



VAN BUREN TOWNSHIP



SAFE STREETS FOR ALL
SAFETY ACTION PLAN

PREPARED FOR THE CHARTER
TOWNSHIP OF VAN BUREN



PREPARED BY WADE TRIM



ACKNOWLEDGMENTS

Van Buren Safe Streets for All Steering Committee

Van Buren Downtown Development Authority

Van Buren Municipal Services

Van Buren Planning & Economic Development

Van Buren Municipal Services

Van Buren Police & Fire

Van Buren Community Services

Wayne County Department of Roads

Southeast Michigan Council of Governments

US Department of Transportation

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INTRODUCTION

1

Since the modern traffic safety movement began over 40 years ago, traffic fatalities and serious injury accidents declined significantly per miles driven in the United States. However, approximately Fifteen years ago, the downward trend in the rate of fatalities and serious injuries that began in 1972 continues, ended with the number of American traffic fatalities and serious injuries beginning to increase.

Concurrent to these changes on America's roads, there has been an international effort to significantly reduce the number of fatalities and serious injury accidents worldwide. The World Health Organization estimates that approximately 1.2 million people die annually on the world's roads since the Millennium (excluding the 2020 Covid Pandemic year dip). In addition to the terrible social and familial loss inflicted by these crashes and fatalities, these statistics also represent a serious Financial drain related to health care systems of those countries. In addition to this direct measurable Financial impact, there are broader societal impacts related to lost family income and economic productivity related to both the deceased and seriously injured and impacts on their often unpaid family caregivers, not to mention the effects of the grief and familial trauma related to these crashes.

To address the mounting and avoidable costs associated with tens of millions of lives affected by transportation-related disasters, Swe-

den was the First country in 1997 to adopt a national vision zero transportation safety goal. This program led to a variety of new road safety initiatives around the world. There are several interrelated zero-focused traffic-safety programs operating within the United States today:

Road to Zero – a collaborative effort led by the National Safety Council that aims to strengthen evidence-based roadway safety programs while implementing technological improvements in vehicles and infrastructure and implementing a safe-systems approach to reduce human error and severity of injury.

Toward Zero Deaths – a national highway safety campaign that strives to build a traffic safety culture where drivers refrain from risky behaviors and safety is incorporated into decisions made by all transportation system decision makers.

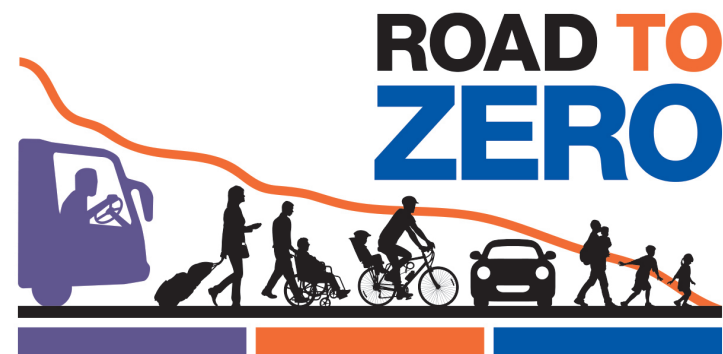


Figure 1-1. Road to Zero Logo
Source: National Safety Council

Vision Zero – is a commitment-based approach where local Action Plans are prepared that outline various traffic safety countermeasures necessary to reach zero avoidable fatalities and serious injuries by a specific date that local leadership then pledge to achieve. US DOT’s SS4A Action Plans are built on the Vision Zero model.



Figure 1-2. Van Buren Township Vision Zero



Figure 1-3. Van Buren Township example two-lane roadway
Source: Wade Trim

OBJECTIVE & SCOPE

Van Buren Township has received a Safe Streets and Roads for All (SS4A) Action Plan planning grant from the U.S. Department of Transportation to prepare the Safe Van Buren Roads and Streets Action Plan (Action Plan). With this Action Plan meeting all of the U.S. Department of Transportation (US DOT) Action Plan minimum requirements, Van Buren Township will become eligible to seek SS4A US DOT implementation funds.

Each Action Plan are required to meet eight components, which include the analysis taken to identify road safety issues within the Township, listing of appropriate safety countermeasure and policy decisions, and action-orientated steps that are designed to change the Township’s transportation safety culture. Authorities responsible for Action Plan implementation are to publicly commit to achieving the stated goal(s) of the Action Plan.

The ultimate goal of the SS4A program is to achieve zero avoidable transportation system fatalities or serious injury accidents within the community. Van Buren’s Action Plan is designed to build upon the Township’s efforts to improve road network safety for all users over the last dozen years. This Action Plan outlines calculated Quick-Action steps and longer-term countermeasures designed to halve the number of fatalities and serious injury accidents by the Action Plan’s goal of 2035.

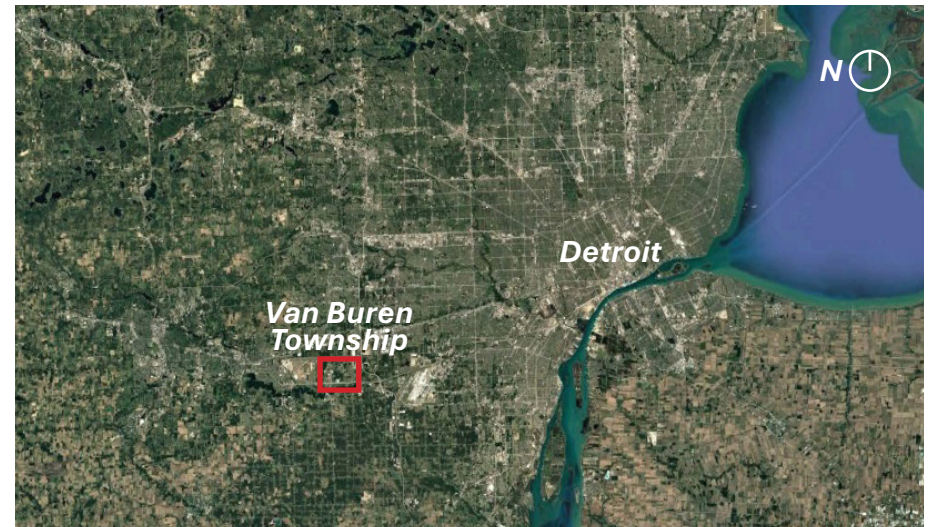


Figure 1-4. Van Buren Township location map
Source: Google Earth

BACKGROUND INFORMATION

Located in western Wayne County, the Charter Township of Van Buren is a suburbanizing community of 30,000 residents that is bisected east-west by I-94 Freeway and Belleville Lake. Traffic is funneled onto three main north-south links (Rawsonville Road, Belleville Road, and Haggerty Roads) that cross both Belleville Lake and I-94. Since the Township was mainly developed in the last decades of the 20th Century, the road hierarchy is traditionally suburban in nature with all non-local traffic directed to section line roads. This approach leads to the Township’s main roads carrying all of the local traffic, and in Van Buren’s case, the main road network also accepts additional north-south through traffic for the City of Belleville, Canton and Sumpter Townships.

Like all townships in Michigan, the Township roads are owned and operated by others including MDOT or Wayne County, or they’re under private control. All of the main roads within the Township are owned and operated by the Wayne County Department of Public Works – Roads Division.

The Van Buren Township Downtown Development Authority (DDA), is responsible for supporting the development and redevelopment of the commercial and industrial core of Van Buren Township. The DDA’s development district generally extends along both sides of Belleville Road just north of Belleville Lake to north of Ecorse Road. One of the tools of the DDA is tax increment Financing, which allows the DDA to collect incremental tax increases above the district’s initial base year. All monies collected by the DDA must be spent on

projects within its district to support new development or redevelopment. As a part of the DDA’s development agenda, it has focused some of its collections on improvements along Belleville Road, Van Buren Township’s main commercial artery.

Some of the DDA’s investments along the Belleville Road corridor on behalf of Van Buren Township have been to actively engage in improving the safety of the Township’s road network for motorists and non motorists over the last decade. Past improvements have included significant upgrades to traffic light signalization along Belleville Road, construction of sidewalks along Belleville Road, construction of the Belleville Road I-94 Freeway nonmotorized vehicle overpass, access management improvements along Belleville Road including the construction of rear service roads, and street lighting along the length of the corridor.

SS4A PROGRAM

U.S. Department of Transportation’s (US DOT) Safe Streets and Roads for All (SS4A) program was created by the Infrastructure and Jobs Act, also known as the Bipartisan Infrastructure Law (BIL). It was signed into law by President Joe Biden on November 15, 2021. This act expanded the typical transportation funding package by approximately \$550 Billion. One of the new outcomes of this expansion in funding from the BIL was the creation of the SS4A program with an appropriation of \$5 Billion over Five years.

The program's stated goal is zero roadway deaths using the Safe System Approach. This approach is built upon these six principles:

- 1) Death and serious injury accidents are unacceptable – Goal is to eliminate all avoidable deaths and serious injuries
- 2) Humans make mistakes – The transportation network can be designed and operated to accommodate certain levels of mistakes while minimizing the impacts of human error
- 3) Human are vulnerable – Human bodies have physical vulnerabilities and the transportation system must be holistically designed to operate within the parameters of our limitations
- 4) Responsibility is shared – All individuals and groups involved with the design and operation of the transportation network, including users are vital in the prevention of crashes
- 5) Safety is Proactive – Risks should be identified early and changes made so that reacting to crashes is not required
- 6) Redundancy is crucial – Alterations to all parts of the transportation system are necessary so that if one part fails, other components are able to adequately protect people.

The objective of the Safe System Approach is to have people operate safer, safer roads, safer vehicles, safer speeds, and improved post-crash care.

The SS4A program funds two types of grants: 1) Planning and Demonstration Grants, and 2) Implementation Grants. The Planning and Demonstration grants are for the development of SS4A Action Plans, and these funds may also be used for Quick-Action projects

that do not require a significant amount of design or cost. The Implementation Grants are to provide funding for larger projects and more involved implementation of strategies identified within the approved Action Plan.

SS4A Action Plans are the foundational element of the SS4A program. These Action Plans have analysis and implementation requirements that must be included within the Plan. Each Plan lays out an implementational approach towards achieving Vision Zero. Once a community has adopted an Action Plan, it is then to focus all of its transportation safety efforts towards the implementation strategies outlined in the Plan. The Action Plan includes specific commitments from the communities and transportation agencies required to achieve the Vision Zero goals contained within their Plans.



Figure 1-5. Signal upgrade project in Van Buren Township
Source: Wade Trim

VAN BUREN TOWNSHIP SAFE STREETS FOR ALL PLANNING

2

LEADERSHIP AND GOAL SETTING

Throughout the development of the Belleville Road Corridor Safety and Complete Streets Plan and the Safe Van Buren Streets and Roads For All Action Plan (Action Plan), significant engagement was conducted to ensure that the Township’s leadership and those responsible for transportation planning and safety in the Township were involved in the Action Plan development.

LEADERSHIP

Action Plan organizers engaged in an extensive effort to develop a broad base of support for the development of the Township’s Action Plan through regular monthly meetings with the SS4A Steering Committee. This steering committee is comprised of all of the major players involved with the operation of the transportation network in the Township including Wayne County Public Services Department – Roads Division; the Van Buren Township Board of Trustees; Van Buren Township Public Safety Department; Van Buren Township Downtown Development Authority Board of Directors and staff; Van Buren Public Schools; transportation safety advocates; and the general public.

Regular participants in the Action Plan Steering Committee included:

- Ron Akers, Director of Municipal Services
- Medina Atchinson, Planning Commission
- Donald Boynton, Jr, Township Trustee
- Merrie Coburn, DDA Executive Director
- David McNally, Fire Chief
- Kevin McNamara, Township Supervisor
- Dan Power, Director of Planning and Economic Development
- Jason Wright, Police Chief
- Chip Smith, Professional Planner/Wade Trim
- Lori Pawlik, Professional Transportation Engineer/Wade Trim

To develop a comprehensive road safety culture in Van Buren Township that will become self-sustaining, all of the parties involved have to be a part of the process from the beginning. The establishment of the Action Plan Steering Committee has ensured that all of the key players involved in transportation decision making within the Township have been invited to participate in the Action Plan’s development and learned about the challenges that face the community.

The Steering Committee First met on Wednesday March 20, 2024 and continued regular monthly meetings both in person and via zoom through January 2025.

GOAL SETTING

This Plan has been developed by prioritizing proven safety counter-measures that can be deployed by all of the departments and agencies that impact road safety Township-wide. The Action Plan utilizes a systems-based approach that leads to an ongoing self-fulfilling process that will save lives as it develops and expands over time.

One of the key components of the development of the Action Plan has been the identification of the primary goal of the Action Plan. To ensure success, it is agreed to by all the members of the Steering Committee. Buy-in was developed throughout the Steering Committee process.

The Action Plan was developed with a set of goals and targets to achieve a Fifty-percent reduction in roadway fatalities and serious injuries. To accomplish Action Plan’s safety goal, numerous traffic safety interventions of various complexities and expense will be required. Even if all of the necessary funding was available at the Action Plan’s outset, many of these safety countermeasures require significant physical roadway improvements, each requiring significant design effort, bidding, and then actual construction to complete. A process that may take up to Five years for a single Action Plan recommendation. Therefore the original target year (2028) to meet the plan’s goal would need to be reevaluated.

To account for the time necessary to assemble all of the required funding, allowance for bidding of both the design and construction activities, and then allowing for the actual construction/installation

of each of the dozens of Action Plan recommendations, the plan has extended the goal of achieving its Fifty percent reduction to 2035. This stretched out goal recognizes the expense and interconnect-edness of all of challenges to improving Township roadway safety. This extended goal provides sufficient time to develop a safe system approach necessary to foster the holistic safety environment neces-sary to accomplish this challenging goal. Both the Township Board of Trustees and the DDA Board of Directors have adopted resolu-tions approving this Action Plan and the goal to accomplish reducing Van Buren Township transportation related fatalities and serious injury accidents by 50 percent by 2035.

PLANNING STRUCTURE

To guide the development of the Township’s Action Plan, the proj-ect’s SS4A Steering Committee was formed. Comprised of all of the players involved in transportation in the Township including Wayne County Public Services Department – Roads Division; the Van Buren Township Board of Trustees; Van Buren Township Public Safety De-partment; Van Buren Township Downtown Development Authority Board of Directors and staff; Van Buren Public Schools; residents and homeowners associations.

The SS4A Steering Committee met monthly, and these meetings were structured to be inclusive and collaborative in nature with the engagement built upon developing a consensus on a specific issue before moving onto the next item. Guidance and feedback to the

consultant team were encouraged during the entire preparation of the Action Plan. As a majority of the Steering Committee is integral to the Action Plan’s success, their input was directly woven into the Action Plan through the Plan’s development.

By engaging with all of the transportation stakeholders in Van Buren Township, the Action Plan has been designed to not only create a transportation safety culture but to also create it in such a way that it is self-sustaining well into the future.

The Action Plan is built upon these principles:

- Deaths and serious injuries are unacceptable
- Humans make mistakes
- Humans are vulnerable
- Responsibility is shared
- Safety is proactive
- Redundancy is crucial



Figure 2-1. Van Buren Township signalized intersection approach
Source: Wade Trim

In working with the Steering Committee, the Action Plan recognizes the First principle that the Township’s current road network is causing unnecessary fatalities and serious injuries, and proactive action is necessary regarding road safety and safety culture development to reduce these avoidable incidents. The Action Plan’s process was geared to bring all stakeholders into the development of the Action Plan so that all stakeholders are able to proactively take measures to improve the design and operation of the Township’s road network.

One of the key efforts of the Action Plan educational process was to alter the standard mindset of placing blame for the incident onto a single party or limited set of actors. This altered mindset shifts the blame and responsibility for the actions that caused the crash towards a broader responsibility model of the Safer Streets program. This shift has led stakeholders to recognize their role and responsibility in building the safety culture necessary to achieve zero deaths and reduce incidences of severe injuries. The Action Plan recognizes that it is all of the stakeholders’ responsibilities for expanding and improving the Township’s road safety culture.

The Steering Committee was designed to ensure that all of the responsible parties related to transportation in the Township were participating in the development of this Action Plan. The success of the Action Plan may only be successful if all of the parties agree to abide by the implementation measures incorporated outlined in his Plan. The Township Board of Trustees and the DDA Board of Directors have publicly committed to implementation of the Action Plan

through the adoption of resolutions indicating their support of the development of a traffic safety culture within the Township and a commitment to achieve Fifty percent declines in roadway fatalities and serious injuries by 2035. The Van Buren Police Chief has publicly stated their commitment to support the implementation of the Action Plan through public education efforts and traffic safety patrols.

The Township Board of Trustees and the DDA Board of Directors have publicly committed to implementation of the Action Plan through the adoption of resolutions indicating their support of the development of a traffic safety culture within the Township and a commitment to achieve Fifty percent declines in roadway fatalities and serious injuries by 2035.

ENGAGEMENT AND COLLABORATION

The First Public Workshop

Van Buren Township worked to develop a comprehensive engagement approach designed to specifically include members of historically disadvantaged communities. As mentioned previously, equity was focus for this project, as equity impacts and co-benefits of recommended mitigation actions are a factor in selecting projects and is a large consideration in many grant opportunities. The strategy focuses on reaching traditionally excluded groups and geographies and provided real opportunities to help shape the plan via public meetings, surveys and discussions. To get feedback from the widest possible swath of residents, the engagement plan included the following:

- Project Advisory Committee – monthly meetings open to the public
- Project Advisory Committee – project work session
- On-Line Survey
- Preliminary SS4A Action Plan Public Workshop – August 22, 2024
- Final SS4A Safety Action Plan Open House/Light Up the Park – November 20, 2024

Additionally, project team members and staff met with staff from Wayne County Roads to review data and safety countermeasure recommendations to ensure coordination and cooperation.

Project Timeline

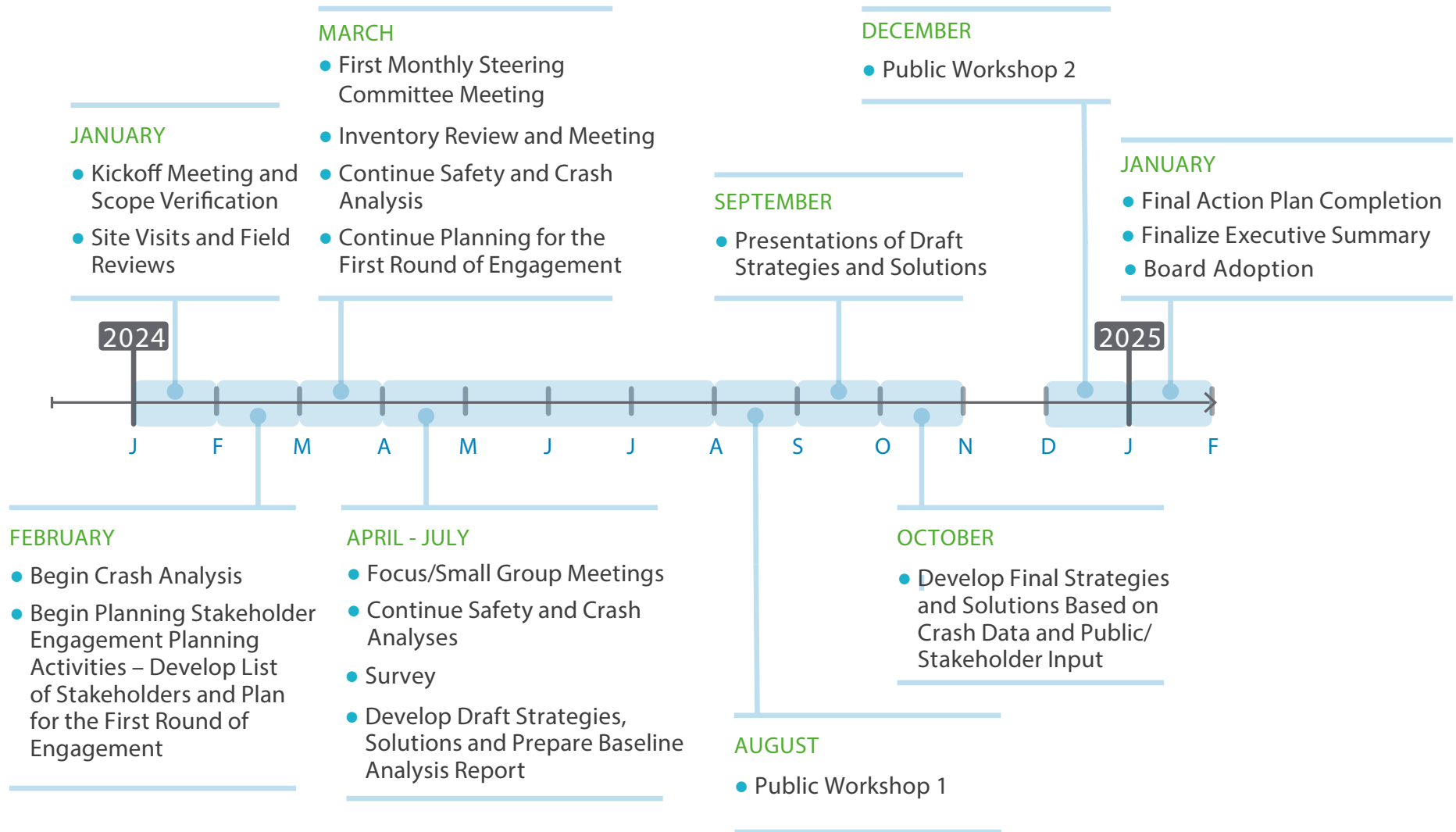


Figure 2-2. Project Timeline
Source: Wade Trim

On-Line Public Survey

The primary mode of engagement was the development and deployment of an on-line survey. The survey asked respondents to identify locations and specific safety concerns on an interactive map, as well as asked a series of more general questions about mobility in the Township. The survey launched on April 29, 2024 and closed on July 10, 2024. The DDA heavily promoted the survey via emails to homeowners associations, interest groups, and DDA members, social media posts, and flyers/posters distributed throughout the DDA area.

In total, one hundred responses were collected from April 29 to July 10. One hundred and eight responses included interactive map feedback. One hundred and twenty-Five respondents are residents; twenty-seven are non-residents who pass through or work in Van Buren Township. One hundred and Fifty-one respondents drive cars; only one does not.

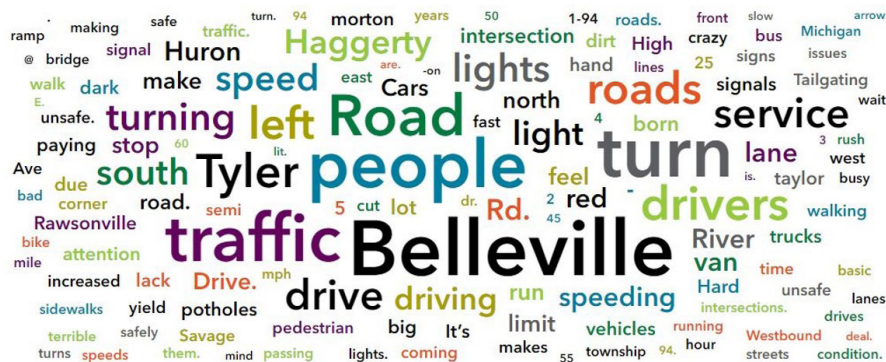


Figure 2-3. Word Cloud from survey results

Issues Identified by respondents

62 respondents feel unsafe driving, citing issues like speeding, aggressive driving, and poor road conditions. 45 respondents feel

unsafe walking or biking, mentioning lack of sidewalks, bike lanes, and proper lighting. Many respondents want more sidewalks, bike lanes, and traffic signals to improve safety and connectivity within the township. Importantly, respondents indicated a clear desire for increased traffic enforcement and public awareness campaigns.

Specific Locations for Safety Improvements

The survey identified these areas were frequently mentioned by respondents as needing significant safety improvements, and there are several neighborhoods with higher safety concerns. Each of the following four areas had broad safety concerns:

1. Belleville Road Area: Issues with speeding, aggressive driving, and lack of traffic signals, particularly near intersections like Belleville and Tyler Road.
2. South Service Drive: Concerns about speeding, poor lighting, and lack of sidewalks, making it unsafe for pedestrians and cyclists.
3. Haggerty Road: Poor road conditions, including potholes and narrow lanes, along with high traffic volumes.
4. Rawsonville Road: High speeds, narrow roads, and poor road surface conditions, making it dangerous for both drivers and pedestrians.

Other broad safety concerns mentioned in the survey include:

1. **Speeding and Aggressive Driving:** Many respondents noted issues with speeding, tailgating, and aggressive driving, particularly on major roads like Belleville Road and the South Service Drive.

2. **Poor Road Conditions:** Potholes, poorly marked intersections, and narrow roads were frequently cited as safety hazards.
3. **Lack of Traffic Signals:** Several intersections, such as Belleville and Tyler Road, were highlighted as needing additional traffic signals or left-turn arrows.
4. **Distracted Driving:** Respondents expressed concerns about drivers not paying attention, using cell phones, and running red lights.
5. **Pedestrian and Cyclist Safety:** The lack of sidewalks, bike lanes, and proper lighting makes walking and biking unsafe, especially near schools and busy roads.
6. **Increased Traffic:** The opening of new commercial developments has led to increased traffic and congestion, making driving more hazardous.
7. **Visibility Issues:** Overgrown vegetation and poor lighting at intersections and along roadsides reduce visibility and increase the risk of crashes.

The top priorities for improving safety in Van Buren Township, as identified by the survey respondents, include:

1. **Traffic Signals and Signs:** Installing more traffic signals, especially at busy intersections like Belleville and Tyler Road, and adding left-turn arrows to improve traffic flow and safety.
2. **Speed Control:** Implementing measures to control speeding, such as speed cameras, reduced speed limits, and speed bumps, particularly on roads like Belleville Road and the South

Service Drive.

3. **Road Conditions:** Repairing potholes, improving road surfaces, and ensuring proper road markings to enhance driving safety.
4. **Pedestrian and Cyclist Infrastructure:** Building more sidewalks, bike lanes, and pedestrian paths to ensure safe walking and biking, especially near schools and busy roads.
5. **Lighting and Visibility:** Improving street lighting and trimming overgrown vegetation to enhance visibility for drivers, pedestrians, and cyclists.
6. **Traffic Enforcement:** Increasing police presence and traffic law enforcement to address issues like distracted driving, running red lights, and aggressive driving.
7. **Public Awareness:** Educating the community about safe driving practices, pedestrian and cyclist rights, and the importance of using turn signals and following traffic laws.

These priorities reflect the community’s desire for a safer and more accessible transportation environment.

Stakeholder and Public Meetings

As a part of the SS4A Action Plan development, the Township utilized three public workshop-style events to get information, share concepts with the public, and to listen to the concerns of residents and stakeholders.

Project Advisory Committee Work Session

The First of these was an Advisory Committee works session held

in May 2024. IN addition to members of the Project Advisory Committee, representatives of each of the registered neighborhood associations was invited to participate, two of whom attended the session. During the meeting, the project team reviewed safety and crash data, provided an overview of the Township’s transportation network, and facilitated an open discussion about safety concerns before the participants broke into small groups. During the small group sessions, participants identified areas of concerns and visions for who the Township can eliminate serious and fatal crashes. The issues and locations identified during this work session directly correlate to the issues and locations identified by the public in the on-line survey, that were later validated during two public open house meetings.

Draft Action Plan Open House

The Township hosted an open house on August 22, 2024 at the Van Buren Township Recreation Center. The two-hour open house attracted approximately 15 total participants. These participants validated the Action Plan recommended safety countermeasures, and most importantly, supported the key design and speed limit changes along the Belleville Road corridor.

Final Action Plan Open House

The Downtown Development Authority hosted an additional Action Plan open house in conjunction with their annual Light Up the Park Holiday kickoff and caroling event in Harris Park. Participants were able to drop into the DDA offices and share their feedback with the

project team. Approximately 20 participants provided additional feedback and further validation of the safety countermeasures, particularly the reconfiguration of the Belleville Road – Tyler Road intersection.

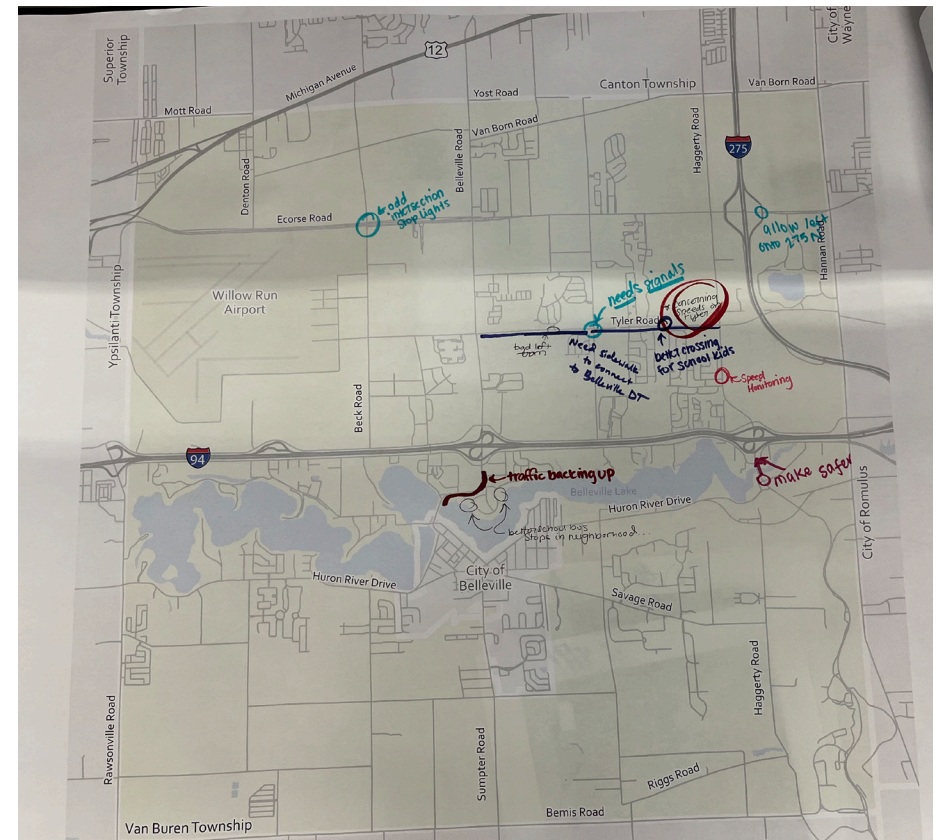


Figure 2-4. Maps marked with comments from the public open house

ENSURING EQUITY

Van Buren Township Safe Streets 4 All Equity Analysis

This study utilized data provided by the United States Department of Transportation (USDOT) accessed via the USDOT Equitable Transportation Community Explorer.

