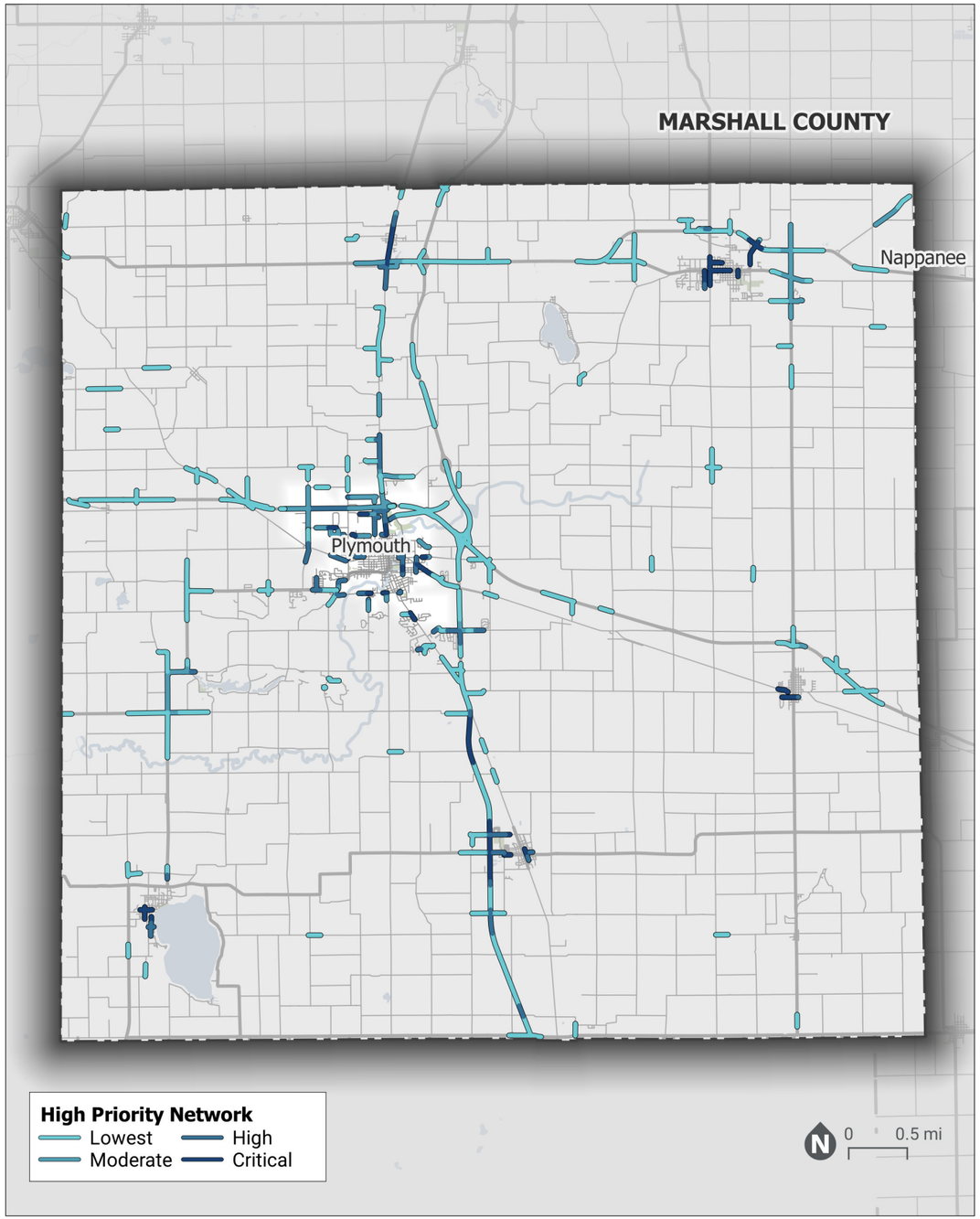
Map 17: Priority Network (City of Goshen, Elkhart County)



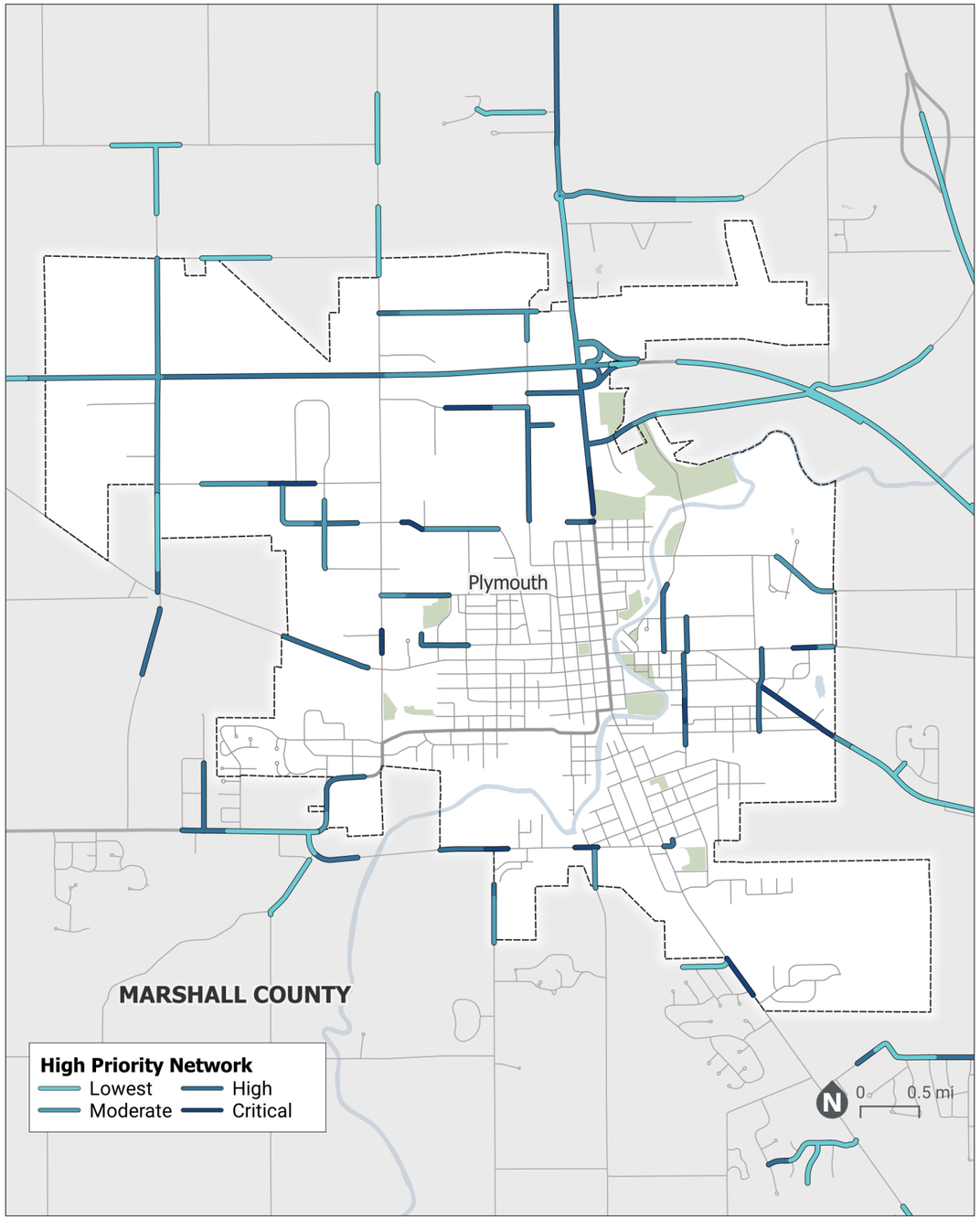
Map 18: Priority Network (City of Nappanee, Elkhart and Kosciusko Counties)



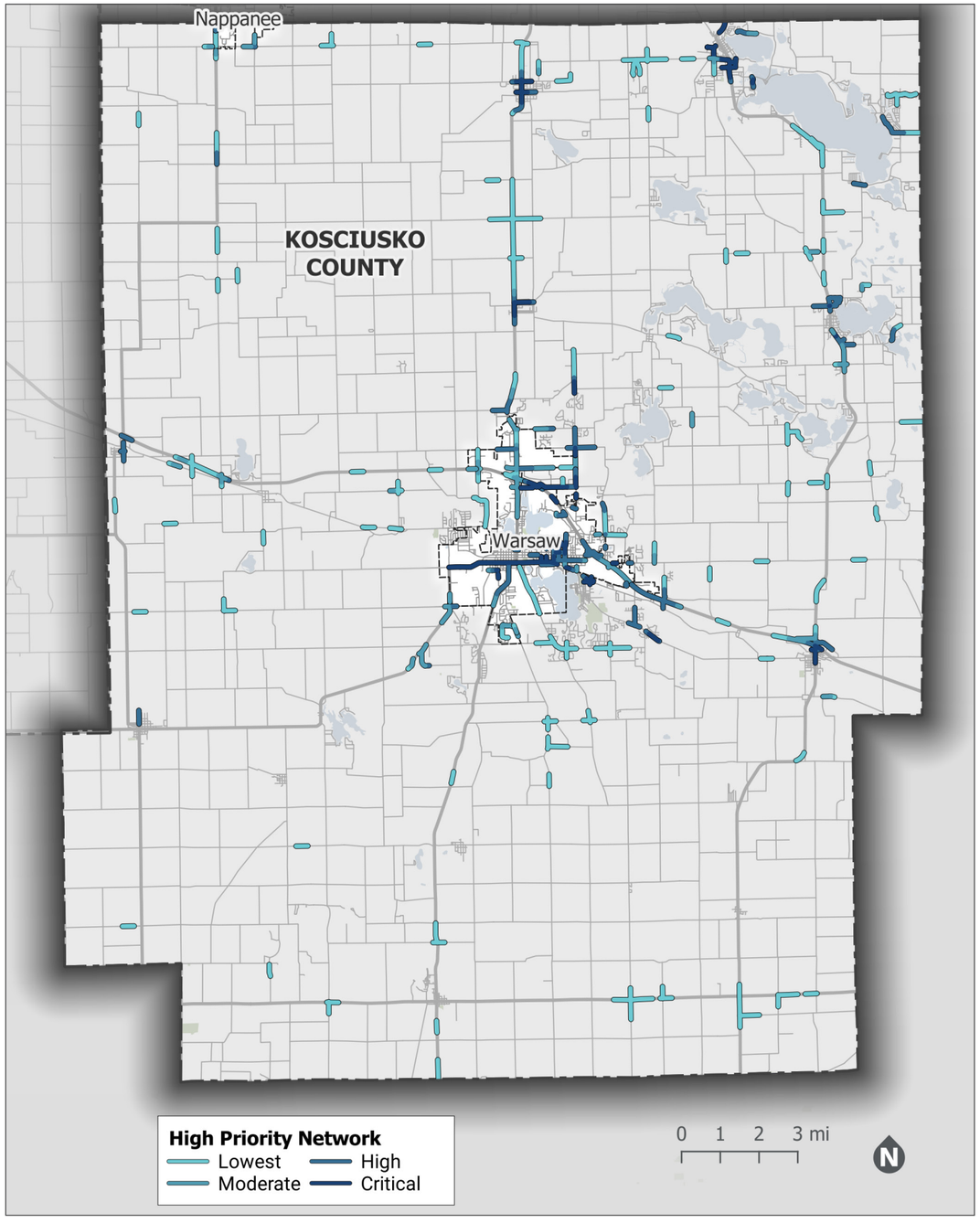
Map 19: Priority Network (Marshall County)



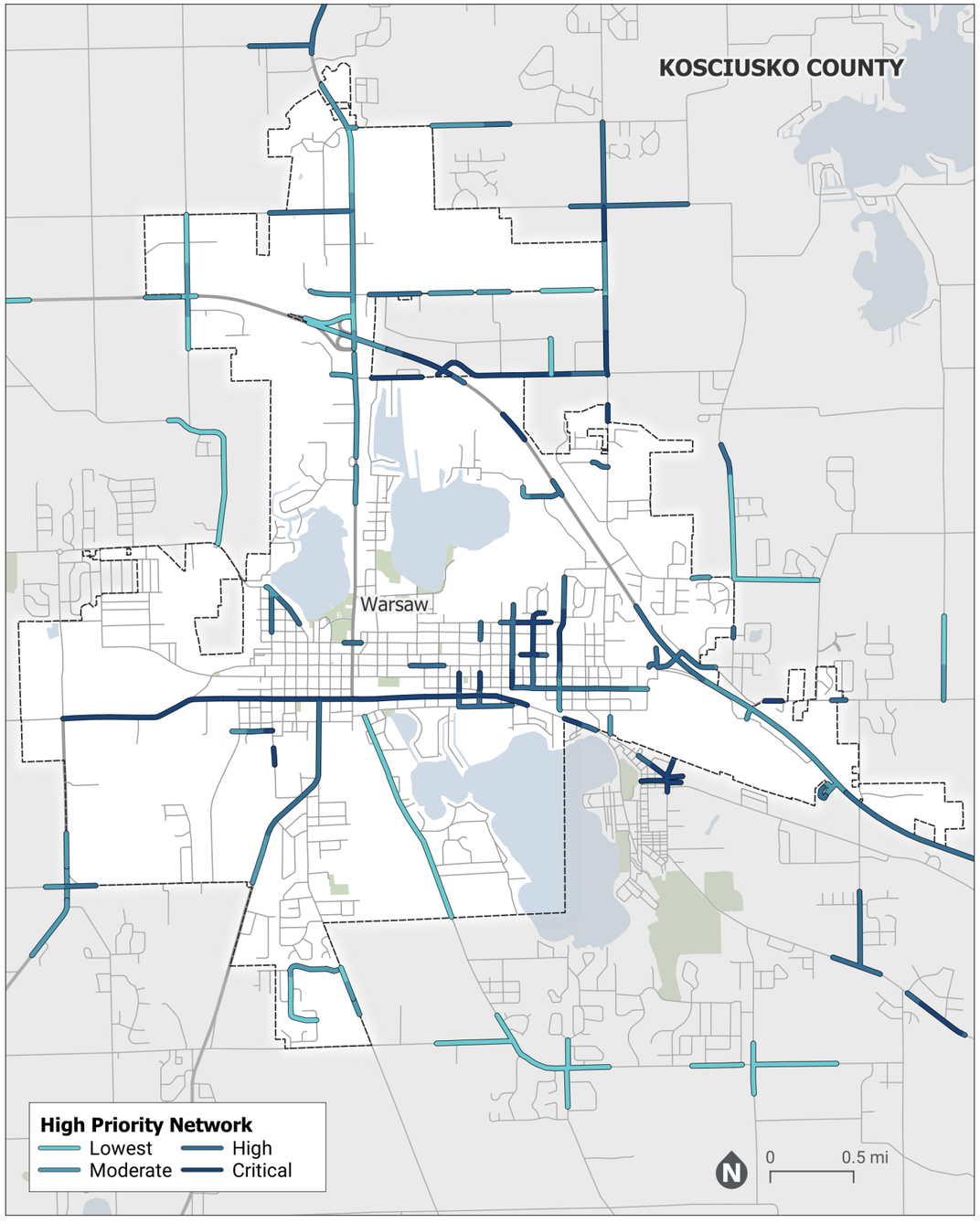
Map 20: Priority Network (City of Plymouth, Marshall County)



Map 21: Priority Network (Kosciusko County)



Map 22: Priority Network (City of Warsaw, Kosciusko County)



Community Candidate Projects

The following pages describe community candidate projects in communities. All of these projects are on roadways identified in the High Priority Network because of their past crash history, identified safety needs, and public feedback during plan engagement.

Each community candidate project section includes information about the community, how the project was selected, roadway information and crash history, and proposed improvements. The recommended improvements were informed by the Safe System Approach and aim to reduce the presence and severity of crashes on the roadway by reducing kinetic energy and using proven safety countermeasures.

Many of the proposed improvements are guided by the Federal Highway Administration's (FHWA) Proven Safety Countermeasures initiative (PSCi).

The PSCi is a collection of remedies that have been proven to decrease crashes that result in death or incapacitating injuries on a variety of roadways throughout the country. FHWA has an online tool that recommends potential countermeasures based on roadway characteristics, (such as its land use context), expected traffic volumes, crash history, and more to help communities across the country improve roadway safety.

Addressing safety in the Michiana area will require using a variety of these proven safety countermeasures. The right countermeasure, or combination of countermeasures, will vary based on existing roadway conditions, safety issues, and the community's vision for serving transportation and access needs in the present and into the future.

Safety countermeasures are listed and hyperlinked in Figure 11 to provide a more detailed description and effectiveness of the full safety countermeasures. A more detailed explanation of the prioritization methodology can be found in Appendix E. Project Prioritization and Methodology.

Potential Regional Applications

In addition to each of the projects identified in the community candidate project section, there are additional opportunities for the region to improve safety for all travelers. These ideas and opportunities were discussed with task force members and the core project team. This includes a regional, coordinated implementation of Safe Routes to School program practices and principles; enhanced, consistent wayfinding signage across the region; and other regional-scale measures to promote safer travel.

Figure 11: Proven Safety Countermeasures

Speed Management

- Appropriate Speed Limits for All Road Users
- Variable Speed Limits
- Speed Safety Cameras

Pedestrians & Bicyclists

- Bicycle Lanes
- Crosswalk Visibility Enhancements
- Leading Pedestrian Interval
- Medians and Pedestrian Refuge Islands in Urban and Suburban Areas
- Pedestrian Hybrid Beacons
- Walkways
- Rectangular Rapid Flashing Beacons (RRFB)

Roadway Departures

- Enhanced Delineation for Horizontal Curves
- Longitudinal Rumble Strips and Stripes on Two-Lane Roads
- Median Barriers
- Roadside Design Improvements at Curves
- Safety Edge[SM]
- Wider Edge Lines

Intersections

- Backplates with Retroreflective Borders
- Corridor Access Management
- Dedicated Left- and Right-Turn Lanes at Intersections
- Roundabouts
- Systematic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections
- Yellow Change Intervals

Crosscutting

- Lighting
- Local Road Safety Plans
- Pavement Friction Management
- Road Safety Audit

Lincoln Ave, City of Goshen, Elkhart County

The City of Goshen is the county seat of Elkhart County. In 2020, Goshen had a census population of 34,517. The City of Goshen is committed to creating a safe transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically and where they are likely to occur in the future (see Map 25). From this network, Lincoln Avenue was selected as a candidate for safety improvements based on its crash history and safety risks (see Figure 12).

Project Background

Lincoln Avenue runs east-west and has an AADT of 11,751 vehicles per day. It is classified as a minor arterial with a posted speed limit of 30 MPH. Project limits are between Indiana Avenue and Cottage Avenue. Between Chicago Avenue and Huron Avenue, the roadway consists of two westbound lanes, one eastbound lane, and a two-way left turn lane to access businesses on either side. East of the bridge, the road expands to four-lanes until 5th Street, where there are two through lanes, a center turn lane, on street parking on both sides, and a bicycle lane on the south side until Cottage Avenue.

There are sidewalks on both sides except between Chicago Avenue and Huron Avenue, where the northern sidewalk is disconnected.

The bicycle lane and road diet on Lincoln Avenue was installed as a safety demonstration project, which met mixed responses from stakeholders.

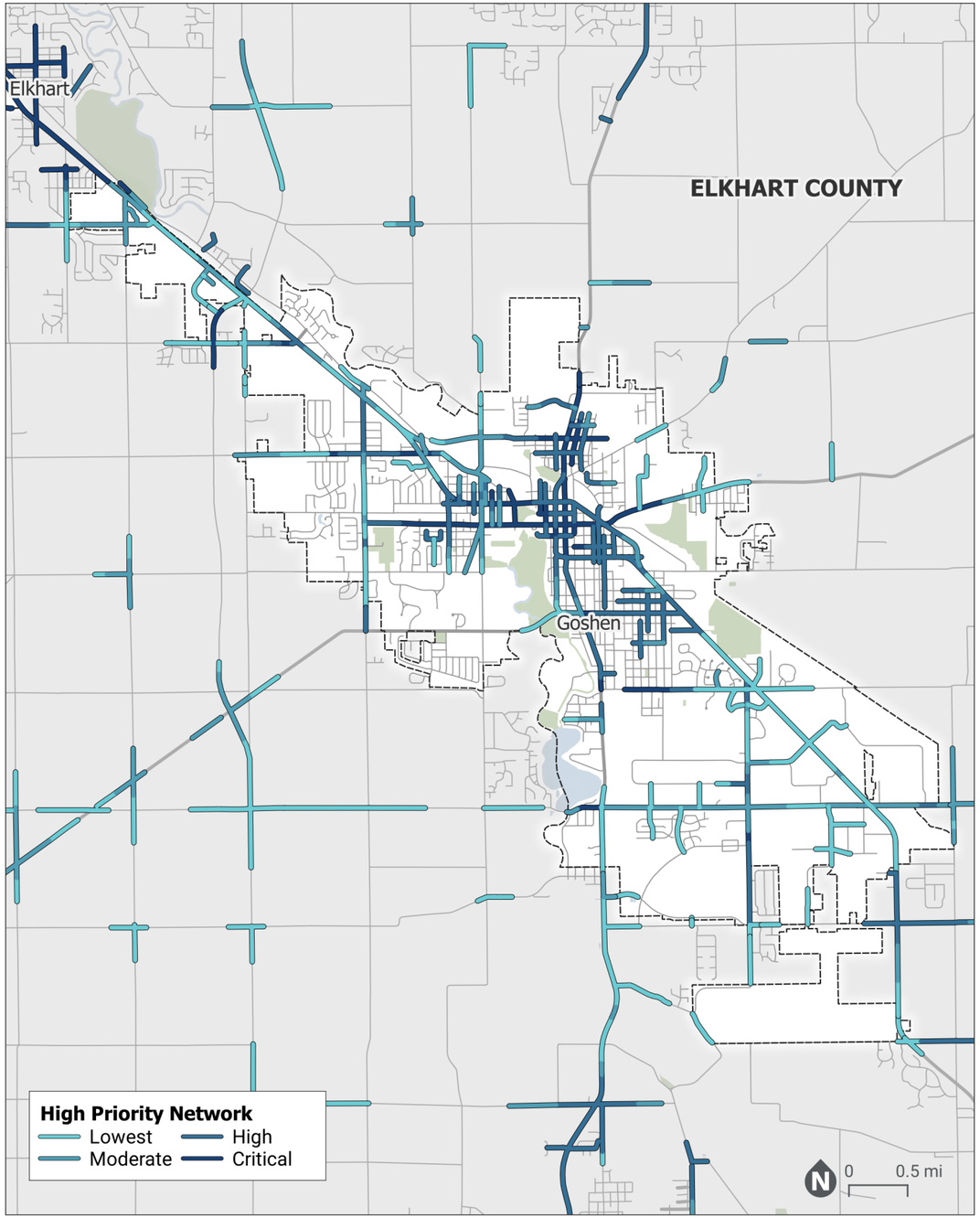
Crash History

Lincoln Avenue was identified on the City of Goshen's High-Risk Network (see Map 12). This means that the corridor has a heightened risk of severe or fatal crashes. From 2019 to 2023, 18 severe crashes, all resulting in incapacitating injuries, occurred on Lincoln Avenue between Indiana Avenue and Cottage Avenue. Among these crashes, the predominant crash types were right angle, rear end, and same direction sideswipe crashes. The most frequently cited primary factors were failure to yield and disregard for signs or signals.

Fatal Crashes	0
Serious Injury Crashes	18
Major Crash Types/ Contributing Factors	Right Angle, Rear End, Same Direction Sideswipe, Failure to Yield, Disregard Sign/Signal

Figure 12: Lincoln Avenue

Map 23: Priority Network (City of Goshen)



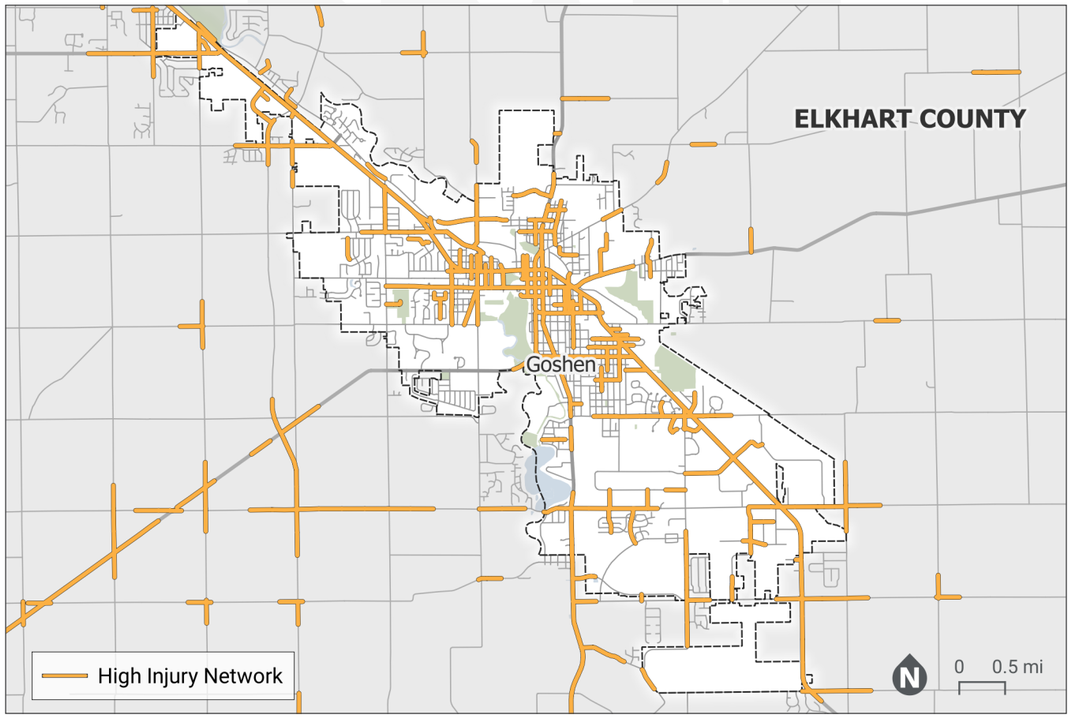
City of Goshen, Elkhart County

Project Plan

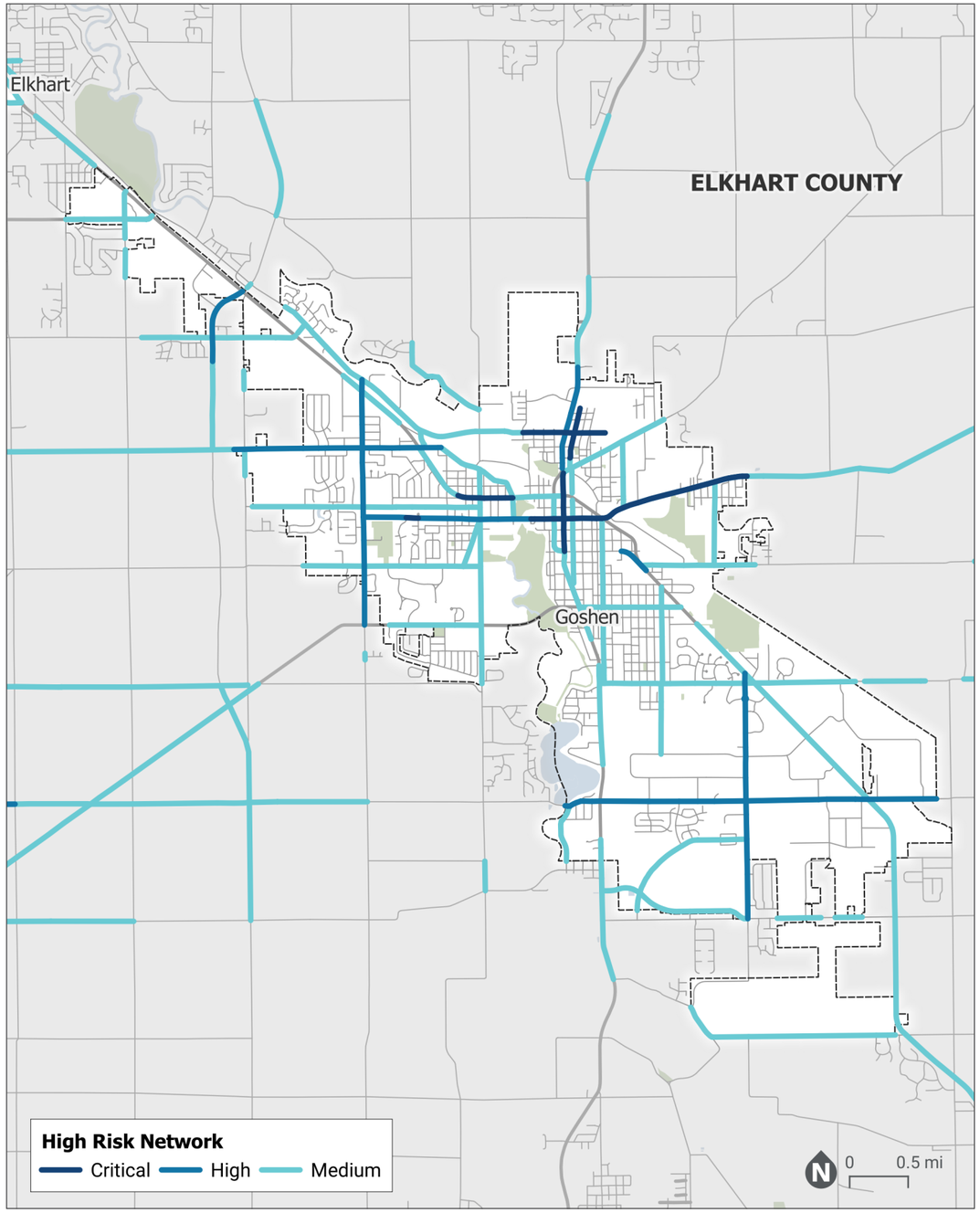
The City of Goshen wishes to extend Lincoln Avenue's existing road diet and bicycle lanes to the entire project area, but current public opinion does not support this endeavor. The City of Goshen wishes to conduct **public outreach** to not only gain insight into stakeholders' opinions on the project, but to educate stakeholders on the benefits of such a project, including its safety impact. The estimated cost of this public outreach campaign is **$200,000**. With this campaign, the City of Goshen hopes to work with its citizens to create a safe Lincoln Avenue for all its users.

	80% Request	20% Request	Total Project Costs
City of Goshen	$960,000.00	$240,000.00	$1,200,000.00
Public & Stakeholder Engagement	*$160,000.00*	*$40,000.00*	*$200,000.00*
Lincoln Street Demonstration Project Implementation	*$800,000.00*	*$200,000.00*	*$1,000,000.00*

Map 24: High Injury Network (City of Goshen)



Map 25: High Risk Network (City of Goshen)



Prairie Street, City of Elkhart, Elkhart County

Elkhart is a principal city in Elkhart County, located in north-central Indiana. In 2020, Elkhart had a census population of 53,923. The City of Elkhart is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically, and where they are likely to occur in the future through the MACOG safety action plan (see Map 26). From this network, Prairie Street and Middlebury Street were selected as candidates for safety improvements based on their crash history and safety risks (see Figure 13). The City determined that Prairie Street should be its first focus based on land use and its role in the network. As the characteristics and issues are similar on both Prairie Street and Middlebury Street, lessons learned from Prairie Street will be applied from its implementation to Middlebury and other streets throughout the city.

Project Background

Prairie Street runs north to south and has an AADT of 9,058 vehicles per day. It is classified as a local road with a posted speed limit of 30 MPH. The limits of the project are from Indiana Avenue to Hively Avenue. The corridor consists of a wide two-lane section throughout the project limits, with an on-street parking lane on the east side from Garfield Avenue to Lusher Avenue.

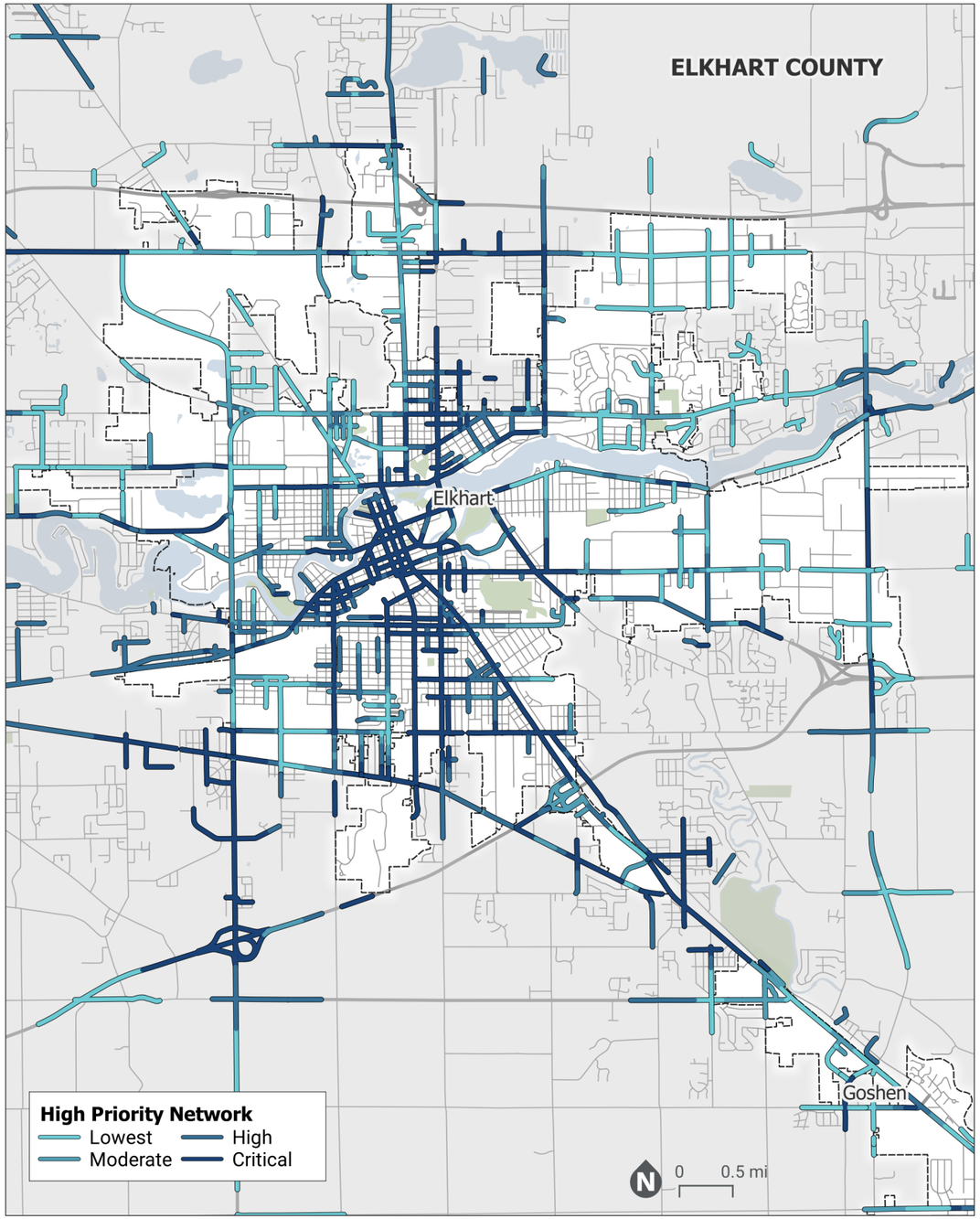
Roosevelt Elementary School and Pierre Moran Middle School are located on the west side of Prairie Street, and the corridor is surrounded by residential areas. Sidewalks are present along both sides of the corridor, connecting to Roosevelt Park on the north side and Woodland Crossing shopping plaza on the south side. Prairie Street is also an alternate route to Benham Street, which connects to downtown Elkhart. Prairie Street is a crucial segment of Elkhart's transportation network for both pedestrians and motorists, which makes it imperative that safety improvements are provided to this critical connection.

Crash History

Prairie Street was identified on the City of Elkhart's High-Injury Network for motor vehicles, pedestrians, and bicyclists (Map 27). This means that the corridor has experienced a high rate of severe or fatal crashes for these modes. From 2019 to 2023, seventeen severe crashes, all resulting in incapacitating injuries, occurred on Prairie Street between Indiana Avenue and Hively Avenue. Four of these crashes occurred at the Garfield Avenue intersection, and two each occurred at the Hively Avenue and Lusher Avenue intersections. According to the crash reports, the predominant severe crash types on Prairie Street were right angle, head on, and rear end collisions. Common contributing factors were drivers failing to yield or disregarding traffic control devices, and pedestrian action.

Fatal Crashes	0
Serious Injury Crashes	17
Major Crash Types/ Contributing Factors	Right Angle, Head On, Rear End, Failure to Yield, Disregard Signal/Sign, Pedestrian Action

Map 26: Priority Network (City of Elkhart)



Prairie Street, City of Elkhart, Elkhart County

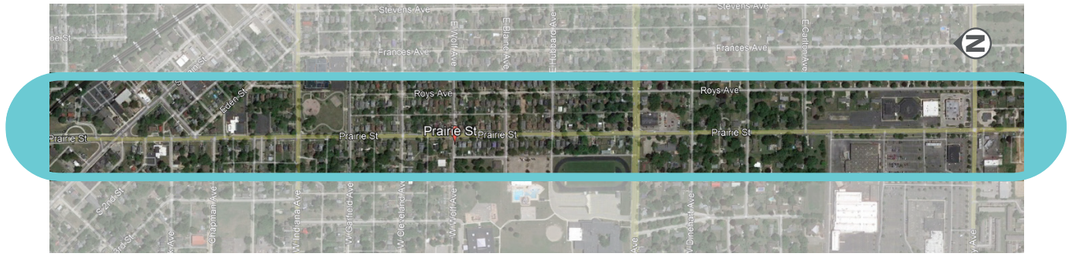


Figure 13: Prairie Street

Project Improvements

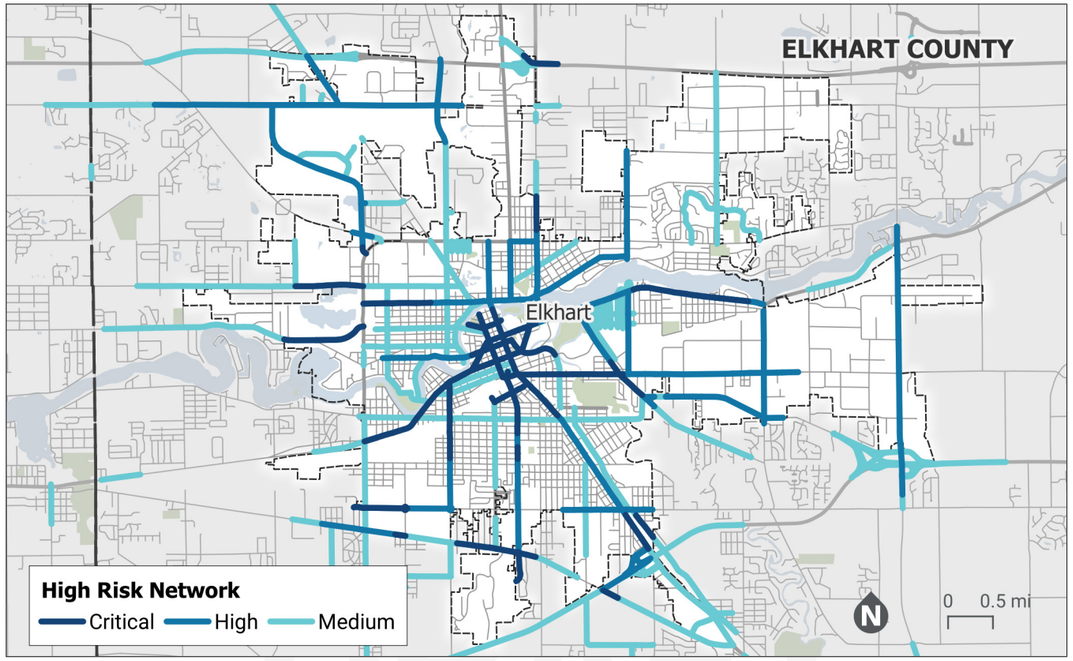
With Prairie Street's proximity to local schools and residential areas, the corridor experiences considerable pedestrian and bicycle traffic. Promoting the safety of pedestrians and bicyclists is key to fostering a transportation network that effectively and safely supports all road users. The City of Elkhart plans to address safety concerns for vulnerable road users using Prairie Street with the following improvements:

- Widen sidewalks on one side to a **multi-use path and provide a one-way separated bicycle lane within the existing pavement on the opposite side**. The path widening will be towards homes to preserve existing tree lawns and curbs and limit the impact on combined sewers present within the area.
- Install new **ADA-compliant curb ramps** at Blaine Avenue, Hubbard Avenue, and Carlton Avenue intersections.
- Install **stamped asphalt pedestrian crossings and traffic calming elements** at Blaine Avenue, Hubbard Avenue, and Carlton Avenue intersections.

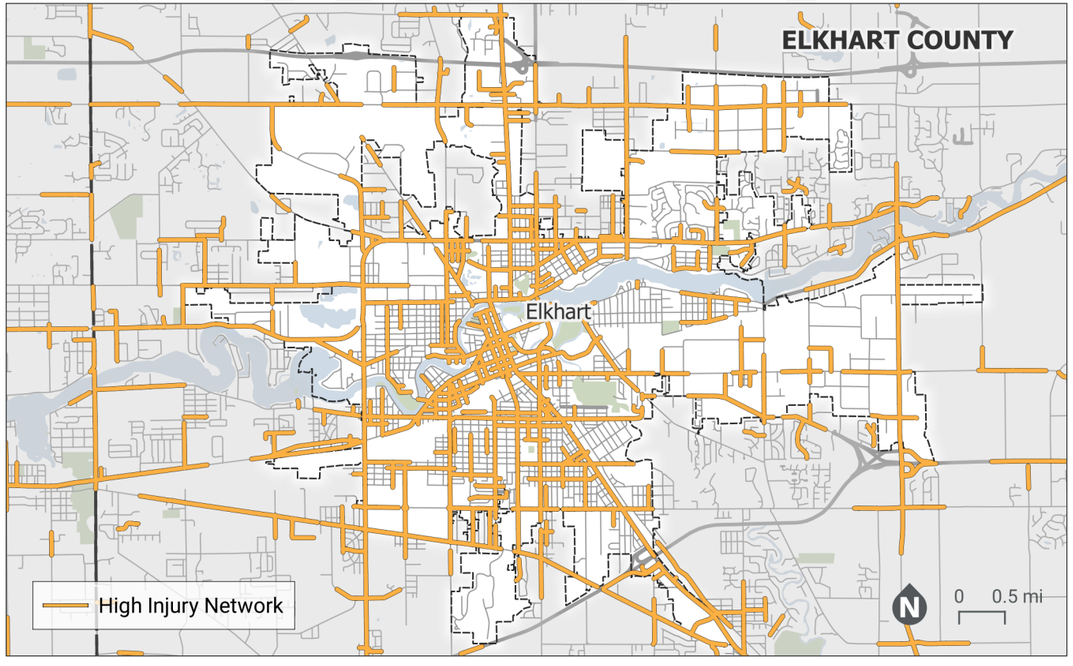
The estimated cost of the project is **$2,700,000**.

	80% Request	20% Request	Total Project Costs
City of Elkhart - Prairie Street	$2,661,680.00	$665,420.00	$3,327,100.00
Engineering Design	$432,000.00	$108,000.00	$540,000.00
Multi-Use Path	$1,032,616.00	$258,154.00	$1,290,770.00
Mill and Resurface	$223,546.40	$55,886.60	$279,433.00
Traffic Signal Improvement	$120,000.00	$30,000.00	$150,000.00
Pavement Markings	$63,488.00	$15,872.00	$79,360.00
Right of Way	$504,000.00	$126,000.00	$630,000.00
Incidentals	$220,091.20	$55,022.80	$275,114.00
Contingency & Inflation	$497,938.40	$124,484.60	$622,423.00

Map 28: High Risk Network (City of Elkhart)



Map 27: High Injury Network (City of Elkhart)



Jackson Street, City of Nappanee, Elkhart and Kosciusko County

Nappanee is a city in Elkhart and Kosciusko counties, located in north-central Indiana. In 2020, Nappanee had a census population of 6,648. The City of Nappanee is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically, and where they are likely to occur in the future (see Map 29). The recent fatal buggy crashes that occurred along State Route (SR) 19 are at the top of Nappanee and Kosciusko County's minds. Understanding that space may be limited to provide buggy lanes along SR 19, the city and county have identified alternative routes to facilitate safe buggy travel through the region. Nappanee identified Jackson Street, between Market Street and County Road 1350, as a candidate for safety improvements based on vulnerable roadway users, with a particular focus on Amish populations using bicycles and horses and buggies.