Van Buren Township has a population of approximately 28,400 residents. Approximately 7,800 residents are within two census tracts identified by the U.S. DOT as Disadvantaged Census Tracts. The U.S. DOT has developed an Equitable Transportation Community Explorer that has Five components of disadvantage. These categories are Transportation Insecurity, Environmental Burden, Social Vulnerability, Health Vulnerability, and Climate and Disaster Risk Burden. This section analyzes all Five components at both the Township scale and within the specific disadvantaged census tracts.

Van Buren Township

The Township is not a disadvantaged community, as defined by the U.S. DOT. However, there are two census tracts within the Township that qualify as disadvantaged under both Transportation Insecurity and Social Vulnerability. These two census tracts account for approximately 27 percent of Township residents. These census tracts are in the north-east and northwest corners of the Township, as shown in Figure 2-5.

Again, qualifying as a disadvantaged census tract evaluates a number of different criteria. This study focuses on transportation insecurity, but also considers the other four categories in the recommendations.

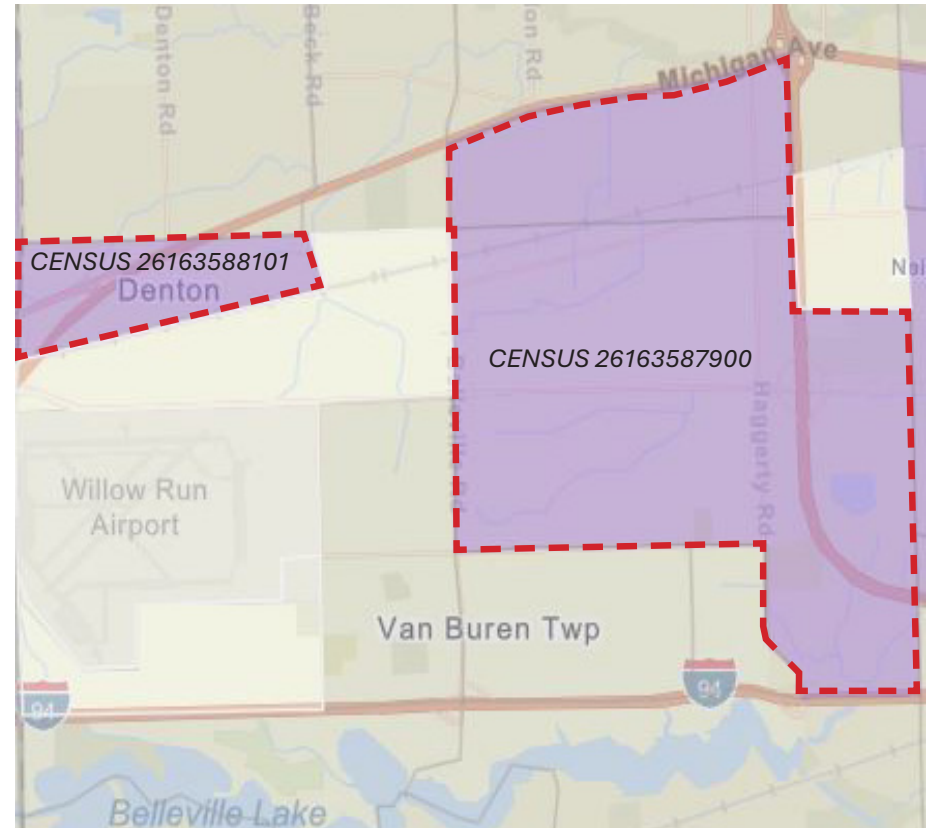


Figure 2-5. Map of Van Buren Township with Disadvantaged Census Tracts Highlighted
Source: U.S. Department of Transportation

Transportation Insecurity

From the U.S. DOT:

“Transportation Insecurity is a key component of transportation disadvantage. It occurs when people are unable to get to where they need to go to meet the needs of their daily life regularly, reliably, and safely. Nationally, there are well-established policies and programs that aim to address food insecurity and housing insecurity, but not transportation insecurity. DOT is working to change that as a growing body of research indicates that Transportation Insecurity is a significant factor in persistent poverty.”

The overall township scores poorly on Transportation Access, with 68 percent of the population that “experience longer commute times and difficulty traveling where they want to go via cars, walking and transit. Long commute times and limited access to personal vehicles or transit can create significant barriers to employment and resources.”
(source: <https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Understanding-the-Data/>)

Figure 2.5 illustrates the issue of transportation access within the Township signaling a concern about creating additional safe transportation alternatives connecting neighborhoods with commercial districts, schools and job centers. While the Township overall does not meet the full criteria as a disadvantaged community, diving

deeper into the data for the disadvantaged census tracts within the Township tells a much more concerning story.

Disadvantaged Census Tracts

Focusing the analysis on the two disadvantaged census tracts, both north of I-94 and shown in Figure 2-7, traffic safety is a more significant concern. The approximately 7,800 residents who live in the two census tracts have very high traffic safety. Both census tracts “experience higher levels of fatalities per 100,000 persons related to motor vehicle crashes” (source: U.S. DOT). Some of this can be explained by the inclusion of Michigan Avenue and I-275 within the tracts. However, the higher crash volume on Belleville and Haggerty Roads are significant factors in this data.

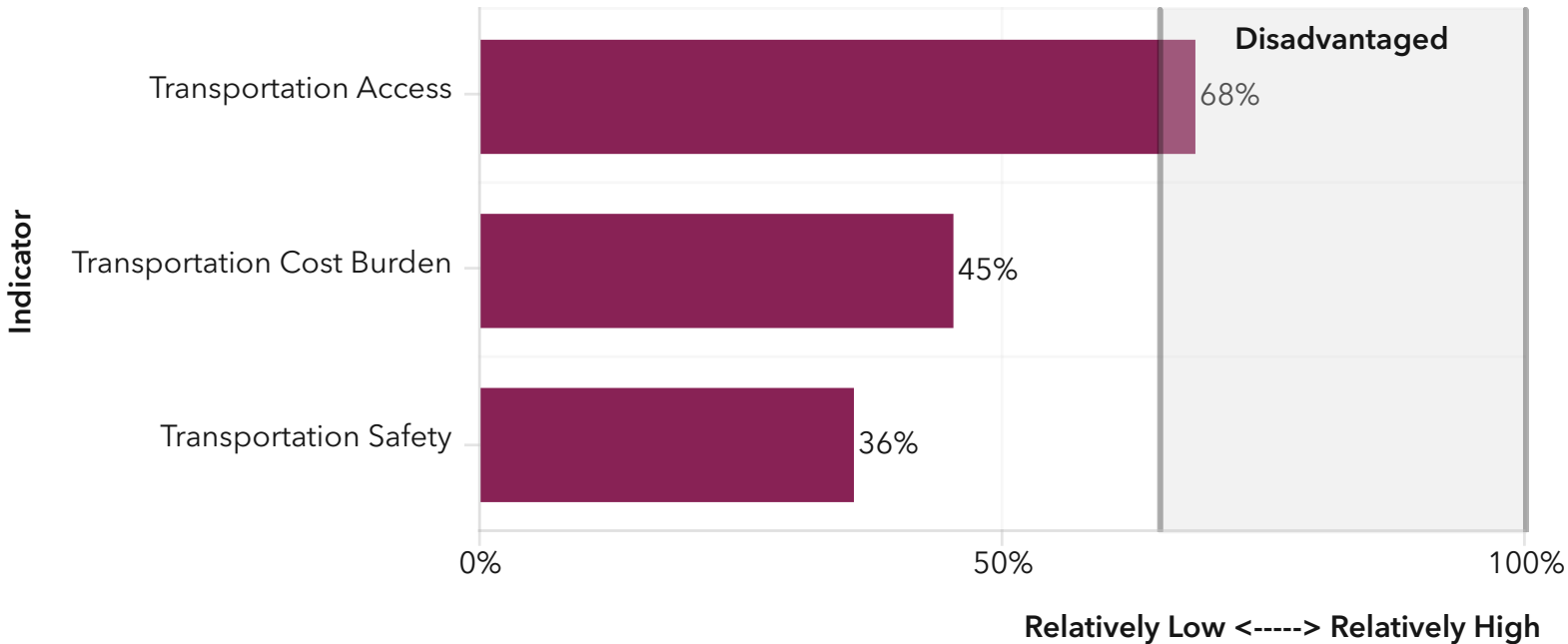


Figure 2-6. Van Buren Township Transportation Insecurity - Township-wide
Source: U.S. Department of Transportation

Separating the data between the two tracts, there is additional insight that can be gained. The smaller of the two tracts, Census Tract 5881, located in the extreme northwester corner of the Township, has approximately 1,500 residents and qualifies as disadvantaged in three of the Five categories – Transportation Insecurity, Environmental Burden, and Social Vulnerability.



Figure 2-7. Aerial photo of Census Tract 5881
Source: Google Earth

As illustrated in Figure 2-7, the residential areas are disconnected from the commercial area on Belleville Road. Within this census tract, the only sidewalks are with the subdivision on Asbury Rd, and along the west side of Gilmore St., North of Cross St. The mobile home park on the western edge of the Township also is not connected to other commercial areas via sidewalks or bicycle paths. The isolation of this census tract forces a dependence on cars as the primary mode of transportation for all daily activities. As expected, this census tract has a very high percentage of residents for whom transportation access is a considerable concern. Residents in this area may experience longer commute times and difficulty traveling where they want to go via cars, walking and transit.

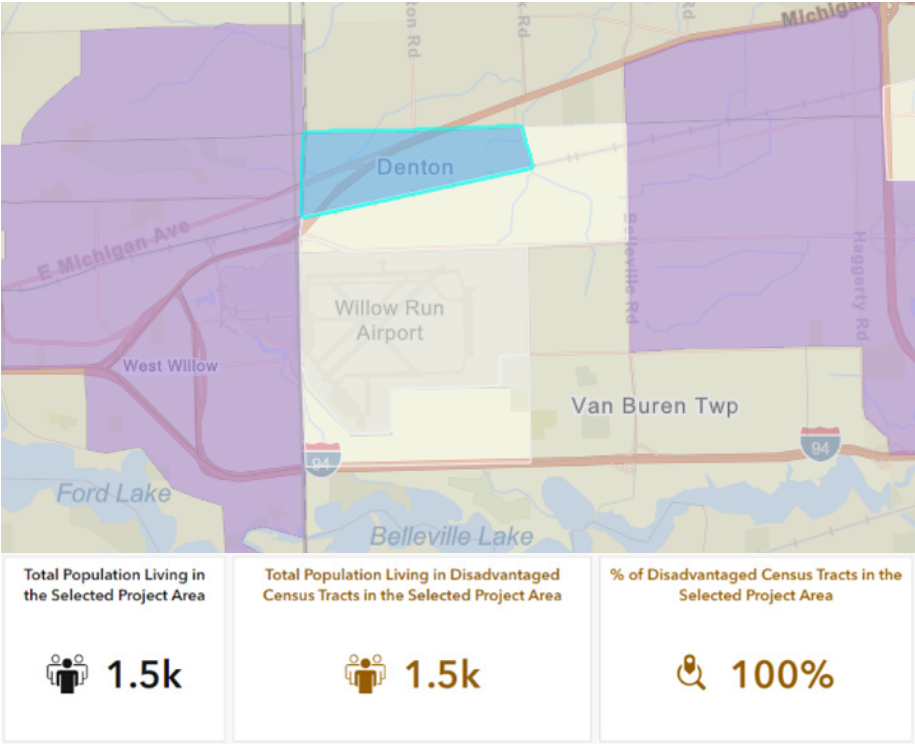
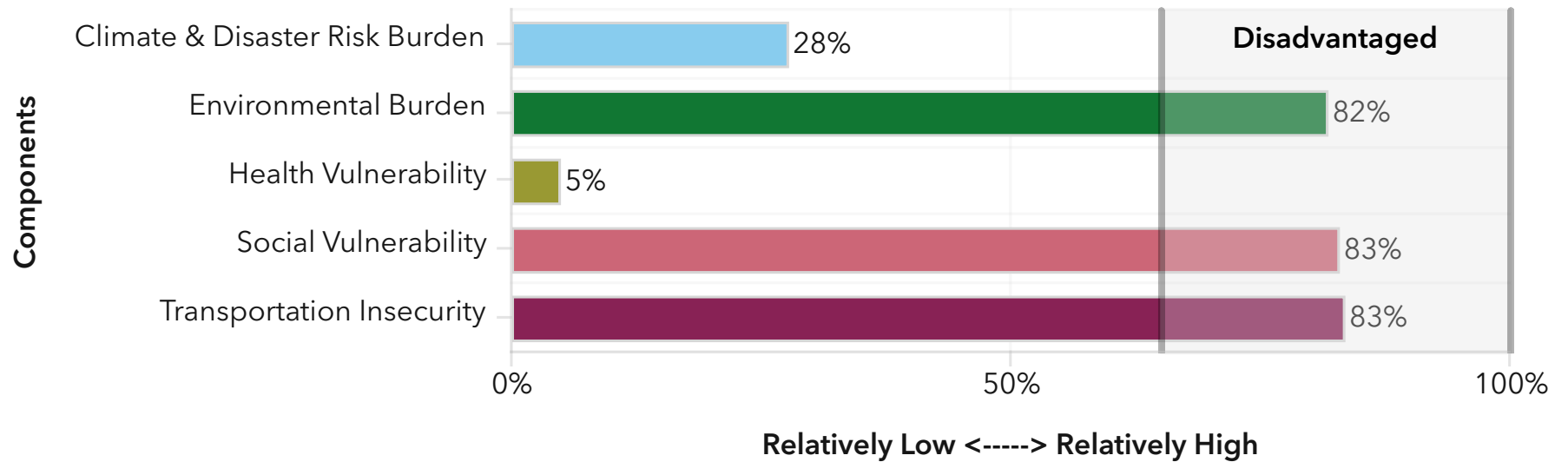


Figure 2-8. Census Tract 5881 Vulnerability Snapshot
Source: U.S. Department of Transportation

Overall Disadvantage Component Scores - Percentile Ranked



Transportation Insecurity - Percentile Rank

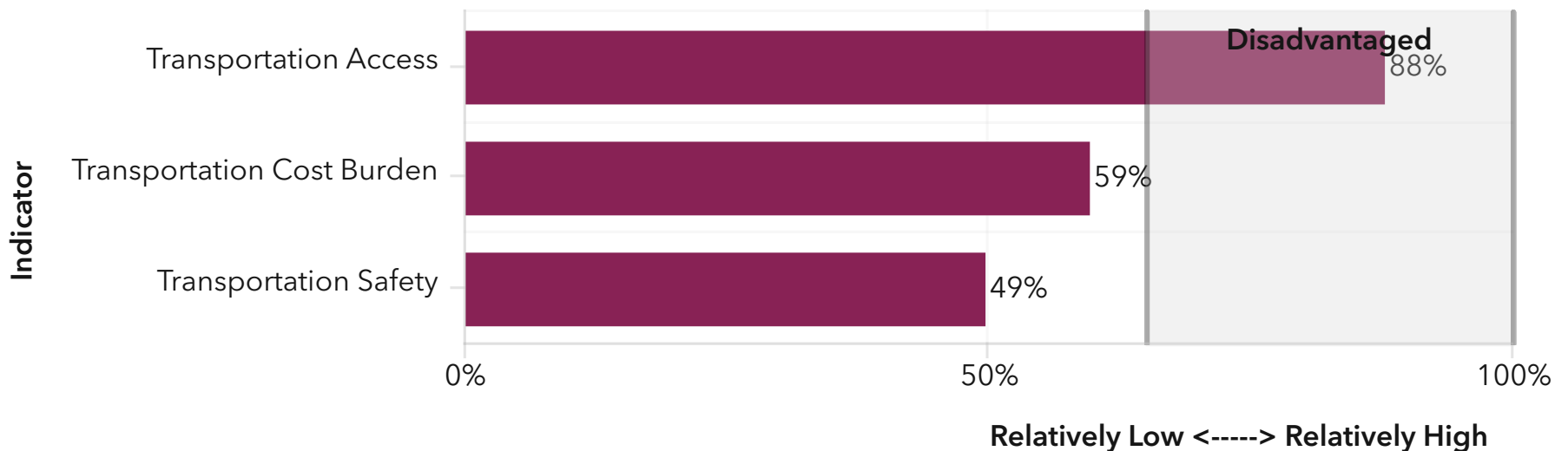


Figure 2-9. Census Tract 5881 Vulnerability Charts
Source: U.S. Department of Transportation

Census Tract 26163587900 is also considered a Disadvantaged Census Tract. Within the tract, there are 6,200 residents or approximately 22 percent of the overall township population. Of the 7, 800 residents within disadvantaged tract, approximately 80 percent of these residents live in this census tract.

Risk factors in this tract include vulnerability within all Five disadvantage components. Focusing on transportation insecurity, this census tract scores in the 97th percentile for traffic safety, making this one of

the most disadvantaged census tracts in the region using this metric. The bulk of fatal and severe traffic injuries in Van Buren Township are within this census tract (see Crash Heat Map on Page 44).

Environmentally, this tract qualifies as disadvantaged in Particulate Matter (PM), Diesel PM, Toxic Release site proximity and risk management sites proximity. The latter two categories are the impacts of the landfills on the eastern edge of the Township, and the particulate matter Figures show the impact particularly of heavy vehicle traffic on I-275 and I-94.

Health vulnerability is an issue within this tract as well. The tract is relatively high in Asthma prevalence, which correlates with the PM Figures.

Social Vulnerability is another category where this tract has considerable disadvantages. This tract has a high percentage of mobile homes (89th percentile), residents under the age of 17 (74th percentile), income inequality which is the size of the income gap, indicating unequal distribution of wealth and limited access to resources for low-income households (92nd percentile), unemployment (98th percentile), uninsured (67th percentile), and percentage of rental housing (65th percentile).

This census tract also qualifies as disadvantaged in two of the three climate and disaster risk burdens – Anticipated Changes in Extreme Weather (68th percentile) and Annualized Disaster Losses Due to Hazards (84th percentile). These Figures show that a large portion of lower income and health vulnerable residents will experience losses and impacts of climate change related extreme weather events.

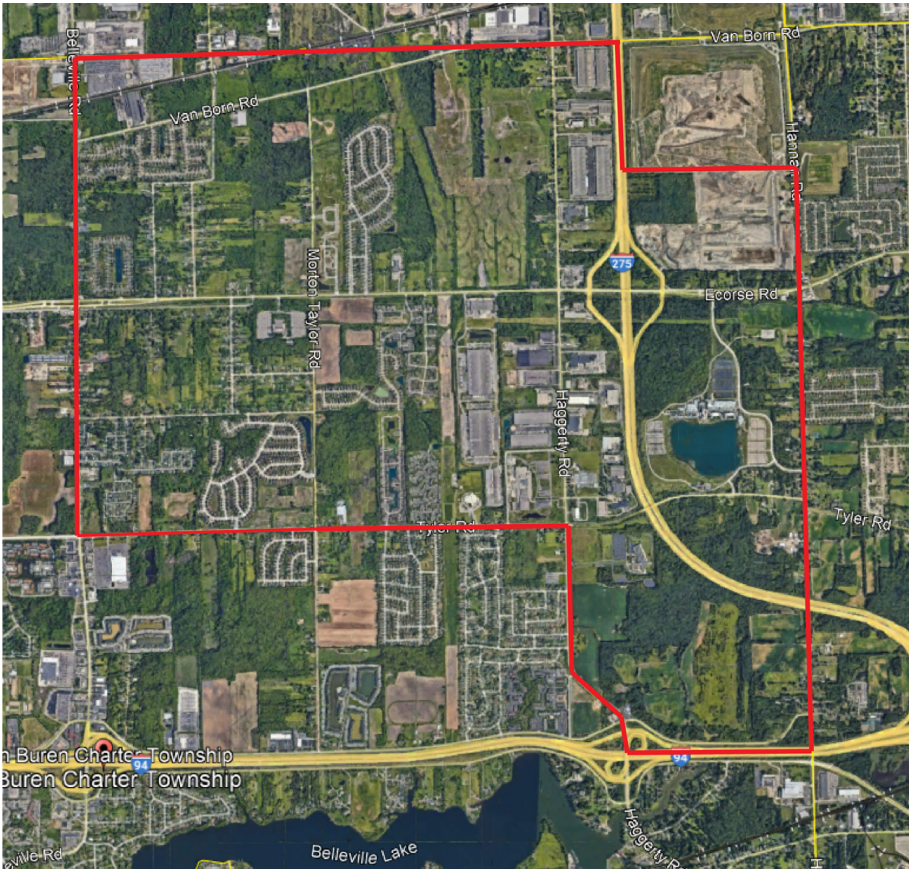


Figure 2-10. Aerial photo of Census Tract 5879
Source: Google Earth

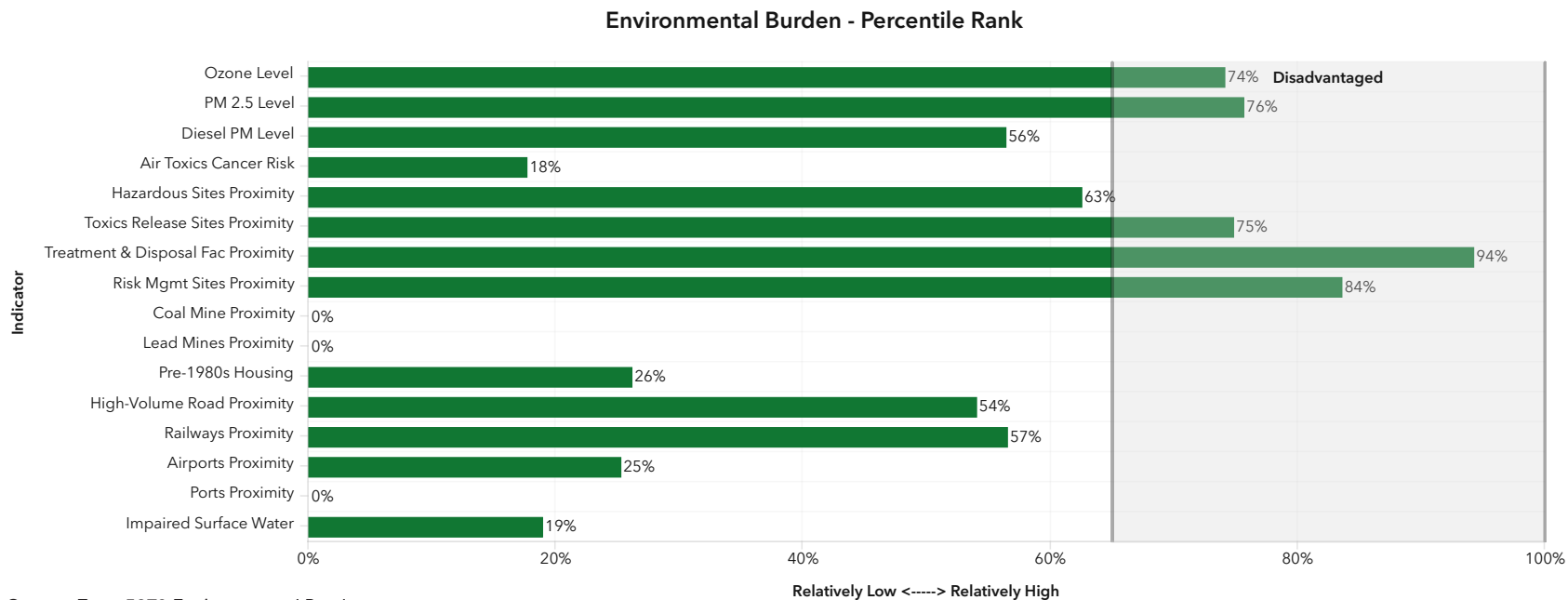


Figure 2-11. Census Tract 5879 Environmental Burden
Source: U.S. Department of Transportation

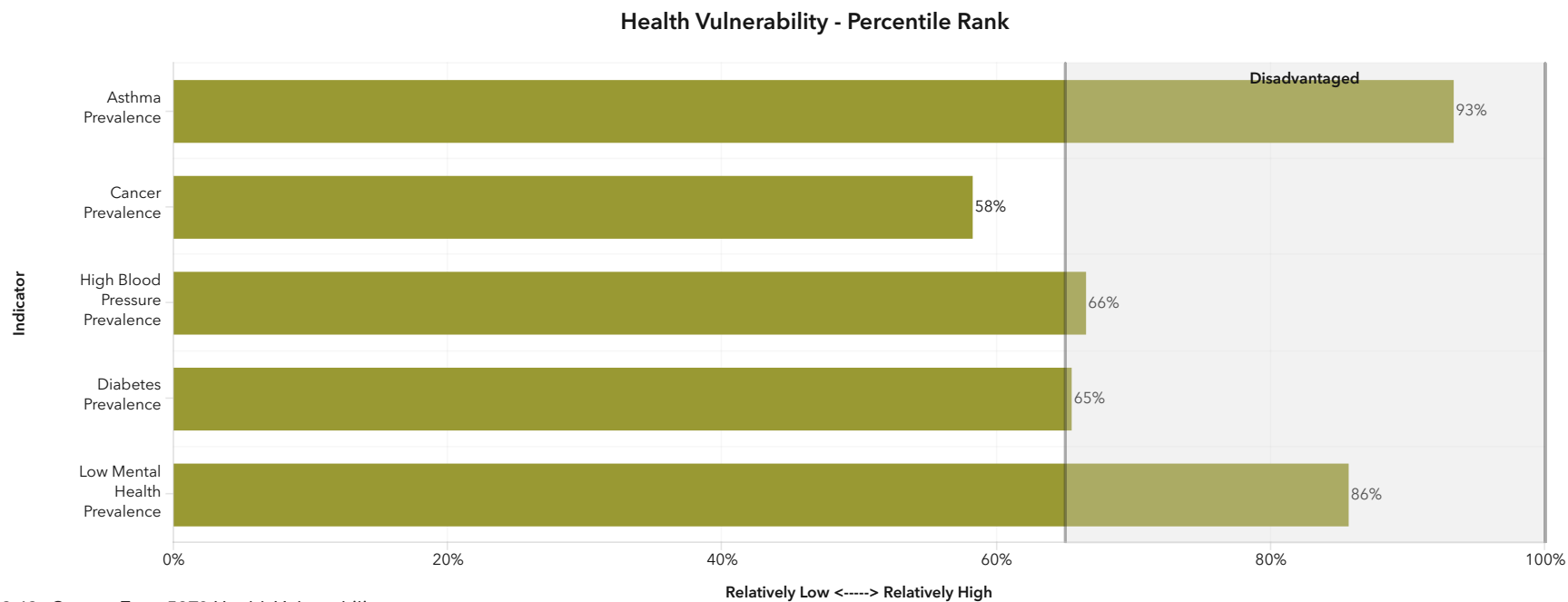


Figure 2-12. Census Tract 5879 Health Vulnerability
Source: U.S. Department of Transportation

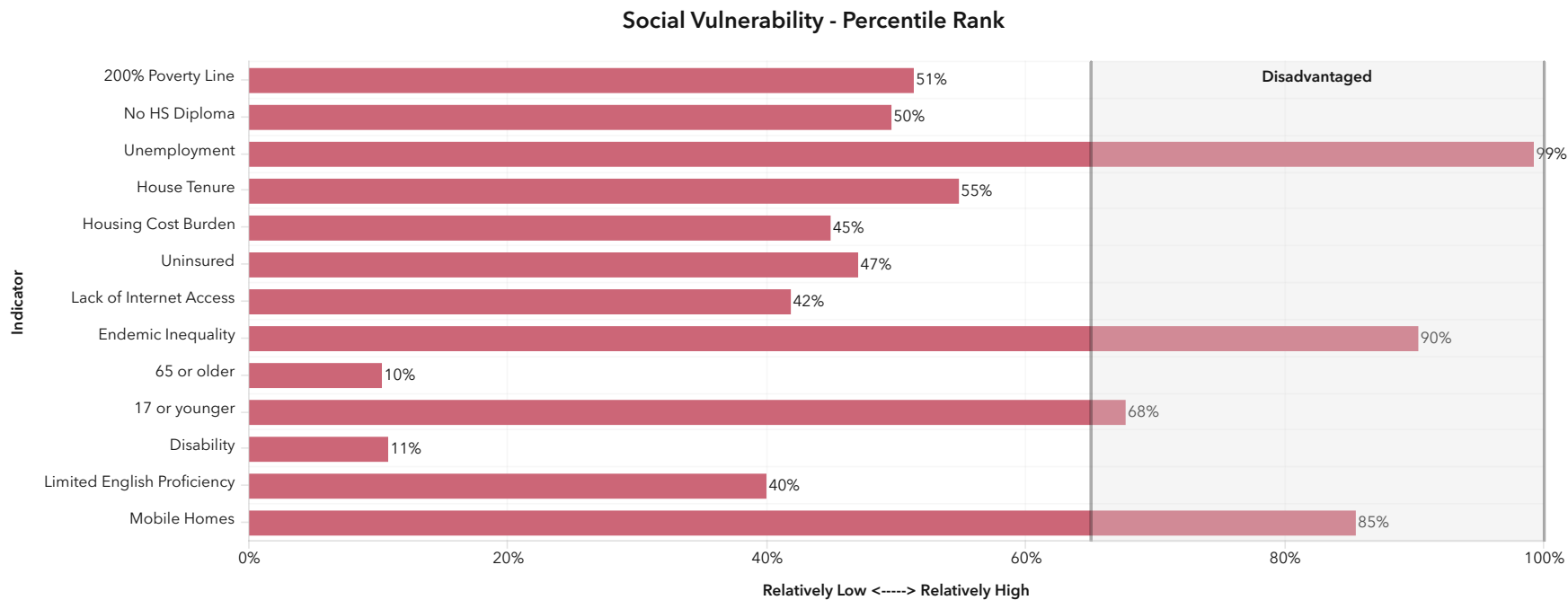


Figure 2-13. Census Tract 5879 Social Vulnerability
Source: U.S. Department of Transportation

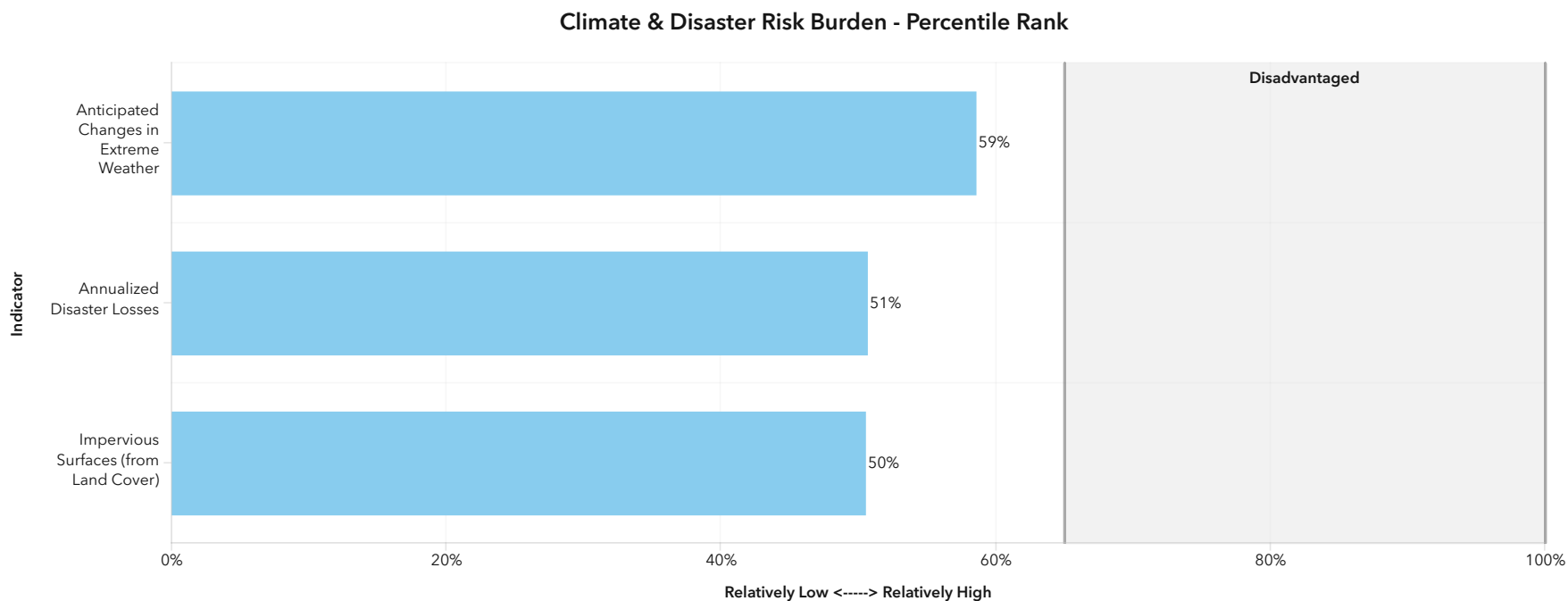


Figure 2-14. Census Tract 5879 Climate and Disaster Risk Burden
Source: U.S. Department of Transportation



Figure 2-15. Van Buren Township roadway with curvature
Source: Wade Trim

TRANSPORTATION NETWORK OPERATIONAL ANALYSIS

Having a general understanding of the transportation network’s operational conditions is necessary for the development of appropriate safety countermeasures. A generalized operational analysis of Van Buren Township’s entire transportation network was conducted as a part of the Action Plan preparations while a more intensive safety study focused on Belleville Road, the Township’s busiest travel corridor.

The 2024 Belleville Road Corridor Safety and Complete Streets Study operational analysis included an in-depth roadway capacity analysis utilizing intersection traffic counts that included turning movements, Level of Service determinations utilizing Synchro 11 modeling software, and estimated future operational conditions, based upon some projected growth characteristics. The results of the Belleville Road corridor operational analysis may be found in the Appendices within this Action Plan.

Less intensive investigations occurred for the remainder of the Township-wide network outside the limits of Belleville Road. This review included examining the composition of the transportation network including nonmotorized facilities; road network speed limits; capacity analysis through examination of Average Daily Totals for the Township’s roads; and review of existing traffic control. The information collected and the evaluation procedures used to conduct the analyses are described in this section.

Transportation Network

The Van Buren Township transportation network is comprised of several interconnected layers that together form the entire Township’s transportation network. Each layer/system is focused on differing users and differing modes of transportation. They include the road network, nonmotorized network, railroad network, and the water-borne network. This Action Plan is focused solely on improving the safe operation of the road and nonmotorized systems.

To understand evaluate the operation of each network, it is important to understand the components of each.

MOTORIZED NETWORK

In Michigan, several jurisdictions may have ownership and oversight over portions of the road network within the same municipality. These include local cities and villages, counties, and the State. Township governments including Van Buren Township rely upon their counties to develop and maintain the public local roadway network within their boundaries.

All roadways designated as State Trunklines are owned by the Michigan Department of Transportation. These include I-94, I-275, Michigan Avenue/US 12, and US Business 12, which accounts for approximately 11.4 road miles. The Wayne County Department of Public

Services – Road Division operates and maintains all of the remaining public roads within the Township, accounting for 114.1 miles of road. Some commercial developments and residential subdivisions have privately owned roads that are not part of the public network, and they

Figure 3-1– Van Buren Township Roads map illustrates the Township’s road network by National Functional Classification. The Federal Highway Administration (FHWA) developed the National

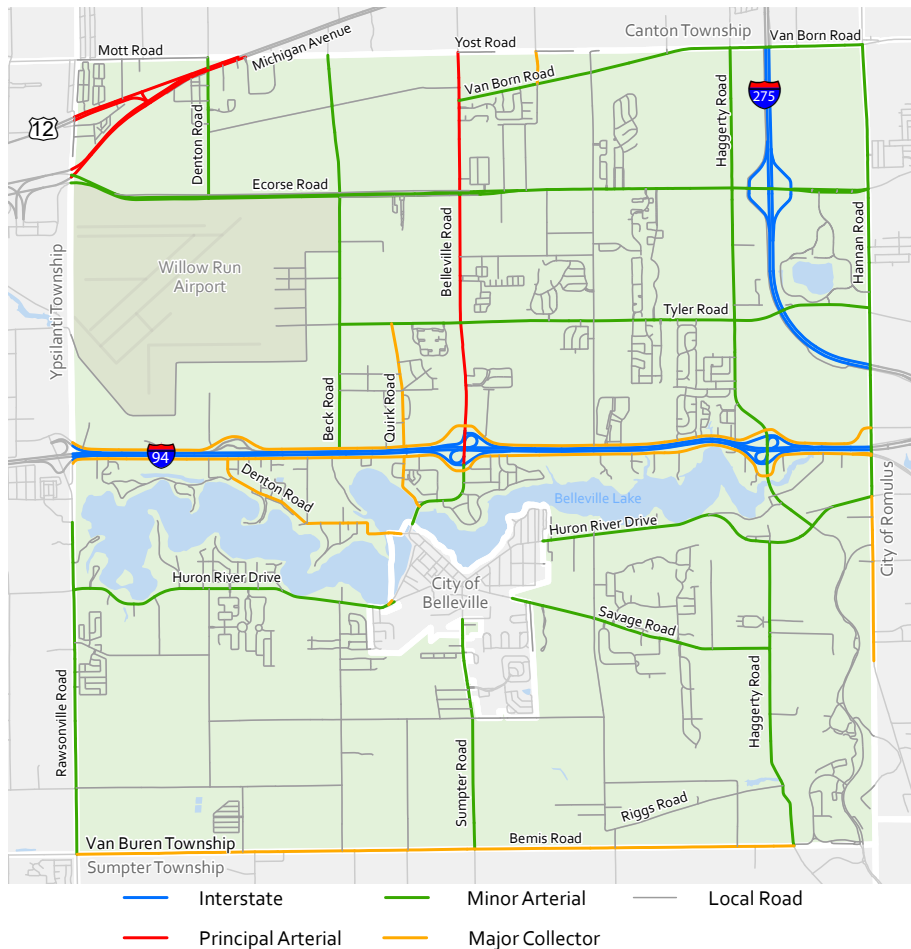


Figure 3-1. Township Roadway Network
Source: Wade Trim

Functional Classification (NFC) to group all roads into three main classifications – local roads, collectors, and arterials --by their level of service. Type of vehicular access to roadway, traffic volume, service to activity centers, type of traveler - through or local traffic, trip length, adjoining property access, and route spacing all factor into the classification. Local roads focus on access while arterials are focused on mobility. Local roads serve the immediate property owners and businesses while providing access to the collector networks. The collectors channel traffic from the local roads onto the arterials.

The federal classification system does recognize differences between rural, small urban, and urbanized areas with minor differences in classifications and requirements, but in general, all fall within the general pattern described below. Differences include changes between terms roads and streets, size of communities served, route spacing, and addition of free-ways and expressway. This NFC system was introduced in 1968, and by the early 1970s, all roads and highways within the federal network were required to be classified.

Transportation engineers and planners around the country recognize the NFC as the unofficial road classification system for all roads within their communities, even those not in the Federal roadway network. Van Buren Township roads are under the jurisdiction of the Michigan Department of Transportation and the Wayne County Department of Public Services – Roads Division. The definitions and classifications are based on the Functional Classification Guidelines, as outlined in the 1989 FHWA guidance document. The following provides additional information regarding Van Buren’s roads and their segments by NFC classification.

National Functional Classification (NFC)	Road
Interstate	I-94/Edsel Ford Freeway; I-275
Principal Arterial	Belleville Road; Michigan Avenue/U.S. 12
Minor Arterial	Beck Road; Denton Road, north of Ecorse Road; Ecorse Road; Haggerty Road; Huron River Drive; Rawsonville Road; Savage Road; Sumpter Road; Tyler Road; Van Born Road
Major Collector	Bemis Road; Denton Road south of South I-94 Service Drive; Hannan Road; North I-94 Service Drive; Quirk Road; Sheldon Road north of Van Born Road; South I-94 Service Drive
Minor Collector	No identified Minor Collectors
Local Streets	Remainder of public and private streets within the Township

Figure 3-2. National Functional Classification chart
Source: Wade Trim

Interstates and Other Freeways and Expressways: are the prominent road type in the NFC hierarchy, intended to carry the majority of trips entering and leaving urban areas, as well as a majority of the trips bypassing the area. Interstates and other limited access facilities have planned rights-of-ways that exceed 250 feet in width, and provide high speed, uninterrupted travel with limited access or restricted access to regionally important urban areas and amenities, such as airports. This classification provides cross-regional travel in Metropolitan Detroit and fall under the jurisdiction of the Michigan Department of Transportation (MDOT). Both I-94 and I-275 are parts of the U.S. Interstate system.

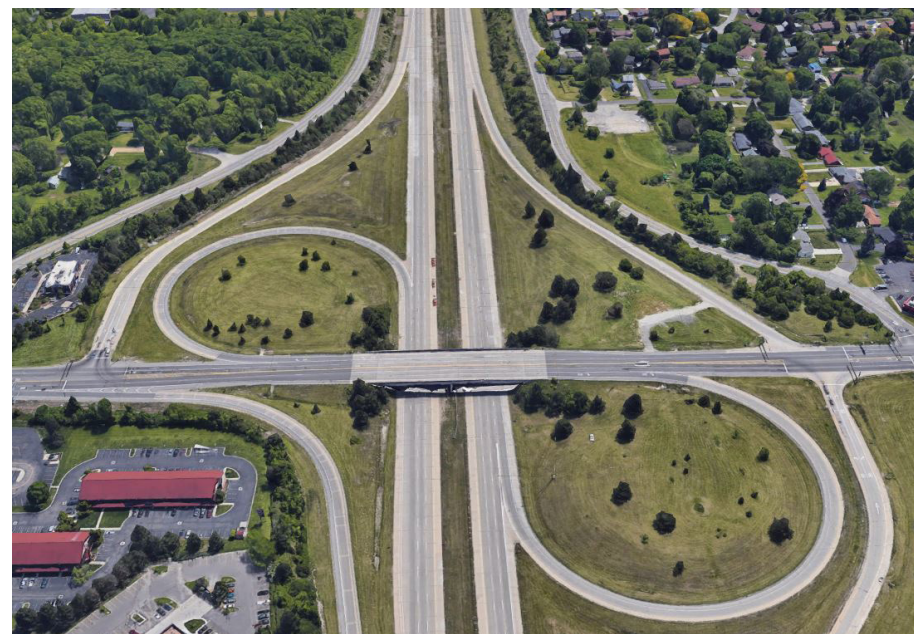


Figure 3-3. Interstate Example at the I-94 Freeway and Belleville Road interchange

Principal Arterials: serve major metropolitan centers focusing on providing a high degree of mobility and connect urbanized areas through rural land. These roadways provide significant mobility for both through and local traffic while providing access to abutting land uses. In urbanized areas, their planned rights-of-way often exceed 115 feet in width. Both Belleville Road and Michigan Avenue/US 12 are classified as Principal Arterials.



Figure 3-4. Principal Arterial at Belleville Road and Tyler Road

Minor Arterials: serve a similar in function to principal arterials, but they generally carry less traffic and connect to smaller urban centers. The minor arterial system interconnects with and augments the principal arterial system by providing for trips of moderate length with less traffic mobility. Accessibility is greater but stops are more frequent due to signalized intersections. Minor arterial streets are generally spaced from one-eighth to one-half mile in the central

business district to two to three miles apart in the suburban fringes, but normally not more than one mile apart in fully developed areas. Minor arterial planned rights-of-ways range from 80 feet wide in rural settings up to 120 feet wide in urbanized locations. Beck Road; Denton Road, north of Ecorse Road; Ecorse Road; Haggerty Road; Huron River Drive; Rawsonville Road; Savage Road; Sumpter Road; Tyler Road; Van Born Road.



Figure 3-5. Minor Arterial at Ecorse Road West of Belleville Road

Major Collectors: provide access and traffic circulation between residential neighborhoods, commercial and industrial areas. These streets differ from the arterials in that they usually enter neighborhood areas to distribute residents throughout the entire system to and from their destinations. Collector streets collect traffic from local streets and channel them into the arterial system. Major collectors are also important intra-county travel corridors, providing

service to county seats, larger towns, and other traffic generators of intra-county importance not on arterial routes. Major collectors planned rights-of-ways are generally between 80-100 feet wide. Bemis Road; Denton Road south of South I-94 Service Drive; Hannan Road; North I-94 Service Drive; Quirk Road; Sheldon Road north of Van Born Road; South I-94 Service Drive.



Figure 3-6. Major Collector on Bemis Road

Minor Collectors: Minor collectors are identified to collect traffic from the local road network and private property and bring all developed areas within a reasonable distance of a major collector or arterial road. These roads are generally spaced on half section lines in urbanized areas and further apart in rural areas. These road rights-of-way generally measure between 60-80 feet in width. There are no roads identified as minor collectors in Van Buren Township.

Local Roads: comprises all streets and roadways not identified in one of the higher systems. Local roads primarily provide direct access to abutting land and to the collector road network. Through traffic movements are usually discouraged on local streets. All of the remaining public roads in the Township are designated as Local Roads.

In the Township, private roads may also provide local access to some properties and subdivisions. Minimum design requirements are often based on the Wayne County Department of Public Services – Roads Division road design standards.



Figure 3-7. Local Road Example on Elwell Road

The Township’s road network is a standard rectilinear layout. This arrangement of the roads is an outgrowth of the United States Geological Survey grid network that was created by the surveying of the Northwest Territories back in the early 19th Century, which created the township section land divisions. This rectilinear U.S. Geological Survey method has shaped the form of the road network throughout most of the Midwest. The First surveys of Van Buren Township occurred in the fall of 1815. Some deviations occur in the Township from this land division foundation, mostly related to the Huron River and Belleville Lake traversing the Township.

Belleville Lake and I-94 divide the Township north and south, just south of the Township’s north-south midpoint. This constricts north-south vehicular travel to just three crossings – Rawsonville Road, a minor arterial; Belleville Road, a major arterial; and Haggerty Road – a minor arterial. Hannan Road running along the Township’s eastern border does cross the freeway but the Lower Huron Metropark limits any connectivity into the Township south of I-94. Rawsonville Road crosses the lake and I-94 but connectivity further to the north is limited due to Willow Run Airport and the former GM Willow Run plant sites (now a portion is the American Center for Mobility). North-south connectivity on the eastside of the Township is affected by the presence of the Huron River and the Lower Huron Metropark. Most traffic to serve the south half of the Township has to negotiate the constrictions noted above and some of the Sumpter Township access will be from Van Buren Township.

Willow Run Airport, in addition to constricting north-south connec-

tivity, it limits east-west connectivity in the northwestern quadrant of the Township. The diagonal crossing of the Michigan Central Railroad further limits east-west travel along the Township’s northern border. In the Township’s southeastern quadrant, the Lower Huron Metropark also limit east-west travel for nearly four miles between Huron River Drive on the north and Judd Road on the south.

NONMOTORIZED NETWORK

The nonmotorized network is comprised of the sidewalk and side-path facilities. Typical sidewalks are concrete and six feet wide while sidepaths are often asphalt with the paving between 8-10 feet wide with two feet of safety space on either side. This network includes pedestrian and bicycle-focused directional and safety signage, traffic signals, and a variety of amenities ranging from canopy shade trees to pedestrian lighting.

Having a robust nonmotorized network is key to overall transportation network safety. A complete and well-designed nonmotorized network provides pedestrians and bicyclists with the infrastructure necessary for them utilize the Township’s transportation network safely and efficiently. Without it, they are forced into unsafe situations that may lead to undesired outcomes, or they may choose not to travel by walking or bicycling because it is perceived to be dangerous, difficult, or unpleasant.

Van Buren Township has an incomplete nonmotorized network. The Township has and limited nonmotorized facilities, with and those that it does possess are in a generally fragmented nature.

Most of the platted subdivisions that have been developed in the last thirty years have been developed with interior sidewalks, which is a good foundation to the Township’s nonmotorized network in these neighborhoods; however, most of the Township’s older residential developments do not have interior sidewalks for pedestrians to use to reach the second tier of facilities that are/need to be along main roads.

One of the main challenges for the Township’s nonmotorized network is its fragmented nature. A majority of the newer subdivision developments have the necessary exterior sidewalks that run alongside the Township’s main roads. The main issue is that the newer subdivisions exterior sidewalks end at the property lines because the adjacent parcels were not developed with sidewalks. This results in many of the Townships second tier nonmotorized sidewalks and sidepaths that do exist along the minor arterials and major collector roadways to be heavily fragmented.

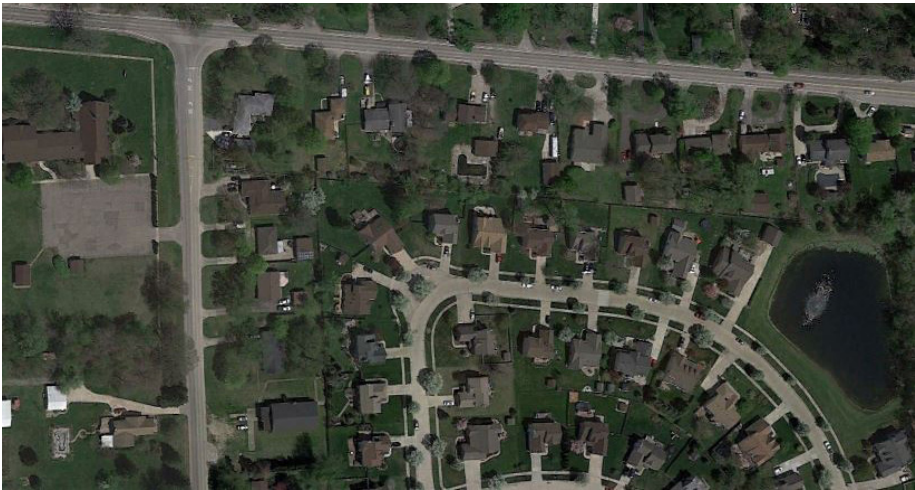


Figure 3-8. Example of a more recent subdivision with interior sidewalks without connectivity along with Township’s connector streets
Source: Google Earth

Along the Belleville Road corridor, new development and the Van Buren Township Downtown Development Authority projects has led to a complete sidewalk network along this commercial corridor, extending along both sides of the road from Belleville Lake north to Tyler Road. The challenge for this corridor network is its limited use, which is likely caused by the lack of safe and comfortable nonmotorized network connections to the adjacent residential communities located behind the Belleville Road corridor.

There are incomplete sidewalk segments along Belleville Road north of the Tyler Road intersection. Portions of Quirk Road and E. Huron River Drive east of the City of Belleville to Riggs Heritage Park are complete while intermittent sidewalk segments may be found along Haggerty Road, Tyler Road, and E. Huron River Drive.



Figure 3-9 and Figure 3-10: Subdivision Fragmented Sidewalks
Source: Google Earth

There are limited sidepaths in Van Buren Township. A sidepath, running along Rawsonville Road and S I-94 Service Drive, links the eastern terminus of Washtenaw County’s Border to Border Trail with Van Buren Park. This trail is planned to continue east to link up with

the existing sidepath in the Lower Huron Metropark. This east-west trail route is part of the State of Michigan’s developing Iron Belle Trail Hiking Route. A second sidepath is located along Belleville Road between North I-94 and South I-94 Service Drives. The I-275 Metro Trail extends along the eastern edge of the northeastern quadrant of the Township, and it abuts the Township again where the trail crosses I-94 at Hannan Road. See Figure 3-11 for the location of the Township’s completed nonmotorized facilities.



Figure 3-11 - Nonmotorized facilities
Source: Wade Trim

Operational Analysis - Belleville Road

Several datasets may be used to conduct a general operational analysis of a transportation network. They include speed limit locations, signalized intersection locations, and Average Daily Total (ADT) traffic counts. For this Action Plan, these datasets allow for the broad analysis of vehicle speeds, location of and general operation of signalized intersections, and a basic roadway capacity analysis for all of the Township’s roadways.

Collection of additional discrete data will allow for more in-depth operational analyses and utilization of traffic modeling software to generate very detailed models of how an intersection may operate based upon altering various inputs. This intensive level of operational analysis was completed for the Belleville Road corridor and may be found in the Appendices.

SPEED LIMITS

Understanding a community’s speed limits provides some general information regarding the community’s road network. Roads with higher speed limits are geared for through traffic and mobility while roads with lower speed limits are more focused on providing access to adjacent properties. Most residential neighborhoods speed limits are 25 miles per hour, traditional commercial districts often won’t exceed 35 miles per hour while roads with higher percentages of through traffic will likely have speed limits in excess of 40 miles per hour.

Reducing the speed of vehicles where they are likely to encounter pedestrians and bicyclists is one of the most effective ways to achieve Vision Zero goals.

Understanding vehicular speed is another important factor in understanding the transportation network and types of facilities required for nonmotorized transportation. Number of vehicles and mix of cars to trucks also contribute to the Level of Stress that a nonmotorized user experiences.

Most adult riders will not ride along roads with high rates of speed and heavy traffic, even with protected bike lanes. Only the most experience road riders will ride along road segments with high levels of stress. Bike lanes are not an alternative for a residential community as a large percentage of the nonmotorized transportation network users will be children and pre-teens. Protected bike lanes in low stress environments would only be acceptable for experienced pre-teens. Any other location, they would not be an option.

Many of the Township’s roads have significant volumes with speed limits exceeding 40 miles per hour that preclude the use of bike lanes as an active transportation facility type. The Township’s recently adopted 2020 Master Plan recommended the use of bike lanes almost exclusively for nonmotorized transportation in the Township. This recommendation is inappropriate for the majority of roadways in this Action Plan. Development of standalone Nonmotorized Transportation Plan for the Township is recommended which would identify roads along which sidepaths would be required to be developed when new development occurs.

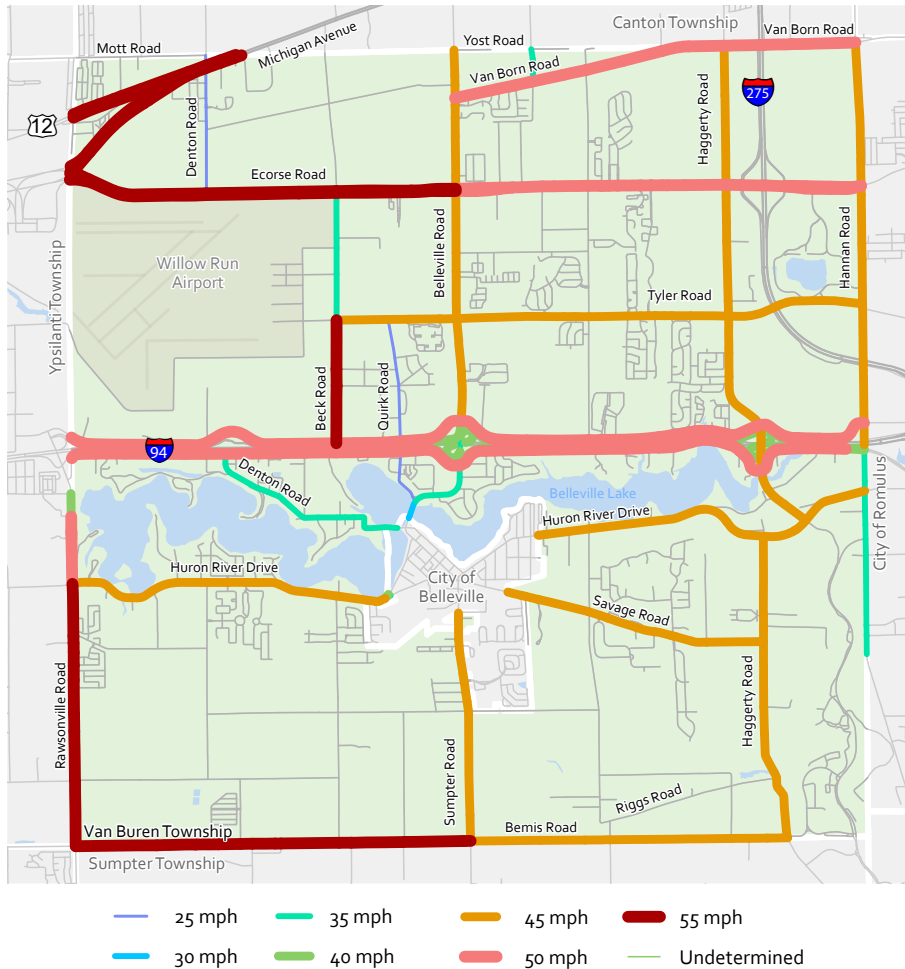


Figure 3-12 - Roadway speed limits
Source: Wade Trim

Figure 3-12 – Van Buren Township Roads by Speed Limit provides information regarding the posted speed limits on all of the NFC categorized roads in the Township. As serious injuries and fatalities increase with speed, this map clearly shows nearly all of the Township’s major roads exceed 35 miles per hour. This is of concern because crashes that occur with vehicles traveling at higher rates of speed have significantly higher likelihood for serious injury or death than speeds lower than 35 mph. A pedestrian has a 50 percent chance of surviving a crash with a vehicle traveling at 30 mph while this survival rate drops to only 10 percent for a car traveling at 40 mph.

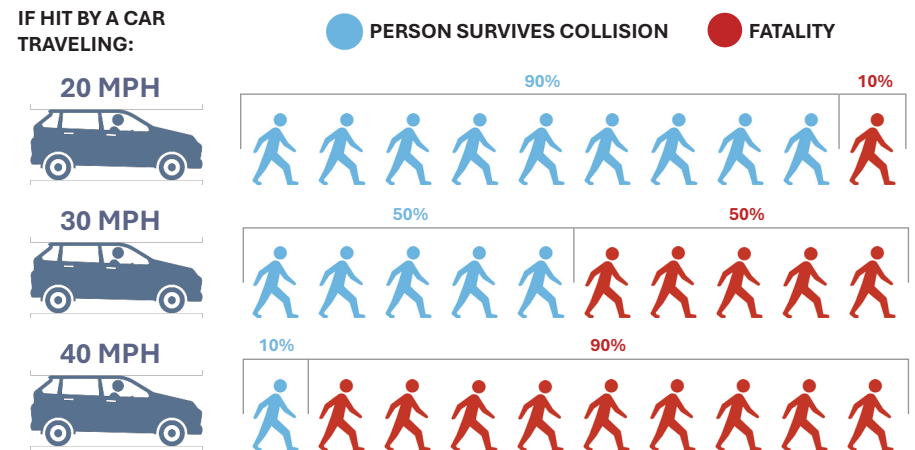
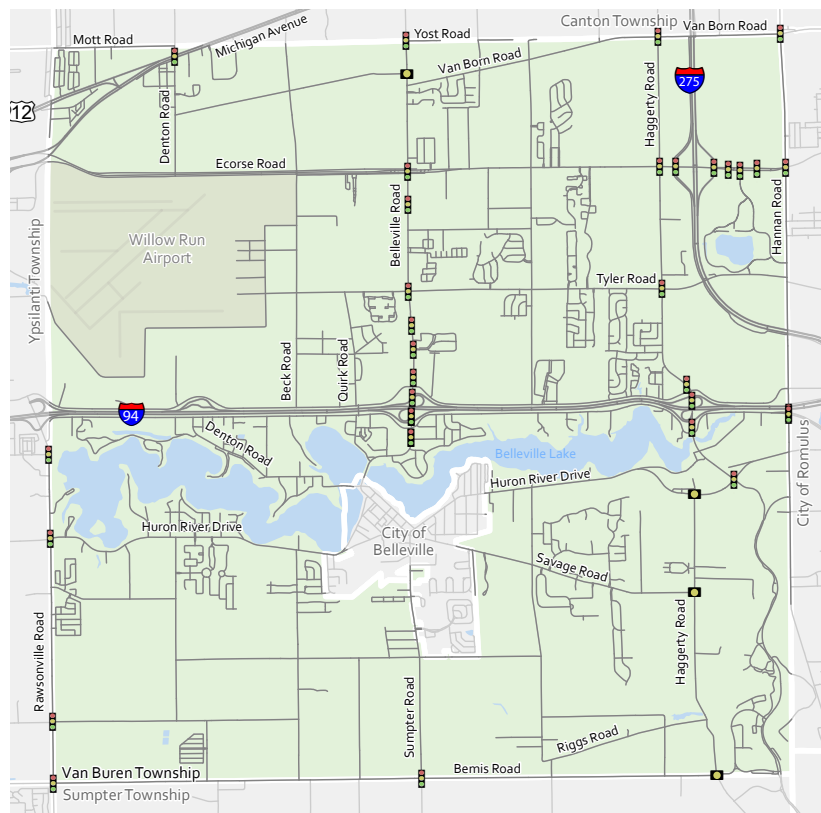


Figure 3-13. Fatalities by speed limit
Source: Wade Trim

SIGNALIZED INTERSECTIONS

The utilization of traffic control devices at intersections is the basis of American’s urbanized transportation network. Signalized intersections allow for the safe and rapid intermingling of traffic. Adjusting signal timing and the use of specially timed turning movements can greatly improve the safety and performance of signalized intersections.