Project Background

Jackson Street is a north-south road with an AADT of 1,647 vehicles per day within the project limits. It is classified as a local road with a posted speed limit of 25 MPH. The corridor consists of an unmarked two-lane section throughout. Jackson Street intersects with a railroad just south of Lincoln Street. The roadway currently ends at Newcomer Drive before connecting to County Road 1350.

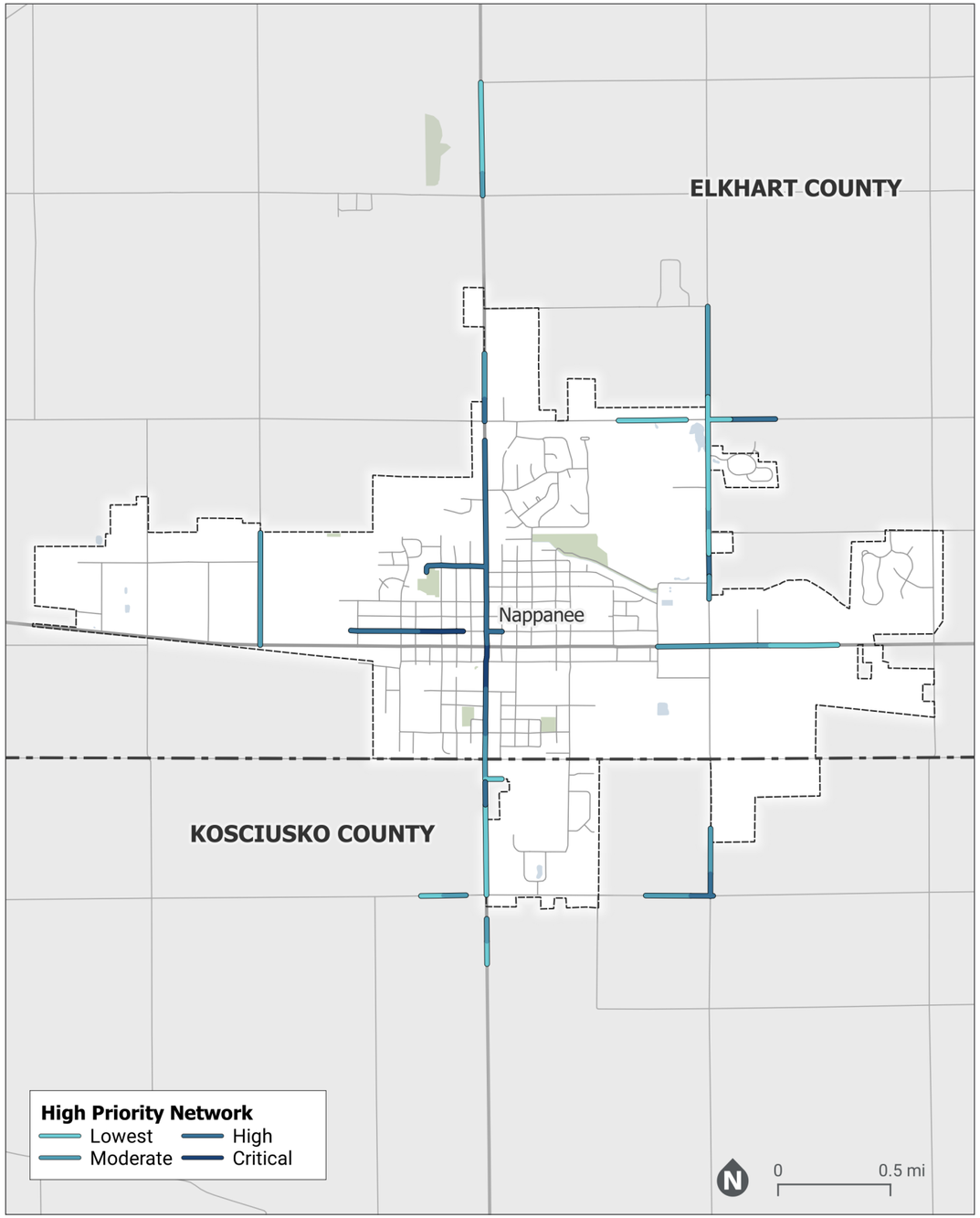
The Nappanee area is home to a considerable Amish and Mennonite population, who often use horse-drawn buggies and bicycles on Nappanee roads such as SR 19 to connect to and pass through Nappanee. These buggies use an entire travel lane and travel slower than motor vehicles and are therefore at heightened risk of severe collisions, particularly on high-speed roads like SR 19.

Crash History

SR 19 was identified on Nappanee's High-Injury Network (see Map 30), and Jackson Street was identified on Nappanee's High-Risk Network (see Map 31), meaning that it is a corridor with a high likelihood of safety risks. Jackson Street experienced one serious injury crash between 2019 and 2023. The crash was a right-angle collision occurring at the intersection of Jackson Street and Lincoln Street. The primary factor cited was a failure to yield the right of way.

Figure 14: Jackson Street

Map 29: Priority Network (City of Nappanee)



Project Improvements

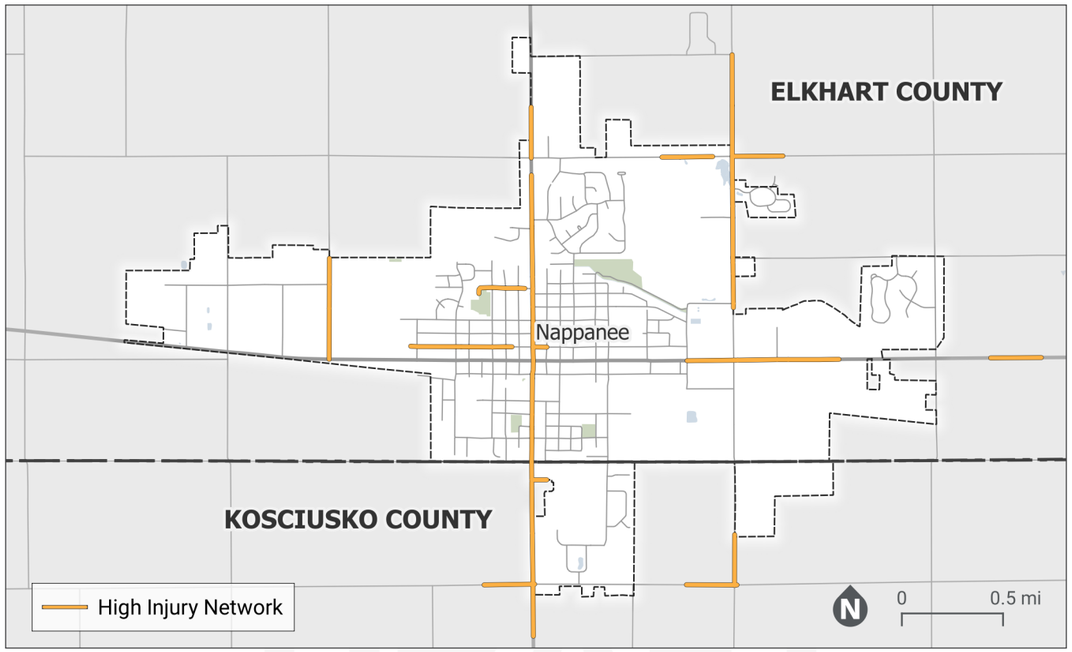
With the following improvements to Jackson Street, the City of Nappanee plans to foster roadway safety by prioritizing all road users:

- Encourage slower speeds by **reducing lane width via restriping** with an **advisory bike lane** from Bungalow Drive to Market Street.
- Install a 16-foot **multi-use path** connecting County Road 1350 to Jackson Street, ending at Bungalow Drive. This path shall be designed with horse-and-buggy travel in mind and will provide a safer alternative to State Road 19 for the Amish and Mennonite population.
- Install **speed reduction countermeasures** at intersections, such as curb bumpouts and raised crosswalks.

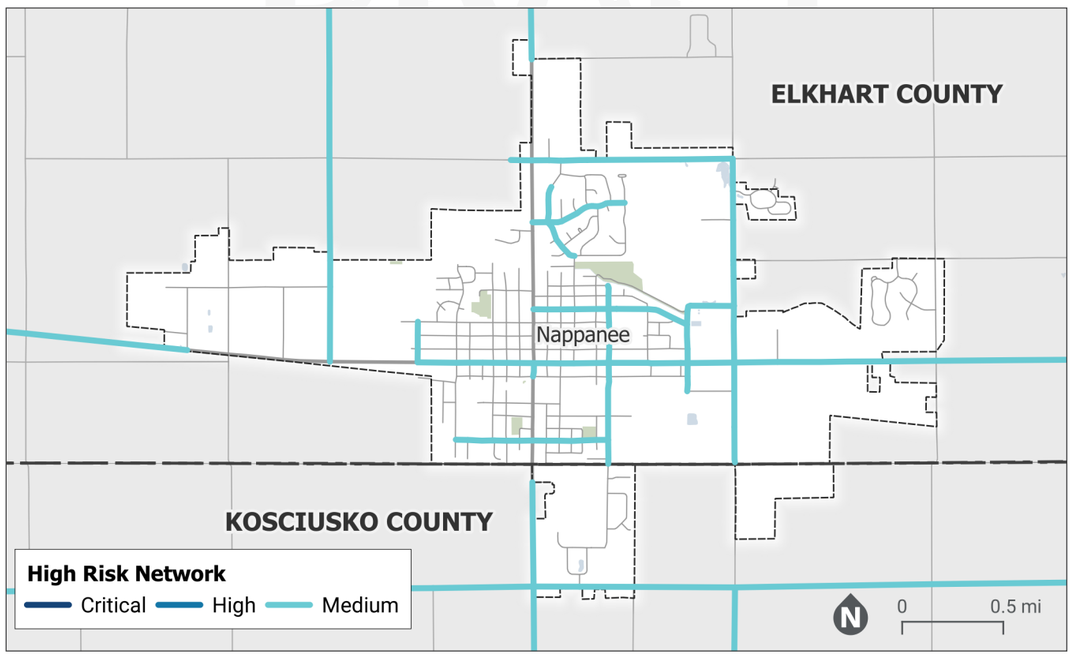
The estimated cost of this project is approximately **$2,230,000**.

	80% Request	20% Request	Total Project Costs
City of Nappanee Path	$1,784,000.00	$446,000.00	$2,230,000.00
Engineering Design	*$464,000.00*	*$116,000.00*	*$580,000.00*
Multi-Use Path (Jackson St)	*$480,000.00*	*$120,000.00*	*$600,000.00*
Traffic Calming Measures (Jackson St.)	*$400,000.00*	*$100,000.00*	*$500,000.00*
Incidentals	*$112,000.00*	*$28,000.00*	*$140,000.00*
Contingency & Inflation	*$328,000.00*	*$82,000.00*	*$410,000.00*

Map 30: High Injury Network (City of Nappanee)



Map 31: High Risk Network (City of Nappanee)



Fisher Avenue/Buffalo Street, City of Warsaw, Kosciusko County

Warsaw is the county seat of Kosciusko County, located in north-central Indiana. In 2020, Warsaw had a census population of 15,804. The City of Warsaw is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically, and where they are likely to occur in the future (see Map 32). From this network, Fisher Avenue/Buffalo Street, from Rozella Road to Winona Avenue, was selected as a candidate for safety improvements based on its crash history and safety risks (see Figure 15).

Project Background

Fisher Avenue, also known as SR 15, has an AADT of 14,340 vehicles per day within the project limits. The road runs north to south and features an S-curve to the south of where Fisher Avenue transitions into Buffalo Street. It is one of the major routes in and out of downtown Warsaw. It is classified as a major collector, with a posted speed limit of 35 MPH. The speed limit changes to 40 MPH towards the southernmost portion of the project, starting north of Rozella Road. Stakeholders report drivers entering the city from the south via Fisher Avenue traveling at high speeds, citing the transition from a rural highway to be the cause. The corridor consists of a two-lane section, with wide shoulders beginning north of Rozella Road.

Warsaw Community High School, Edgewood Middle School, and Washington STEM Academy are located on Fisher Avenue's west side. Lakeland Christian Academy is located on the east side. Residential homes are located on both sides of the roadway. There is a sidewalk on the west side, from Kincaid Street until the bridge south of Bass Street. There are no east-to-west pedestrian crossings except for at the Bass Street and Winona Avenue intersections, meaning that south of Bass Street, pedestrians coming from or going to the east side of Fisher Avenue have no place to cross the street. Additionally, there is no sidewalk or crosswalk connectivity to Warsaw Community High School or to Edgewood Middle School. Fisher Avenue intersects Kincaid Street, Lake Street, Ranch Road, and South Buffalo Street at three skewed intersections in close succession, near the center of the project limits.

Crash History

Fisher Avenue was identified on the City of Warsaw's High Injury Network (see Map 33) for motor vehicles and on its High Risk Network (see Map 34) for all modes of travel. The combination of high speed, sweeping geometry, and mix of land uses contribute to this corridor's high risk for a fatal or serious injury crash. Between 2019 and 2023, one incapacitating injury crash occurred on Fisher Avenue within the project limits. This crash was caused by a driver running off the road between the Kincaid Street and Herscher Drive intersections.

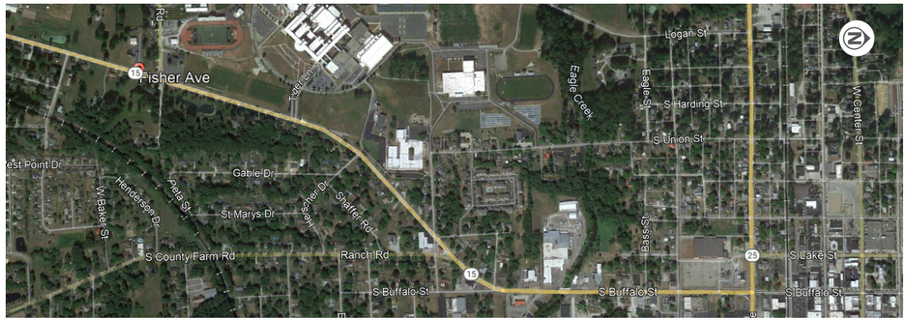


Figure 15: Fisher Avenue/Buffalo Street

Project Improvements

With the following improvements, the City of Warsaw plans to prioritize the safety of all road users by targeting high-priority locations such as Fisher Avenue:

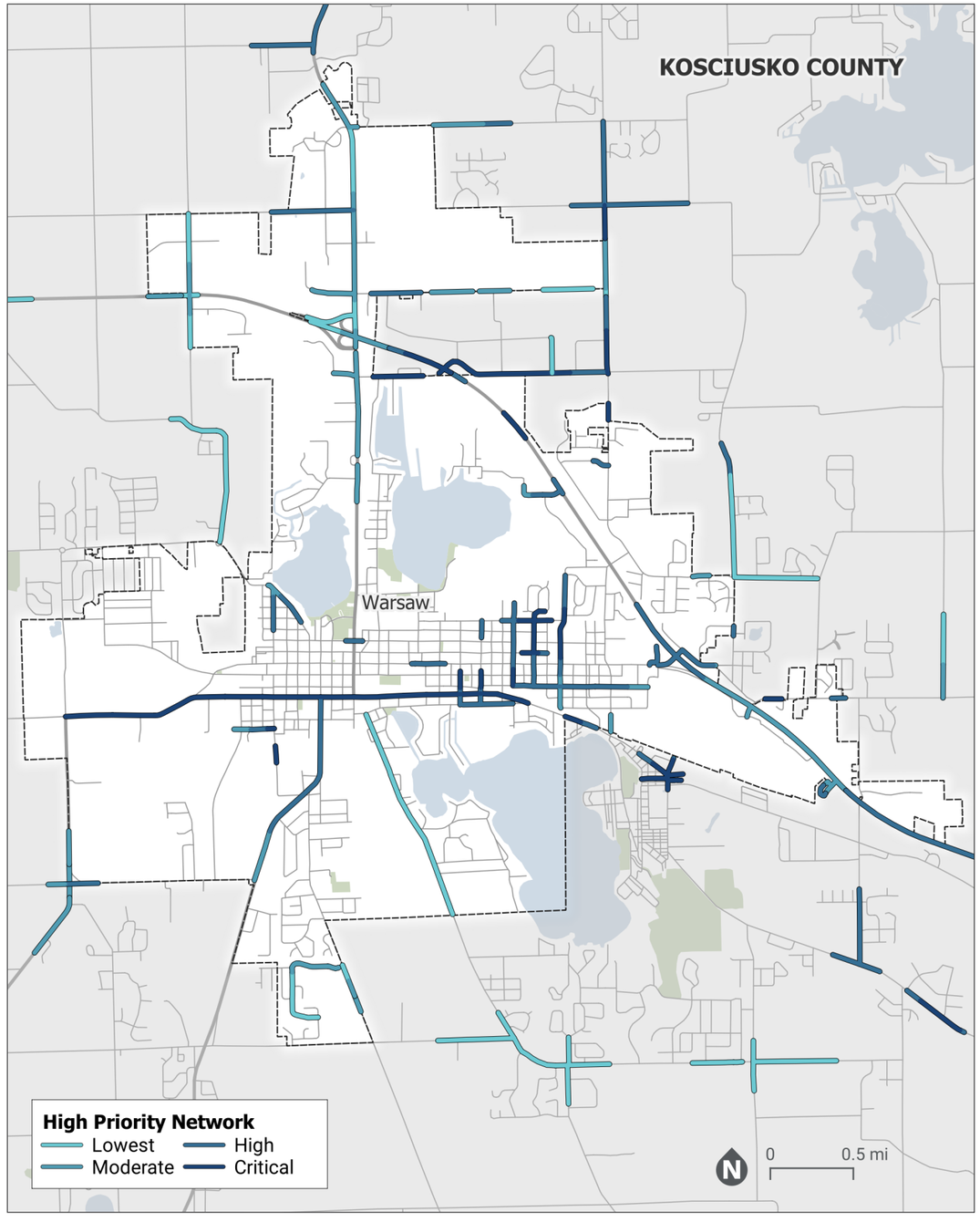
- Install a **roundabout** at Fisher Avenue/ Kincaid Street/Lake Street intersection to create a gateway feature that helps to abruptly shift speeds from a rural highway to rural town
- Install a **multi-use path** on the west side of Fisher Avenue from Tiger Lane to Kincaid Street
- Install **raised pedestrian crossings** with **Rectangular Rapid Flashing Beacons (RRFBs)** at Herscher Drive and Kincaid Street intersections to connect to the new multi-use path
- Install **peripheral transverse stripes** and a **speed feedback sign** to reinforce northbound speed limit change north of Rozella Road.

The estimated cost of this project including the construction of a roundabout at Kincaid Street is approximately **$6,720,000**. Without the roundabout, the estimated cost is approximately **$1,740,000**.