Figure 3-14 – Signalized Intersections shows the location of all of the Township’s signalized intersections. This map provides basic data regarding the operation of the Township’s road network.



Traffic Signals

- Full Traffic Signal
- Blinking Traffic Signal

Figure 3-14. Signalized intersections
Source: Wade Trim

to monitor relative safe intersection operation. Increased traffic caused by new development may significantly impact their operation by increasing the wait times at the intersection (decreasing Level of Service) or increasing number of crashes.

This Action Plan recommends that the Township continue to monitor the following intersections:

- 1) Van Born and Belleville Roads
- 2) Robson and Belleville Roads
- 3) Tyler and Morton-Taylor Roads
- 4) E. Huron River Drive and Haggerty Road
- 5) Bemis and Haggerty Roads

Understanding the location, geometry, and traffic flow at intersections are required to analyze the operation of the roadway in-depth, often through the use of traffic modeling software. This Action Plan did not complete level of analysis of the Township’s intersections, but the Belleville Road Corridor Safety and Complete Streets Study did complete an in-depth analysis of the Belleville Road corridor. The results of this study may be found in the appendices.

In addition to monitoring the operation of signalized intersections, there are both two types of stop-controlled intersections with blinking flashing four-way stops red lights and those unsignalized intersections with stop signs that the Township should continue

ROADWAY CAPACITY ANALYSIS

Figure 3-14 – Van Buren Township Roads by Average Daily Total illustrates the average daily traffic (ADT) totals for all of the Township’s Principal Arterials, Minor Arterials, and Major Collectors. This map assists in visualizing where major corridors are in the Township along with important destinations and traffic generators. This map provides a general understanding of the operation of the Township’s roads. The operational analysis of the remainder of this section fleshes out the details shown on this map.

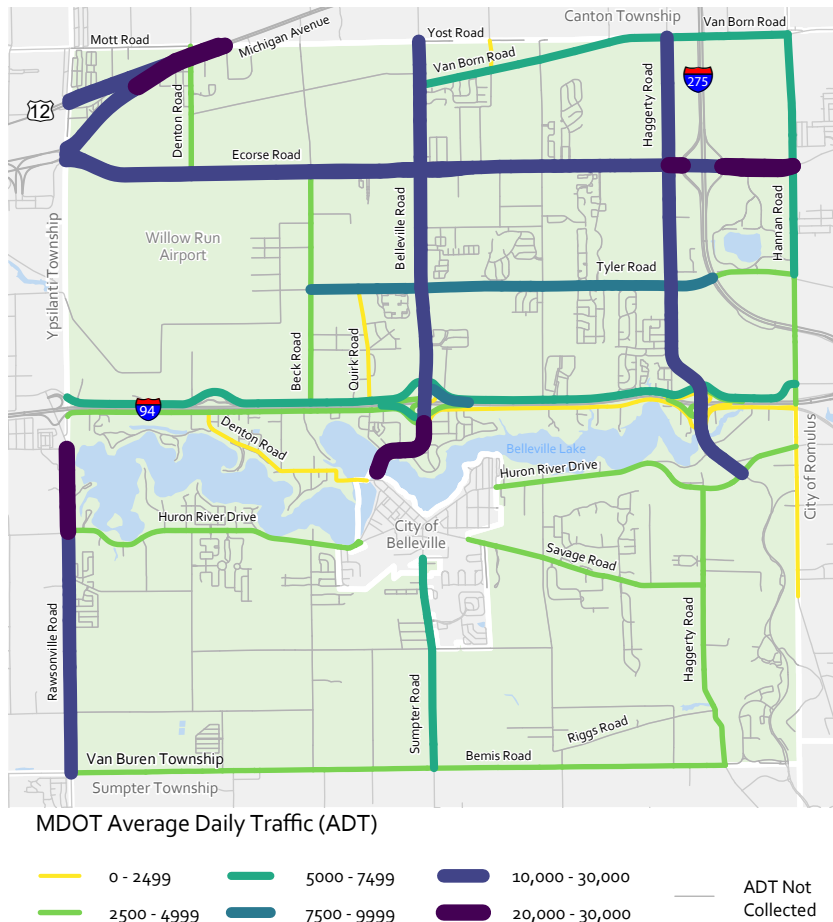


Figure 3-15. Average daily traffic
Source: Wade Trim

General roadway capacity analyses were completed through a review of the Average Daily Traffic (ADT) counts throughout the Township while an in-depth roadway capacity analysis was conducted along the Belleville Road corridor in 2024.

Undivided two-lane roads and two-lane roads with center turn lane generally have a maximum capacity of an ADT of 18,300; four lane roads without a turn-lane and four lane roads with a center turn-lane of has a maximum 36,800 ADT.

As a road reaches its theoretical ADT capacity, the Level of Service that motorists experience at signalized intersections declines. Level of service (LOS) ranges from LOS A, which represents the best traffic conditions, to LOS F, which is the worst condition. Operations at LOS A through E are generally considered acceptable for side-street movements at unsignalized intersections while LOS A through D are generally considered acceptable for signalized intersections.

Certain sections of Belleville Road, Tyler Road, and Haggerty Road are approaching maximum capacity. Prior to additional development occurring within parts of the Township and in neighboring Sumpter Township, Traffic Impact Studies will be conducted to determine necessary improvements associated with trips generated by proposed land uses, and subsequently these roads volumes should be monitored to identify when traffic volumes are approaching maximum capacity ADT volumes. Changes in delays and congestion at intersections should also be regularly evaluated. If significant changes occur, an in-depth roadway capacity analysis should be under-

taken to fully understand the roadway and determine if signal-timing changes can be made to improve roadway operations during congestion peaks or if the roadway required physical improvements including added lanes, center turn lane, acceleration/deceleration lanes, altered geometries, etc.

The Belleville Road study conducted an in-depth analysis of that roadway, which included hourly traffic counts at intersections and turning movements. This information was imported into Synchro 11 traffic modeling software. It analyzes these turning movements and roadway geometries to determine the level of service for each intersection. Synchro 11 is able to modify signal timing to optimize traffic signal timing at intersections. The program utilizes methods from the 2000 Highway Capacity Manual (HCM), 2010 Highway Capacity Manual, and 6th Edition Highway Capacity Manual to calculate the capacity of signalized and unsignalized intersections. The results of the Belleville Road Corridor Safety and Complete Streets Study may be found in the appendices.

Determining if road diets, reductions in travel lanes from four-to-three (one in each direction plus a center turn-lane) are appropriate for a given situation or not are based upon current traffic volumes, current level of service, spacing of traffic signals, peak hour volume, turning volumes and patterns, and

frequency of stopping or slow-moving vehicles. When all of these conditions support a road diet several safety benefits should be anticipated including reduction in rear-end collisions, reduced travel speeds, and increase area for nonmotorized facilities.

Current traffic volumes above which a road entity would not consider a road diet varies by jurisdiction, but most including MDOT and Wayne County follow a threshold generally ranging from 15,000 to 23,000. In addition, the FHWA recommends analysis of the peak hour traffic in addition to ADT, indicating a road diet is feasible at or below 750 vehicles per hour per direction (vphpd) during the peak hour, and to consider cautiously between 750 – 875 vphpd during the peak hour.

LEVEL OF SERVICE	DESCRIPTION	SIGNALIZED INTERSECTIONS, AVERAGE CONTROL DELAY, SECONDS PER VEHICLE	UNSIGNALIZED INTERSECTIONS AVERAGE CONTROL DELAY, SECONDS PER VEHICLE
A	Little or no delay	< 10.0	< 10.0
B	Short traffic delays	Between 10 and 25	Between 10 and 15
C	Average traffic delays	Between 20 and 35	Between 15 and 25
D	Long traffic delays	Between 35 and 55	Between 25 and 35
E	Very long traffic delays	Between 55 and 80	Between 35 and 50
F	Demand exceeds capacity	> 80	> 50

Figure 3-16. Level of Service Criteria for Intersections
Source: Transportation Research Board, Highway Capacity Manual 2000

TRANSPORTATION NETWORK SAFETY ANALYSIS

4

EXISTING CONDITIONS AND HISTORICAL TRENDS

Safe Streets and Roads for All (SS4A) is a federal grant program that “funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries” ([transportation.gov/grants/SS4A](https://www.transportation.gov/grants/SS4A)). This program incorporates the USDOT National Roadway Safety Strategy and aims to achieve goals of initiatives such as Toward Zero Deaths, Vision Zero, and Road to Zero using the principles of a Safe System Approach.



Figure 4-1. Principles of a Safe System Approach
Source: US Department of Transportation

Van Buren Charter Township has recently been awarded this grant to prepare the Safe Street for All Action Plan. This township-wide crash analysis is part of a larger effort to create a SS4A snapshot and tool-kit for future transportation planning and improvements. This analysis contains specific elements including the Belleville Road corridor, crash locations experiencing greater than average crash frequencies, and crashes involving pedestrians and bicycles.

The purpose of the analysis was to provide an assessment of recent crash history and to identify probable causal factors which can be addressed to reduce high crash abnormalities and their severity.

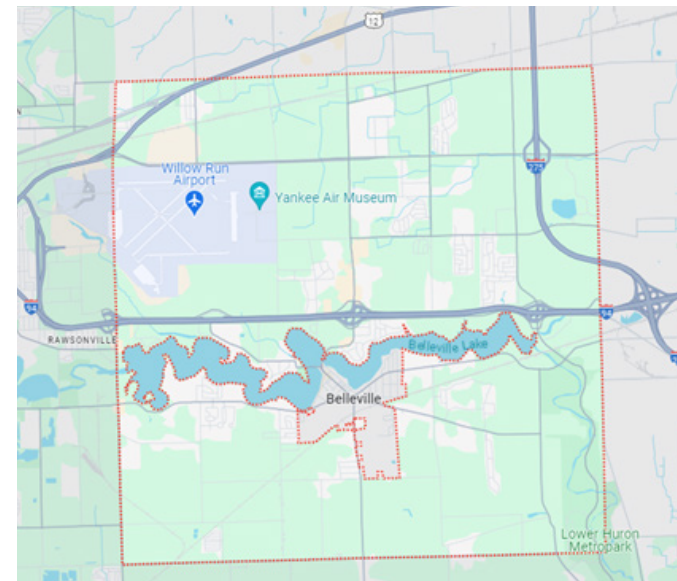


Figure 4-2. Van Buren Township Boundaries
Source: Google Maps

DATA COLLECTION AND ANALYSIS PROCEDURE

To examine the crash history within and on the boundaries of Van Buren Charter Township, police-reported crash data were obtained from the Transportation Improvement Association’s statewide Michigan Traffic Crash database. Crashes occurring on the mainlines of I-94 and I-275 were not included in the study area as they are not under township jurisdiction. The Five-year study period from January 1, 2019, through December 31, 2023, was used in this analysis. In total, there were 2,844 crashes, averaging 568.8 crashes per year. Crash frequency was at its lowest in 2020, primarily due to the drop in traffic volumes during the COVID-19 Pandemic and heavy stay-at-home restrictions. As restrictions began to ease in 2021, the number of crashes increased, exceeding pre-pandemic levels. The average variance in crashes from year to year was a 1.7 percent decrease meaning the township saw an average of two fewer crashes per year.

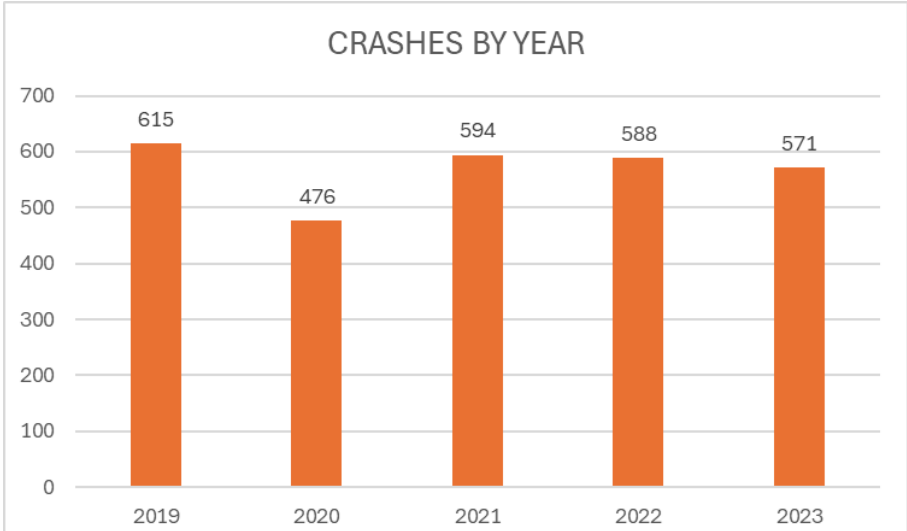


Figure 4-3. Van Buren Township - Crashes by Year
Source: Traffic Improvement Association’s Traffic Crash Analysis Tool

This data does not include 196 crashes that were reported to have involved deer in the roadways. Deer crashes do not have the same corrective measures that the other crash types can have and are not included in this report.

The crash analysis was conducted to identify and quantify crash patterns such as collision type, severity, environmental conditions, contributing factors, and other crash-related characteristics. Crashes were sorted by location and mile point using the MDOT Next Generation Physical Reference Finder.

The following analyses were performed:

- Total crashes with the study area.
- Crashes along the Belleville Road focus corridor.
- Crash analyses at signalized intersections with greater-than-average crash rates.
- Crash analyses at unsignalized intersections with greater-than-average crash rates.
- Pedestrian and bicycle crashes.

Due to their importance, Fatal and Type A Incapacitating Injury crashes are given further discussion in the analysis.

CRASH ANALYSIS

To provide an overview of the crash history in Van Buren Charter Township, this analysis includes all the data within and on the township’s borders, referred to as the study area throughout this report. The crashes are separated into various categories based on the circumstances of each crash. Locational Analysis including severity, contributing factors, and crash types:

- Analysis of systemic and specific safety needs, as needed (e.g. high-risk road features or specific safety needs of relevant users)

- Geospatial identification (geographic of locational data using maps) of higher risk locations

The corresponding discussions can be used to identify causal factors and corrective actions that can be used as a toolkit for safety improvements.

Total Crashes

The study area used in this analysis included the road network of Van Buren Township, including roadways acting as township boundaries such as Hannan Road. The study area does not include the I-94 and I-275 mainlines but does account for freeway ramps and their intersections with township roads. Crashes involving deer were also removed from the dataset as the corrective measures for this crash type is outside the scope of this study.

There was a total of 2,844 crashes reported during the Five-year period of January 1, 2019, through December 31, 2023. A summary of crash characteristics is presented in the table. Inclement environmental conditions like weather, road condition, and lighting, on average, are present in roughly one-quarter of crashes (28.4 percent average). These conditions can negatively impact visibility, turning movements, and stopping distances.

Characteristic	No. of Crashes	Yearly Average	Percent
TYPE			
REAR END	889	177.8	31.3
ANGLE	726	145.2	25.5
SINGLE MOTOR VEHICLE	484	96.8	17.0
SIDESWIPE – SAME DIRECTION	343	68.6	12.1
HEAD ON – LEFT TURN	107	21.4	3.8
SIDESWIPE – OPPOSITE DIRECTION	81	16.2	2.8
OTHER/UNKNOWN	73	14.6	2.6
BACKING	69	13.8	2.4
HEAD ON	50	10.0	1.8
BICYCLE	12	2.4	0.4
PEDESTRIAN	10	2.0	0.4
TOTAL	2844	568.8	100.0
INJURY SEVERITY			
FATAL	17	3.4	0.6
TYPE A INCAPACITATING	64	12.8	2.3
TYPE B NON-INCAPACITATING	346	69.2	12.2
TYPE C POSSIBLE	302	60.4	10.6
TOTAL INJURY	729	145.8	25.6
OTHER CONDITIONS			
RAIN/SNOW/HAIL	949	189.8	33.4
WET/ICE/SNOW ROADWAY	714	142.8	25.1
DARK – LIT/UNLIT CONDITIONS	763	152.6	26.8

Figure 4-4: Township Wide Crash Summary
Source: Traffic Improvement Association's Traffic Crash Analysis Tool

Using the National Functional Classification (NFC) Maps, crashes were sorted by the primary street’s road type. Most crashes occurred on minor arterial roads, which are used for trips of moderate distance. In urban settings, they connect neighborhoods to principal arterial roads while in rural settings, they are connectors between cities and towns and principal arterials.

NFC	No. of Crashes	Yearly Average	Percent
INTERSTATE FREEWAY (RAMPS)	146	29.2	5.1
OTHER PRINCIPAL ARTERIAL	800	160.0	28.1
MINOR ARTERIAL	1226	245.2	43.1
MAJOR COLLECTOR	337	67.4	11.8
OTHER LOCAL/PRIVATE ROADS	335	67.0	11.8
TOTAL	2844	568.8	100.0

Figure 4-5: Township Wide Crashes by National Function Classification
Source: Traffic Improvement Association’s Traffic Crash Analysis Tool

Crash Severity

More than a quarter of all crashes resulted in injury to one or more persons involved (25.6 percent, 729 crashes), averaging 145.8 injury crashes per year. Crash severity is classified as Fatal (K), Type A Incapacitating Injury, Type B Non-Incapacitating Injury, or Type C Possible Injury. Multiple injury types may be documented, but crashes are counted by the most severe injury type reported. Crashes that do not result in injury to any persons are considered Property Damage Only (PDO).

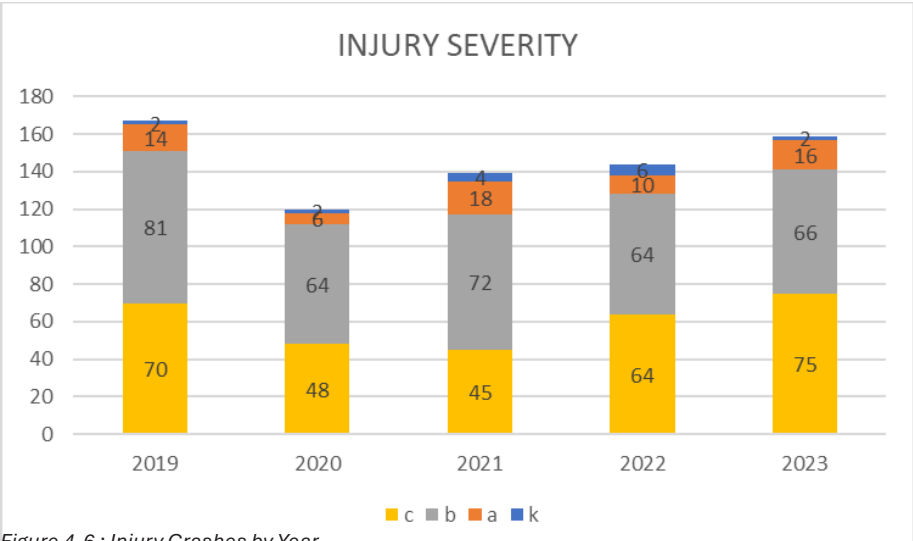


Figure 4-6 : Injury Crashes by Year
Source: Traffic Improvement Association’s Traffic Crash Analysis Tool

The distribution of injury crashes by year mirrors the distribution of all crashes between 2019 and 2021 with the drop in number of injuries as traffic patterns changed and generally lessened during the initial impacts of COVID-19. The average variance in crashes resulting in injury was an 0.4 percent increase meaning the township was more likely to see an increase in crashes resulting in injury each year. While the number of Fatal and Type A crashes are low in comparison to Type B and Type C, these are the collision types that are a high priority for corrective measures.

More than one-half of all injury crashes (473 crashes, 64.9 percent) occurred on six road segments, shown in Figure 4-7.

Description	No. of Crashes	Yearly Average	Percent
BELLEVILLE RD FROM DENTON RD TO YOST RD	174	34.8	23.9
ECORSE RD FROM MICHIGAN AVE TO HANNAN RD	100	20.0	13.7
HAGGERTY RD FROM BEMIS RD TO VAN BORN RD	78	15.6	10.7
S I-94 SERVICE DR FROM RAWSONVILLE RD TO HANNAN RD	48	9.6	6.6
RAWSONVILLE RD FROM BEMIS RD TO S I-94 SERVICE DR	39	7.8	5.4
HANNAN RD FROM VAN BORN RD TO SOUTH OF WADE RD	34	6.8	4.7
TOTAL	473	94.6	64.9

Figure 4-7 : Injury Crashes by Road Segment
Source: Traffic Improvement Association's Traffic Crash Analysis Tool

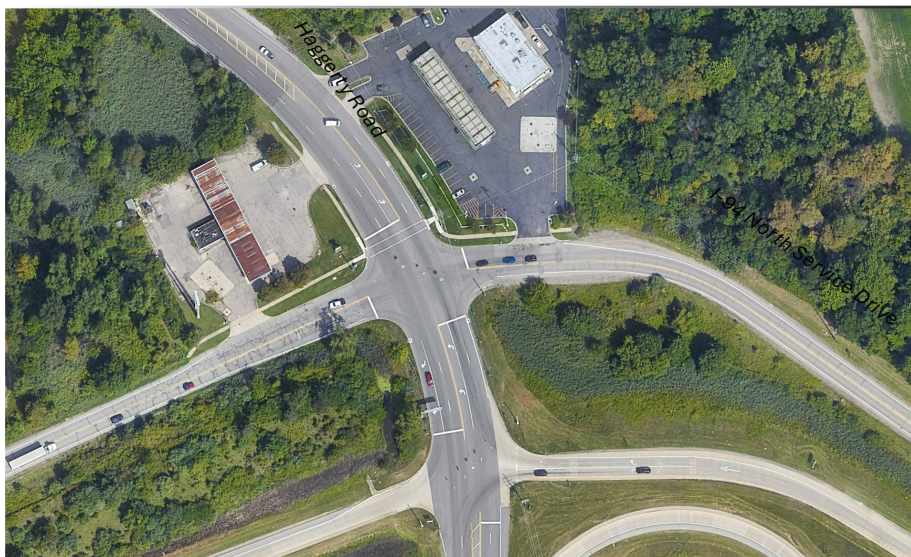
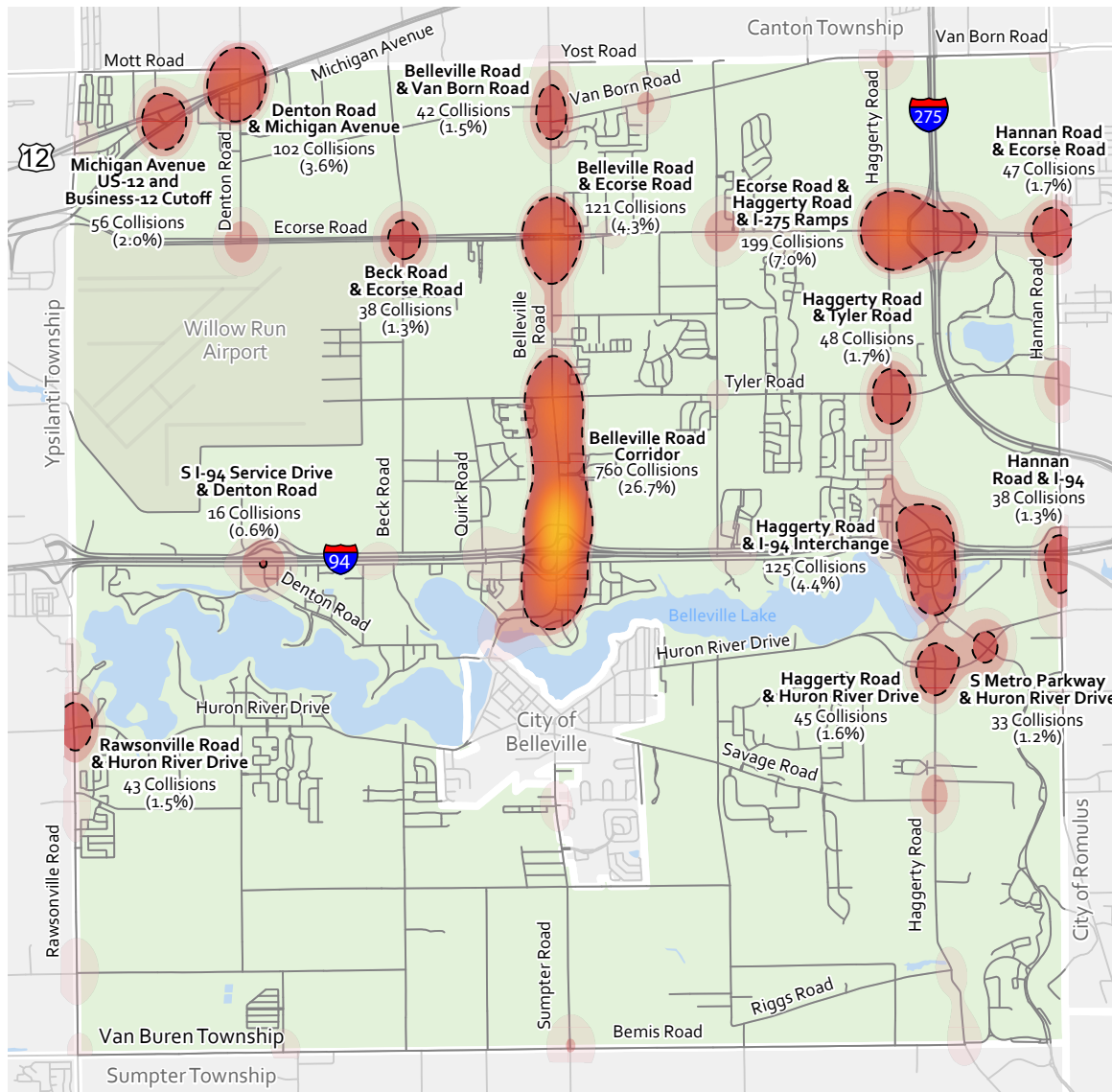


Figure 4-8 : Haggerty Road & I-94 North Service Drive
Source: Google Earth



Crash locations occurring in Van Buren Township: 2,844 Crashes

Lower Density

Higher Density

Figure 4-9. Injury Crashes by Road Segment
Source: Wade Trim

Severe Crashes

Fatal and Type A crashes are considered severe injuries that hold high priority for corrective measures. Fatal crashes are those that resulted in death to one or more persons involved. Type A Incapacitating Injury crashes represent serious injury situations that require medical attention. There were 16 Fatal crashes and 64 Type A crashes. Figure 4-9 shows the density of severe crashes is greatest within the Belleville Road corridor south of Tyler Road, Haggerty Road, Ecorse Road, and Rawsonville Road. Severe crashes follow the same trend as the yearly crash frequency with the lowest point during 2020. On average, there were 16.0 severe crashes per year. Crash types that resulted in injury most frequently were Angle, Rear End, and Single Motor Vehicle crashes.

Injury and Speed Limits

More than 80 percent of injury crashes were reported on roads with posted speed limits between 45 mph and 55 mph. This range also accounted for more than 90 percent of severe injury crashes.

Crashes by Mode of Transportation

More than 97 percent of all crashes involved motor vehicles only. Nonmotorized traffic made up less than one percent of all crashes within the study period. Nonmotorized crashes accounted for 4.9 percent of severe crashes.

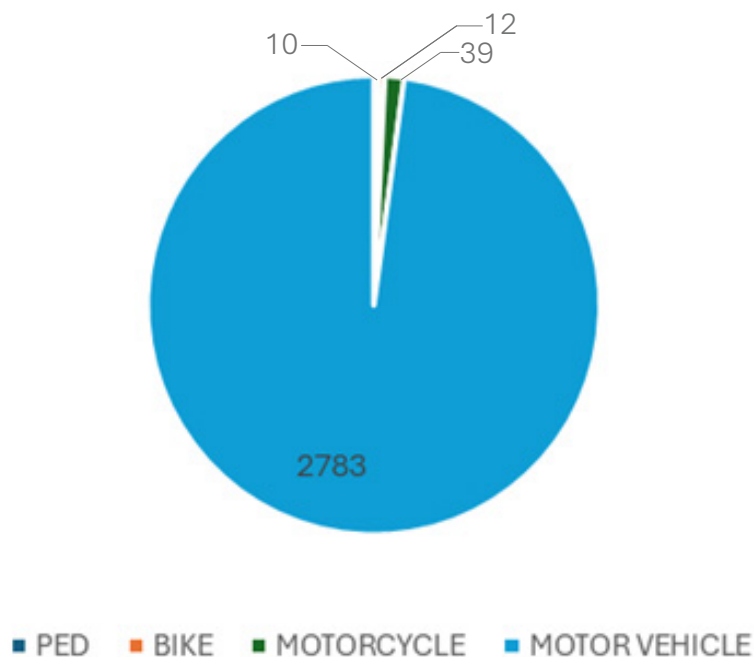


Figure 4-10. Total Crashes by Mode of Transportation
Source: Wade Trim

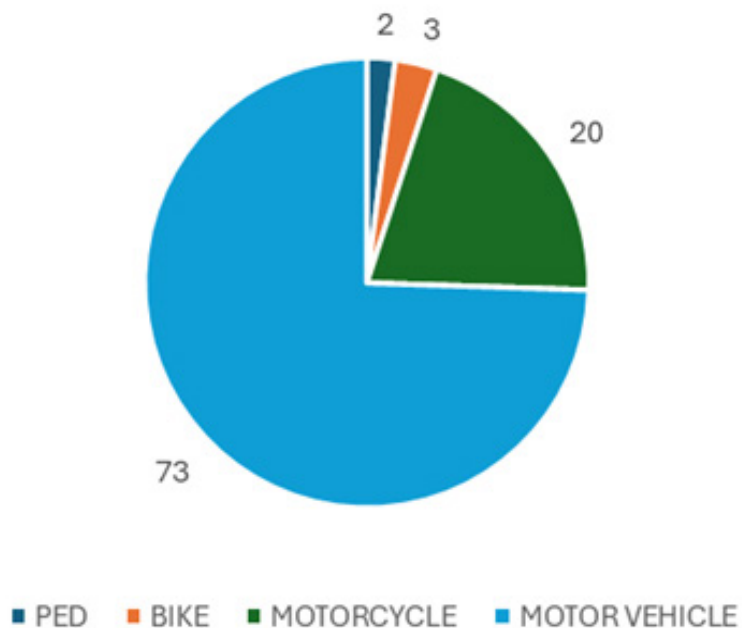


Figure 4-11. Severe Crashes by Mode of Transportation
Source: Wade Trim

Severe crashes were most likely to occur on weekdays, peaking at 12:00 – 2:00 PM and again at 4:00 – 7:00 PM. On weekends, severe crashes spiked at 9:00 PM and 1:00 AM. Details of crash report UD-10 forms revealed 91.25 percent of all severe crashes occurred on roads with speed limits between 45 and 55 miles per hour. Looking at the dominating hazardous action during each crash, failure to yield to opposing traffic, loss of control of a vehicle, and failure to assure clear stopping distance were the most frequent actions resulting in severe injury or death.

Crash Type

The most frequent crash types within the township crash data were Rear End, Angle, and Single Motor Vehicle.

Nonmotorized Crashes

Bicycle and pedestrian facilities are limited within the township area, concentrated along the Belleville Road corridor, south of Tyler Road. Sidewalks found near/within residential areas experience large gaps and do not form a contiguous bike/pedestrian network within the township.

During the Five-year study period from January 1, 2019, through December 31, 2023, there were 12 Bicycle crashes and 10 Pedestrian crashes within the study area. Figure 4-12 shows approximate locations of these crashes, noting their level of injury severity. Of the 22 NMZ crashes, 86.3 percent resulted in injury, including two fatal crashes. Compared to the overall injury rate of 25.6 percent, pedestrians and bicyclists are the most vulnerable road users.

Belleville Road Corridor Crashes

Analysis of crashes on the Belleville Road corridor were conducted in a separate report as part of the Belleville Road widening project. The scope of the crash analysis was to conduct a comprehensive review of the reported crash information to identify high crash areas and road features on Belleville Road and its intersections with cross streets from Yost Road to the South I-94 Service Drive.

The following crash analyses were performed:

- Belleville Road Corridor Crashes
- Major Intersection Crashes
- Pedestrian and Bicycle Related Crashes

Detailed results of the crash analyses can be found in the Belleville Road Corridor Safety and Complete Streets Report. The major Findings are:



Figure 4-12 : Nonmotorized Crash Locations by Severity
Source: Wade Trim

A total of 685 crashes occurred on the Belleville Road corridor during the Five-year study period (2019 – 2023), an average of 137 crashes annually. This excludes nine crashes involving deer. The most predominant crash types were Rear End (35.2 percent), Angle (25.6 percent), and Sideswipe – Same Direction (13.6 percent). Injury occurred in 22.5 percent of corridor crashes, including four fatal crashes and four Type A Incapacitating Injury crashes.

Two-way Annual Average Daily Traffic (AADT) counts were available throughout the study area on the MDOT Transportation Data Management System

(TDMS) website. AADT ranges from 16,881 vehicles per day north of Yost Road to 21,600 vehicles per day south of the South I-94 Service Drive. Four counts were taken in 2021 and average to 17,767 vehicles daily. Posted speed limits vary throughout the area from 35 to 45 miles per hour. Characteristic summary of the corridor is found in Figure 4-14.

Sidewalks are present on both sides of the corridor from Tyler Road to the North I-94 Service Drive. North of Tyler Road, there are significant gaps in sidewalks and no dedicated bicycle facilities in the corridor. Development consists of industrial use between Yost Road and Van Born Road, residential homes between Van Born Road and Tyler Road, and commercial use south of Tyler Road. Within the commercial area there are many existing lots with closely spaced buildings, properties, and multiple driveways. Figure 4-13 shows most crashes are occurring south of Tyler Road, in the downtown section of the corridor where the I-94 ramps, service drives, and commercial businesses are located.



Figure 4-13. Van Buren Township's Belleville Road corridor
Source: Wade Trim

Characteristic	No. of Crashes	Yearly Average	Percent
Type			
REAR END	276	55.2	40.3
ANGLE	201	40.2	29.3
SIDESWIPE – SAME DIRECTION	107	21.4	15.6
HEAD ON – LEFT TURN	29	5.8	4.2
SINGLE MOTOR VEHICLE	24	4.8	3.5
SIDESWIPE – OPPOSITE DIRECTION	17	3.4	2.5
BACKING	9	1.8	1.3
HEAD ON	9	1.8	1.3
OTHER/UNKNOWN	8	1.6	1.2
BICYCLE	3	0.6	0.4
PEDESTRIAN	2	0.4	0.3
TOTAL	685	137	100.0
<i>INJURY SEVERITY</i>			
Fatal	4	0.8	0.6
TYPE A INCAPACITATING	4	0.8	0.6
TYPE B NON-INCAPACITATING	70	14	10.2
TYPE C POSSIBLE	76	15.2	11.1
TOTAL INJURY	154	30.8	22.5
<i>OTHER CONDITIONS</i>			
RAIN/SNOW/HAIL	98	19.6	14.3
WET/ICE/SNOW ROADWAY	163	32.6	23.8
DARK – LIT/UNLIT CONDITIONS	137	27.4	20.0

Figure 4-14. Belleville Road Corridor Crash Summary
Source: Wade Trim

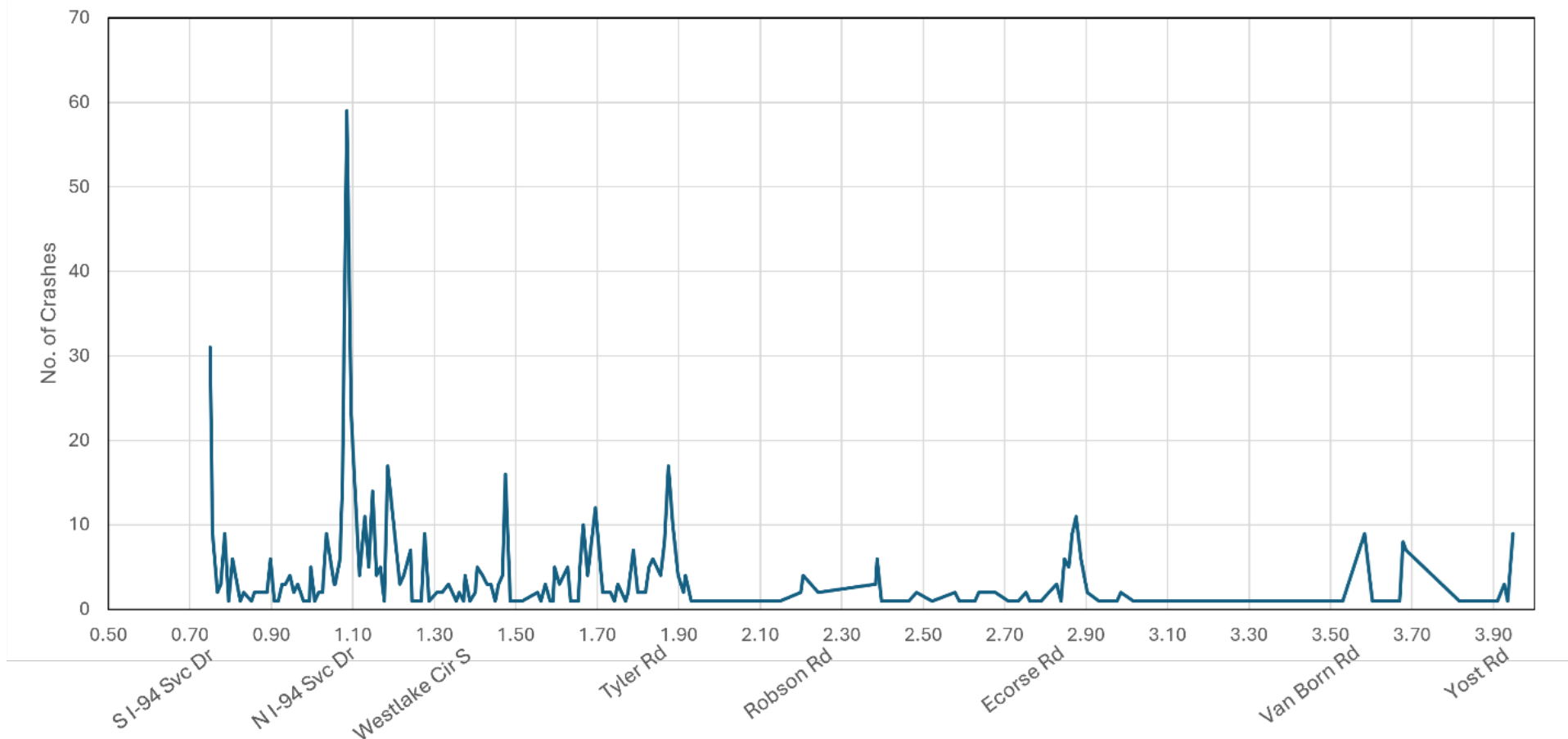


Figure 4-15. Belleville Road Crashes by Mile Point, 2019-2023
Source: Wade Trim

Crash Severity

Crash severity is determined by the most severe injury to an occupant occurring in a crash incident: Fatal (K), Type A Incapacitating Injury, Type B Non-Incapacitating Injury, Type C Possible Injury, or Property Damage Only (PDO). Injury crashes occurring on the Belleville Road corridor account for 22.5 percent of all crashes, suggesting that most crashes occurring within the downtown area are non-injury collisions (PDO). Distribution of the crash types is shown in Figure 4-16.

Fatal crashes are those that resulted in death of one or more persons involved either on the scene of the crash or later in emergency care. There were four crashes resulting in death, one of them involving a motorcycle.

Type A Incapacitating Injury crashes represent severe injury situations which require medical attention. There were four crashes, one involving a bicycle, and another involving a motorcycle.

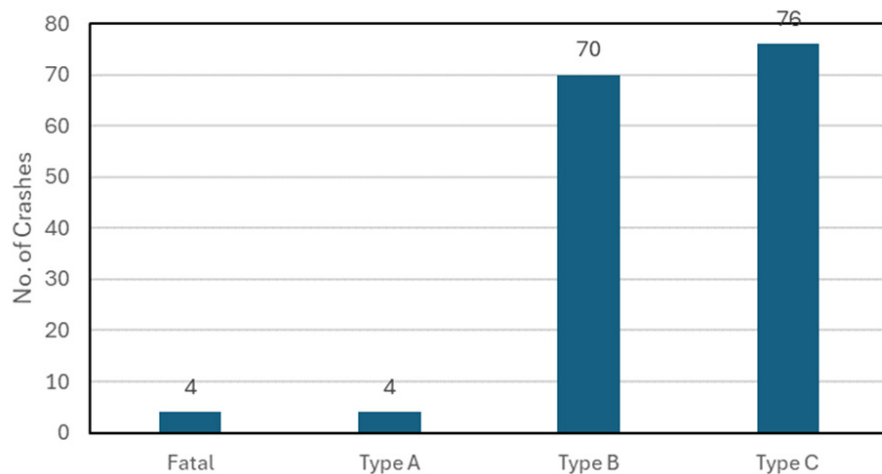


Figure 4-16. Belleville Road Crashes by Severity, 2019-2023
Source: Wade Trim

Intersection Crashes

Using the MDOT Next Generation Physical Reference (PR) Finder, crashes were sorted by PR number and Mile Point (MP) to quantify the number and characteristics of crashes occurring within a defined area of influence of major intersections along the Belleville Road corridor. A radius of 250 feet was used to define intersections. This includes crashes that were reported on PR numbers of roads intersecting Belleville Road and may not be accounted for in the corridor-only section of this report. For intersections that were close enough that their radii overlapped, UD-10 reports were read to determine which intersections may have had greater influence in the crash (this is based on direction of vehicles involved, noted objects in the roadway, or narrative by the reporting officer).

Three-year analyses were performed at major intersections along Belleville Road, from January 1, 2021, through December 31, 2023. The intersections included were:

- Belleville Road and Yost Road – Signalized
- Belleville Road and Van Buren Road – Unsignalized
- Belleville Road and Ecorse Road – Signalized
- Belleville Road and Robson Road – Unsignalized
- Belleville Road and Tyler Road – Signalized
- Belleville Road and South Meijer Driveway – Unsignalized
- Belleville Road and Menards Driveway – Signalized
- Belleville Road and Westlake Circle – Unsignalized
- Belleville Road and Westlake Circle – Signalized
- Belleville Road and Belleville Square Plaza Driveway – Unsignalized
- Belleville Road and North I-94 Service Drive – Signalized
- Belleville Road and West I-94 Exit Ramps – Signalized
- Belleville Road and East I-94 Exit Ramps – Signalized
- Belleville Road and South I-94 Service Drive – Signalized

Angle and Rear End crashes were the most frequent crash types in the intersection analyses, often occurring in areas where driveways were within the intersection’s radius. Collision diagrams were created for intersections when there were high numbers of crashes reported to visually represent any patterns and are included in the separate Belleville Road study in the appendix.

SS4A ACTION PLAN RECOMMENDATIONS

Through an intensive analysis of the existing Van Buren Township transportation network and a robust analysis of the existing traffic safety concerns, this Action Plan has developed a clear understanding of the Township’s road network safety issues. With the results of the thorough analysis completed, the Action Plan may now focus its attention on identifying those safety countermeasures that would be appropriate and effective to address the identified safety issues.

The goal of the toolkit is to shift the focus of the roadways to meet the needs of all users in addition to personal cars. Solutions and measures that have been included have the ability to:



Increase safety for all roadway users



Reduce motor vehicle speeds leading to less crashes



Prevent traffic crash injuries and fatalities



Encourage alternative transportation modes including walking and biking



Improve street aesthetics leading to higher property values

Safety countermeasures may include physical alterations to the road infrastructure, signage of signalization improvements, speed limit changes, or attempts at behavior modification through educational efforts. Countermeasures may be Quick-Action or longer-term traffic safety actions.

The Van Buren Township Action Plan Vision Zero Traffic Safety Toolkit (Action Plan Toolkit) has been developed to provide a comprehensive listing of safety countermeasures that may be deployed on Van Buren Township’s roads and streets.

Instituting Action Plan recommendations will significantly improve the overall transportation safety of the Township’s network, allowing the Township to achieve the Action Plan’s primary goal of reducing fatalities and serious injury accidents by 50 percent by 2035.

Action Plan Toolkit

The Action Plan Vision Zero Traffic Safety Toolkit has been developed to provide information regarding the wide array of safety countermeasures that may be deployed to improve roadway safety in Van Buren Township. The Action Plan Toolkit provides 14 general categories that include over 50 separate safety countermeasures.

Many of these countermeasures are closely related in function, scale, or intervention design so they have been grouped together into the 14 general safety categories. For instance, raised crosswalks, and corner extensions are all generally described as Traffic Calming Strategies. With more than a dozen separate countermeasures included within this category, it is the largest in the Action Plan Toolkit. Some categories only include a single countermeasure. The FHWA actually describes a few additional traffic calming countermeasures, but this plan does not envision their deployment within the Township and thus not included within the Action Plan Toolkit.

ACTION PLAN TOOL KIT FUNCTIONAL GROUPINGS

With nearly Fifty identified countermeasures, further division assists in organizing and focusing the use of these actions.

Five functional groupings, reflecting the specific focus/outcome of the countermeasure, has been created as well. These functional groups are based upon who/what will be impacted by the implementation of the specific countermeasure. In some instances, the

roadway will be altered while in other instances, modifications to the road user’s behavior are desired.

These functional groupings include: infrastructure, roadway features, road users, technology upgrades, and a catch-all other category.

Infrastructure – these countermeasures require significant alterations to the physical roadway itself. These include narrowing lanes, road diets requiring construction activities, roadway departure improvements, street lighting, and other intensive substantial interventions.

Roadway Features – these less intensive activities/actions are made to existing systems located within the road right-of-way. These countermeasures do not require significant physical alterations. Examples include new signage, modification to existing signal timing, or wider edge lines.

Road Users – these countermeasures target the roadway users themselves. Their main goal is to improve the safety performance of roadway users. These include educational efforts for specific user groups, real-time speed monitoring signs, improved use of safety features like safety belts and helmets, etc.

Technology Upgrades – these enhancements are focused on improving the technology of equipment that is utilizing the road network. These features would include improved automatic braking

and lane correction systems, improved car design to improve pedestrian safety, variable speed limits, etc.

Other – this category is for those countermeasures that do not easily Fit into the other four groupings. Currently, multiple coalition building countermeasures fall into this category.

Some of the countermeasures will be found within multiple functional categories. For example, one road diet may require significant physical alterations to the roadway infrastructure while another road diet may be completed with only new lane markings and signage.

The Action Plan Toolkit countermeasure table below lists all of the countermeasures by functional groupings, which are likely to be deployed in Van Buren Township.

FHWA PROVEN SAFETY COUNTERMEASURES

The Federal Highway Administration (FHWA) has conducted an in-depth review of a number of safety countermeasures. These results have determined a range of expected safety outcomes achieved from their deployment. These safety statistics identify the countermeasure performance in reducing: all crashes, fatal and injury crashes, rear-end crashes, pedestrian crashes, and other crash scenarios. Depending upon the countermeasure, the FHWA statistics may also include the increased yielding rates or cost-benefit ratios achieved through countermeasure deployment.

The FHWA Proven Safety Countermeasures have been identified by an asterisk in the above Action Plan Toolkit table. Additional information on these specific countermeasures may be found at <https://highways.dot.gov/safety/proven-safety-countermeasures>.

This Action Plan Toolkit identifies two dozen additional safety countermeasures that have been recognized by numerous transportation design organizations. All of these safety interventions will assist the Township in achieving its Vision Zero traffic safety goals.

Each safety countermeasure will be appropriate only in certain instances. Detailed information regarding application of the countermeasure, ease of use, cost, and effectiveness information (broad or targeted) of each toolkit item is detailed below. The specific benefits of each approach and potential drawbacks are also provided for the general countermeasure categories.

The STRATEGY section includes the Van Buren Township Action Plan project selection matrix of countermeasures that should be deployed First as Quick Build projects, as funding/capacity becomes available. The Action Plan’s project selection matrix and implementation schedule identified should not be considered as definitive. During Action Plan implementation, projects and actions should be reordered as necessary to take advantage of funding, capacity, desire, newly identified safety concerns, and local implementation experience. The strategy and projects have been selected at a point in time, and actual Action Plan implementation should be adjusted by Van Buren Township as appropriate.

Detailed Listing of Action Plan Toolkit Countermeasures

Utilize Safety Data to Target Actions at Priority Locations -

Crash data may be analyzed to determine the Township’s riskier locations so that safety countermeasures may be deployed to these locations, which will have the best safety improvement outcomes. Priority locations and projects are included in the Project Selection section of this report.

Functional Groupings – Infrastructure & Road Feature

Ease – High

Cost – Low

Effectiveness – Broad and Targeted

Benefits

- Ensures that most dangerous locations with the most severe crashes are addressed as quickly as possible*
- Guarantees quickest steps towards accomplishing Vision Zero*
- Limits opportunities for inequitable distribution of safety dollars and effort*

Drawbacks

- Lower ranking safety locations may never reach the top of the safety criteria for action*

Setting Safe Speed Limits -

With speed being an important determinant in crash severity, setting appropriate speed limits for all road users is an FHWA proven safety countermeasure for reductions in fatality and serious injury accidents. Lowering speed limits has been found to reduce crashes and casualties on all roadway segment types. In Michigan, the de facto speed limit setting method is to use the 85th percentile measurement, which is based upon setting the speed limit at the speed at which 85 percent of the traffic is traveling. This one-size-fits-all approach forces transportation engineers to match the roadway design to the prevailing behavior instead of aligning roadway design to desired safety and land use goals.

Functional Grouping – Road Feature

Ease – High

Cost – Low

Effectiveness – Broad and Targeted

Benefits

- May lead to significant safety improvements*
- Easy to implement*
- Inexpensive*
- Broad impact*

Drawbacks

- If speed limit does not match roadway design speed, tendency*

for drivers to exceed speed limit and lower posted speed benefits are not achieved

Reliance on enforcement to achieve lower posted speeds

SPEED



3X **TRIPLES**
THE ODDS OF
CRASHING



1/3 CONTRIBUTES TO
A THIRD OF
FATAL
ACCIDENTS



↑ **=** **↑**
MPH **INJURY**



PUTS EVERYONE AT RISK.

Figure 5-1. Risk of Speed graphic
Source: Traffic Logix



Figure 5-2. Example boulevard roadway with large pedestrian refuge
Source: Wade Trim

Matching Design Speed to Safety Goals -

This approach incorporates speed reduction countermeasures into roadway design so that desired speed and safety goals maybe achieved. Instead of analyzing the speed at which traffic is traveling, this treatment ensures that the roadway is designed to a targeted safe speed with several speed- reducing countermeasures included. These include the narrowing of travel lanes, use of street trees and edge treatments including on-street parking to slow motorists instead of designing the road for existing or anticipated speeds. Roads designed for higher speeds require wider travel lanes, no on-street parking, prohibition of canopy shade trees, and other treatments that are designed to be safer for faster moving vehicles.

Functional Groupings – Infrastructure & Road User

Ease – Technical

Cost – Moderate (for projects in design)

Effectiveness – Broad and Targeted

Benefits

May lead to significant safety improvements

Requires limited enforcement activities

Broad impact

Drawbacks

Long lead time

Expensive

Speed Management and Traffic Calming Strategies -

These design techniques are able to slow traffic through physical interventions into the road and its right-of-way. Traffic calming safety countermeasures may be deployed on major commercial through and residential subdivision side streets. Ongoing evaluation should occur to review the success of these safety countermeasures.

Functional Groupings – Infrastructure & Road User

Ease – Technical

Cost – Moderate (for projects in design)

Effectiveness – Broad and Targeted

Raised Crosswalk & Raised Intersection -

These speed tables meet the adjacent curbs with a marked crosswalk within the flat portion of the table. Vehicles driving over the raised crosswalk must reduce speeds for comfort, and they enhance pedestrian visibility by elevating pedestrians to a more prominent location in the driver's Field of vision while raised intersections increase the awareness of drivers to pedestrians and vehicles within the intersection.

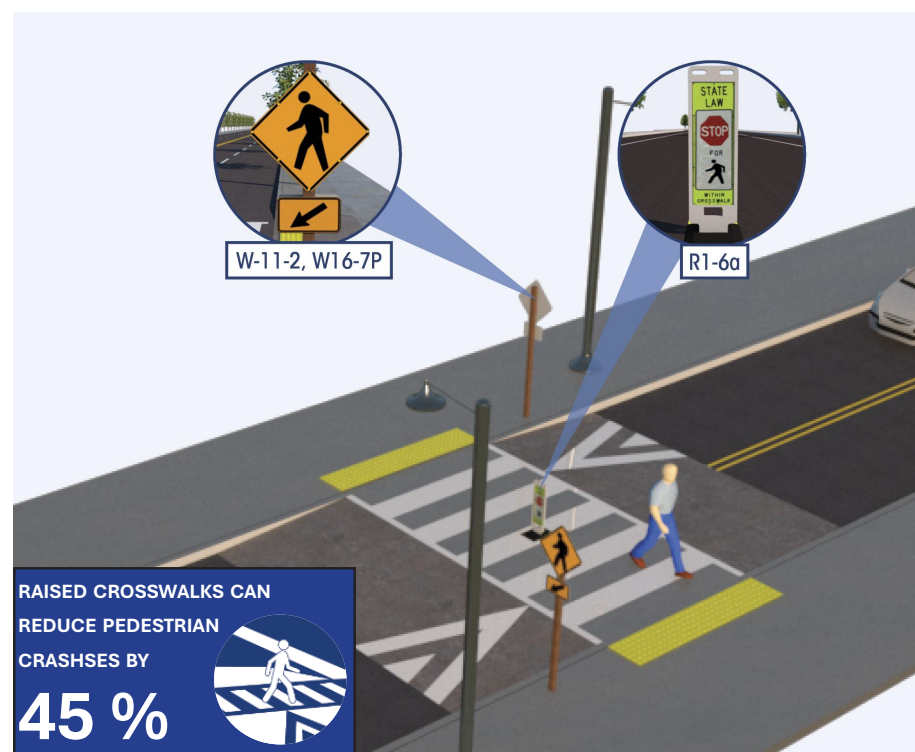


Figure 5-3. Raised crosswalk example with high visibility markings and signage.
Source: Federal Highway Administration

Speed Humps & Speed Tables - These speed tables meets the adjacent curbs with a marked crosswalk within the flat portion of the table. Vehicles driving over the raised crosswalk must reduce speeds for comfort, and they enhance pedestrian visibility by elevating pedestrians to a more prominent location in the driver's Field of vision while raised intersections increase the awareness of drivers to pedestrians and vehicles within the intersection. Simple traffic control intervention designed to slow travel on residential streets and collector streets. Speed humps are 3-4 inch tall elongated mounds that are installed at right angles to the direction of travel while speed tables often have a ten foot flat top. Both devices are to cause sufficient motorist discomfort, slowing traffic before and downstream of the device. Speed humps are often used on slower traveled residential streets while speed tables may be deploy on busier roads with increased travel speeds

Chicanes - Adjustments made to road alignment through added curves or lane shifts that force motorists to negotiate these interventions on what would normally be a straight road segment. Slowing vehicle speed and increasing driver awareness are important results of implementing chicane countermeasures.

Choker - Narrowing of the roadway at mid block points through the use of curb extensions or roadside islands. Travel lanes and the roadway are constricted at a specific choke point, forcing motorists to slow down to traverse the pinch point. These may be used on busy neighborhood streets and minor commercial collector streets.

Road Diet - Street reconfigurations that reduce the number of travel lanes in a roadway. Less lanes often decreases vehicular travel speeds while also reducing the pedestrian/bicyclist crossing distances. The extra unused roadway may allow for portions of the former roadway to be dedicated to other uses, including bicycling infrastructure, transit facilities, or public space with the addition of the central turning lane, a road diet may also improve road safety by reducing the number of rear- end crashes created by left-turning vehicles. They also reduce right angle crashes as side street motorists must cross only three lanes of traffic instead of four and reduce the speed differential due to one lane of traffic in each direction. Road diets foster a more community-focused, Complete Streets environment with fewer lanes for pedestrians to cross and an opportunities for pedestrian refuge islands.

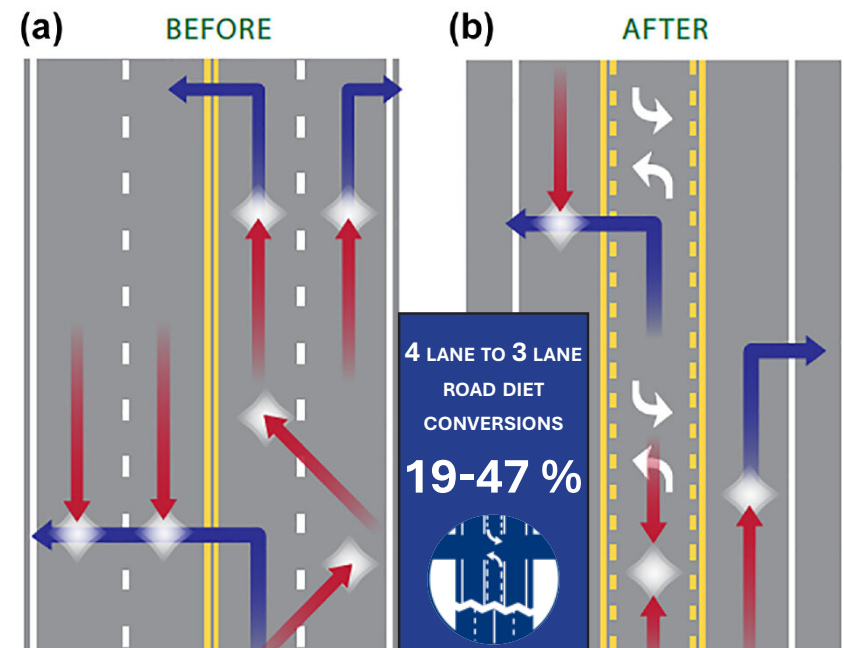


Figure 5-4. Road diet configuration before and after diagram with conflict reductions
Source: Federal Highway Administration

Lane Narrowing & Roadway Narrowing - Width of travel lanes impacts how fast a driver feels comfortable traveling in a lane. Studies have shown a clear correlation between driver speed and lane width with drivers choosing a lower speed when confronted by the perception of less room for error. Narrower lanes encourage driver alertness and decrease driving comfort. Roadway narrowing uses this same approach but applies the concept to the entire roadway. This often includes additional features along the roadway edge that may visually narrow the perception of the roadway further.

Corner Extensions/Bump Outs - Bump -outs visually and physically narrow the roadway, creating safer and shorter crossings for pedestrians. These former areas of roadway are now available for street furniture, benches, plantings, and street trees. They are especially recommended at wide intersections where the road geometry is appropriate, and they may be used to increase the turning radii to slow down turning traffic. When permanently constructed, extensive modifications to the curb, sidewalk, and gutter may be required while quick action approaches may be accomplished with paint, bollards, flexible delineators, and planters for significantly less investment.

Decreased Turn Radii - Curb radii impact how quickly a vehicle may travel around a turn so a tighter turn-radii forces slower turning movements while improving pedestrian visibility, as drivers are required to pay closer attention while turning. On-street parking and bike lanes may allow for a larger turning radius for trucks and buses while having a smaller effective turn radius for smaller vehicles.