	80% Request	20% Request	Total Project Costs
City of Warsaw - SR15/Fisher Avenue/Buffalo Street	$5,373,600.00	$1,343,400.00	$6,717,000.00
Engineering Design	*$696,000.00*	*$174,000.00*	*$870,000.00*
Roundabout Intersection	*$1,904,568.00*	*$476,142.00*	*$2,380,710.00*
Multi-Use Path	*$565,020.00*	*$141,255.00*	*$706,275.00*
Beacons for Pedestrian Crossings	*$24,000.00*	*$6,000.00*	*$30,000.00*
Pavement Markings	*$40,000.00*	*$10,000.00*	*$50,000.00*
Right of Way	*$1,200,000.00*	*$300,000.00*	*$1,500,000.00*
Incidentals	*$280,000.00*	*$70,000.00*	*$350,000.00*
Contingency & Inflation	*$664,012.00*	*$166,003.00*	*$830,015.00*

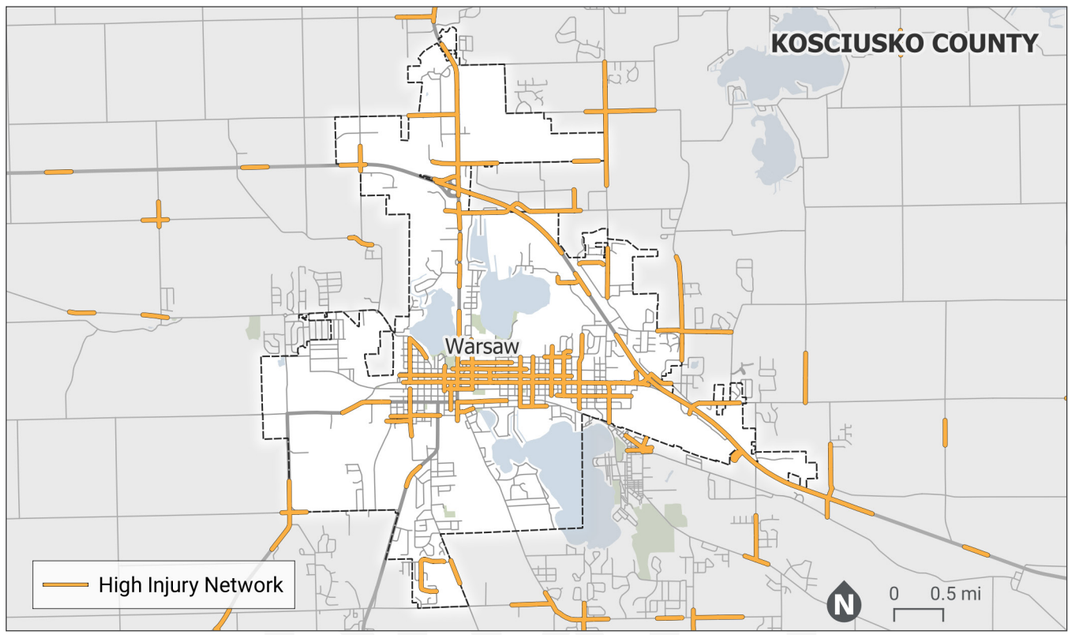
Fisher Avenue/Buffalo Street, City of Warsaw, Kosciusko County

Map 32: Priority Network (City of Warsaw)

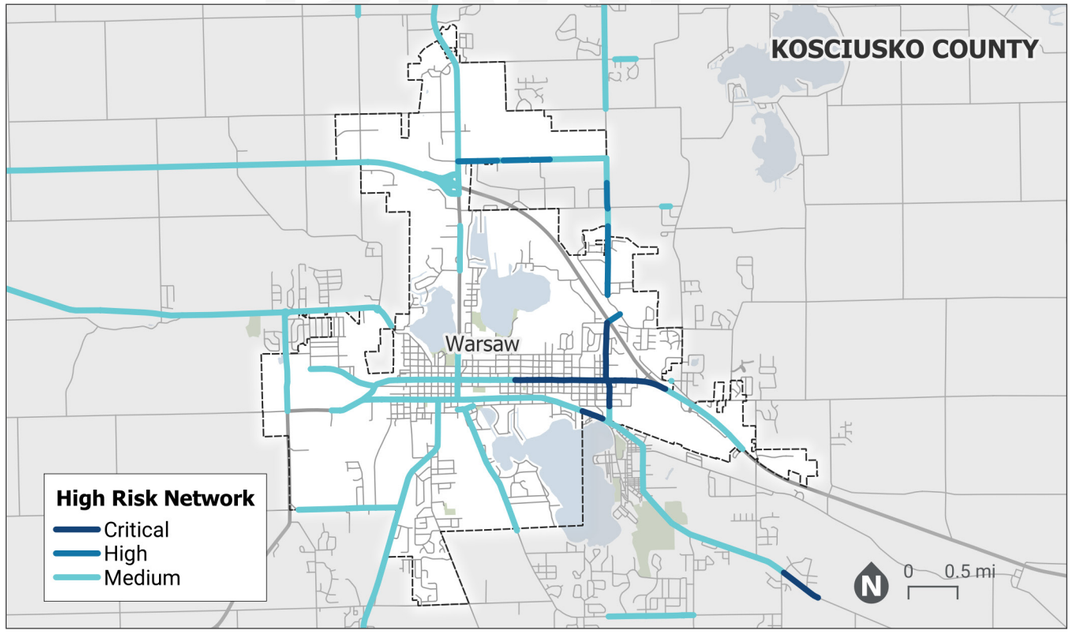


Fisher Avenue/Buffalo Street, City of Warsaw, Kosciusko County

Map 34: High Risk Network (City of Warsaw)



Map 33: High Injury Network (City of Warsaw)



Fisher Avenue/Buffalo Street, City of Warsaw, Kosciusko County

State Route 19 & CR 1350, Elkhart and Kosciusko County

Kosciusko County and Elkhart County are both rural counties located in north-central Indiana. Kosciusko County had a 2020 census population of 80,240. Its county seat is Warsaw, Indiana. Elkhart County is located north of Kosciusko County and had a 2020 census population of 207,047. Its county seat is Goshen, Indiana. Kosciusko County and Elkhart County are both committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision such as the counties' high Amish and Mennonite population. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically, and where they are likely to occur in the future (see Map 37). From this network, roads such as State Route 19 in Kosciusko County and US-20 and County Road 13 in Elkhart County were identified as key routes that need improvements or require a safe and viable alternative route.

Project Background

Both counties have a considerable Amish and Mennonite population, who often utilize county roads for horse-and-buggy and bicycle travel. Buggies use an entire travel lane, and both buggies and bicycles travel considerably slower than motor vehicles. They are, therefore, at heightened risk of severe collisions, particularly on high-speed roads.

Research done by Valparaiso University in Elkhart County shows how sight distance and gap acceptance are different for a person driving a buggy compared with a motor vehicle. The preliminary research shows that standards shown in the reference manual *AASHTO A Policy on Geometric Design of Highways and Streets* do not accommodate this mode type. Insufficient sight distance for both the buggy driver and motorist approaching an intersection are likely contributing factors to both intersection and segment crashes. Both Kosciusko County and Elkhart County are determined to address safety concerns for horse-and-buggy users on their county roads, and plan to work alongside ongoing research on buggy safety measures by implementing study findings in their projects, such as special damage-resistant pavement materials for buggy lanes. The Counties hope to help demonstrate the effectiveness of innovations such as these and provide useful data for innovations going forward.

County Road 1350, between State Road 19 and County Road 700 West, is within Kosciusko County jurisdiction. It is classified as a major collector with an AADT of 2,844 and a posted speed limit of 45 MPH.

Crash History

Collisions involving vulnerable parties are far more likely to result in incapacitating injury or even death, which is why it is crucial to address the safety needs of non-motorized road users. According to the MACOG Fatal and Incapacitating Crash Database, between 2019 and 2023, there were nineteen severe horse-and-buggy crashes across both Elkhart and Kosciusko Counties. Seventeen of these occurred in Elkhart County, and one of the two that occurred in Kosciusko County was fatal. Additionally, there were 108 pedestrian collisions and 68 bicycle collisions across both counties in the same time frame.

From 2019-2023, SR 19 south of Nappanee and County Road 1350 experienced five serious injury crashes, one of which included a horse and buggy. US 20 and County Road 13 south of Middlebury experienced eight incapacitating injury crashes, one of which included a horse and buggy. Of importance are also the recent fatalities that have occurred along these roads, that although outside of the study period, are lives that have been lost and are felt throughout the community.

Figure 16: County Road 1350 - Kosciusko County

Project Improvements

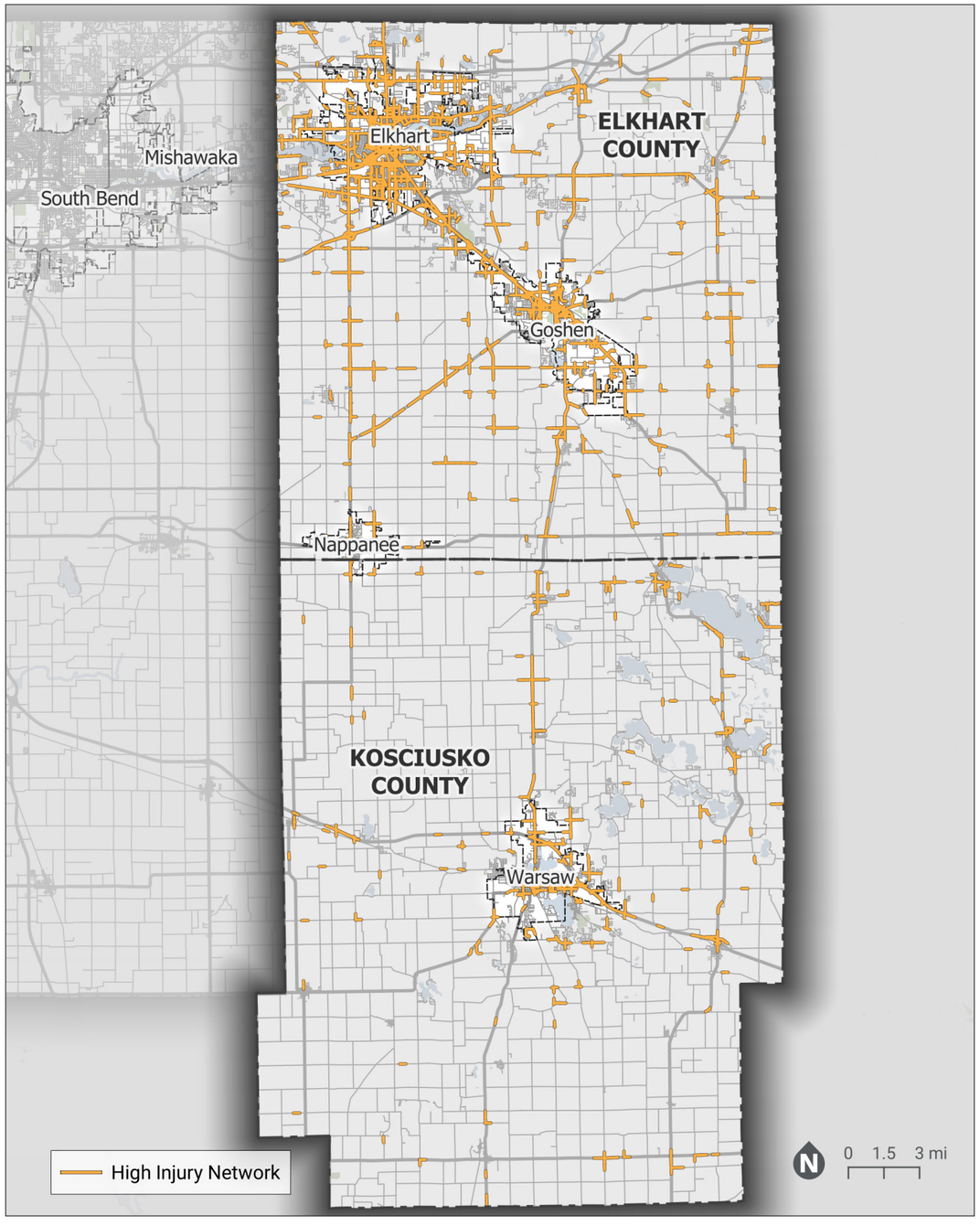
Elkhart County and Kosciusko County plan to e safety of their Amish and Mennonite populations.

- Install **widened shoulders** for use as **horse-and-buggy lanes** on both sides along State Route 19 or a comparable alternative route south of County Road 1350
- Install **widened shoulders** for use as **horse-and-buggy lanes** on both sides along County Road 1350, between State Road 19 and County Road 70 West
- Install **widened shoulders** for use as **horse-and-buggy lanes** on both sides along State Road 13, south of US 20.

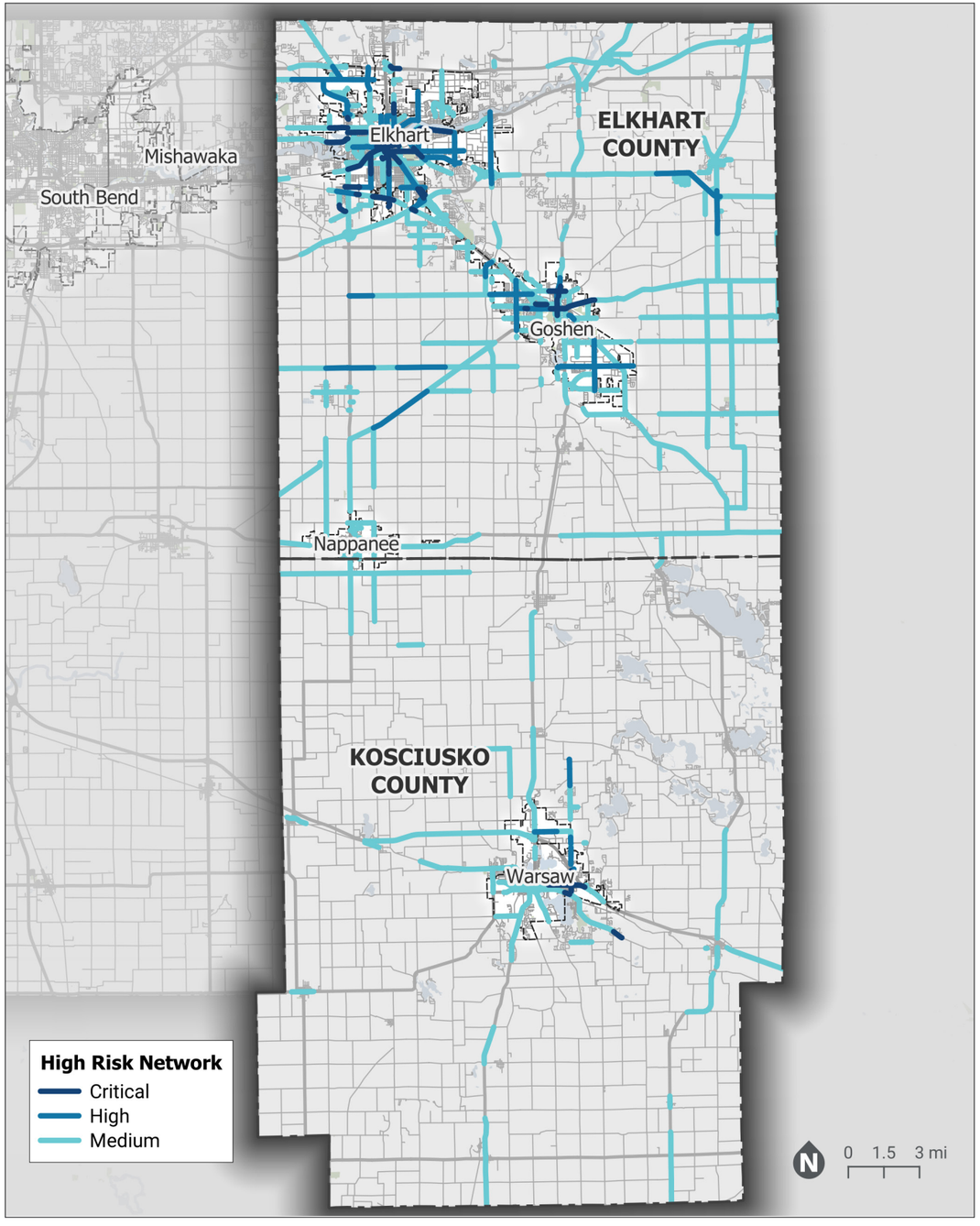
The estimated per-mile cost of this project is approximately **$1,810,000**. The total estimated cost for the entire project limits of County Road 1350 and County Road 17 (approximately 4 miles total) is therefore **7,550,000**.

	80% Request	20% Request	Total Project Costs
Elkhart County and Kosciusko County Buggy Lanes	$4,592,000.00	$1,148,000.00	$5,740,000.00
Engineering Design	*$1,448,000.00*	*$362,000.00*	*$1,810,000.00*
Buggy Lane	*$2,928,000.00*	*$732,000.00*	*$3,660,000.00*
Right of Way	*$504,000.00*	*$126,000.00*	*$630,000.00*
Incidentals	*$296,000.00*	*$74,000.00*	*$370,000.00*
Contingency & Inflation	*$864,000.00*	*$216,000.00*	*$1,080,000.00*

Map 35: High Injury Network (Elkhart and Kosciusko County)

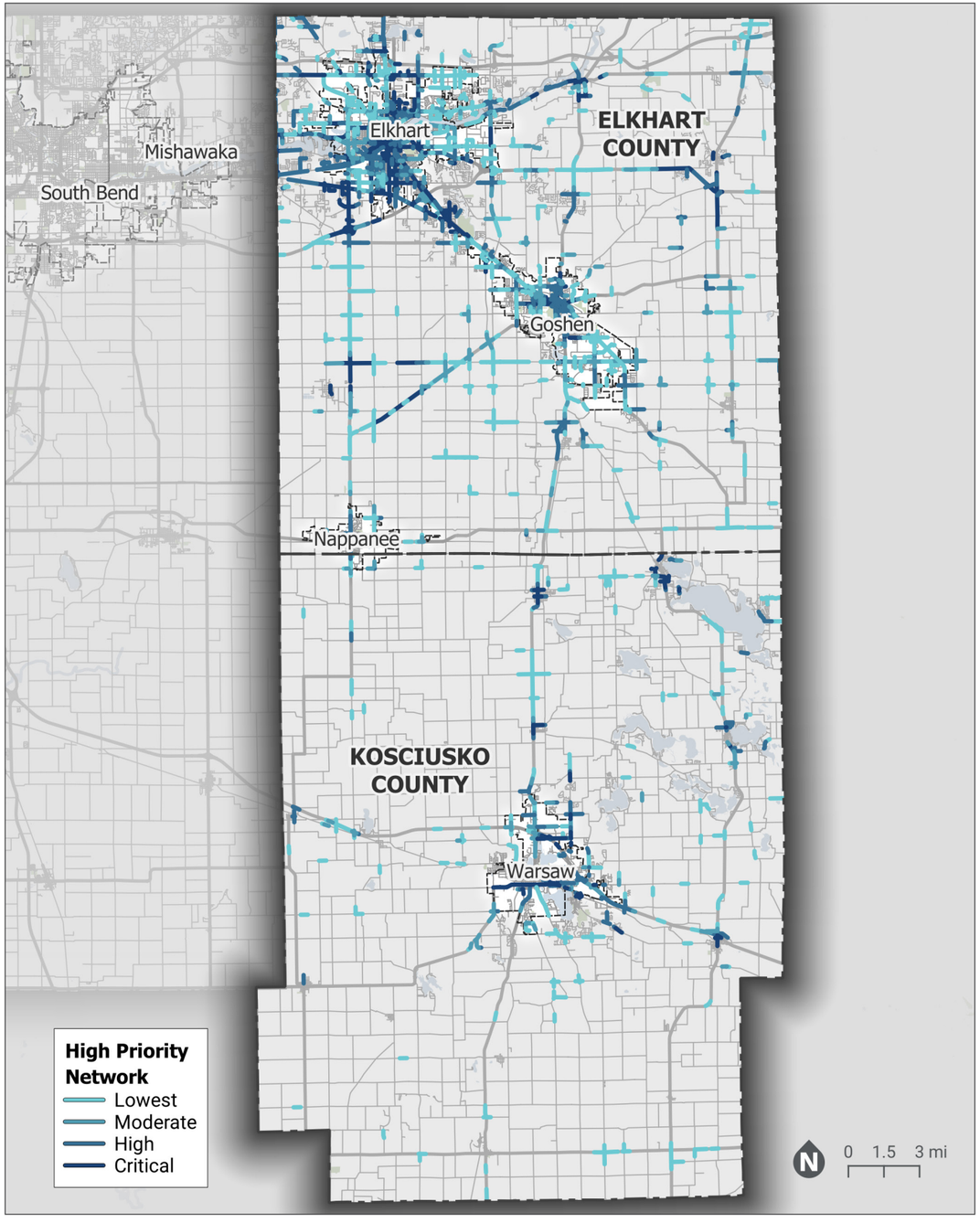


Map 36: High Risk Network (Elkhart and Kosciusko County)



State Route 19 & CR 1350, Elkhart and Kosciusko County

Map 37: Priority Network (Elkhart and Kosciusko County)



State Route 19 & CR 1350, Elkhart and Kosciusko County

Jefferson Street, City of Plymouth, Marshall County

Plymouth is the county seat of Marshall County, located in north-central Indiana. In 2023, Plymouth had a population of 10,293. The City of Plymouth is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically and where they are likely to occur in the future. Plymouth Stakeholders identified both Jefferson Street and Michigan Street as key corridors with high speeds and a history of fatal and serious injury crashes that are a priority to address. Because Michigan Avenue is under INDOT's jurisdiction, the city decided to focus the efforts of this plan on Jefferson Street and plans to have conversations with INDOT on how to partner to bring safety improvements to Michigan Avenue as well (see Figure 17).

Project Background

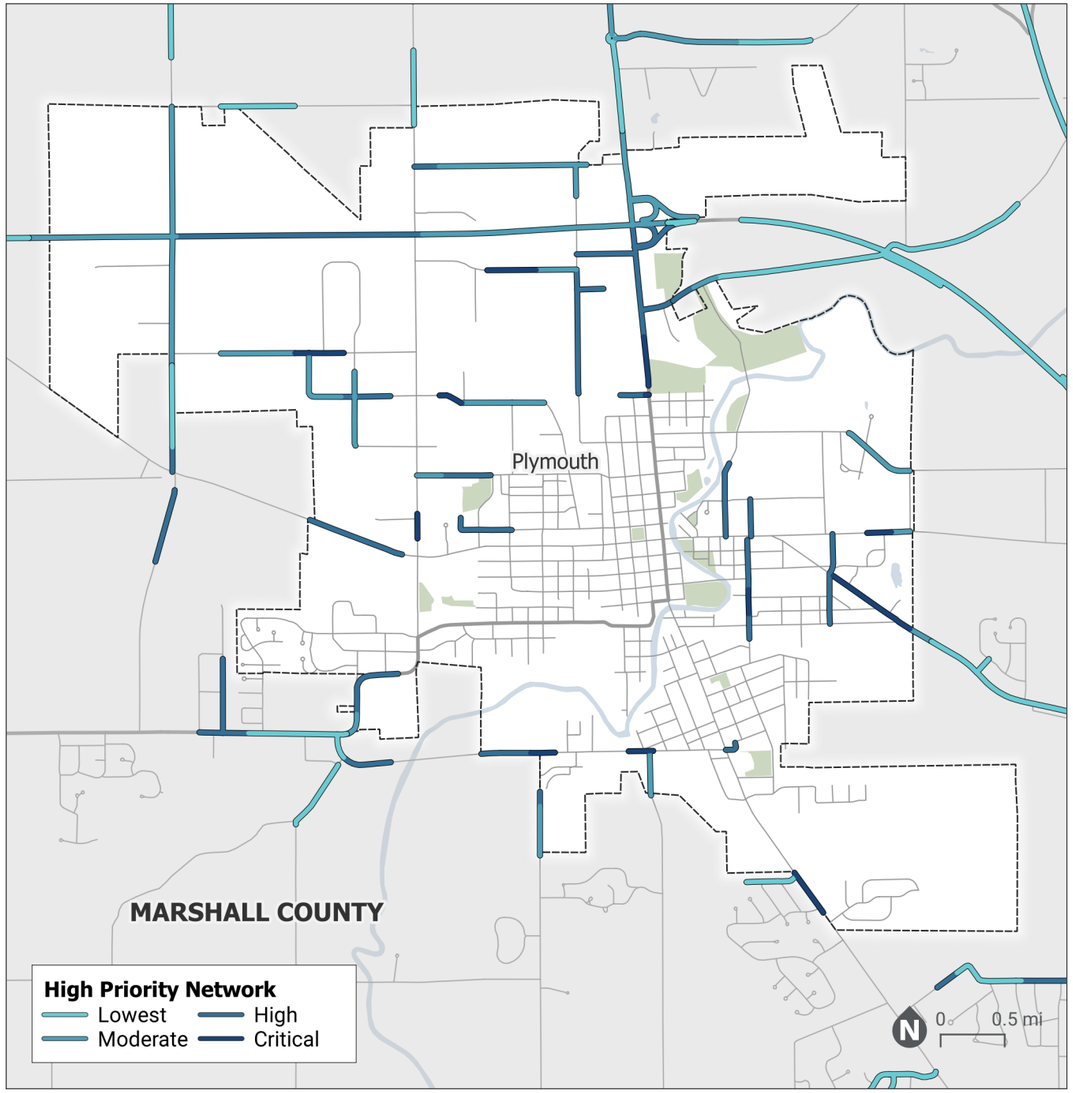
Jefferson Street has an AADT of 9,837 vehicles per day. It is classified as a minor arterial, with a posted speed limit of 30 MPH. The corridor consists of a four-lane section to the west of Lincoln Highway, and a two-lane section to the east. The limits of the project are from Michigan Street (State Road 17) and the eastern city limits (just east of Richter Road).