Figure 5-5. Curb extension or bump outs encourage slower speeds and often include decreased turning radii.
Source: NACTO Urban Street Design Guide

Pedestrian Refuge Islands - Providing pedestrians and cyclists with a refuge point in the middle of a roadway to safely stop during street crossings, especially beneficial on wider roads. Located at a mid block point or intersection, these features allow pedestrians to focus on one direction of traffic at a time while giving them a protected place to wait for a gaps in oncoming traffic.



Figure 5-6. Pedestrian refuge island
Source: Federal Highway Administration



Figure 5-7. Pedestrian refuge island
Source: Wade Trim

Roundabouts and Traffic Circles - Roundabouts and traffic circles reduce traffic speeds at intersections by requiring motorists to cautiously move through conflict points. In many circumstances, roundabouts have been shown to improve intersection throughput while significantly reducing the severity of crashes. Traffic circles may be recommended for residential street intersections where there are a high number of individuals that do not stop at the intersections.

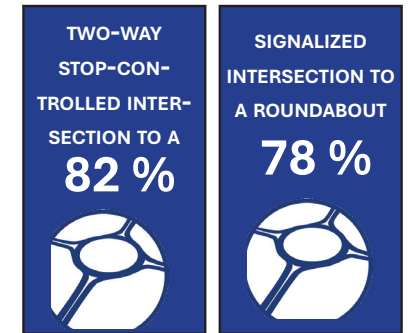


Figure 5-8. Roundabouts and Traffic Circles

ROUNDBABOUTS 101

5 Things to Know When Driving Around a Roundabout

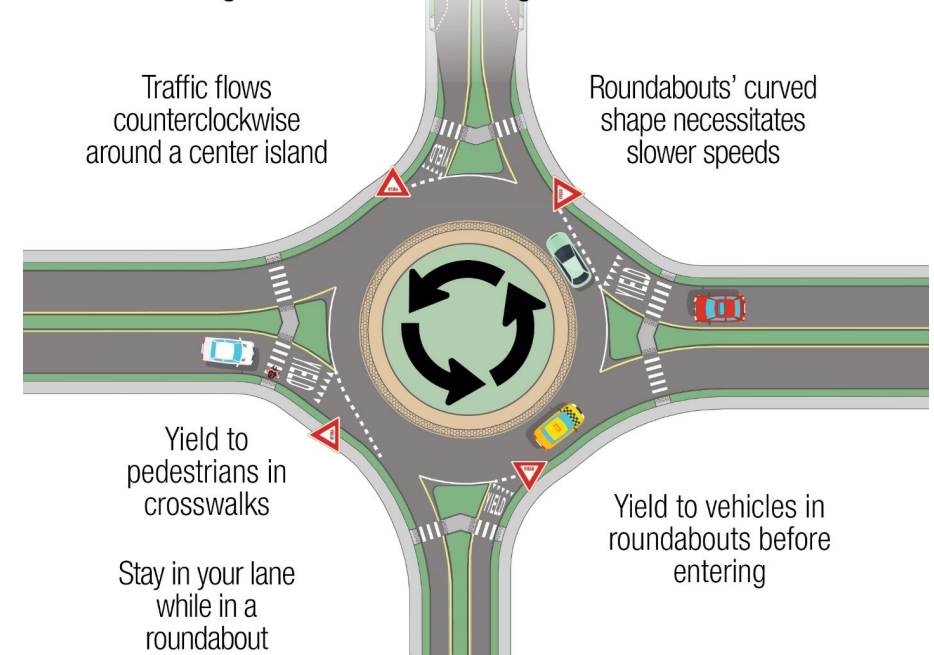


Figure 5-9. FHWA Roundabout user guidance.
Source: <https://www.fhwa.dot.gov/publications/research/safety/00067/00067.pdf>
https://safety.fhwa.dot.gov/intersection/innovative/roundabouts/ped_bike_brochure/pedbikeroundabout.pdf

On-Street Parking - Parking narrows the street and slows traffic by creating “visual friction” for moving vehicles with both parallel and angled parking creating this effect. On-street parking reduces the appearance of the roadway’s width, improving pedestrian crossings while creating a buffer between vehicular travel and sidewalks or protected bicycle lanes.

Left-Turn Traffic Calming - Hardened Centerlines with low plastic barriers and flexible delineators are placed on top of the centerline to discourage left-turning vehicles from crossing over the receiving street centerline and reducing their turning radius and speed. Slow-turn Wedges may be used to create tighter turning radii, forcing traffic to turn more slowly. The use of non-permanent materials is often a Quick-Action that may be done in the interim while permanent Increased-Turn Radii curb-work is being designed and/or installed.

Street Trees - Trees planted along the right-of-way in the parkway area narrow a driver’s visual Field and creates visual friction, which leads to lower vehicle speeds. They provide a variety of health benefits including mitigation of the heat-island effect, Filtering and reducing stormwater, providing a variety of human health benefits (reduce stress, increase mental well-being, and aesthetic benefits) by creating rhythm along the street.

- Benefits*
- Decreases motor vehicle speeds and the likelihood that crashes will occur by increasing driver response time*
 - Decreases the likelihood of an injury/serious injury resulting from a crash*
 - Improves bicyclist comfort and benefits pedestrians and bicyclists*
 - Increase pedestrian visibility*
 - Add “driver friction”*

- Drawbacks*
- May require drainage improvements*
 - May require approach ramp and curb improvements*

Traffic Safety Interventions - Traffic safety countermeasures that are often quick-build projects that can be installed in various locations without intensive alterations to infrastructure required. These include enhanced pavement markings and real-time speed signs.

Functional Groupings – Infrastructure, Road Feature, Road User, & Technology Upgrades

Ease – High

Cost – Low to Moderate

Effectiveness – Targeted

Enhanced Pavement Markings/Signage - Installation of additional signage and pavement markings at conflict points. Utilize National Association of City Transportation Officials (NACTO) recommended design standards that increase motorists expectations to encounter pedestrians or bicyclists at intersections and increase signal signage for motorists near intersections.

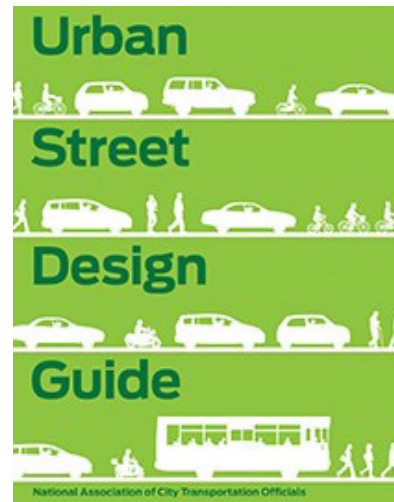


Figure 5-10. Urban Street Design Guide, The National Association of City Transportation Officials

Speed Trailers/Real-time Speed Signs -

Devices that instantly report speed to motorists so that they may self-adjust their speed. Studies show that typical speed reductions are up to 20 percent, and overall compliance with the posted speed limit improves significantly.



Figure 5-11. Real-time sign example

Variable Speed Limits - Electronic speed limit signs are a speed management strategy that enable signs to be changed throughout the day/night, depending upon traffic conditions, road conditions, weather, construction activity, and/or roadway users. Variable speeds limits (VSLs) are capable of adapting to changing circumstances and lead to reduced crash frequency and severity.



Figure 5-12. Variable Speed Limits are a FHWA proven safety countermeasure that can reduce crashes by adapting to various conditions.

Pavement Friction Management - Analysis of traffic safety data and roadway friction measurements to determine if there is a need to apply pavement friction treatments to improve vehicular traction and reduce vehicular collisions and roadway departures. High friction surface treatments (HFST) are easily applied pavement treatments that reduce crashes, injuries, and fatalities associated with friction demand issues, such as wet conditions or roadway curves.

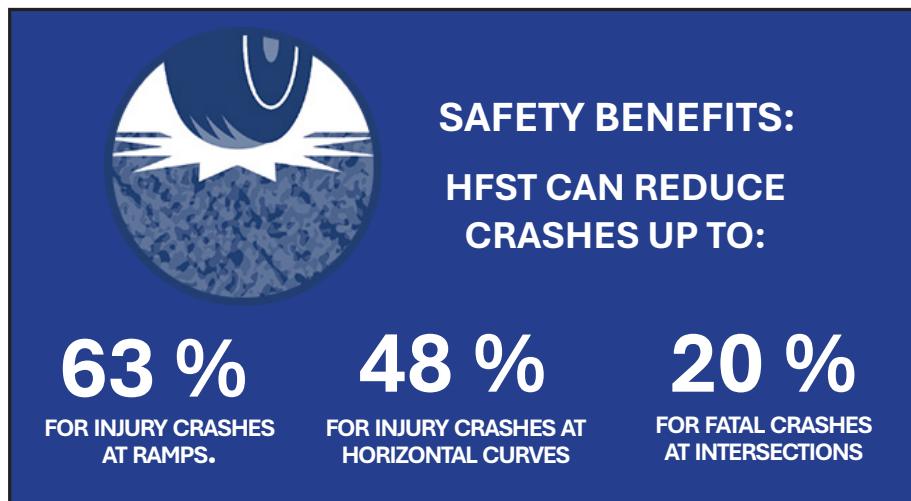


Figure 5-13. High Fricion Surface Treatments are a FHWA proven safety countermeasure that can reduce crashes, especially during bad weather and on curves.

Signalized Pedestrian Crossings - Installation of traffic control devices specifically designed to improve pedestrian safety when crossing roadways. Signals may include High-intensity Activated Crosswalk beacon (HAWK) or Rectangular Rapid Flashing Beacon (RRFBs) signals.



Figure 5-14. RRFB signal example

Benefits

Improved vehicular operation
Immediate feedback
Increased visibility of the non motorized network
Reduction in pedestrian and vehicular crashes

Drawbacks

Signage may “disappear” into the background over time
Pavement friction applications may wear off



Figure 5-15. HAWK signal example

Roadway Departure - Countermeasures that either reduce the likelihood of a roadway departure event or the severity of roadway departure events.

Functional Groupings – Infrastructure & Road Feature

Ease – Varied

Cost – Low to Moderate

Effectiveness – Targeted

Enhanced Curve Delineation - Treatments that alert drivers to upcoming curves, and the direction and sharpness of the curves. These features include pavement markings, retroreflective strips on posts, delineators, chevrons, and other markings/signage.

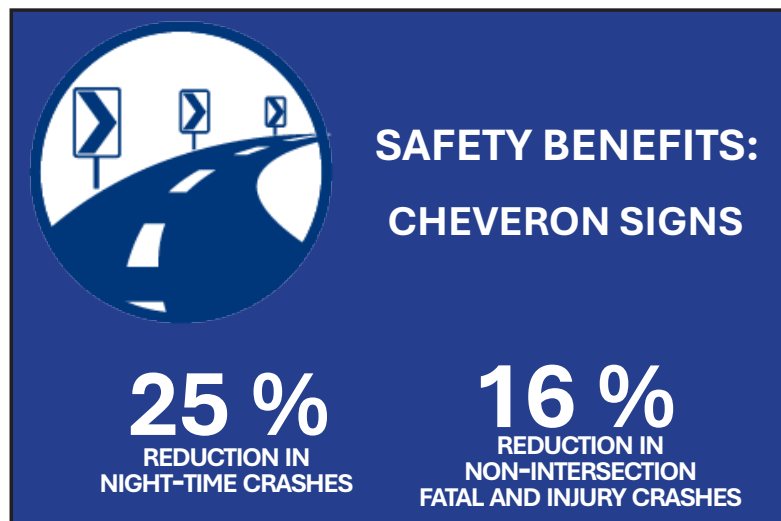


Figure 5-16. Enhanced Delineation for Horizontal Curves is a FHWA proven safety countermeasure that alert drivers of curves and reduce crashes.

Rumble Strips/Stripes - Milled or raised elements on pavement at the edge of the roadway or in the center that alert a driver through vibration and sound that their vehicle has left the travel lane. Rumble strips are when the center or edge line pavement are painted onto the rumble element. Crossover crashes can be reduced up to 50 percent with centerline rumble strips while edge line rumble strips reduce single vehicle run-off-road fatal and injury crashes by nearly 29 percent

This graphic is divided into two main sections. The left section, titled **DEFINITIONS**, lists three types of rumble strips: **Centerline Rumble Strips (CLRS)** (grooves on the centerline), **Centerline Lane Departure Crashes** (crashes including head-on, sideswipe, and run-off-the-road), and **Milled Rumble Strips** (grooves cut into new or existing asphalt and concrete). It includes diagrams for 'Centerline Corrugation, Asphalt Pavement' and 'Centerline Corrugation, Concrete Pavement'. The right section features the **TZD Toward Zero Deaths** logo, the text **For more information: www.michigan.gov/rumblestrips**, and a large vertical image of a road with yellow centerline rumble strips. At the bottom right, it says **Centerline RUMBLE STRIPS Save Lives** and includes the **MDOT Michigan Department of Transportation** logo and a statement about MDOT's commitment to safety.

Figure 5-17. MDOT - Centerline Rumble Strips

Median Barriers - Longitudinal barriers made of cable, metal-beam, or concrete that are often deployed on divided highways to reduce cross-median crashes by separating opposing traffic on a divided highway and redirecting vehicles striking either side of the barrier. Median barriers significantly reduce the number and severity of cross-median events.

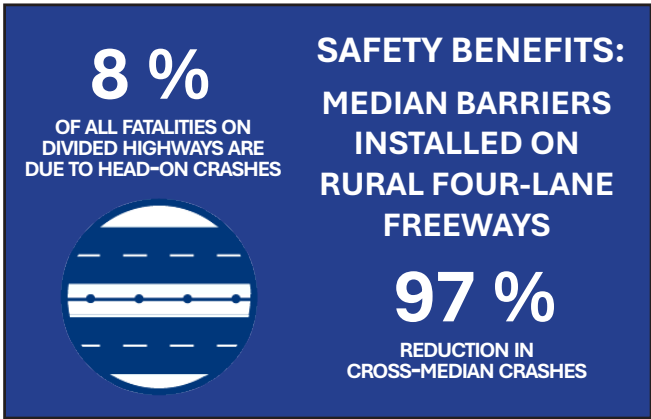


Figure 5-18. Installation of median barriers is a FHWA proven safety countermeasure that reduces fatalities and serious injuries.

Improved Roadside Safety Design - A suite of design interventions on curves and straightaways that allow drivers to regain control of their vehicles and safely re-enter the roadway or to come to a stop before encountering Fixed obstacles. Safety features include sufficient clear zones, slope flattening, and adding or widening shoulders. Roadway departure fatalities and serious injuries are reduced through deployment of these countermeasures.

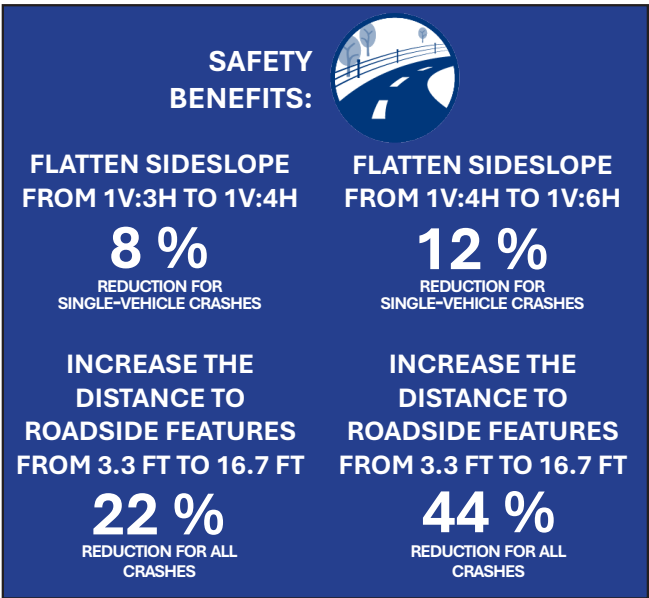


Figure 5-19. The FHWA encourages implementing roadside design safety benefits are seen to reduce crashes related to vehicles leaving the roadway.

Road Edge Improvements - Utilization of SafetyEdgeSM technology or similar that shapes the edge of the pavement to a gentle slope that eliminates vertical edge drop off crashes. These occur when vehicles exit the travel-way and due to the road edge drop-off have increased difficulty in safely returning to the roadway.

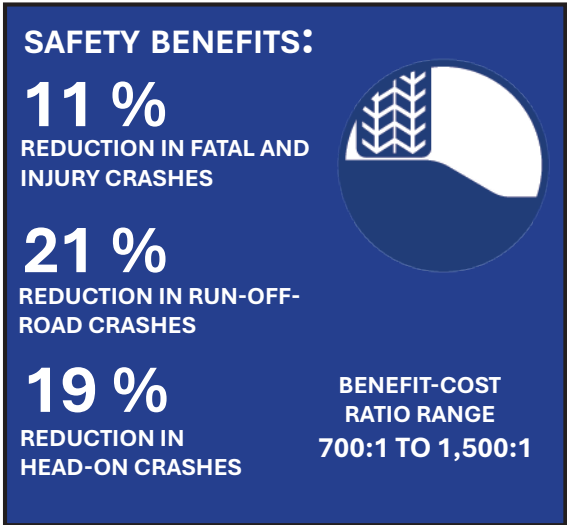


Figure 5-20. Safety Edge benefits are seen to reduce crashes related to vehicle edge drop offs.

Wider Edge Lines - Increasing road-edge visibility by widening the standard four-inch wide edge lines to six-inches. Wayne County Department of Roads is already deploying this countermeasure throughout the County.

- Benefits*
- Reduced crashes caused by roadway departure events*
 - Relative low cost of several countermeasures*
 - Ease of installation*
- Drawbacks*
- Replacement/maintenance costs of some of these features of each countermeasure*

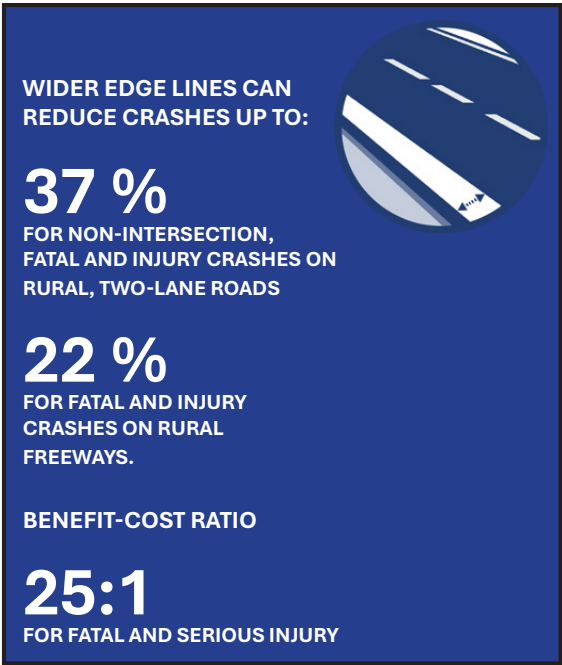


Figure 5-21. Wider edge line benefits are seen to reduce crashes related roadway departures.

Signal Adjustments - With modern traffic signals, a variety of options are available to adjust the vehicular and nonmotorized flow through intersections, based upon local conditions that may be dynamic throughout the day/week.

Functional Groupings – Road Feature, Road User, & Technology

Ease – High

Cost – Moderate

Effectiveness –Targeted

Signal Timing - Signal timing can contribute to speeding and risky driving behaviors with motorists attempting to “beat the signal” while vehicle-only focused signal timing may also be dangerous to pedestrians and bicyclists. Signals should be timed so that the average pedestrian may safely cross the intersection (per NACTO guidelines – between 60 and 90 seconds) and if along a bicycle route, timing adjusted for bicycles traveling through the corridor at 12-15 mph. Adjusting signal timing is a tool to improve the level of service of intersections, ensuring appropriate traffic speeds through a signalized corridor, and improving the safety of intersections for non motorists.

Lagging Left-Turn Phase - At intersections with a protected left-turn phase (left-turn signal are provided after the through green signal in the same direction – instead of before the green signal), this modification allows for pedestrians to begin crossing prior to turning traffic.

Leading Pedestrian Intervals – Leading Pedestrian Intervals (LPIs) adjust traffic signals to allow for pedestrians to begin crossing the intersection prior to vehicular traffic in the same direction beginning. This approach improves pedestrian visibility to the motorist and reaffirms vehicular need to yield. LPIs should be considered where signals are being transitioned from protected left turns (where driver may turn only on the left-turn signal) to permissive-protected left turn (where the driver may turn on green signal or flashing yellow arrow).

Yellow Change Interval – Altering the length of time that a yellow signal is displayed may reduce red-light running and improve overall intersection performance.

- Benefits*
- Targeted safety improvements*
- Inexpensive*

- Drawbacks*
- Only effective in certain specific settings*



Figure 5-22. Belleville Road approach at the North I-94 Service Drive
Source: Wade Trim

Traffic Signal Safety Enhancements - Systemic signal upgrades that improve intersection safety including signal visibility improvements, ADA enhancements, pedestrian and bicycle signal enhancements, and advanced intersection signage.

Functional Groupings – Infrastructure, Road Feature, Road User, & Technology

Ease – High

Cost – Low

Effectiveness – Targeted

Retroreflective Backplates – Larger reflective signal backplates improve the visibility of traffic signals through the addition of 1-to-3 inch yellow reflective borders around the traffic signal heads.

Accessible Pedestrian Signals (APS) - Signals that provide auditory and tactile guidance to assist visually impaired pedestrians to cross. All new signals should have these capabilities included in their design.

Benefits

Improves safety while often improvement intersection operation as well

Drawbacks

Often expensive

Wait until other infrastructure upgrades are occurring

Street Lighting - Sufficient lighting improves pedestrian safety as it increases the visibility of people intending to enter the roadway. Appropriate levels of lighting and contrasting lighting at crossings provide significant safety benefits. Roadway lighting focuses on the immediate roadway while pedestrian-level lighting provides illumination to the sidewalks and areas where pedestrians congregate at crossings.

Functional Groupings – Infrastructure

Ease – High

Cost – Moderate to High

Effectiveness – Targeted

Benefits

Improve visibility

Increase aesthetics

Drawbacks

Must be engineered

Will require alterations to the existing infrastructure

Expensive

Targeted

Education - Safety materials including websites, webinars, and brochures that provided targeted safety messaging on improving the safety habits of all roadway users, including motorists, pedestrians, and cyclists. Some materials may be targeted for addressing risky behaviors while others may be focused on the specific needs of targeted populations.

Functional Grouping – Road User

Ease – High

Cost – Low

Effectiveness – Broad

Risky Behavior Educational Materials –Targeted educational messages that are designed to reduce dangerous behaviors. Behaviors may include: speeding, running red lights, not crossing at crosswalks, driving under the influence, distracted driving, reckless driving, ignoring traffic signs/signals, and other risky behaviors. Targeted enforcement may be educational only (no tickets or Fines) with distribution of informational materials only. This non-punitive approach should be coupled with corresponding media efforts.

Targeted Safety Messaging – Safety messages targeted to address the specific needs of certain often vulnerable roadway users. Messaging is prepared to address the special safety issues that face young drivers, senior drivers, motorcyclists, pedestrians, bicyclists, or other unique groups.

Benefits
Elimination of unsafe behaviors
Engages the Police in proactive actions
Quick action
Replicated each year
Low cost

Drawbacks
Effectiveness may be limited to short focused efforts
Intensive use of staffing

Coordinated Implementation Efforts - Joint efforts that require a number of government and safety organizations to coordinate planning, infrastructure, capital, programming, and design activities to accomplish long-term safety enhancements to the roadway network. These include eliminating nonmotorized gaps, improving design, organizing community efforts, and other activities.

Functional Groupings – Infrastructure, Road Features, Road User, & Other

Ease – High to Difficult
Cost – Low to High
Effectiveness – Targeted & Broad

Nonmotorized Network Gap Closure Program - Gaps in non-motorized networks significantly impair their utility and negatively impact safety while gap closure is necessary to improve the nonmotorized transportation network users overall experience. Coordinated and intensive multi-year programs are often necessary to address these often expensive and/or complex challenges.

Complete Streets Compliant Transportation Network – Develop a nonmotorized network of sidewalks and sidepaths that are based on Complete Streets principles to accommodate all transportation network users at their level of ability in a safe and equitable manner. This is achieved by installing nonmotorized facilities according to a community-wide nonmotorized network plan.

Enforcement – Utilizing law enforcement to improve compliance with traffic safety rules through active enforcement activities. Traffic safety data should be employed in setting enforcement priorities and evaluating the effectiveness in reducing crashes and unsafe behaviors through these actions.

Action Plan Implementation Coalition– Development of a broad-based Action Plan implementation coalition that leads the community’s efforts in achieving its Vision Zero goals. For Van Buren Township, this includes the annual release of Vision Zero Scorecard and ongoing Identification of funding opportunities, which may include the use of Wade Trim’s Funding Scout project funding identification services.

Safe Routes to School Program – A national program that encourages engagement between school districts, students, and parents. Program activities include identifying necessary pedestrian safety improvements near schools, coordinated efforts to increase student walking/riding to school, and distribution of targeted health and safety materials.

Nonmotorized Network Enhancements – Implement non-motorized network enhancements that improve user experience through the placement of a variety of amenities along the nonmotorized system. These including street furniture, canopy trees to maximum shade during peak summer hours, bike racks, restrooms, drinking fountains, trail head parking, signage (directional and safety), pedestrian-level lighting, and other targeted amenities.

Local Road Safety Plans – An implementation framework for identifying and prioritizing roadway safety improvements on local roads. These plans are built upon collaboration between various stakeholders (engineering, enforcement, education, and EMS) and various levels of government. The collaborative process leads to the development of a timeline and responsible parties to address the identified safety issues.

Benefits

Creates an implementable plan for fundraising and public engagement

Allows property owners to see the importance of closing the gap across their parcel

Fully integrated safely operated network that would achieve Vision Zero goal

Low cost

Quick response time

Development of an implementation coalition

Ongoing fundraising efforts

Annual Re-commitment to Action Plan by Coalition members

Builds a coalition to cooperatively work towards Vision Zero

Provides access to SR2S funding

Provides ready access to wealth of nonmotorized transportation safety materials

Significantly improves trail user experience

Drawbacks

Time consuming

Expensive

Requires dedicated staff

High Cost

Time required to complete design and construct entire non-motorized network to Complete Streets standards

Reliance upon the Wayne County – DPS Roads Division for implementation

Not being an Act 51 Road agency

Without education, may be off-putting to roadway users

Difficulty in maintaining energy for a multi-year multi-entity

engagement effort

Requires significant volunteer support and involvement

Increased expenses for nonmotorized projects

Safe Design Processes - Utilize a variety of safety interventions during the development and design processes to improve the overall function of the road network.

Functional Groupings – Infrastructure, Road Features, & Technology

Ease – High

Cost – Low

Effectiveness – Broad and Targeted

Safety Audit – Utilize independent multidisciplinary design teams to conduct road safety audits, which target the inclusion of all feasible safety countermeasures into roadway design at the earliest stage possible.

Access Management –Design strategies that reduce the number of potential conflicts between motorists and other roadway users through the design, application, and control of entry and exit points along a road network. Access management improves

the function of roadways by limiting conflict points through removing driveways, altering driveway alignments to increase safety, adding medians and turn-lanes, and other road safety features.

Safe System Approach – A holistic approach to road design and operation that is based upon the philosophy that all humans make mistakes and are vulnerable. Through a proactive and redundant safety approach, fatal and serious injury accidents should all but be eliminated. This approach creates a self-fulfilling safety culture at the center of all road system investments.

Benefits

- Added design steps early in the process*
- Addresses numerous safety issues prior to construction*
- Reduced costs associated with early identification and mitigation of safety concerns*
- Improve communication between stakeholders, designers, contractors, and road agencies*
- Modest alignment changes can have significant safety improvements*

Drawbacks

- Wait until new design or road refurbishment occurs*
- Property owner and user issues relative proposed alignment alterations*

Roadway Design - Design interventions that improve the safety performance of roadways.

Functional Groupings – Infrastructure & Road Features

Ease – Moderate to High

Cost – Low

Effectiveness – Broad and Targeted

Dedicated Left & Right Turn Lanes at Intersections – Additional dedicated turning lanes allow for vehicle stacking and vehicle deceleration outside of through travel lanes. These arrangements are particularly beneficial for two-way stop four-way intersections where the predominate traffic is in free-flow. Off-set turn lanes improve safety through increased visibility of the turning traffic.

Michigan Lefts – Intersection designs that alter crossing and turning movements to limit the potential for severe crashes by directing turning and crossing movements to complete “Michigan Left” turns instead of directly turning/crossing through traffic. Restricted Crossing U-Turn (RCUT) alters direct left-turn and through movements from a cross street while Median U-Turn (MUT) eliminates the direct left turn of traffic on divided highways.



Figure 5-23. Ecorse Road Boulevard in Van Buren Township
Source: Wade Trim

Protected/Separated Bicycle Lanes –

Bicycle lanes that are physically separated from vehicle travel lanes. The separation is achieved through the use of plastic vertical delineator posts, curbs, parked cars, planters, or other means. Separated bike lanes provide significantly more protection for bike lane users, increase user level of comfort, and likely increase number of users willing to utilize the nonmotorized facility.



Figure 5-24. Example of a two-lane roadway with marked bicycle lanes
Source: Wade Trim

Physical Roadway Safety Enhancements – Physical roadway modifications designed to address safety issues/concerns. These modifications include lane width adjustments, use of break-away poles, sight-line improvements that improve safety, new intersection configurations, etc.

- Benefits*
- Reduces the potential for severe head-on and angle crashes*
 - Improves traffic flow on the more major road*
 - Utilizes the Safe Systems Approach in network design*

- Drawbacks*
- Increased travel times for minor road travelers*
 - Less intuitive turning movements*
 - In constricted locations, may be expensive to install*

Vehicular Safety Improvements - New vehicular safety features that improve vehicular handling during poor weather conditions, improve survivability/reduces severity of crashes on occupants, and other technological advancements that improve the safe operation of vehicles.

Functional Groupings – Technology

- Ease – High
- Cost – Low
- Effectiveness – Broad and Targeted

- Benefits*
- Automatic/built-in functions*
- Drawbacks*
- Often expensive*

According to data compiled by the Community & Environmental Defense Services, traffic calming techniques can be highly effective in reducing crashes on streets, with speed humps and tables being one of the most recognized and impactful methods for achieving this reduction. Figure 5-25 shows various estimates of crash reductions associated with various treatments.