Lincoln Junior High School is located to the south of Jefferson Street, as well as residential subdivisions. Plymouth High School is on the north side, as well as a supermarket, various small restaurants, and businesses. Pedestrian crosswalks are located at the Randolph Boulevard, Polk Street, and Michigan Street intersections. However, pedestrians have a desire to cross at various other locations along Jefferson Street, such as at Kingston Road, where a severe pedestrian crash occurred. Pedestrians, particularly students going to and coming from school, use this corridor frequently.

Jefferson Street intersects with Lincoln Highway at a sharp angle near the center of the project limits. The intersection is controlled by a traffic signal, eastbound drivers can turn right onto Lincoln Highway without stopping, and vehicles are parked at automotive shops near the intersection. The intersection is located just north of Lincoln Junior High School.

Figure 17: Jefferson Street

Map 38: Priority Network (City of Plymouth)



Fatal Crashes	0
Serious Injury Crashes	4
Major Crash Types/ Contributing Factors	Left Turn, Head On, Pedestrian Failure to Yield, Pedestrian Action

Crash Hisory

Jefferson Street was identified on the City of Plymouth's High-Risk Network for all modes of travel and for vulnerable road users. Between 2019 and 2023, four severe crashes occurred on Jefferson Street, between Michigan Street (State Road 17) and the eastern City limits. Of those four crashes, all were reported as incapacitating injuries, and two were reported to be pedestrian related. One severe pedestrian crash was located at Michigan Street and the other happened at Kingston Road.

Project Improvements

Jefferson Street's history of pedestrian crashes highlights a need for a project with a meaningful impact on safety. With the following improvements, the City of Plymouth can prioritizing the safety of vulnerable road users and targeting high-priority safety locations such as Jefferson Street:

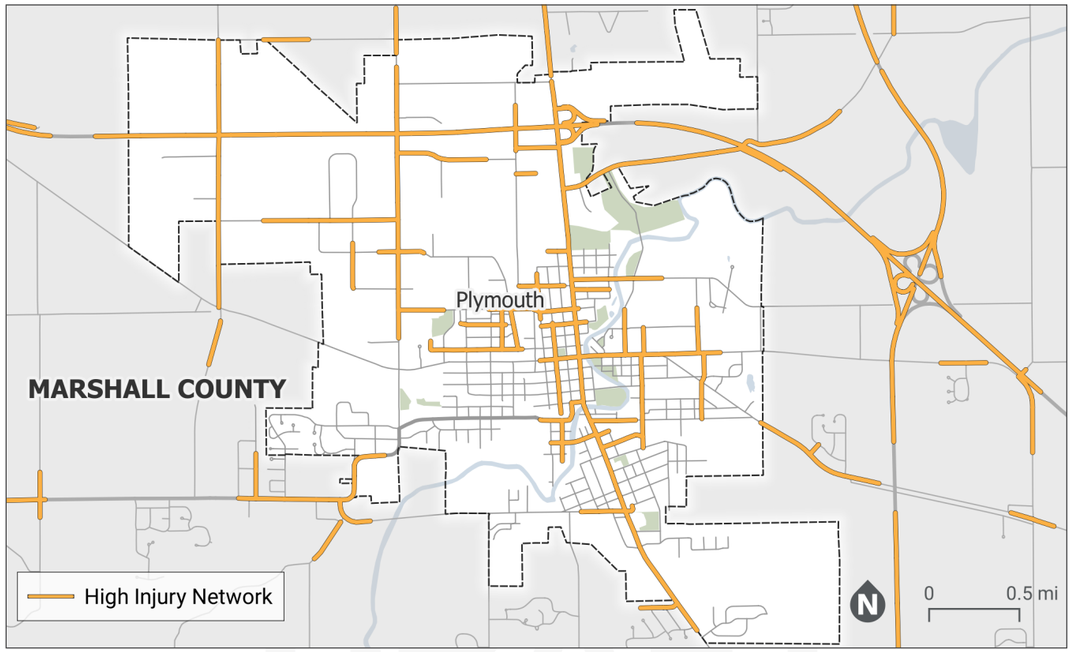
- Due to the history of vulnerable road user collisions along the corridor, implement **pavement resurfacing** and **one-way separated bicycle lane installations on both sides** of Jefferson Street from Michigan Street to Lincoln Highway.
- **Add sidewalks** east of Lincoln Highway and install **high visibility raised crosswalks** at the Liberty Street, Green Way Trails/ Cleveland Court, and Kingston Road intersections.
- **Improve the intersection alignment** of Jefferson Street and Lincoln Highway intersection to eliminate the skewed angle at the existing signal.

The estimated cost of this project is approximately **$3,000,000**.

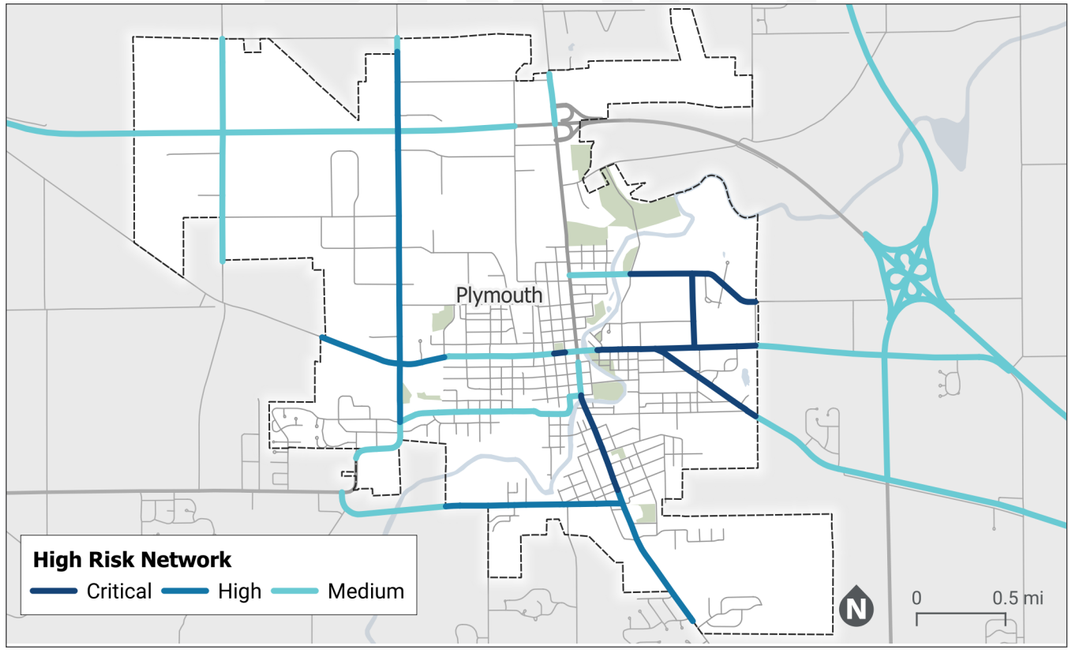
	80% Request	20% Request	Total Project Costs
City of Plymouth - Jefferson Street	$2,436,960.00	$609,240.00	$3,046,200.00
Engineering Design	*$492,800.00*	*$123,200.00*	*$616,000.00*
Intersection Improvement	*$877,708.00*	*$219,427.00*	*$1,097,135.00*
Sidewalks	*$685,804.00*	*$171,451.00*	*$857,255.00*
Raised Crosswalks	*$48,912.00*	*$12,228.00*	*$61,140.00*
Pavement Markings	*$24,180.40*	*$6,045.10*	*$30,225.50*
Right of Way	*$92,000.00*	*$23,000.00*	*$115,000.00*
Incidentals	*$167,200.00*	*$41,800.00*	*$209,000.00*
Contingency & Inflation	*$541,155.60*	*$135,288.90*	*$676,444.50*

Jefferson Street, City of Plymouth, Marshall County

Map 39: High Injury Network (City of Plymouth)



Map 40: High Risk Network (City of Plymouth)



Jefferson Street, City of Plymouth, Marshall County

Kenilworth Road and Linden Road, Marshall County

Marshall County is a rural county in north-central Indiana. In 2020, Marshall County had a census population of 40,095. Marshall County is committed to creating a safe and accessible transportation network for all road users, including those more vulnerable to fatal or severe injury in a collision. To address the crash history along US 31, INDOT plans to remove at-grade crossings and redesign several as interchanges. Two of the three at-grade crossings within the Town of Argos will be removed. Marshall County wishes to improve county roads, including Kenilworth Road and Linden Road, to handle the expected rerouted industrial traffic before a severe collision or roadway departure occurs.

Project Background

Plymouth is the county seat of Marshall County. US Route 31 and State Road 10 intersect at the town of Argos, Indiana. Kenilworth Road, Linden Road, State Road 10, and Dewey Street provide crucial highway access to industry, which is critical to the local economy, but these roads are not designed for heavy vehicle traffic. With the planned removal of the Dewey Street connection to US 31, the need to address these roadways has become a priority for the community to support the local economy and ensure roadway safety for newly rerouted heavy vehicles, existing farm equipment, and local traffic.

Kenilworth Road and Linden Road are classified as local roads. Both run north to south and are currently only designed to support AADTs of less than 1,000 vehicles per day. Both consist of a 2-lane section less than twenty feet wide with no shoulder within the project limits. Kenilworth Road has a striped centerline, and Linden Road is unmarked. Linden Road has a railroad crossing with a steep vertical grade on either side, which is unsafe for larger vehicles or trucks to cross. Kenilworth Road is currently too narrow for heavy vehicles to traverse safely, particularly when turning at intersections.

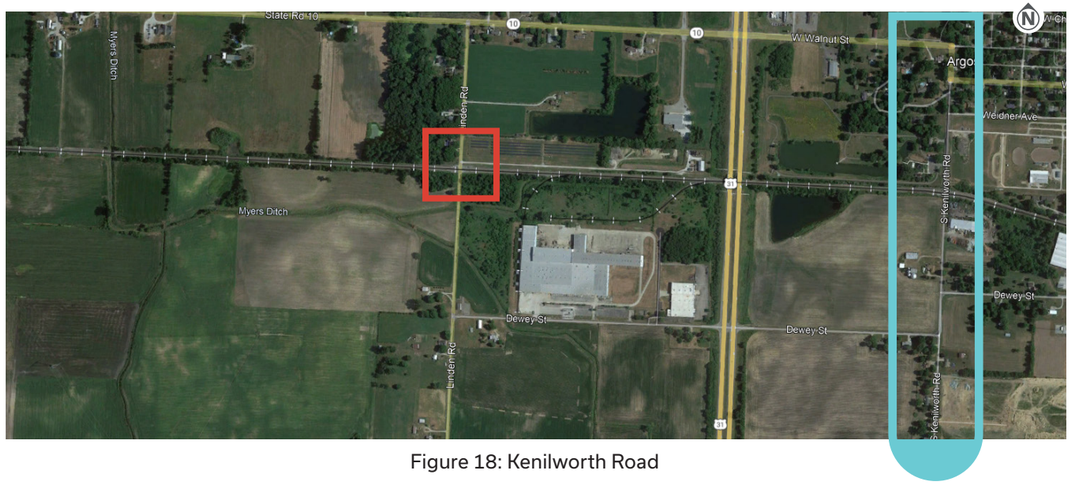
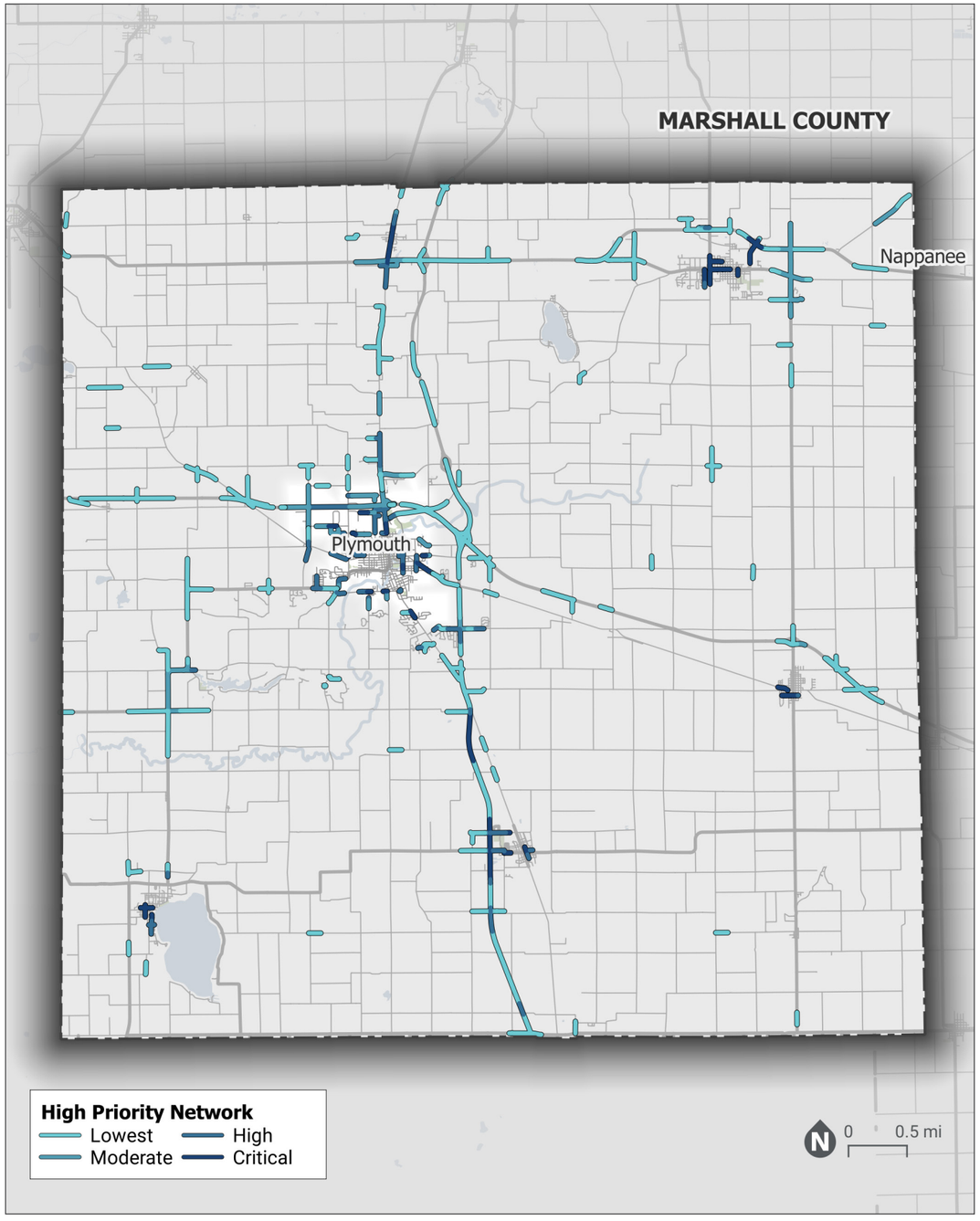


Figure 18: Kenilworth Road

Map 41: Priority Network (Marshall County)



Project Improvements

As the area continues to develop, Marshall County plans to implement the following improvements in phases, in order to address areas of primary concern first:

Phase 1: Widen Kenilworth Road to two 11-foot lanes with 2-foot shoulders on either side from Dewey Street to Walnut Street. This will allow trucks and other heavy vehicles to navigate the roadway and turning movements at intersections safely. The estimated cost of this phase is **$3,050,000**.

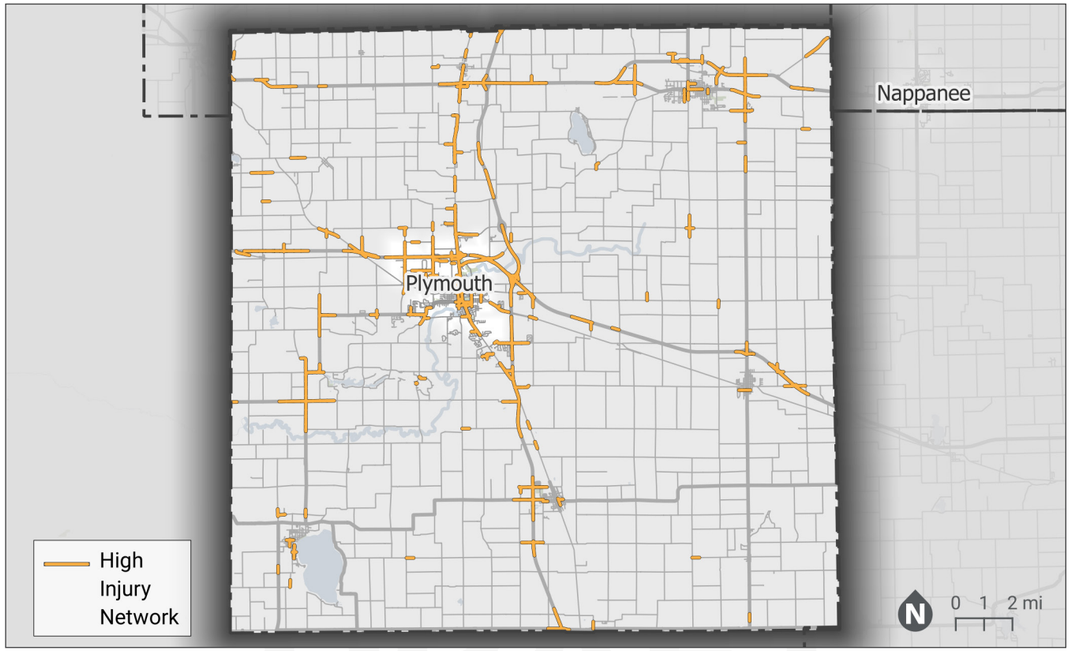
Phase 2: Regrade and repave Linden Road at the railroad crossing south of State Road 10. This will allow heavy vehicles to cross safely. The estimated cost of this phase is **$909,000**.

The total estimated cost of this project is approximately **$3,959,000**.

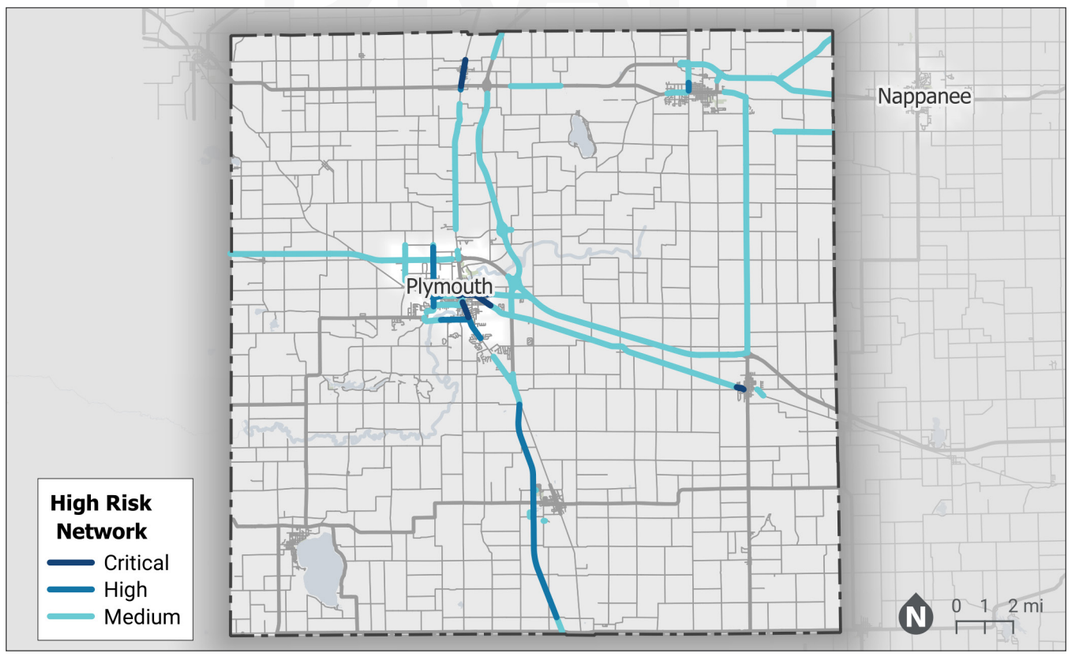
	80% Request	20% Request	Total Project Costs
Marshall County - Kenilworth Road	$2,055,600.00	$513,900.00	$2,569,500.00
Engineering Design	*$384,000.00*	*$96,000.00*	*$480,000.00*
Roadway Improvements	*$1,020,000.00*	*$255,000.00*	*$1,275,000.00*
Drainage Improvements	*$240,000.00*	*$60,000.00*	*$300,000.00*
Railroad Crossing	*$200,000.00*	*$50,000.00*	*$250,000.00*
Right of Way	*$135,600.00*	*$33,900.00*	*$169,500.00*
Incidentals	*$140,000.00*	*$35,000.00*	*$175,000.00*
Contingency & Inflation	*$320,000.00*	*$80,000.00*	*$400,000.00*

Kenilworth Road and Linden Road, Marshall County

Map 42: High Injury Network (Marshall County)



Map 43: High Risk Network (Marshall County))



Kenilworth Road and Linden Road, Marshall County

Traffic Calming Program, City of South Bend, St. Joseph County

The City of South Bend is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically and where they are likely to occur. A theme that emerged based on the mapping and public input in recent years is the reoccurring safety issues experienced along arterials that are also residential streets. Understanding the widespread problem, the City of South Bend decided on a systemic approach combining both quick build and reconstruction methods to bring safety to its residents as quickly and as equitably as possible.