Figure 5-26 shows a traffic calming measures applicability chart, representing a reference for the potential applicability of various traffic calming measures. The chart can be used as a First check when considering treatments and indicates the likelihood of its acceptability for various locations. It is important to note that the problem that is being addressed should be considered when evaluating the applicability of a particular traffic calming measure.

GENERAL CATEGORY	INDIVIDUAL COUNTERMEASURES	PRIMARY MEASURE OF EFFECTIVENESS	PERCENT REDUCTION		
			VOLUME	SPEED	CRASHES
Setting Safe Speed Limits	Setting Safe Speed Limits	Speed Reduction	-	-	-
Traffic Calming Strategies	Raised Crosswalks/ Raised Intersection	Speed Reduction	18 %*	20-25 %*	45 %
	Speed Humps/ Speed Tables	Speed Reduction	18-22 % 12 %	23 % Less than Speed Hump	13-40 % 45 %
	Road Diet	Speed Reduction	-	4-9 %	19-47 %
	Lane Narrowing/ Roadway Narrowing	Speed Reduction Volume Reduction	3 % 10 %	5-10 % 4 %	29 % -
	Corner Extensions/ Bump Outs	Speed Reduction	20 %	4-14 %	30 %
	Roundabouts/ Traffic Circles	Speed Reduction	5 %	11 %	28 %
	On Street Parking	Speed Reduction	See Road Diet	27-37 %	See Road Diet
	Decreased Turning Radii	Speed Reduction	10-20 %	20-50 %	Expected Decrease
	Street Trees	Speed Reduction	-	5-15 %	46 %
	Pedestrian Safety Islands	Speed Reduction	-	3-8 %	39-46 %
	Pedestrian Gateway Treatment	Speed Reduction	-	16-20 %	-
	Left-Turn Traffic Calming	Speed Reduction	-	17 %	18 %
Traffic Safety Interventions	Speed Trailers/ Real-Time Speed Signs	Speed Reduction	9 %	7 %	10 %
	Additional Speed Limit Signs	Speed Reduction	4 %	7 %	3 %
Coordinated Implementation Efforts	Enforcement	Speed Reduction	8 %	28 %	28 %

Figure 5-25. Traffic Calming Measure Applicability Chart
Source: Sources: Community & Environmental Defense Services,

TRAFFIC CALMING MEASURE	SEGMENT OR INTERSECTION	FUNCTIONAL CLASSIFICATION			STREET FUNCTION	
		THOROUGHFARE OR MAJOR	COLLECTOR OR RESIDENTIAL COLLECTOR	LOCAL OR LOCAL RESIDENTIAL	EMERGENCY ACCESS	TRANSIT ROUTE
Horizontal Deflection						
Chicane	Segment	1	5	5	3	3
Traffic Circle	Intersection	1	3	5	3	3
Small Modern & Mini-Roundabout	Intersection	3	3	5	5	5
Roundabout	Intersection	5	3	1	5	5
Vertical Deflection						
Speed Hump	Segment	1	5	5	1	3
Speed Table	Segment	3	5	5	1	3
Raised Crosswalk	Both	3	5	5	1	3
Raised Intersection	Intersection	3	5	5	3	3
Street Width Reduction						
Corner Extension/ Bump Out	Intersection	5	5	5	5	5
Choker	Segment	5	5	5	5	5
Median Island	Both	5	5	5	5	5
On-Street Parking	Segment	5	5	5	5	5
Road Diet	Both	5	5	3	5	5
Legend: 5 – traffic calming measure may be appropriate 3 – caution; traffic calming measure could be inappropriate 1 – traffic calming measure is likely inappropriate						

Figure 5-26. Traffic Calming Measure Applicability Chart

Source: FHWA Speed Management, <https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-3-part-1#3.1>

Recommendations - Safety and Operational Improvements

BELLEVILLE ROAD SPEED MANAGEMENT

Reduce Speed Limit from 45 Miles Per Hour to 35 Mile

Setting appropriate speed limits for all road users is a FHWA proven safety countermeasure for reducing fatalities and serious injuries on roadways. Lowering the speed limit has been found to reduce crashes and casualties on highways and in urban areas. As demonstrated in the before and after crash analysis, signal improvements implemented in 2014 showed an initial decline in crashes but have continued to rise over the years, indicating that more work needs to be done to reduce the impact and likelihood of crashes. Speed reduction also has important additional benefits that increase the quality of life for neighborhoods including facilitating bicycling and walking that have wider health benefits for society, a reduction in traffic noise, pollution, greenhouse gases, average fuel consumption and barrier effects. As discussed in the truck evaluation, speed reduction is a major change that will likely discourage cut through truck traffic along Belleville Road and to alternatively take Ecorse Road to the freeway interchanges. With recent changes to the way speed limits are set, there is more flexibility with allowing community input on speed limits. However, this change will need to be coordinated and supported by the Michigan State Police.



Figure 5-27. Belleville Road posted speed limit of 45 MPH for the length of the corridor
Source: Google Earth

Reduce Speed Limits on Unpaved Roads

Evaluate opportunities for improving safety on roadways in the township where speeding was identified as an issue by stakeholders. In particular, unpaved roads of unposted/posted speed limits of 55 mph were identified as should be analyzed for traffic and development patterns to determine whether speed limits can be lowered by 10 mph or more. These roads include:

- | | |
|---------------|----------------------|
| 1)Bak Road | 6)Hoeft Road |
| 2)Beck Road | 7)Martz Road |
| 3)Bog Road | 8)Martinsville Road |
| 4)Elwell Road | 9)Morton Taylor Road |
| 5)Fret Road | 10)Renton Road |

BELLEVILLE ROAD AND ECORSE ROAD - ROUNDABOUT

In 2010, Wade Trim conducted a traffic analysis study for alternative intersection designs at the Belleville Road and Ecorse Road. The first intersection improvement alternative examined included a two-lane roundabout and the second intersection improvement alternative examined included a boulevard concept. Both alternatives were estimated to improve safety and operations and to specifically address current and future engineering deficiencies at the intersection. Based on the results of the preliminary traffic engineering analyses, both the boulevard and roundabout alternatives were estimated to provide similar operational impacts with more safety benefits associated with the roundabout. At that time, both alternatives could accommodate existing as well as design year traffic at level of service B or better (meaning average control delays to drivers will be less than 20 seconds). A wide range engineering factors including right-of-way, utilities, drainage, maintaining traffic, and constructibility were examined for each alternative, but ultimately the boulevard was designed and constructed despite its cost being higher than a roundabout. As a crash pattern exists at the intersection, the dual lane roundabout has been reconsidered as part of this study as it provides additional safety improvements that are expected to significantly reduce the number of serious injury and fatal crashes. Roundabouts are one of FHWA's Proven Safety Countermeasures, and as roundabouts can effectively control vehicle speeds and significantly reduce crashes, it is part of the Safe System Approach to meet the Vision Zero policy of having no fatal and serious injury crashes. Roundabouts are designed to control motor vehicle speeds

throughout the roundabout, typically between 15 mph to 25 mph. Roundabouts also reduce vehicle conflict points and reduce the severity of crashes by eliminating cross-traffic collisions in favor of same-direction travel crashes. According to the Federal Highway Administration, safety performance is a primary consideration in supporting roundabout implementation. Highway Capacity Software analysis was conducted for a proposed dual lane roundabout at the intersection and found that it is expected to operate at level of service A for morning and afternoon peak hour conditions. Based on the operational and safety improvements that a roundabout will provide, it is recommended for consideration for a future roadway project. In addition to significant safety and operational benefits offered by the roundabouts for current and future users, the annual operating and maintenance costs of the signals as well as future replacement costs of the equipment will be eliminated with the roundabout alternative.

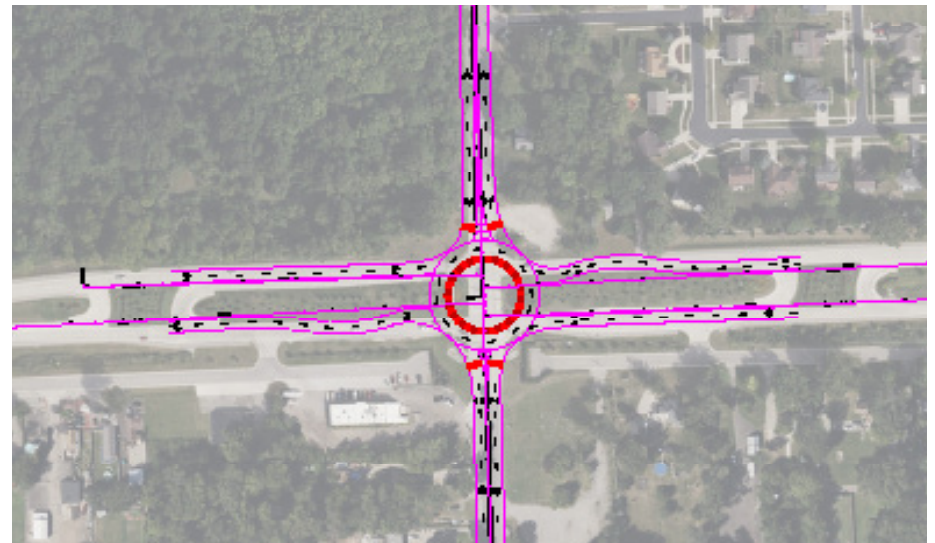


Figure 5-28. Belleville Road Roundabout
Source: Wade Trim

INSTALL TWO-WAY CENTER LEFT-TURN LANE

It is recommended that a two-way center left-turn lane be installed on Belleville Road in the sections where one currently does not exist. Two-way center left-turn lanes provide safety and operational benefits as they can be used by vehicles traveling in either direction to make a left-turn and allow slower moving turning traffic to be separated from higher speed through moving traffic. They can also reduce delay to through vehicles and can lead to a reduction in rear-end and sideswipe collisions, and provide spatial separation between opposing lanes of traffic, which can lead to a reduction in head-on collisions. They may also function as a lane for emergency

vehicles. Design plans are currently underway that include widening of Belleville Road from Ecorse Road to Tyler Road from a two-lane to three-lane cross section with a two-way center left-turn lane. From North of Ecorse Road to south of the railroad tracks, currently a four-lane section exists that is likely a candidate for a road diet to three lanes based on current traffic volumes. However, as development occurs in the township, there may be a need for additional turn lanes or through lanes in this section.

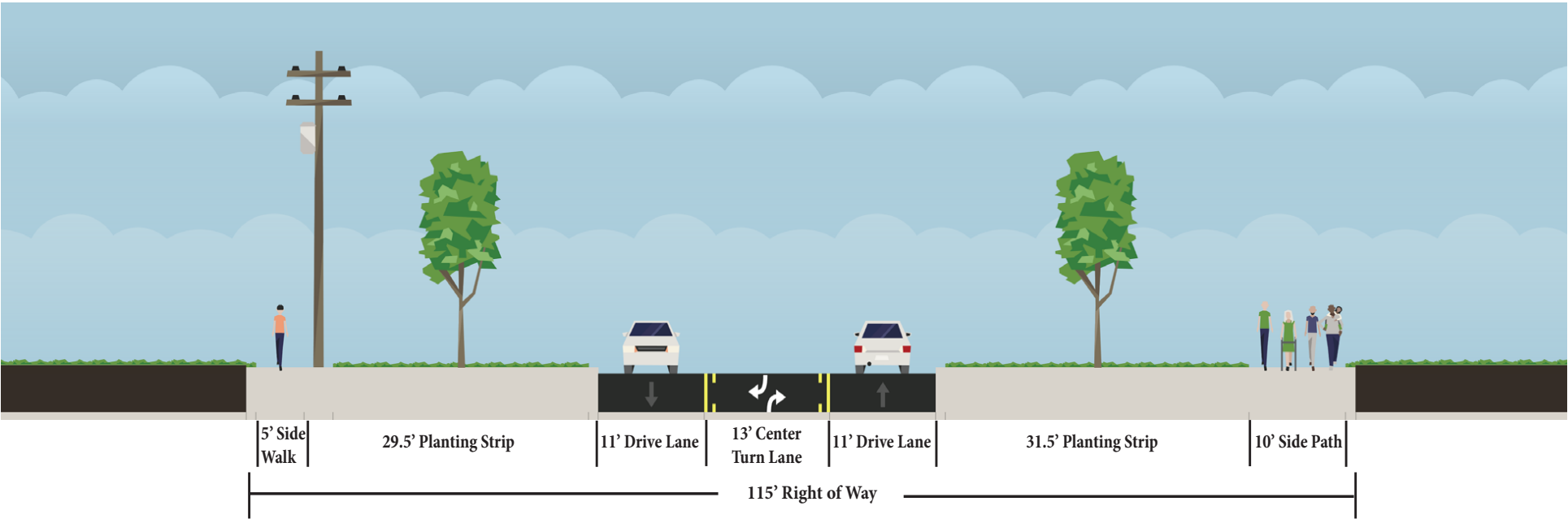


Figure 5-29. Section of proposed improvements on Belleville Road
Source: Wade Trim

**BELLEVILLE ROAD AND TYLER ROAD – REALIGNMENT
AND NB/SB LEFT-TURN PHASING**

A separate traffic safety and operational study was conducted due to concerns regarding the inadequate sight distance experienced for motorists viewing oncoming traffic while turning left from northbound Belleville Road onto westbound Tyler Road. The results of the sight distance evaluation confirmed that there is significantly insufficient amount of sight distance available to be able to safely make the turn from the northbound left-turn lane. In addition, there is a crash history of angle and head on left-turn crashes at the intersection that may be exacerbated as planned developments are built

and traffic volumes increase. Therefore, based on the results of the capacity analysis and the township’s focus on safe streets for all, it is recommended that two mitigation measures be implemented at the intersection. This includes realigning the north leg of Belleville Road at Tyler Road, as well as adding a protected left-turn phase in conjunction with the Belleville reconstruction project that is currently under design. The protected left-turn phase is expected to significantly improve safety while adding less than 10 seconds of delay and maintaining acceptable levels of service B and C during the AM and PM peak hours, respectively.



Figure 5-30. Northbound view of Tyler Road intersection with proposed realignment and addition of left-turn phasing
Source: Wade Trim

BELLEVILLE ROAD AND I-94 INTERCHANGE SHORT-TERM IMPROVEMENTS – GEOMETRIC AND OPERATIONAL IMPROVEMENTS

BELLEVILLE ROAD AND NORTH I-94 SERVICE DRIVE AND RAMP

As shown in Figure 5-31, it is recommended to install guide and lane use signs to distinguish between I-94 Service Roads and the freeway ramps, which are in very close proximity to each other and difficult to distinguish while driving. In addition, extending the left-turn phase to accommodate heavy turn movements and potentially adding an additional NB lane on I-94 interchange will increase capacity and reduce congestion at the interchange.



Figure 5-31. Installation of additional lane use and signage to provide clear direction
Source: Wade Trim



Figure 5-32. Proposed improvements at Northbound Belleville Road at the I-94 North Service Drive
Source: Wade Trim

BELLEVILLE ROAD AND SOUTH I-94 SERVICE DRIVE AND RAMP

Installation of a raised median in the core area between the ramp may be a quick build option to prevent left turn from trying to get into the far side ramp. Additionally, skip marks for dual left-turn lanes at the off ramp will help guide vehicles to the correct lanes on southbound Belleville Road. It can be seen on the off ramp that large trucks block the traffic signals, and installation of supplemental or low level near side signal will provide better sight visibility on the off ramp.



Figure 5-33. Installation of low level near side signals
Source: Wade Trim



Figure 5-35. Eliminate right turns onto ramp when pedestrians are present
Source: Wade Trim

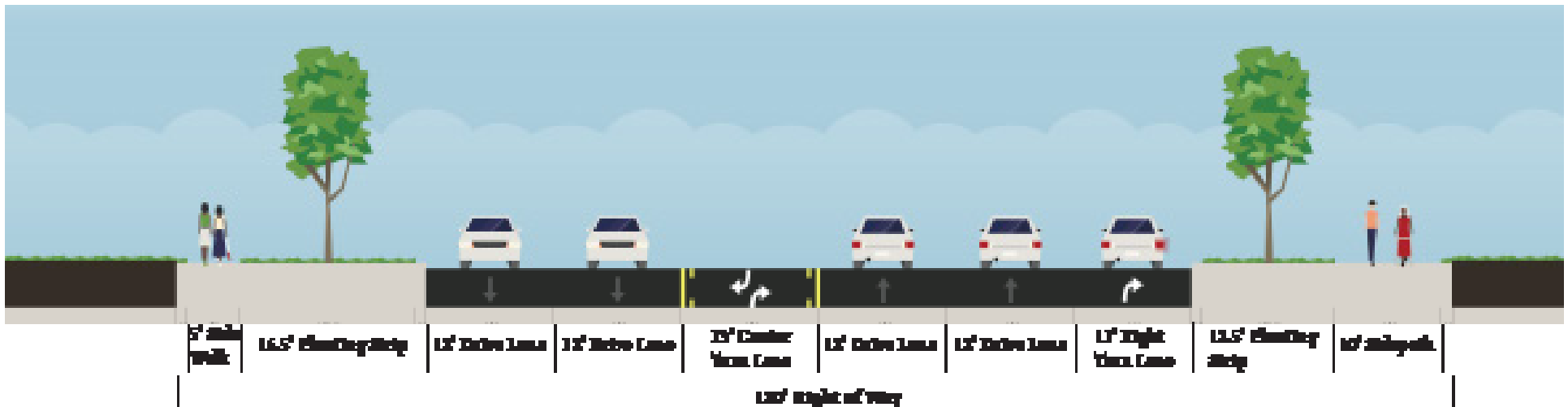


Figure 5-34. Belleville Road - South of S I-94 Service Drive
Source: Wade Trim

BELLEVILLE ROAD AND WESTLAKE CIRCLE – SIGNAL TIMING AND ACCESS ROAD CONNECTION

Another preliminary access management recommendation is to provide an access road and cross connections on the east side of Belleville road, behind the commercial parcels to take traffic off Belleville Road. A similar access road is provided for the businesses on the west side of Belleville Road and connect parcels to the North I-94 Service Drive. This technique will improve access management along the business district with high density of driveways along the corridor.

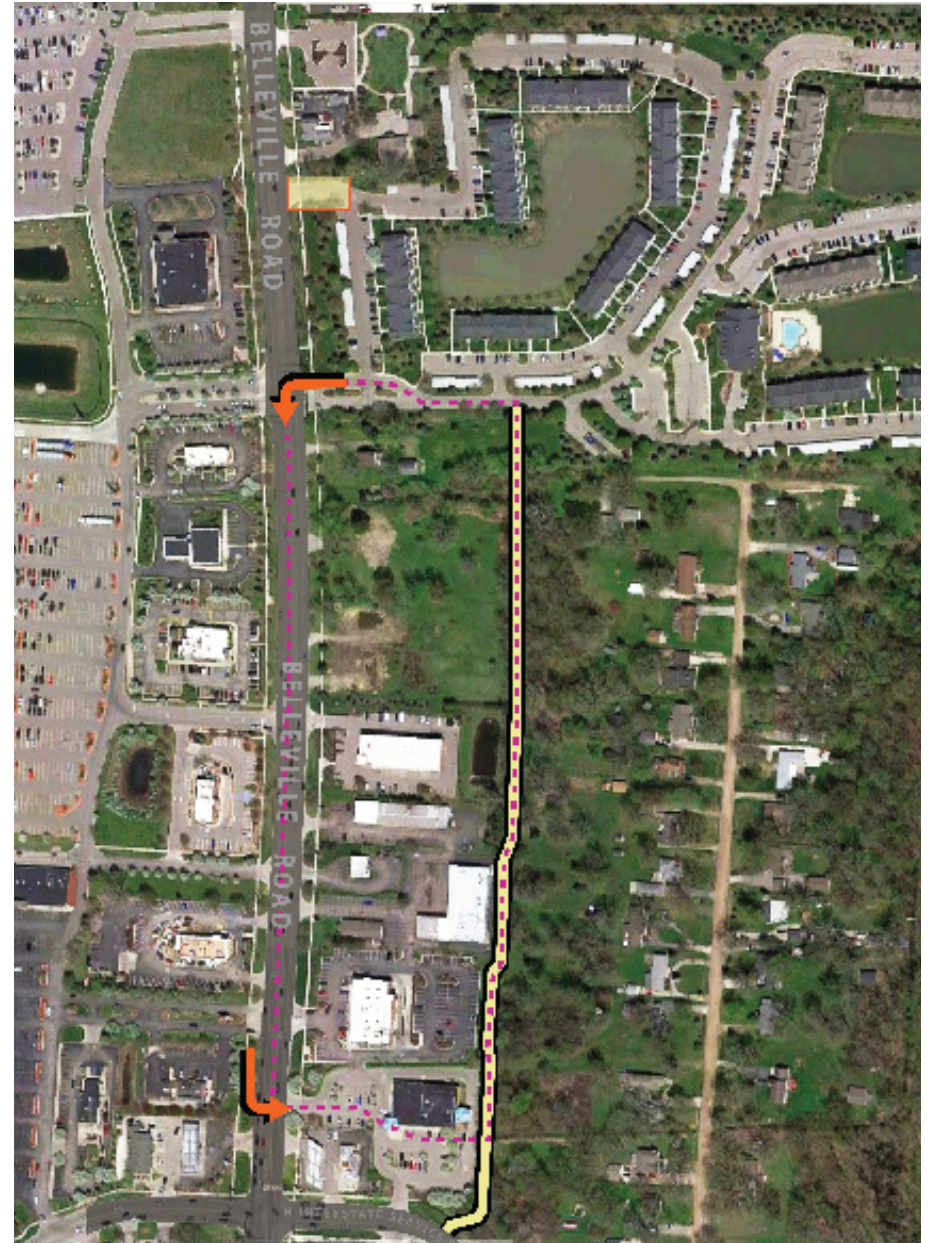


Figure 5-36. Belleville Road Access Road Connection
Source: Wade Trim

MICHIGAN AVENUE (US-12)/US-12 BR INTERSECTION

The safety analysis shows a significant crash pattern involving a predominance of rear end collisions on the southbound ramp from the US-12 BR to eastbound Michigan Avenue, which may be attributed to sight distance limitations at this signalized intersection. Several improvements are included as part of FHWA's Proven Safety Countermeasures for Roadside Design Improvements at Curves, where data indicates that on horizontal curves there is a higher risk for roadway departure fatalities and serious injuries. When vehicles leave the roadway, strategic roadside design elements are beneficial such as widened shoulders, flattened side slopes, and adequate clear zones. These can provide drivers with an opportunity to regain control and re-enter the roadway in their lane or come to a safe stop before rolling over or encountering a Fixed object.



Figure 5-37. Michigan Ave (US-12)/US-12 BR Intersection
Source: Google Earth

Recommendations include:

- Tracking or dashed pavement markings for guiding turns through the intersection.
- Flashing beacons on US-12 BR and Signal Ahead signs to let motorists be aware that there is a signal and may be stopped traffic ahead.
- Install additional lighting for improved visibility on the curve and at the intersection.
- Install additional lane use signs and turn arrow markings prior to the intersection.
- Widen roadway for inclusion of a right-turn lane at the southbound approach.
- Flatten the berm within the inside of the horizontal curve, which is currently creating a sight distance obstruction for motorists traveling on the curve.



Figure 5-38. Michigan Ave (US-12)/US-12 BR Intersection
Source: Google Earth

MICHIGAN AVENUE (US-12) AND DENTON ROAD

At the signalized intersection of Michigan Avenue (US-12) and Denton Road, there is a predominance of rear end collisions and a pattern of crashes occurring on westbound Michigan Avenue. Often rear end crashes can be attributed to congestion at signalized intersections.

Recommendations include:

- Install exclusive right-turn lanes at both the northbound and southbound approaches of Denton Road.
- Further study including traffic volumes and modeling to evaluate the need storage lengths for turning lane treatments, signal timings and clearance intervals.
- Install a minimum of one traffic signal head per approach lane.
- Add trees or landscaping in the wide median for narrowing the driver's Field of view, and encouraging them to drive more slowly.
- Relocate utility poles that do not meet clear zone requirements, which may potentially reduce the number of Fixed object collisions.
- Upgrade lighting for better navigation through the intersection.
- Connect gaps in the sidewalk network to improve connectivity; in particular, on the north side between the gas station and Amazon site. Include pedestrian countdown signals, high visibility crosswalks and advanced pedestrian warning signs.
- Consider installation of a wider shared-use path on the south side of Michigan Avenue.



Figure 5-39. Michigan Ave (US-12) and Denton Road Intersection
Source: Google Earth



Figure 5-40. Michigan Ave (US-12) and Denton Road Intersection
Source: Google Earth

ECORSE ROAD AND DENTON ROAD

The intersection of Ecorse Road and Denton Road is a high priority safety location where one Fatal and two Type A crashes as well as a pattern of angle crashes occurred during the study period. Currently, there are design deficiencies on Ecorse Road that are recommended to be corrected with geometric upgrades. The combination of stop control on the cross street with confusing bi-directional crossovers that don't provide enough room for vehicles to wait to cross through the median, makes it difficult to cross through the intersection. Shoulders do not exist and have contributed to the crashes noted by local police, who indicated that the lack of recovery area is a concern. In addition, crash reports noted speeding and driver confusion at major intersections/ closely spaced service drives.

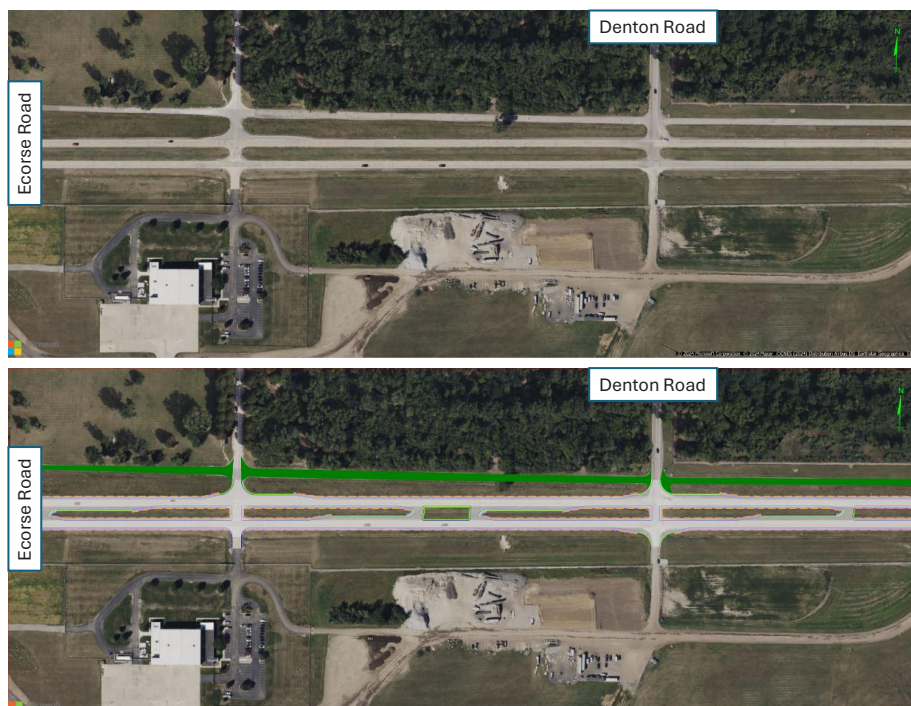


Figure 5-41. Proposed Michigan Left Turn at Ecorse Road and Denton Road
Source: Wade Trim

A proposed Michigan left-turn boulevard design is recommended that will include retaining the median and travel lanes on Ecorse Road, but will prohibit left-turn movements and redirect them to directional crossovers located adjacent to major intersections. The elimination of direct left-turns and bi-directional crossovers are a FHWA Proven Safety Countermeasure that will improve safety and operations by removing the left-turn movements from the major intersections and providing design continuity that will improve operations and safety throughout the corridor. Intermediate crossovers will be strategically located and spaced appropriately according to the MDOT design guides, with a minimum located adjacent to major roadways. Additional traffic counts and modeling are recommended to determine specific geometric details.

Additional recommendations include:

- Install exclusive right-turn lane at the westbound approach on Ecorse Road, which experienced a crash pattern of rear end collisions.
- Conduct further study including traffic volumes and modeling to evaluate the need storage lengths for turning lane treatments. A signal warrant study may be conducted to evaluate the need for a signal at the main intersection.
- Install adequate shoulders and safety edge, to provide a stable and clear recovery area.
- Add trees or landscaping in the wide median for narrowing the driver's Field of view, and encouraging them to drive more slowly.
- Remove the Ecorse Road Service Drive on the north side,

which no longer is used for connecting land uses.

- Relocate utility poles that do not meet clear zone requirements, which may potentially reduce the number of Fixed object collisions.
- Upgrade lighting for better navigation through the intersection.



Figure 5-42. Bi-directional crossover example on Ecorse Road, which is wide and difficult to navigate
Source: Google Earth

ECORSE ROAD/BECK ROAD INTERSECTION

The intersection of Ecorse Road and Beck Road is a high priority safety location where a pattern of angle crashes occurred during the study period. Currently, there are design deficiencies on Ecorse Road that are recommended to be corrected with geometric upgrades. The combination of stop control on the cross street with confusing bi-directional crossovers that don't provide enough room for vehicles to wait to cross through the median, makes it difficult to cross through the intersection. Similar to the Ecorse Road and Denton Road area, shoulders do not exist on Ecorse Road and have contributed to the crashes noted by local police, who indicated that the lack of recovery area is a concern. Similarly, crash reports noted speeding, driver confusion at major intersections/closely spaced service drives, as well as Fixed object collisions with utility poles. In particular, there is a recurring issue with vehicles crashing into the utility pole located in the median adjacent to the northbound stop sign.

A proposed Michigan left-turn boulevard design is recommended that will include retaining the median and travel lanes on Ecorse Road, but will prohibit left-turn movements and redirect them to directional crossovers located adjacent to major intersections. The boulevard design will provide continuity and improved operations with the Michigan left-turn design that begins just west of Belleville Road. The elimination of direct left-turns are a FHWA Proven Safety Countermeasure that will improve safety and operations by removing the left-turn movements from the major intersections and providing design continuity that will improve operations and safety

throughout the corridor. Intermediate crossovers will be strategically located and spaced appropriately according to the MDOT design guides, with a minimum located adjacent to major roadways. Additional traffic counts and modeling are recommended to determine specific geometric details.