Project Background

Speed is the number one determinant of severity in a crash. As speed increases, so does the probability of crash fatalities and serious injuries. Arterials account for most of the country's top crash locations. It's not a mystery why, either; the combination of access, roadway complexity, vulnerable users, and high speeds create conditions we know to be dangerous. Many of these streets did not start as high-speed roadways, but due to traffic engineering practices that prioritize speed over safety, over time, they have become wider than necessary and thus faster instead of safer. Improving the safety of these roadways will be a significant step in reaching South Bend's goal of zero deaths on its transportation network.

Project Improvements

Road diets, median islands, bicycle lanes, and crossing enhancements, such as pedestrian refuge islands and raised crossings, can reduce speeds, reduce fatal and serious crashes, and improve the comfort and safety of people walking, bicycling, and driving. The City of South Bend will expand its existing traffic calming program by developing a process for specifically addressing speeding and crossing safety on arterial streets, emphasizing residential arterial streets. At a high level, the program will:

1. Set **safe speeds** based on pedestrian and bicyclist activity, crash history, land use context, intersection spacing, driveway density, roadway geometry, and roadside conditions following best practices outlined in USLIMTS2, NCHRP Report 966: Posted Speed Limit Setting Procedure and Tool, and the Safe System approach.

2. **Reset the street cross-sections** to achieve safe speeds **and provide appropriate facilities for each mode** following best practices outlined in FHWA Road Diet Informational Guide, NCHRP Report 1036 Roadway Cross-Section Reallocation, NCHRP Report 880 Design Guide for Low-Speed Multimodal Roadways (Exhibit 4-8), and FHWA's Bicycle Facility Selection guide.

3. Supplement roadway right sizing with **traffic calming measures** as necessary to achieve safe speeds following best practices outlined in FHWA Self-Enforcing Roadways: A Guidance Report and FHWA Traffic Calming ePrimer.

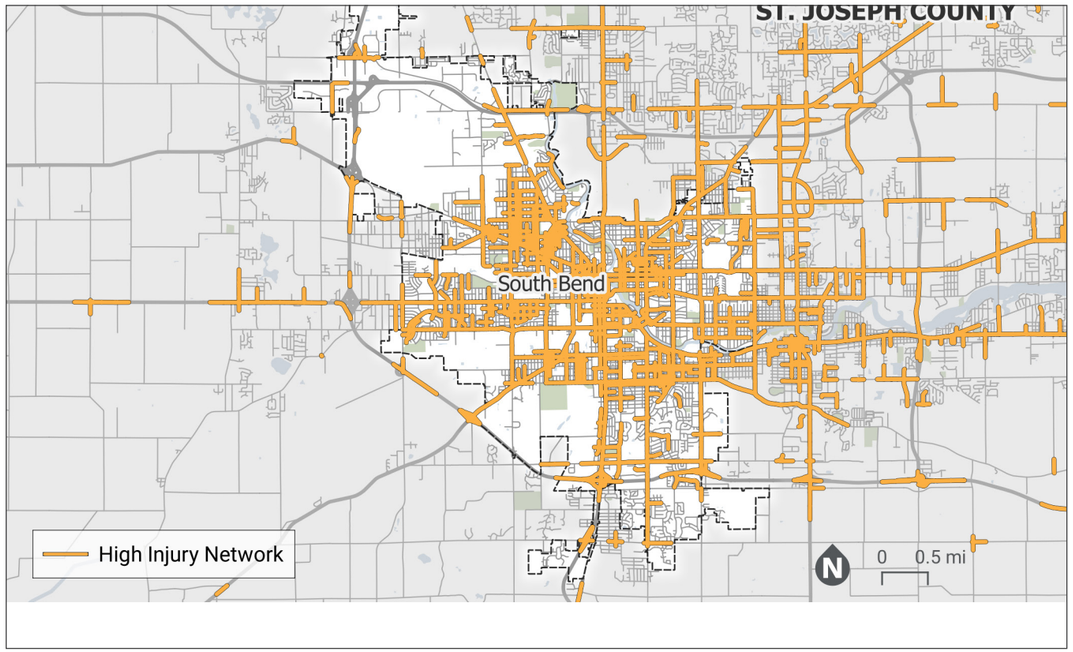
4. **Manage severe conflicts and achieve safe speeds at intersections** following best practices such as adopting a roundabout first policy, managing left turns and access, incorporating leading pedestrian intervals and protected signal phasing, setting appropriate yellow change intervals, and minimizing turning speeds by defining appropriate design, control, and managed vehicles based on context.

5. Providing **appropriate crossing spacing and treatments** following FHWA's Achieving Multimodal Networks and Safe Transportation for Every Pedestrian (STEP) guidance.

The estimated cost to develop an Arterial Safety and Speed Management Program is estimated to be $300,000. The City is requesting an additional $5,500,000 to fund the rapid implementation of priority projects identified through this program.

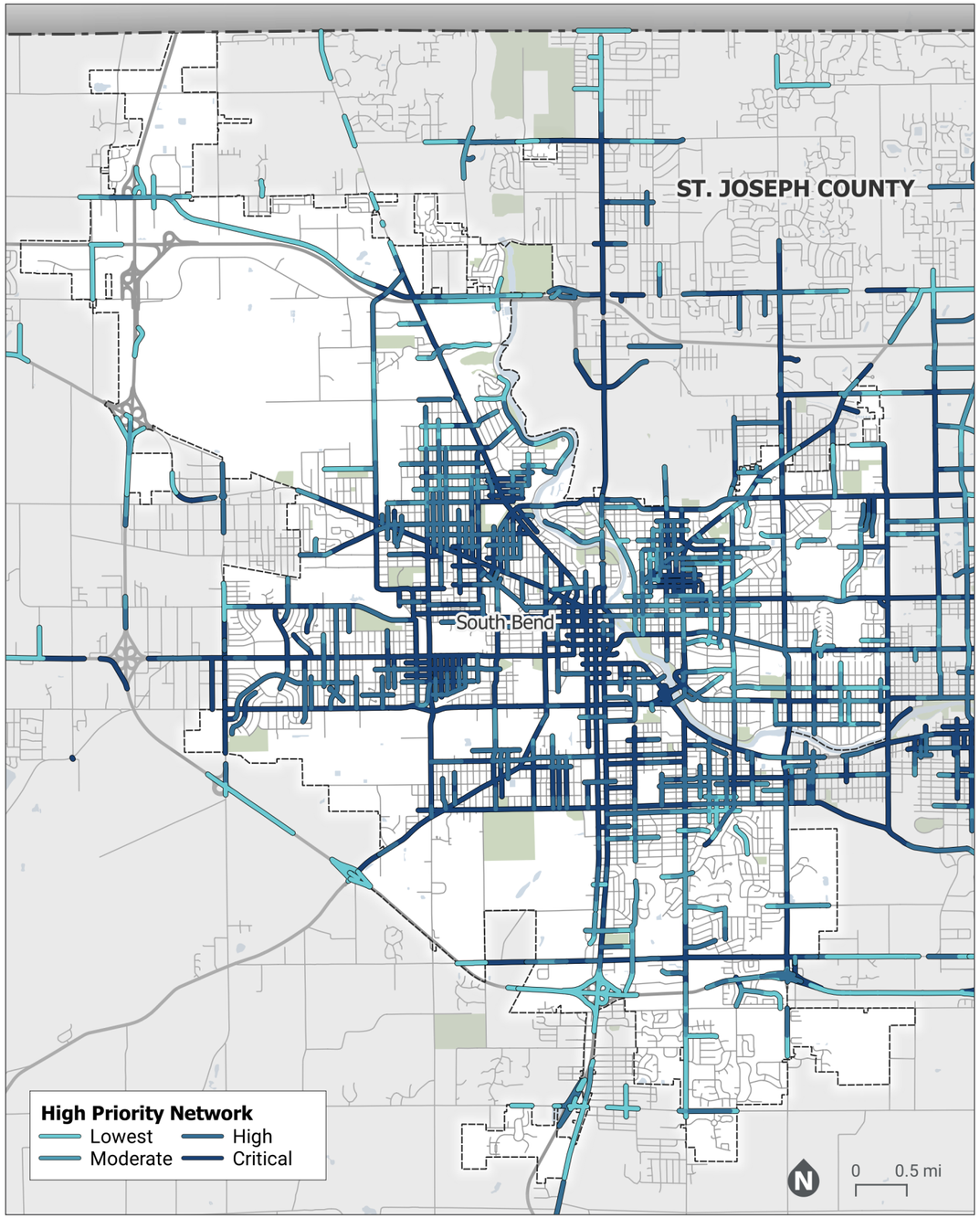
	80% Request	20% Request	Total Project Costs
City of South Bend	$4,600,000	$1,150,000	$5,750,000
Arterial Traffic Calming Program Development	$200,000	$50,000	$250,000
Arterial Traffic Calming Program Pilot Demonstration Projects	$4,400,000	$1,100,000	$5,500,000

Map 44: High Injury Network (City of South Bend)



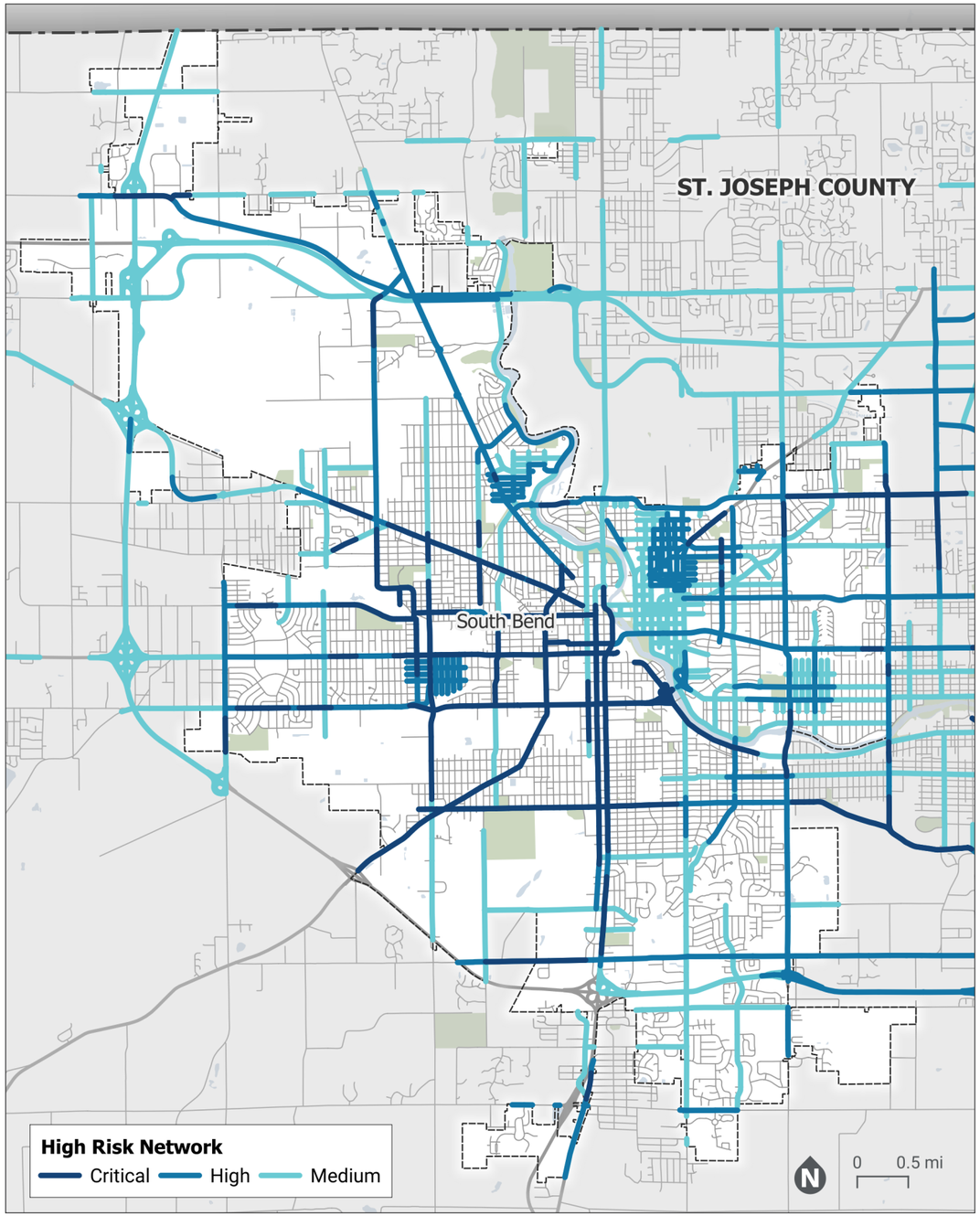
Traffic Calming Program, City of South Bend, St. Joseph County

Map 45: Priority Network (City of South Bend)



Traffic Calming Program, City of South Bend, St. Joseph County

Map 46: High Risk Network (City of South Bend)



Traffic Calming Program, City of South Bend, St. Joseph County

Mishawaka Avenue, City of Mishawaka, St. Joseph County

Mishawaka is a principal city in St. Joseph County in north-central Indiana. In 2020, Mishawaka had a census population of 51,063. The City of Mishawaka is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically, and where they are likely to occur (see Map 47). From this network, the community selected Mishawaka Avenue as a priority location for safety improvements based on its crash history and safety risks (see Figure 20).

Project Background

Mishawaka Avenue runs east to west and has an AADT of 8,559 vehicles per day. It is classified as a major collector with a posted speed limit of 30 MPH. The project's limits are from Logan Street to Cedar Street. The corridor has a wide two-lane section throughout the project limits, with on-street parking lanes on either side.

The corridor is located just north of St. Joseph River, within a major residential center of Mishawaka. Sidewalks run on either side along most of the corridor and connect to a multi-use path on the river's north bank. This trail connects to the other side of the river via a pedestrian bridge and continues along the south side. Parks, green spaces, and event centers are located along the Mishawaka Riverwalk, which generates considerable pedestrian traffic from the north side.

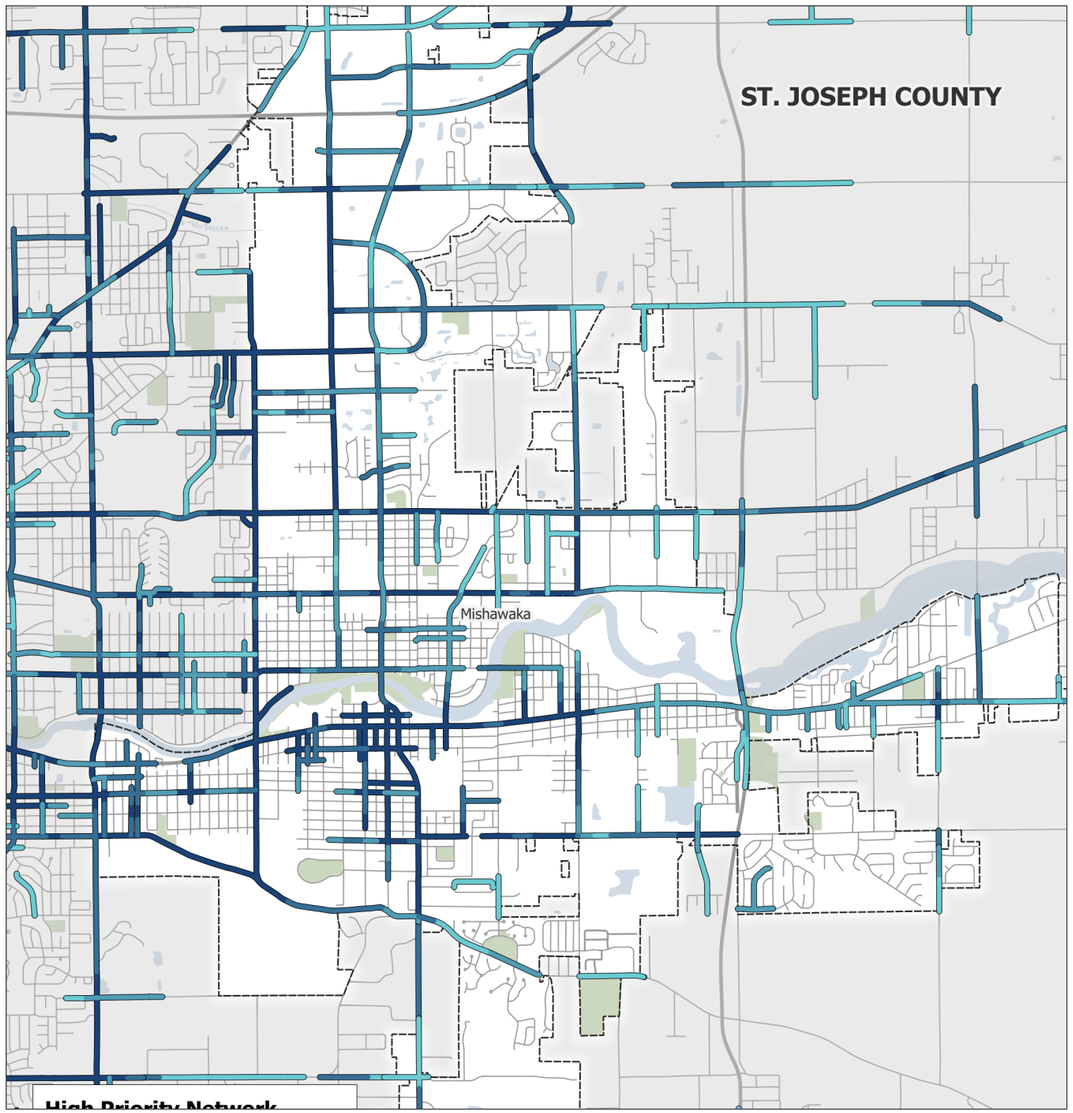
Mishawaka Avenue intersects with Main Street near the center of the project limits, a major bridge crossing the St. Joseph River.

Crash History

Mishawaka Avenue was identified on the City of Mishawaka's High-Risk Network (see Map 49), indicating the corridor has a heightened risk of severe or fatal crashes. From 2019 to 2023, sixteen severe crashes, all resulting in incapacitating injuries, occurred on Mishawaka Avenue between Logan Street to Cedar Street. Seven of these crashes occurred at the Main Street intersection, and three occurred at the Logan Street intersection. According to the crash reports, the predominant crash types on Mishawaka Avenue were a right angle, left turn, and head-on collisions. Common contributing factors were drivers failing to yield and traveling at high speeds.

Figure 20: Mishawaka Avenue

Map 47: Priority Network (City of Mishawaka)



Fatal Crashes	0
Serious Injury Crashes	16
Major Crash Types/ Contributing Factors	Right Angle, Left Turn, Head On, Failure to Yield, Speed Too Fast for Weather

Mishawaka Avenue, City of Mishawaka, St. Joseph County

Project Improvements

Curb bumpouts and raised crosswalks are effective methods of reducing driver speed and increasing driver awareness as they move through an intersection, and by adding them to straight, wide corridors like Mishawaka Avenue, the safety of the whole corridor can be greatly improved. With the following improvements, the City of Mishawaka hopes to combat severe crashes on Mishawaka Avenue by encouraging safer speeds and better driver awareness of pedestrians as well as traffic control devices with the following improvements:

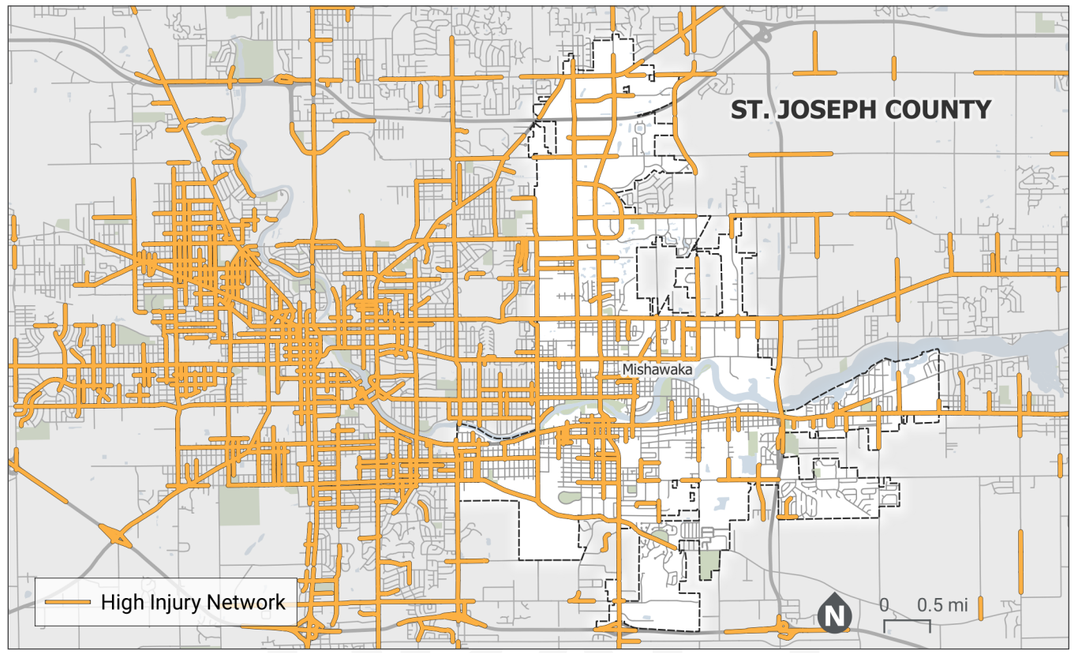
- Install **10-foot curb bumpouts** at Clay Street, Forest Avenue, Ann Street, and Christyann Street intersections. Existing bumpouts at Forest Avenue, Ann Street, and Christyann Street will be redesigned and improved.
- Install **raised crosswalks** at Clay Street, Forest Avenue, Ann Street, and Christyann Street intersections.

The estimated cost of this project is **$460,000**.

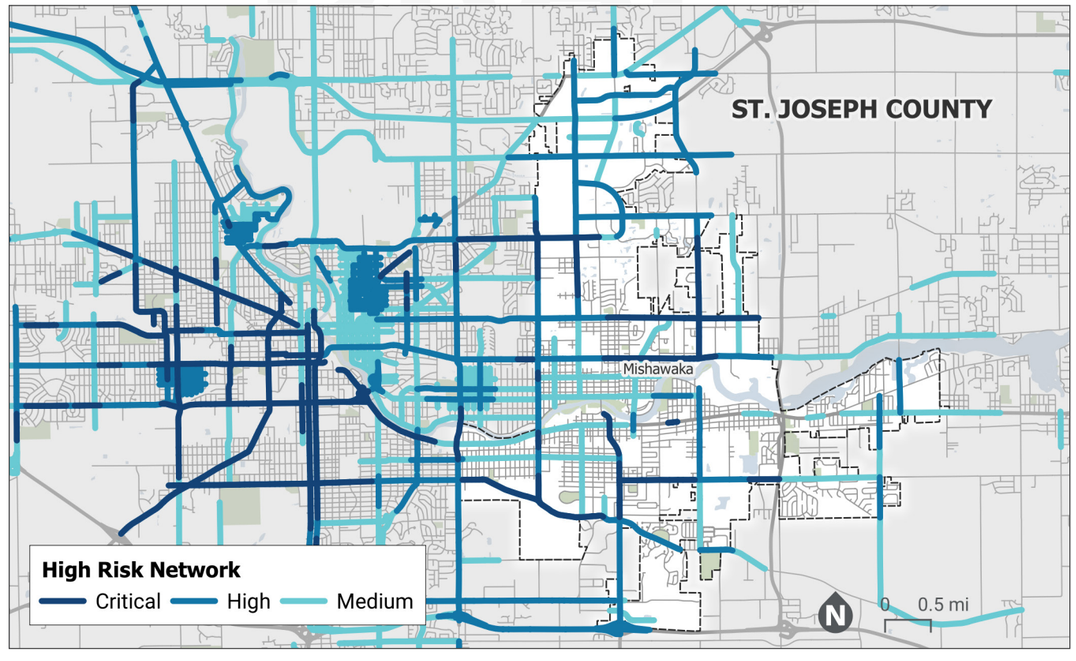
	80% Request	20% Request	Total Project Costs
City of Mishawaka - Mishawaka Avenue	$294,400.00	$73,600.00	$368,000.00
Engineering Design	*$73,600.00*	*$18,400.00*	*$92,000.00*
Raised Crosswalk Intersections (4)	*$67,416.00*	*$16,854.00*	*$84,270.00*
Curb Extensions	*$202,184.00*	*$50,546.00*	*$252,730.00*
Incidentals	*$8,800.00*	*$2,200.00*	*$11,000.00*
Contingency & Inflation	*$16,000.00*	*$4,000.00*	*$20,000.00*

Mishawaka Avenue, City of Mishawaka, St. Joseph County

Map 48: High Injury Network (City of Mishawaka)



Map 49: High Risk Network (City of Mishawaka)



Mishawaka Avenue, City of Mishawaka, St. Joseph County

Juniper Road, St. Joseph County

St. Joseph County is in north-central Indiana, and its county seat is South Bend, Indiana. In 2020, St. Joseph County had a census population of 272,912. St. Joseph County is committed to creating a safe and accessible transportation network for all road users, particularly those more vulnerable to fatal or severe injury in a collision. To best identify locations where projects will have the highest impact on safety, a prioritization network was established based on where severe crashes have occurred historically and where they are likely to occur. Cleveland Road, including its intersection with Juniper Road, was identified as high risk from this network. Based on stakeholder input, St. Joseph County has decided to focus on the intersection of Cleveland and Juniper Road Juniper Road as well as Juniper Road, from Cleveland Road to Welworth Avenue, for safety improvement demonstration based on its crash history and its connection to Cleveland Road.

Project Background

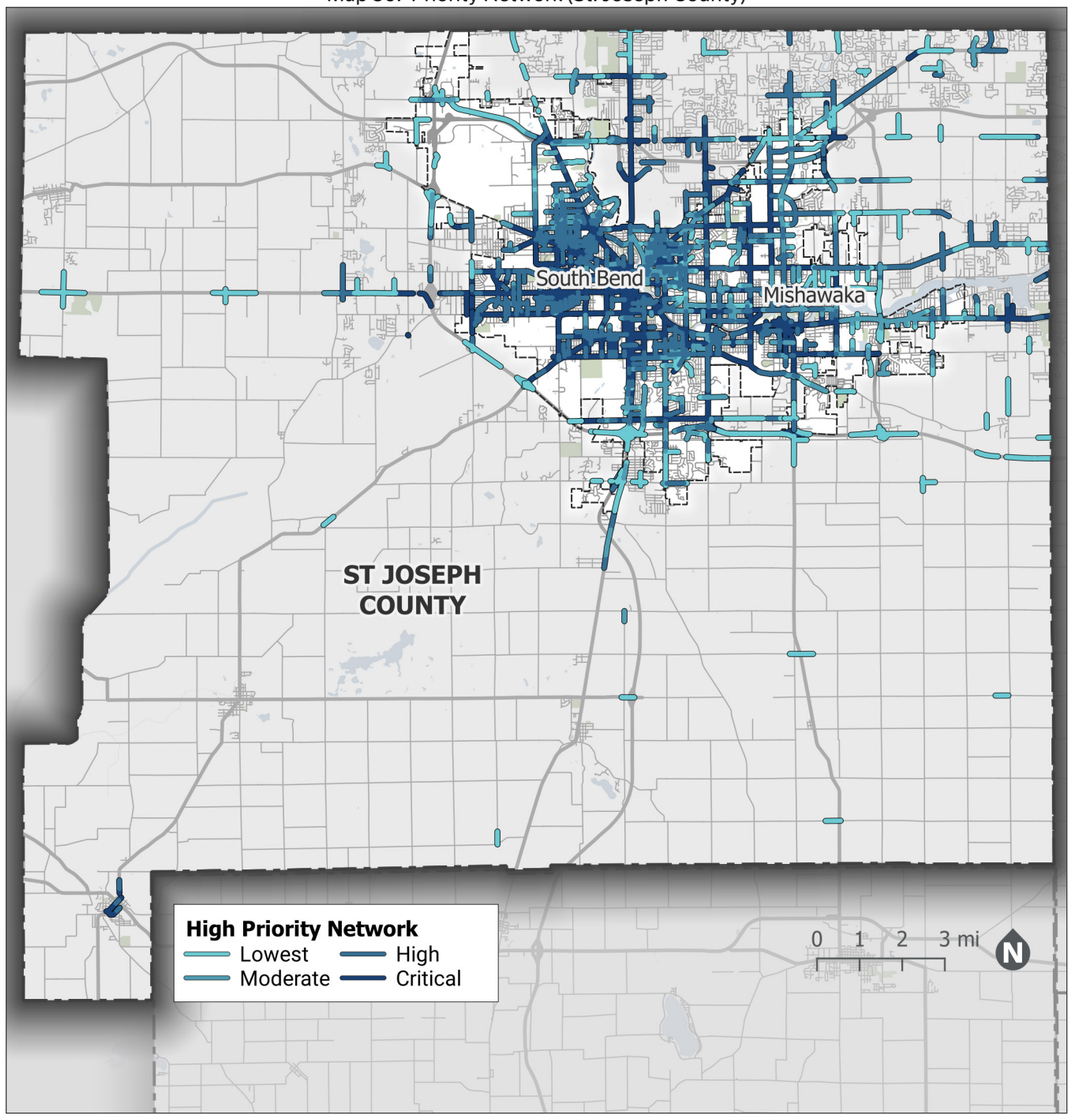
Juniper Road is a north-to-south road with an AADT of 6.868 vehicles per day within the project limits. It is classified as a major collector with a posted speed limit of 30 MPH. Residential driveways are interspersed on both sides. The corridor consists of a two-lane section with wide shoulders on either side, before expanding to a four-lane section south of Cleveland Road. The Juniper Road and Cleveland Road intersection is a large, signalized intersection with dedicated turn lanes and two through lanes on all legs, except for the southbound approach. Stakeholders have stated that the intersection no longer experiences high enough traffic to justify its size. Compounded with the excess capacity through the corridor, it is experiencing high speeds and dangerous crashes.

Crash History

Between 2019 and 2023, Juniper Road experienced two incapacitating injury crashes within the project limits. One of these crashes was a rear end collision at the Cleveland Road and Juniper Road intersection. The other was reported as a collision with an object in the road, citing pedestrian action as the primary factor.

Figure 21: Juniper Road

Map 50: Priority Network (St. Joseph County)



Fatal Crashes	0
Serious Injury Crashes	2
Major Crash Types/ Contributing Factors	Rear End, Collision with Object Following too Closely, Pedestrian Action

Project Improvements

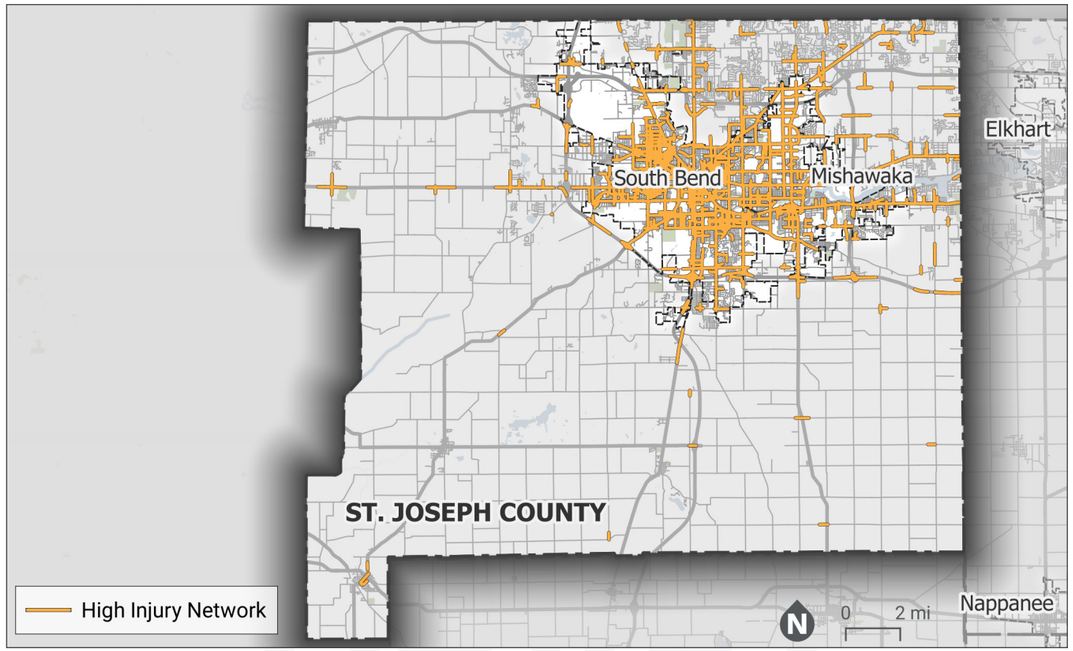
With the following improvements to Juniper Road, St. Joseph County can improve the safety of all road users:

- **Convert existing shoulders into bicycle lanes** on either side of Juniper Road from Welworth Drive to Cleveland Road. This will both provide safe sections of road for bicyclists and reduce driver speeds by narrowing the roadway.
- **Mill and resurface** the Cleveland Road and Juniper Road intersection, then restripe the intersection to reduce travel lane size. This is expected to reduce speeds on both Cleveland Road and Juniper Road. As an additional option, temporary barriers such as Qwick Kurb can be installed to reinforce lane restrictions.
- Install additional **speed reduction countermeasures** at intersections along Juniper Road, such as curb bumpouts or chicanes.

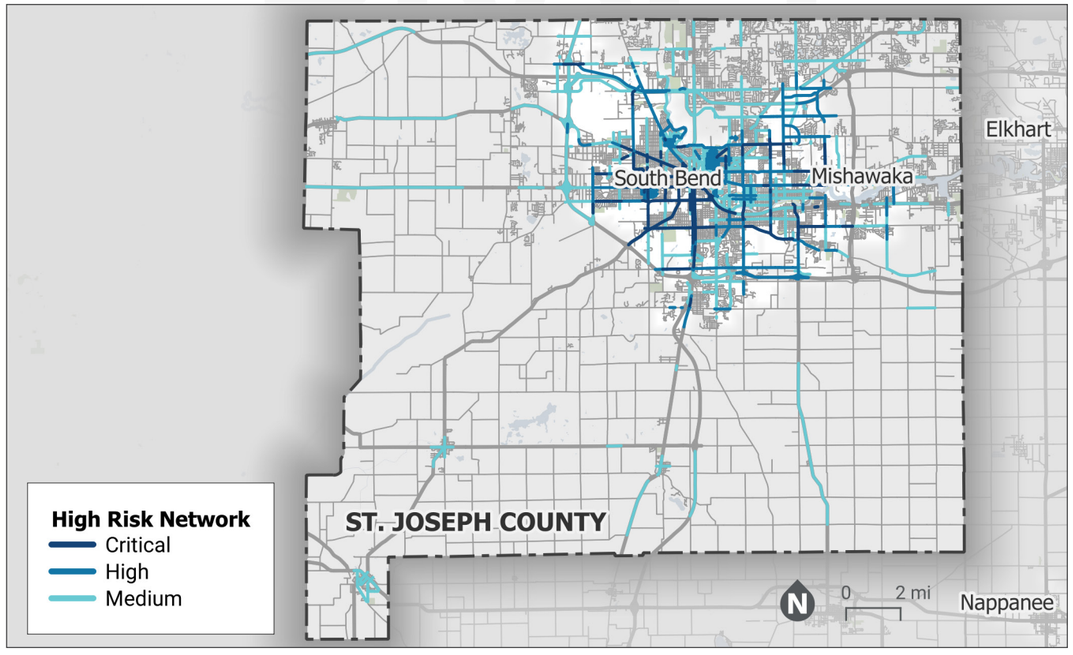
The estimated cost of this project is approximately **$2,100,000**.

	80% Request	20% Request	Total Project Costs
St. Joseph County - Juniper Road	$1,664,000.00	$416,000.00	$2,080,000.00
Engineering Design	*$280,000.00*	*$70,000.00*	*$350,000.00*
Traffic Calming Measures	*$320,000.00*	*$80,000.00*	*$400,000.00*
Mill and Resurface	*$605,002.40*	*$151,250.60*	*$756,253.00*
Pavement Markings	*$34,024.00*	*$8,506.00*	*$42,530.00*
Incidentals	*$105,600.00*	*$26,400.00*	*$132,000.00*
Contingency & Inflation	*$319,373.60*	*$79,843.40*	*$399,217.00*

Map 51: High Injury Network (St. Joseph County)



Map 52: High Risk Network (St. Joseph County)



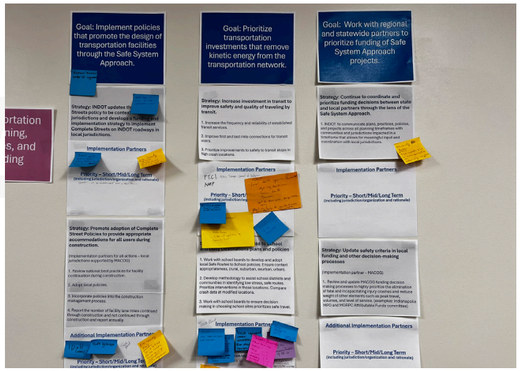
Goals, Actions, and Strategies

The goals, strategies, and actions of this plan are grouped into themes:

- **Engineering Practices and Policies** focuses on helping transportation engineers in each jurisdiction design a network that prioritizes human life above all else.
- **Education and Awareness** focuses on assuring necessary information for practitioners and the members of the public is easily accessible and interesting.
- **Transportation Planning, Policies, Funding, and Partnerships** focuses on ensuring that the elimination of fatalities for all travelers is an implementation priority in planning, policy, and funding decisions.
- **Internal Practices and Policies** includes recommendations that increase safe-streets principles through municipal staff knowledge and practices
- **Evaluation and Accountability** recommendations detail ways to measure and widely share progress to influence plan updates.

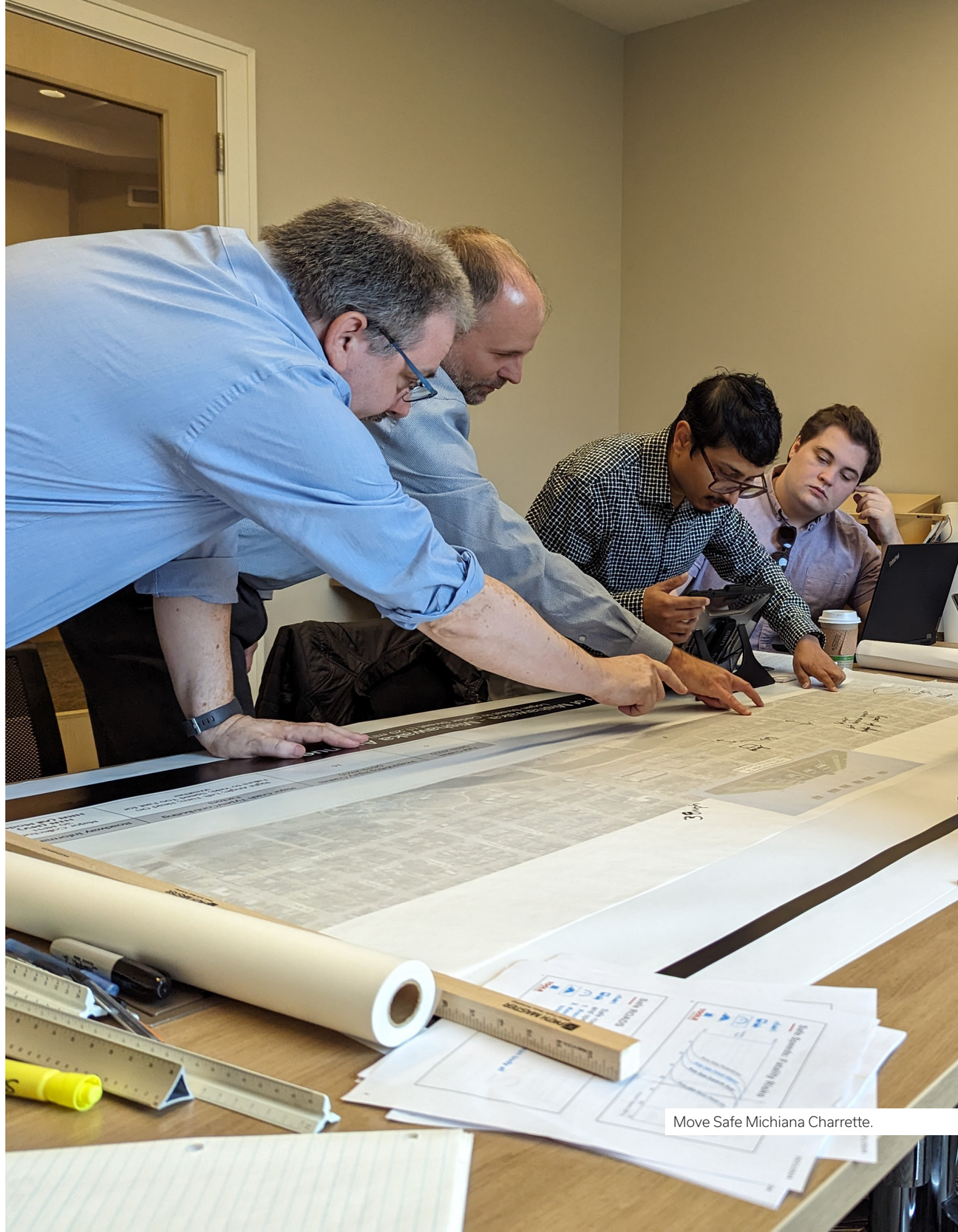
Each theme is supported by strategies , implementation actions, and key partners to help the region meet its goals to eliminate serious and fatal crashes on its roadways.

The implementation actions that follow are recommendations. For some actions, implementation would only occur when and where appropriate based on further analysis, engineering design, and environmental assessment. Other actions may require policy changes in alignment with other agency goals. Due to staffing, financial, and other constraints, jurisdictions will need to consider how to prioritize the implementation of these actions in support of this plan.



Move Safe Michiana Task Force members reviewed plan recommendations and made notes on post-its.

Move Safe Michiana Task Force members reviewing plan recommendations.



Move Safe Michiana Charrette.

GOAL Review, adopt, implement, and monitor engineering practices and policies to reduce fatal and incapacitating injury crashes.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Set Safe Speeds		
Review national best practices for setting safe speeds such as USLIMITS2, NACTO City Limits, and NCHRP Report 966 Posted Speed Limit Setting Procedure and Tool.	Local jurisdictions supported by MACOG	Continual
Adopt a context-sensitive policy for setting safe speeds.	Local jurisdictions supported by MACOG	Long-Term
Work with INDOT to establish a speed-setting process based on land use context and safe speeds.	Local jurisdictions supported by MACOG	Long-Term
Identify locations where speed limits should be changed.	Local jurisdictions supported by MACOG	Short-Term
Reduce speed limits where appropriate, incorporating roadway design changes where necessary to achieve safe speeds.	Local jurisdictions supported by MACOG	Mid-Term
Monitor before and after implementation to determine if target speeds have been achieved and where additional interventions may be needed to achieve safe speeds.	Local jurisdictions supported by MACOG	Short-Term
Report the percentage of new designs, retrofits, and maintenance projects implementing standards annually.	Local jurisdictions supported by MACOG	Short-Term

Engineering Practices & Policies

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Control speeding.		
Review national best practices for roadway designs that enforce safe speed including: **a.** Removing Excess Through, Turn, and Parking Lanes • FHWA Road Diet Informational Guide • NCHRP Report 1036 Roadway Cross-Section Reallocation **b.** Removing Excess Width of Through, Turn, and Parking Lanes to remain • NCHRP Report 880 Design Guide for Low-Speed Multimodal Roadways (Exhibit 4-8) • A National Investigation on the Impacts of Lane Width on Traffic Safety: Narrowing Travel Lanes as an Opportunity to Promote Biking and Pedestrian Facilities Within the Existing Roadway Infrastructure **c.** Creating a sense of enclosure through appropriate roadside design **d.** Aligning horizontal and vertical geometry with the target speed or introducing horizontal and/or vertical deflections to achieve the target speed • FHWA Self-Enforcing Roadways: A Guidance Report • FHWA Traffic Calming ePrimer	Local jurisdictions supported by MACOG	Continual
Adopt a road diet policy and context-sensitive design guidance to guide the removal of excess capacity and implementation of traffic calming and countermeasures to eliminate unsafe speeding.	Local jurisdictions supported by MACOG	Mid-Term
Identify High Priority Network locations with appropriate speed limits, but a history or a risk of speeding.	Local jurisdictions supported by MACOG	Shor-Term
Implement the speed management policies on roadways with speeding issues during regular resurfacing and stand-alone projects.	Local jurisdictions supported by MACOG	Continual
Monitor before and after implementation to determine if target speeds have been achieved and where additional interventions may be needed to achieve safe speeds and eliminate FSI crashes related to speeding.	Local jurisdictions supported by MACOG	Short-Term
Report the percentage of new designs, retrofits, and maintenance projects implementing standards annually.	Local jurisdictions supported by MACOG	Short-Term

Engineering Practices & Policies

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Manage speeds and conflicts at intersections.		
Review national best practices for managing speeds and conflicts at intersections including: **a.** Roundabout First Policies **b.** Signal treatments such as leading pedestrian intervals, no right on red, flashing yellow arrows, etc. **c.** FHWA's Proven Safety Countermeasure Resources, • NCHRP Research Report 926 Guidance to Improve Pedestrian and Bicyclist Safety at Intersections, • NCHRP Research Report 948, Guide for Pedestrian and Bicyclist Safety at Alternative and Other Intersections and Interchanges, • FHWA's Improving Intersections for Pedestrians and Bicyclists, • NACTO's Don't Give Up at the Intersection **d.** Geometric layout such as crossing distance and curb radii based on design and check vehicles, such as NACTO Don't Give Up at the Intersection: Design, Control, & Managed Vehicles	Local jurisdictions supported by MACOG	Continual
Incorporate research and policies into the design review and implementation process.	Local jurisdictions supported by MACOG	Continual
Identify intersections on the High Priority Network where features that do not align with intersection safety policy are contributing to FSI crashes.	Local jurisdictions supported by MACOG	Short-Term
Address locations where features that do not align with intersection safety policy are contributing to FSI crashes.	Local jurisdictions supported by MACOG	Mid-Term
Monitor before and after turning speeds (as relevant) and crashes to determine if any additional interventions may be needed to eliminate FSI crashes.	Local jurisdictions supported by MACOG	Continual
Report the percentage of new designs, retrofits, and maintenance projects implementing standards annually.	Local jurisdictions supported by MACOG	Short-Term

Engineering Practices & Policies

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Manage non-intersection conflicts.		
Review national best practices for managing non-intersection conflicts including: **a.** Corridor Access Management **b.** Providing appropriate facilities for all modes • Sidewalks • FHWA Bicycle Facility Selection • Buggy Lane **c.** Midblock Crossing Needs & Treatments • FHWA Achieving Multimodal Networks for crossing spacing guidance • FHWA STEP Guide Design Treatments	Local jurisdictions supported by MACOG	Continual
Incorporate research and policies into the design review and implementation process.	Local jurisdictions supported by MACOG	Continual
Adopt an ordinance that requires new development and redevelopment to provide sidewalks or side paths based on agency policy and best practices.	Local jurisdictions supported by MACOG	Long-Term
Work with INDOT to develop a commitment to building safe facilities for all modes along state roadways.	Local jurisdictions supported by MACOG	Mid-Term
Identify and address High Priority Network locations where crashes have or are likely to occur due to poor access management, a lack of facilities, or a lack of frequent and safe crossing opportunities for vulnerable roadway users.	Local jurisdictions supported by MACOG	Short-Term
Monitor before and after crashes to determine if any additional interventions may be needed to eliminate fatal and serious injury crashes.	Local jurisdictions supported by MACOG	Continual
Report the percentage of new designs, retrofits, and maintenance projects implementing standards annually.	Local jurisdictions supported by MACOG	Short-Term

Engineering Practices & Policies

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Build local expertise and community.		
Review national best practices and regional case studies for demonstration projects (days-month installation) and quick build implementation (1-5 year installation or until funding is available for more permanent installation) **a.** NACTO Quick Builds for Better Streets: A New Project Delivery Model for US Cities **b.** Smart Growth America Quick Build Demonstration Projects **c.** Tactical Urbanist's Guide to Materials and Design **d.** NACTO Urban Bikeway Design Material Success **e.** MACOG Pavement Playbook	Local jurisdictions supported by MACOG	Continual
Develop demonstration and quick build procedures.	Local jurisdictions supported by MACOG	Short-Term
Work with INDOT to develop a policy to leverage demonstration and quick build opportunities that build public support for proven safety countermeasures along state routes.	Local jurisdictions supported by MACOG	Mid-Term
Leverage MACOG lending libraries with materials to install low-cost, quick-built projects or slow streets.	Local jurisdictions supported by MACOG	Short-Term
Identify locations where: **a.** Safety infrastructure is needed, but the public or leadership may be apprehensive about fully implementing. **b.** Safety risks are high, and a quick solution is critical to public safety until a more permanent solution is available.	Local jurisdictions supported by MACOG	Short-Term
Leverage a demonstration project to build public consensus on the preferred implementation or a quick build to address a critical safety issue.	Local jurisdictions supported by MACOG	Mid-Term
Monitor and engage with the public before and after to learn what worked well versus what should be changed in the final implementation.	Local jurisdictions supported by MACOG	Continual
Report the percentage of new designs, retrofits, and maintenance projects implementing standards annually.	Local jurisdictions supported by MACOG	Short-Term

Education & Awareness

GOAL Assist transportation professionals and the stakeholders who influence their work in adopting a Safe System Framework in transportation safety.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Train relevant staff and stakeholders on how to implement the recommendations from the Move Safe Michiana Plan.		
Identify staff across jurisdictions that influence transportation safety. This includes, but is not limited to: transportation, communication, land use planning, law enforcement and adjudication, emergency medical services, affordable housing, regional planning, economic development, and education.	MACOG and individual jurisdictions	Short-Term
Provide specific information for departments on how their work can prevent fatal and incapacitating injury traffic crashes.	MACOG and individual jurisdictions	Short-Term
Provide training around the Safe System Approach, including theoretical and technical information, experiential education ("windshield tours", walk audits, horse and buggy rides), and other opportunities to influence day-to-day implementation.	MACOG, individual jurisdictions, and horse and buggy committees	Mid-Term
Ensure materials and programming address relevant spoken languages as requested for jurisdictions (such as Spanish & Pennsylvania Dutch) and ensure cultural relevance to residents of jurisdictions.	MACOG	Mid-Term

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Clearly communicate to residents how and when transportation decisions are made, to ensure clear opportunities for meaningful engagement, easy navigation, and transparency.		
Create a section on MACOG's website, and the websites of all MACOG jurisdictions.	MACOG and individual jurisdiction partners	Short-Term
Partner with community-based organizations that reach people disproportionately impacted by fatal and incapacitating injury crashes.	MACOG, Elkhart County Redevelopment, other individual jurisdiction partners, community based organizations, and media outlets	Short-Term
Provide training around the Safe System Approach. This is to include knowledge and skills, technical information, cultural sensitivity, and practice day-to-day implementation.	MACOG and individual jurisdiction partners	Short-Term
Ensure materials and programming address relevant spoken languages for jurisdictions (currently Spanish and Pennsylvania Dutch) and ensure cultural relevance to residents of jurisdictions.	MACOG	Mid-Term

GOAL Invest in education to help people understand that eliminating fatal and incapacitating injury crashes is possible and raise awareness on how that can be done.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Prioritize safety education for students		
Work with local schools to implement K-12 courses and curriculum that provide 'Walking and Biking Safe' education. Teach children and their caregivers how to identify and evaluate safe routes.	Health by Design, Safe Kids Elkhart County, and Bashor Children's Home	Short-Term
Invest in Safe Routes to School plans, policies, programs, and events.	Health by Design, Safe Kids Elkhart County, and Bashor Children's Home.	Short-Term
Update and revise driver's education programs, including a 'Train the Trainer' approach for instructors.	Bicycle Indiana	Short-Term

Education & Awareness

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Develop and launch a regional, marketing campaign focused on Safe System Approach principles.		
Develop a Move Safe Michiana marketing campaign with personal and regional connections.	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Short-Term
Create an "Everyone is a Pedestrian" media campaign.	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Mid-Term
Encourage bike friendly designation, mass cycling events, and highlight trails.	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Short-Term
Focus on specific, core messages that apply to all travelers – There's space/a place for all travelers.	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Mid-Term
Include mechanism for action (pledge, commitment, etc.)	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Short-Term
Create a speakers bureau featuring local people telling relatable community stories using safe system principles.	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Mid-Term
Encourage public figures, as well as community and civic leaders to publicly pledge to not drive over the speed limit, under the influence, or while distracted.	MACOG, County Health Departments, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County, and local bike advocates	Short-Term
Ensure materials and programming are culturally relevant and available in languages spoken in each jurisdiction (English, Spanish, Pennsylvania Dutch).	MACOG	Mid-Term

Education & Awareness

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Provide information for media professionals on how to best communicate about traffic crashes and roadway safety.		
Share research with local media providers to promote systemic safety culture, reduce victim blaming, and increase awareness of their role in eliminating fatal crashes. (https://www.pedallove.org/from-victim-blaming-to-solutions-toolkit)	MACOG	Mid-Term
Include legacy media outlets and outlets focusing on priority populations.	MACOG	Continual
Provide quarterly updates to media outlets, highlighting key projects and successes.	MACOG	Short-Term
Track earned media and report annually.	MACOG	Continual

GOAL Work with regional and statewide partners to prioritize funding of Safe System Approach projects.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Continue to coordinate and prioritize funding decisions between state and local partners through the lens of the Safe System Approach.		
Improve communication of INDOT to local jurisdictions on plans, practices, policies, and projects across all planning timeframes with communities and jurisdictions impacted. Communicate within a timeframe that allows for meaningful input and coordination from local jurisdictions.	INDOT, and all jurisdictions in the region, Elkhart County Redevelopment	Mid to Long-term
Strategy: Update safety criteria in local funding and other decision-making processes.		
Review and update MACOG funding decision making processes to highly prioritize the elimination of fatal and incapacitating injury crashes and reduce weight of other elements such as peak travel, volumes, and level of service. (examples: Indianapolis MPO and MORPC Attributable Funds committee)	MACOG	Short-Term

GOAL Implement policies that promote transportation design through the Safe System Approach.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Improve conditions for multimodal travelers on INDOT roads traveling through other jurisdictions.		
Update INDOT's Complete Streets policy to be context sensitive in jurisdictions.	INDOT and Elkhart County Highway	Short to Mid-Term
Develop an INDOT funding and implementation strategy to implement Complete Streets on INDOT roadways in local jurisdictions.	INDOT and Elkhart County Highway	Mid-Term
Strategy: Promote adoption of Complete Street Policies to provide appropriate accommodations for all users during construction.		
Review national best practices for facility continuation during construction.	Local jurisdictions supported by MACOG, Indiana Department of Health, Health by Design, Elkhart County Highway	Mid-Term
Increase local adoption of policies and continued reporting on implementation.	Local jurisdictions supported by MACOG, Indiana Department of Health, Health by Design, Elkhart County Highway	Long-term
Incorporate policies into the construction management process.	Local jurisdictions supported by MACOG, Indiana Department of Health, Health by Design, Elkhart County Highway	Long-term
Report the number of facility lane miles continued through construction and not continued through construction and report annually.	Local jurisdictions supported by MACOG, Indiana Department of Health, Health by Design, Elkhart County Highway	Long-term

GOAL Prioritize transportation investments that support multimodal transportation.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Increase investment in transit to improve safety and quality of traveling by transit.		
Increase the frequency and reliability of established transit services.	MACOG, TRANSPO, Notre Dame, South Bend, Mishawaka, Public Transportation Council of Indiana, AARP, local health agencies in Elkhart County, City of Elkhart, and local bike advocates	Mid-Term
Improve first and last mile connections for transit users.	MACOG, TRANSPO, Notre Dame, South Bend, Mishawaka, Public Transportation Council of Indiana, AARP, local health agencies in Elkhart County, City of Elkhart, and local bike advocates	Mid-Term
Prioritize improvements to safety to transit stops in high crash locations.	MACOG, TRANSPO, Notre Dame, South Bend, Mishawaka, Public Transportation Council of Indiana, AARP, local health agencies in Elkhart County, City of Elkhart, and local bike advocates	Short-Term
Strategy: Adopt Safe Routes to School and Daily Destinations plans and policies.		
Update safety criteria in local funding and other decision-making processes	South Bend, Goshen, Elkhart County Redevelopment, INDOT local streets/ engineering departments, Health by Design, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County	Short-Term
Develop methodology to assist school districts and communities in identifying low stress, safe routes. Prioritize interventions in those locations. Compare crash data at modified locations.	South Bend, Goshen, Elkhart County Redevelopment, INDOT local streets/ engineering departments, Health by Design, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County	Mid-Term
Work with school boards to ensure decision making in choosing school sites prioritizes safe travel.	South Bend, Goshen, Elkhart County Redevelopment, INDOT local streets/ engineering departments, Health by Design, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County	Short-Term
Help school communities integrate their route planning with this goal.	South Bend, Goshen, Elkhart County Redevelopment, INDOT local streets/ engineering departments, Health by Design, Pumpkinvine Trails Coalition at the Community Foundation of Elkhart County	Short-Term

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Increase investment in bicycle parking strategies to improve safety and quality of traveling by bicycle.		
Increase the availability of bicycle parking racks.	MACOG, Local Jurisdictions	
Convert some car parking spaces to bicycle parking.		
Research policies that require the availability of valet bicycle parking at large events.		

Internal Practices and Policies

GOAL Recognize and prioritize the role that immediate post-crash care plays in eliminating fatalities.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Improve response time for first responders at incapacitating injury crash sites.		
Increase resources for and coordination of Emergency Medical Services (EMS) to improve trauma care	Redevelopment Commissions	Long-term
Strategy: Partner with trauma centers and EMS, adopt a data sharing policy.		
Establish database and mechanism to track EMS data related to vulnerable road user crashes.	MACOG, South Bend, trauma centers, and Goshen Emergency Medical Services	Mid-Term
Create a Fatal Crash review team for vulnerable road user (VRU) crashes.	MACOG, South Bend, trauma centers, and Goshen Emergency Medical Services	Short-Term
Choose a pilot community to implement across the MACOG region.	MACOG, South Bend, trauma centers, and Goshen Emergency Medical Services	Mid-Term
Report annually on progress of this strategy.	MACOG, South Bend, trauma centers, and Goshen Emergency Medical Services	Continual

Internal Practices and Policies

GOAL Implement policies beyond engineering that improve roadway safety through the Safe System Approach.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Examine and revise vehicle fleet policies to prioritize the elimination of fatal traffic crashes.		
Encourage government owned vehicle fleet policies to prioritize smaller vehicle sizes, weights, and front-end heights and shapes.	South Bend	Short-Term
Encourage government owned vehicle fleet policies that prioritize safe driving. This includes the purchasing and installation of warning systems, cameras, speed governors, and hands-free phone/ GPS holders in vehicles.	South Bend	Short-Term
Strategy: Update land use policies and development standards to prioritize the safety of all road users.		
Adopt policies that prioritize walkability, bikeability, transit and network cohesion. Focus on zoning codes and standards such as block size, form-based codes, parking maximums, access management, etc.	Indiana Chapter of the American Planning Association, Elkhart County Planning and Development, local redevelopment commission for projects on multimodal networks, Pumpkinvine Coalition at the Community Foundation of Elkhart, and local bike advocates	Short-Term
Complete review of land use policies to identify where road user safety could be impacted.	Indiana Chapter of the American Planning Association, Elkhart County Planning and Development, local redevelopment commission for projects on multimodal networks, Pumpkinvine Coalition at the Community Foundation of Elkhart, and local bike advocates	Mid-Term
Incentivize projects and development along existing and developing multimodal networks, and key routes.	Indiana Chapter of the American Planning Association, Elkhart County Planning and Development, local redevelopment commission for projects on multimodal networks, Pumpkinvine Coalition at the Community Foundation of Elkhart, and local bike advocates	Long-term

Internal Practices and Policies

GOAL Foster trust and invest in transparency throughout the journey of improving roadway safety.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Establish a safety action plan implementation group to monitor and report on plan progress.		
Serve as a liaison to elected leadership and transportation agencies.	MACOG and South Bend	Short-Term
Guide residents and communities on how to affect policy change along with short term interventions.	MACOG and South Bend	Short-Term
Share stories that promote transportation safety, and the concept that life-altering injuries are not necessary or acceptable.	MACOG and South Bend	Short-Term
Ensure representation from across the region or establish and support smaller regional teams.	MACOG and South Bend	Short-Term
Include representation from community-based organizations like schools, community centers, food pantries, health care facilities, employment centers, and organizations that serve people disproportionately impacted by fatal and incapacitating injury crashes.	MACOG and South Bend	Short-Term
Include representation from people who walk, bicycle, ride transit, and travel by horse and buggy.	MACOG and South Bend	Short-Term
Strategy: Identify dedicated staff role(s) for Safe Streets work.		
Create a role that serves as the coordinator and primary contact for all Move Safe Michiana goals and strategies.	MACOG, Elkhart County Health Department, Safe Kids Elkhart County, Redevelopment of Elkhart County, and recruit others	Mid-Term

Evaluation & Accountability

GOAL Establish ongoing processes and procedures that continue to improve roadway safety for all travelers.

Implementation Actions/Best Practices	Key Implementation Partners	Timeframe
Strategy: Update the MACOG data dashboard at least annually and publish a report that documents and shares implementation progress back to the community every even numbered year.		
Identify performance measures to be reported in an annual snapshot.	MACOG and individual jurisdictions	Short-Term
Identify performance measures to be reported in a biannual report.	MACOG and individual jurisdictions	Short-Term
Examine and disaggregate crash data to understand which travelers are disproportionately impacted and prioritize investment in safety for those travelers.	MACOG and individual jurisdictions	Short-Term

GOAL Establish ongoing processes and procedures that continue to improve roadway safety for all travelers.

Implementation Actions/Best Practices	Key Implementation Partners	Time-frame
Strategy: Evaluate performance measures.		
Establish performance measures that recognize pedestrians, bicyclists, transit riders, and horse and buggy travelers as road users in traffic modeling and project evaluations.	MACOG, Elkhart County Health Department, Pumpkinvine Trails Coalition, Safe Kids Elkhart County, Community Foundation of Elkhart County, and Amish Safety committees	Mid-Term
Strategy: Increase availability of useful data sets to improve future prioritization processes and identification of countermeasures.		
Identify and prioritize acquisition of key data sets (traffic volume, like number of lanes, divided roads, presence of sidewalks and marked crosswalks, active transportation demand and need, lighting inventory, pedestrian counts).	MACOG	Short-Term
Develop procedures to collect and clean data sets for the entire MACOG region.	MACOG	Short-Term
Establish a program to conduct road safety audits at high crash locations to better identify contributing factors and inform appropriate countermeasures.	MACOG, City of South Bend, other jurisdictions in the MACOG region, American Association of Retired Persons (AARP), and local bicycle advocates	Short-Term
Research design strategies and road maintenance considerations related to horse and buggy travelers.	Valparaiso University, Elkhart County Highway and Development	Mid to Long-term

CHAPTER 5. Moving Forward

The Move Safe Michiana Safety Action Plan includes goals, strategies, and actions to reduce fatal and serious injury crashes on roadways. However, to be successful, this plan and its foundational principles must be embraced, discussed, emphasized, and reinforced every day as decisions are made, projects are built, and people move around their communities. This Plan must be a living document that unites people across agencies, departments, organizations, and the region to prioritize roadway safety.

Monitor, Measure, and Report Progress

Taking the time to monitor and measure progress is good practice in order to move towards success. It allows implementers to understand where progress is being made, and where it may be necessary to bring in other minds to help examine and modify actions. Reporting on progress ensures transparency to constituents and invites residents to participate in creating safe streets for all.

The Federal Highway Administration (FHWA), the funder of this plan, requires that a group is created to oversee the implementation and monitoring of the plan, and that progress on the plan is reported annually to the public. Any application for federal funding to implement recommendations from a safety action plan must include documentation of the community's commitment to monitor and measure process, as well as publicly report on results.

Upon the adoption of this plan, MACOG will establish an oversight and monitoring group. This group's first task will be to decide on performance measures.

MACOG will also continue to update the data dashboard that reports fatal and serious injury crashes at least annually, and to publish a more detailed report on progress every two years. These actions will assist the region in understanding where the Michiana Area is on the path to success and how to tell that story to the public and potential funders.

Funding Opportunities

There are a variety of federal, state, and local opportunities to fund the infrastructure and programmatic recommendations identified in Chapter 4 of this plan. Table 1 lists common funding sources available for safety improvements. Further USDOT Discretionary grant opporuntities can be found at www.transportation.gov/grants.

Table 1: Funding Opportunities

Funding Source	Distributing By	Eligible Project Examples
Safe Streets for All (SS4A) Grant Program	USDOT	Implementation grants are for the construction of safety countermeasures identified in the safety action plan, as well as the implementation of programmatic and policy recommendations. Awards range from $2.5 million to $25 million.
Better Utilizing Investments to Leverage Development (BUILD)formerly known as RAISE Grant	USDOT	Major projects for: public transportation, multimodal facilities, surface transportation projects.
Formula Federal Funding including Surface Transportation Block Grant (STBG), Highway Safety Improvement Program (HSIP), Congestion Mitigation & Air Quality Improvement Program (CMAQ), Transportation Alternatives (TA)	MACOG, INDOT	Federal Funding awarded to projects of various sizes that address a variety of needs including safety, pavement condition, and active transportation.

Working Together

It is possible to end fatalities on Michiana Area roadways. Each of us has a role in achieving this ambitious goal. Some folks will endeavor to implement specific actions of this plan as part of their profession, others will labor in service to their loved ones and neighbors. Even more will do the important work of spreading the good news that zero fatalities on Michiana Area roadways is possible.

Together, we can get closer to the day when serious injuries and fatalities are no longer a normal part of the transportation system.

What role will you embrace?

Appendices

Appendix A. Priority Area Analysis

Appendix B. Descriptive Statistics Analysis

Appendix C. High Injury Network

Appendix D. Systemic Safety Analysis

Appendix E. Project Prioritization and Methodology

Appendix F. Policy Analysis

Appendix G. Literature & Best Practices Review