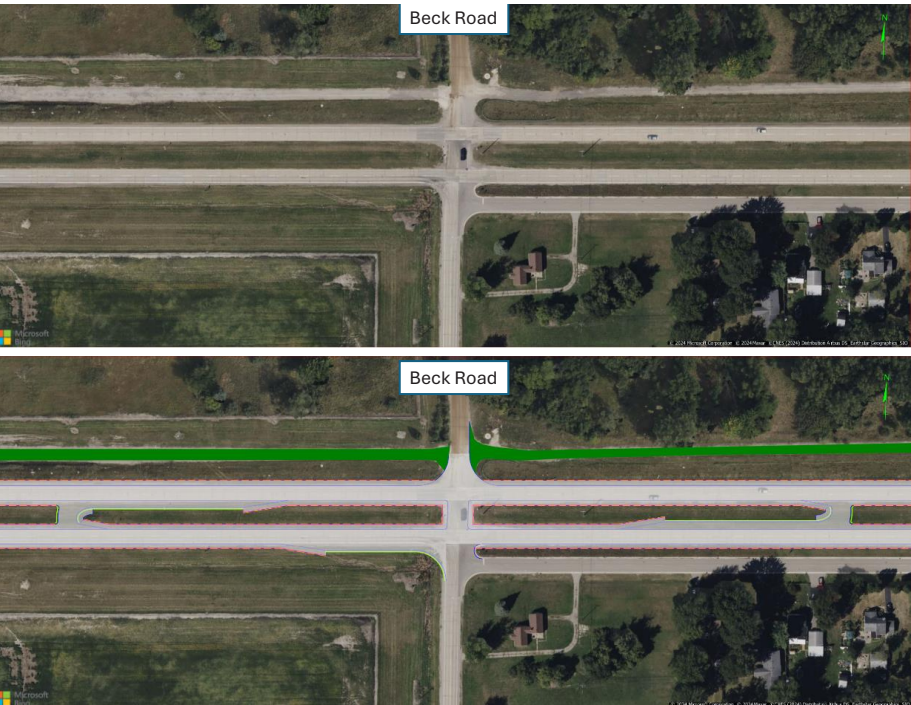


Figure 5-43. Proposed Michigan Left Turn at Ecorse Road and Beck Road
Source: Wade Trim

Additional recommendations include:

- Realign the north leg of Beck Road where the lanes are offset through the intersection.
- Add double stop signs on both sides of the road on the northbound approach of Beck Road, and replace the stop sign at South Service Drive with Do Not Block Intersection sign.
- Conduct further study including traffic volumes and modeling to evaluate the need storage lengths for turning lane treatments. A signal warrant study may be conducted to evaluate the need for a signal at the main intersection.
- Install exclusive right-turn lane at the eastbound approach on Ecorse Road, which appears to be a heavy turn movement.
- Install adequate shoulders and safety edge, to provide a stable and clear recovery area.
- Add trees or landscaping in the wide median for narrowing the driver’s Field of view, and encouraging them to drive more slowly.
- Remove the Ecorse Road Service Drive on the north side, which no longer is used for connecting land uses.
- Relocate utility poles that do not meet clear zone requirements, which may potentially reduce the number of Fixed object collisions.
- Upgrade lighting for better navigation through the intersection.

Signing and pavement marking upgrades are recommended to increase visibility of intersection control by adding dual Stop signs at northbound Beck Road approach. In accordance with MMUTCD guidance, it is recommended to replace the existing Stop sign at South Ecorse Service Road with Do Not Block Intersection sign as it is too close to the stop-control at the Beck Road approach.



Figure 5-44. Ecorse Road and Beck Road
Source: Google Earth

ECORSE ROAD/MORTON TAYLOR ROAD

A pattern of rear end crashes exists at the two-way stop-controlled intersection of Ecorse Road and Morton Taylor Road, with minor injuries and property damage only collisions. In order to improve safety by separating high speed through movements from lower speed turning movements, exclusive left-turn lanes with storage are recommended at the eastbound and westbound approaches on Ecorse Road. Traffic volumes would need to be further analyzed for turning lane treatment thresholds in accordance with MDOT Geometric Design Guidance. Intersection alignment and geometric evaluation will be required to accommodate any future signalization of the intersection. As land uses change in the area, additional in depth study may be necessary to determine the impacts of signalization on mitigating safety and operational issues.



Figure 5-45. Ecorse Road and Morton Taylor Road
Source: Wade Trim

ECORSE ROAD AND HAGGERTY ROAD

The intersection of Ecorse Road and Haggerty Road is a signalized high priority location that experiences nearly 30 percent of crashes resulting in injury to one or more of the occupants with four Type A injuries.

Recommendations include:

- Install exclusive right-turn lanes at all approaches of the intersection.
- Further study including traffic volumes and modeling to evaluate the need storage lengths for turning lane treatments, signal timings and clearance intervals.
- Relocate utility poles that do not meet clear zone requirements, which may potentially reduce the number of Fixed object collisions.
- Upgrade lighting for better navigation through the intersection.
- Connect gaps in the sidewalk network to improve connectivity; in particular, on the north side where intermittent sidewalks exist. Include pedestrian countdown signals, high visibility crosswalks and advanced pedestrian warning signs where connections are made.

Proper access management to the surrounding commercial development would enhance safety and significantly improve traffic operations. A detailed access management plan in the vicinity of the Ecorse Road and Haggerty Road intersection is recommended to provide a plan which includes retaining, modifying, adding, and



Figure 5- 46. Ecorse Road and Haggerty Road
Source: Wade Trim

removing driveways. The proposed driveway analysis plan would provide comprehensive approach to implementing access management techniques and principles to improve traffic operations and safety at the intersection, as well as providing other beneficial effects. It will achieve the primary goals and objectives of techniques and principles outlined in the Michigan Access Management Guidebook, including:

- Reducing crashes and improve safety
- Managing access at the intersection
- Identifying critical and problem areas that could be remedied

by application of access management techniques

- Maintaining or enhancing the existing character of the community
- Reducing travel time, delay, and future access-related congestion
- Reducing adverse environmental impacts, i.e., fuel consumption, air pollution, etc.

ECORSE ROAD/I-275 RAMPS

Several Type A crashes occurred at the signalized Ecorse Road and I-275 ramps within the study period, including head on left-turn and sideswipe crashes at both ramp entrances. Other predominant crash types involve angle and rear end collisions.

Recent improvements were implemented at the interchange ramp intersections with Ecorse Road as part of the Revive 275 project and included:

- New fully modernized traffic signals
- Sidewalk ramps and detectable warning surfaces upgraded to comply with current standards
- Upgraded pedestrian signals with countdown indications.



Figure 5-47. Ecorse Road and I-275 Metro Trail at the I-275 Ramps

Additionally, a separate MDOT scoping study for the I-275 Metro Trail recommends the following:

- Upgrade pavement markings on trail with current standards.
- Install pedestrian-scale lighting on both sides of the Ecorse Road crossing.

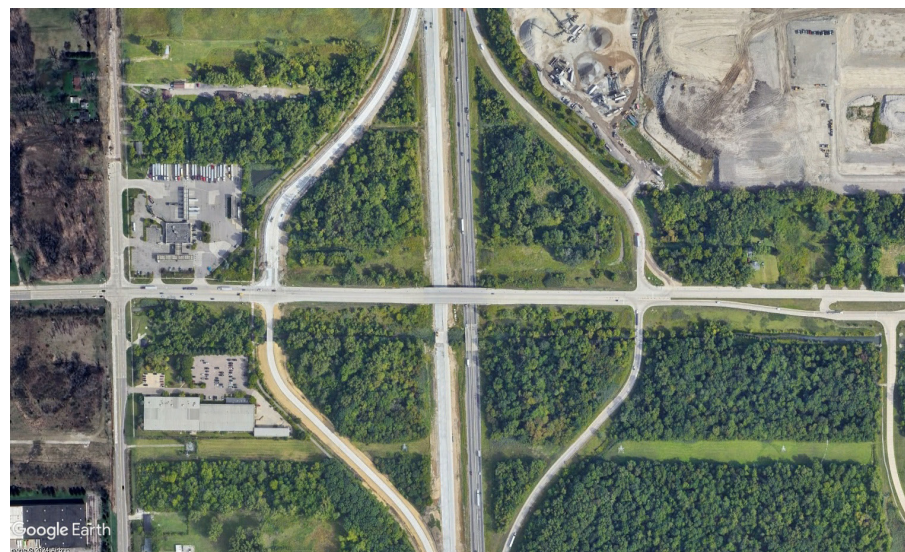


Figure 5-48. Ecorse Road and I-275 Metro Trail at the I-275 Ramps
Source: Google Earth

ECORSE ROAD/HANNAN ROAD

The history of angle and left-turn related crashes indicates that a capacity analysis should be conducted at the signalized intersection of Ecorse Road and Hannan Road to ensure the addition of a left-turn phase can be implemented while maintaining acceptable levels of service during peak hours. Near-term recommendations include signal modernization to a box span layout with the addition of left-turn phasing and backplates to enhance the contrast between the traffic signal and surrounding lighting conditions and may include a retroreflective strip around the perimeter of the backplate.

Long-term recommendations include extending the Ecorse Road boulevard through Hannan Road to the east and conducting an in-depth Access Management Study. Proper access management to the surrounding commercial development would enhance safety and significantly improve traffic operations. A detailed access management plan at the Morton Ecorse Road/Hannan Road intersection is recommended to provide a plan which includes retaining, modifying, adding, and removing driveways.



Figure 5-49. Ecorse Road and Hannan Road
Source: Google Earth

TYLER ROAD/HAGGERTY ROAD

At the signalized intersection of Tyler Road and Haggerty Road, a crash pattern related to rear end, angle, and left-turn related crashes was found. This may be attributed to the unusual shared through/left-turn lane uses found on northbound and southbound Haggerty Road, which creates an overlap zone within the intersection area where northbound and southbound left-turns occurring at the same time overlap and increases the potential for crashes.

Recommendations include the following:

- Signal modernization to a box span layout and backplates should be added to enhance the contrast between the traffic signal and surrounding lighting conditions and may include a retroreflective strip around the perimeter of the backplate.
- Geometric improvements are recommended with the addition of left-turn lanes at the northbound and southbound approaches in accordance with the MDOT Road Design Manual.
- It is recommended to evaluate the need for left turn phasing with a traffic safety and operational study. Based on the crash history, a need is indicated as there were severe injuries from Rear End and Angle crashes. The addition of countdown pedestrian signals at all crossings are recommended to remove left-turn conflict and enhance crosswalk safety and operations.



Figure 5-50. Tyler Road and Haggerty Road
Source: Google Earth

HAGGERTY ROAD/CURVE NORTH OF NORTH I-94 SERVICE DRIVE

Along the horizontal curve on Haggerty Road north of I-94, a crash pattern of run off the road, angle, rear end and dark condition collisions were reported during the study period. In addition, similar crash types occurred on the roadway segment just north of the curve on Haggerty Road, which includes a lane drop and short section of two-lane roadway less than 400 feet located between a four-lane cross section.

Several improvements are included as part of FHWA's Proven Safety Countermeasures for Roadside Design Improvements at Curves, where data indicates that on horizontal curves there is a higher risk for roadway departure fatalities and serious injuries. When vehicles leave the roadway, strategic roadside design elements are beneficial such as widened shoulders, flattened side slopes, and adequate clear zones. These can provide drivers with an opportunity to regain control and re-enter the roadway in their lane or come to a safe stop before rolling over or encountering a Fixed object.

Recommendations include:

- Additional lighting for improved visibility on the curve and at the intersection
- Signing upgrades to enhance safety with the addition of chevron signs to delineate the curve.
- Widening to carry two lanes along northbound Haggerty Road just north of the curve, which will eliminate the existing unexpected lane drop and reduces confusion to mitigate crashes in this area.

Signing upgrades are recommended to enhance safety with the addition of chevron signs to delineate the curve. By removing the existing lane drop along the curve, carrying two lanes along northbound Haggerty Road can help reduce confusion and mitigate crashes in this area.



Figure 5-51. Haggerty Road
Source: Google Earth

HAGGERTY ROAD/NORTH I-94 SERVICE DRIVE

The intersection of Haggerty Road and the north I-94 Service Drive is a signalized high priority location that experiences a predominance of rear end and angle crashes with one Type A injury.

Recommendations include:

- Add protected left-turn phasing for the northbound and southbound approaches based on crash history and preliminary safety operations.
- Left-turn lanes to be added to the eastbound and westbound approaches with additional evaluation for left-turn phasing.
- Modernization to a box span layout and add a minimum of one signal head per travel lane.
- Further study including traffic volumes and modeling to evaluate the need storage lengths for turning lane treatments, signal timings and clearance intervals.
- Upgrade lighting for better navigation through the intersection.
- Connect gaps in the sidewalk network to improve connectivity.
- Include pedestrian countdown signals, high visibility crosswalks and advanced pedestrian warning signs where connections are made.

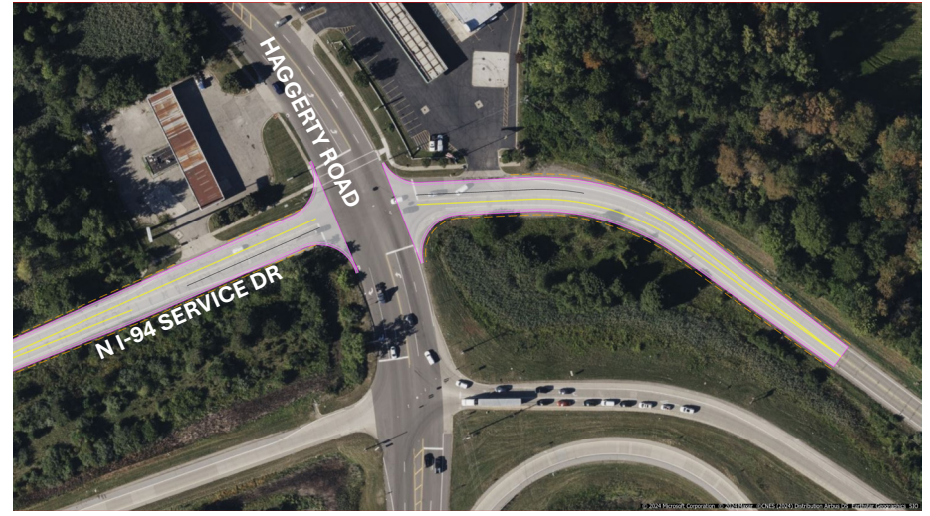


Figure 5-52. Haggerty Road & I-94 Service Drive
Source: Google Earth



Figure 5-53. Haggerty Road & I-94 Service Drive
Source: Google Earth

HAGGERTY ROAD/I-94 RAMPS

A ParClo interchange exists at Haggerty Road and I-94, where exit ramps are signalized. Congestion on the ramps contributed to the pattern of rear end and sideswipe same crashes. A Fatal angle crash was reported at the intersection; however, alcohol was a factor in the crash.

Recommendations include:

- Modernize signals to box span layout.
- Add signal backplates to improve visibility and based on speed.
- Further study including traffic volumes and modeling to evaluate the need storage lengths for turning lane treatments, signal timings and clearance intervals.
- Upgrade lighting for better navigation through the intersection.
- Connect gaps in the sidewalk network to improve connectivity.
- Long-term considerations include further study of potential interchange reconfiguration such as roundabouts or a Diverging Diamond interchange to increase capacity and eliminate the merge-weave conflict between the ramps.
- Evaluate potential improvements to provide a nonmotorized connection and route across the I-94 bridge.



Figure 5-54. Haggerty Road & I-94 Ramps
Source: Google Earth

HAGGERTY ROAD/SOUTH I-94 SERVICE DRIVE

The intersection of Haggerty Road and the South I-94 Service Drive is a two-way stop-controlled high priority location that experiences a high frequency of crashes per year, with an overrepresented percentage of injuries in more than 40 percent of the collisions. The extremely tight horizontal curvature on the I-94 South Service Drive contributes to the severely deficient sight distance at the intersection, which is necessary for motorists to gauge adequate gaps in traffic on Haggerty Road while crossing.



Figure 5-55. Haggerty Road & I-94 South Service Drive
Source: Wade Trim

Recommendations include:

- Fully signalize the intersection, which is warranted as it meets criteria justifying signalization per the MUTCD Crash Warrant.
- Along with signalization, further study including traffic volumes and modeling will be required to evaluate the need storage lengths for turning lane treatments, signal timings and clearance intervals.

- Upgrade lighting for better navigation through the intersection.
- Add a sidewalk network to improve connectivity.
- Include pedestrian countdown signals, high visibility crosswalks and advanced pedestrian warning signs.
- Signing and pavement marking upgrades including crosswalk enhancements should be implemented including chevron signing to delineate curves.
- Dual Stop signs with Cross Traffic Does Not Stop signs are recommended as a near-term improvement as well as the removal/maintenance of any brush that may inhibit sight distance.



Figure 5-56. Haggerty Road & I-94 South Service Drive
Source: Google Earth

HAGGERTY ROAD/HURON RIVER DRIVE

The intersection of Haggerty Road and Huron River Drive is a stop-controlled location with a red overhead flashing beacon that experiences a pattern of northbound rear end crashes on Haggerty Road.

Recommendations include:

- Re-stripe for turn lanes vs. two through lanes in each direction; align left-turn lanes directly across from each other.
- Modernize the overhead flashing beacon.
- Upgrade lighting for better navigation through the intersection.



Figure 5-57. Haggerty Road & Huron River Drive
Source: Google Earth

HAGGERTY ROAD/METRO PARKWAY & HURON RIVER DR

Haggerty Road/Metro Parkway & Huron River Drive is a signalized intersection located approximately 1/3-mile east of Haggerty Road and provides access to the Lower Huron Metropark, and experienced a number of head on left-turn crashes.

Recommendations include:

- Modernize the signal to include a box span configuration.
- Upgrade lighting for better navigation through the intersection.



Figure 5-58. Haggerty Road and Metro Parkway & Huron River Dr
Source: Google Earth

HANNAN ROAD/TYLER ROAD

The intersection of Hannan Road and Tyler Road is a stop-controlled intersection where the two legs of Tyler Road are offset from each other at a distance of less than 200 feet. A pattern of rear end crashes is present, with a majority occurring on northbound Hannan Road and the east leg of Tyler Road. On this east leg, sight distance is limited for motorists turning onto Hannan Road.

Recommendations include:

- Widening Hannan Road in the vicinity of the Tyler Road to include a two-way center left-turn lane.
- Evaluate the need for right-turn lanes on Hannan Road, and for separate turn lanes on the east leg of Tyler Road
- Increase the size of the east leg stop sign to 36 inches, relocate stop sign and stop bar approximately 10 feet closer for improved sight distance, and add a Stop Ahead sign in advance of the intersection.
- Upgrade lighting for better navigation through the intersection.



Figure 5-59. Hannan Road and Tyler Road
Source: Google Earth

HANNAN ROAD & I-94 SERVICE DR/NORTHLINE RD

Hannan Road at I-94 Service Drive/Northline Road is a signalized intersection that was recently improved in 2021-2022, which included the removal of medians and signalization. Since these improvements, there has been a pattern of rear end collisions, but no injuries have been reported.

Recommendations include:

- Continue to monitoring crashes post-improvement.
- Evaluate the need for left-turn phasing.
- As development increases, evaluate the need for right-turn lanes.



Figure 5-60. Hannan Road & I-94 Service Drive/Northline
Source: Google Earth

POLICY AND PROCESS CHANGES

To ensure that the foundational components of the Township’s transportation network support the Vision Zero goals, this Action Plan details the efforts to review both the existing transportation network and the current Township and County policies and processes that affect achieving Vision Zero.

First, an extensive review of the Township’s traffic data was completed to identify traffic safety concerns and appropriate mitigation and countermeasures for the Township and County. Recommendations have been developed to address changes necessary to correct existing issues with the Township’s transportation network, and they are detailed in the following section – STRATEGY AND PROJECT SELECTIONS.

The Action Plan’s traffic safety review served as the starting point for the analysis of the Township and County’s current policies, plans, guidelines and standards that impact traffic safety and the development of a traffic safety culture in the Township. The recommendations that developed out of our analysis will provide direction as to how to bring these documents and policies into alignment with SS4A goals and recommendations. These recommendations have included development of nonmotorized infrastructure, zoning and land use considerations, basic civil engineering standards, and traffic engineering and road design standards.

- These recommended policy and procedure modifications include:
- 1) Revising the Master Plan to identify a grade-separate local nonmotorized network for the Township that recognizes the high rates of speed along Township roads and the inappropriate nature of bike lanes for most users. To ensure future sidepath development, the Master Plan should illustrate the routes where sidepaths would be required for all developments and identify which side of the road would receive the sidepath improvement.
 - 2) Revise Zoning Ordinance to require the development of a side-path along all new development along all Township-identified sidepath corridors in the Master Plan, replacing the requirement for standard sidewalks.
 - 3) Revise Zoning Ordinance to require traffic calming measures be instituted on all new local streets that may be built by private developers in subdivisions.
 - 4) The Township Board of Trustees adopt a Complete Streets resolution so that all future Wayne County DPS – Roads Department and MDOT major road work will have to consider Complete Streets design during road projects.
 - 5) Add the implementation of the Action Plan as a category in the Township’s Capital Improvement Plan.
 - 6) Identify a Transportation Safety Czar for the Township who’s responsibility it is to ensure that the various implementation agencies are continuing to work on projects annually, prepares the annual public Van Buren Township Vision Zero Scorecard event during National Traffic Safety Week, and obtains the annual commitments from the Action Plan implementation agencies.

STRATEGY AND PROJECT SELECTION

To assist with the development of a safety culture in Van Buren Township and to provide a clear path forward toward Vision Zero, a tool kit has been developed that provides a comprehensive listing of strategies to address the traffic safety problems that have been identified in the Action Plan. This toolkit, found earlier in this chapter in the section titled SAFETY COUNTERMEASURES, lists out the safety countermeasures that maybe deployed to improve transportation network safety.

STRATEGY

To ensure the success of this Action Plan, an implementation strategy has been developed that will utilize the information from the SAFETY COUNTERMEASURES section to develop an implementation strategy. This strategy will include a prioritized listing of safety projects, education, enforcement, and capital improvements. Estimated costs and phasing with the highest priority safety projects and/or most equitable projects will be identified in this strategy. The strategy will also focus on selecting the Quick-Action and inexpensive projects First that will have the largest impacts on improving roadway safety. The combined strategy is to demonstratively show-case that improved traffic safety is possible and may be carried out in an equitable manner. This approach will help to build momentum for the entire breadth of transportation safety projects included within the Action Plan. With momentum and positive public opinion,

the strategy is then to turn the implementation attention onto longer range and move expensive safety countermeasures.

PROJECT SELECTION

This project selection lists out where and when the specific strategies may be deployed based upon feasibility and funding availability. The plan identifies several Quick-Build countermeasures that do not require significant time or funding to implement. These Quick-Build projects should be implemented as soon as possible as they will help to change the Township’s traffic safety culture while illustrating to Township leadership and residents some quick successes. To ensure ongoing impacts on longer range projects, the strategy will also identify appropriate capital improvement projects for inclusion into the Township’s Capital Improvement Plan.

The following project selection matrix will identify the timing and ease at which each recommendation may be accomplished. For more information on the Action Plan Vision Zero Traffic Safety tool kit, go to the SAFETY COUNTERMEASURES section.

LOW INTENSITY PROJECT	TIMING	DIFFICULTY	COST	IMPACT	SAFETY IMPACT
Install High Visibility Crosswalks & Warning Signs near schools and corridors exceeding 30 MPH	Quick-Build	Easy	Low	Vulnerable Population	Direct
Install High Friction Surface Spray Treatments	Quick-Build	Easy	Low	Focused Impact	Direct
Signal, signage, and lane marking improvements at intersections	Quick-Build	Easy	Low	Focused Impact	Direct
Real-time Speed Signs	Quick-Build	Easy	Low	Focused Impact	Direct
Signal Adjustments	Quick-Build	Easy	Low	Focused Im	Direct
Enforcement	Quick-Build	Easy	Low	Focused Impact	Direct
Safety Audits	Quick-Build	Easy	Low	Broad Impact	Direct
Reduce Belleville Road speed limit to 35 MPH	Quick-Build	Moderate	Low	Focused Impact	Direct
Context Appropriate Speed Limits	Quick-Build	Moderate	Low	Focused Impact	Direct
Insert Action Plan as a Capital Improvement Program category	Quick-Build	Easy	Low	Broad Impact	Direct & Indirect
Safe Routes to School (SR2S) program	Quick-Build	Moderate	Moderate	Vulnerable Population	Indirect & Direct
Install overhead lighting at intersections to improve contrast for pedestrian visibility	Quick-Build	Easy	Moderate	Focused Impact	Direct
Nonmotorized Network Gap Closure - within 1/2 mile of schools	Intermediate	Difficult	Moderate	Vulnerable Population	Direct
Utilize 6" pavement marking on all roadways and standardize lane widths	Quick-Build	Moderate	Moderate	Broad Impact	Direct

Figure 5-61. Low Intensity Projects

LOW INTENSITY PROJECT	TIMING	DIFFICULTY	COST	IMPACT	SAFETY IMPACT
Complete Access-management improvements along Belleville Road including access road	Quick-Build	Moderate	Moderate	Focused Impact	Direct
Conduct Traffic Calming Analysis to identify and plan for Township-wide traffic calming projects	Quick-Build	Moderate	Moderate	Focused Impact	Direct
Safe System Approach Leadership Training	Quick-Build	Easy	Low	Foundational Action	Indirect
Improve subdivision safety - 25 MPH max, all signage to meet MMUTCD signage standards	Quick-Build	Easy	Low	Broad Impact	Indirect
Improve Directional Signage at specific locations (Ecorse Rd, Haggerty & Huron River Dr)	Quick-Build	Easy	Low	Focused Impact	Indirect
Action Plan Implementation Coalition	Quick-Build	Easy	Low	Broad Impact	Indirect
Roadway User Training - Motorists and Nonmotorized Users	Quick-Build	Moderate	Low	Foundational Action	Indirect
Subdivision Interconnections	Quick-Build	Moderate	Moderate	Focused Impact	Indirect

Figure 5-61 cont. Low Intensity Projects

MODERATE INTENSITY PROJECT	TIMING	DIFFICULTY	COST	IMPACT	SAFETY IMPACT
Utilize crash data including SEMCOG High Priority Safety Locations to mitigate risk	Quick-Build Intermediate	Easy	Low to High	Focused Impact	Direct
Improved Segment/Intersection Lighting	Intermediate	Easy	Moderate	Focused Impact	Direct
Realign Belleville Road at North of Tyler Road intersection	Intermediate	Easy	Moderate	Focused Impact	Direct
Nonmotorized Network Enhancements	Intermediate	Easy	Moderate	Focused Impact	Direct
Traffic Signal Safety Enhancements	Intermediate	Moderate	Moderate	Focused Impact	Direct
Traffic Signal Warrants at monitored intersections	Intermediate	Moderate	Moderate	Focused Impact	Direct
Nonmotorized Network Gap Closure - Township wide Connect Wayne County Community College to I-275 Metro Trail	Intermediate	Difficult	Moderate	Broad Impact	Direct
Institute Traffic Calming implementation program	Intermediate	Easy to Difficult	Low to High	Focused Impact	Direct
Widen Shoulders along all non-residential only local roads	Intermediate	Moderate	High	Focused Impact	Direct
Ecorse Rd and Belleville Road Roundabout	Intermediate	Moderate	High	Focused Impact	Direct
Nonmotorized Network Gap Closure - Install Tyler Road sidepath from Beck Road to Wayne County Community College - Replace eastern sidewalk on Belleville Road between North I-94 SD and Tyler Road with 10' Sidepath - Replace eastern sidewalk on Belleville Road between North I-94 SD and Tyler Road with 10' Sidepath - Install sidepath along Belleville Road from S. I-94 Service Drive to Belleville Lake bridge	Intermediate	Difficult	High	Broad Impact	Direct

Figure 5-62. Moderate Intensity Projects

HIGH INTENSITY PROJECT	TIMING	DIFFICULTY	COST	IMPACT	SAFETY IMPACT
Redefine gravel roads to consistent cross-section	Long-term	Easy	Moderate to High	Focused Impact	Direct
Pave existing gravel roads	Long-term	Moderate	High	Focused Impact	Direct
Intersection Reconstruction (Belleville & I-94, Haggerty & I-94, Ecorse & I-275, Denton & Michigan Ave/US-12)	Long-term	Difficult	High	Focused Impact	Direct
Fully Develop a Complete Streets-compliant Nonmotorized Network	Long-term	Difficult	High	Focused Impact	Direct & Indirect

Figure 5-63. High Intensity Projects

PROGRESS AND TRANSPARENCY

Key to success of the Safe Van Buren Roads and Streets Action Plan is that this Action Plan will have a measurable impact on the Township’s local transportation safety culture while accomplishing a significant decline in fatalities and serious injury accidents over the term of the plan. To ensure success towards achieving Vision Zero in the future without petering out, the Action Plan recommends a simple annual metric to illustrate success towards meeting the Action Plan’s goals.

For simplicity, an annual scorecard – the Van Buren Township Vision Zero Scorecard – will state the number of fatalities and serious injuries occurring within the last reporting cycle while comparing these results with past years. This scorecard will be a clear-cut and straightforward way for the Township and its partners to track success towards reaching the Action Plan’s stated Vision Zero goal.

The Action Plan recommends that the Van Buren Township Vision Zero Scorecard will be released at an annual event during National Traffic Safety Week. All of the Action Plan participants will be invited to participate including the Van Buren Township Board of Trustees, Van Buren Township DDA Board of Directors, Van Buren Township Police Department, Wayne County Department of Public Services – Roads Division, active transportation support groups, and the general public. To support joint accountability for all of the organizations tasked with Action Plan implementation steps, the scorecard’s annual results will be reported by all members of the stakeholders group at this standing annual event. Each of the organizations will be asked to renew their commitment towards accomplishing

the Plan’s Vision Zero goals and identify transportation safety steps that they’ll be taking in the coming year.

To ensure ongoing project visibility and transparency, the Action Plan will be posted on the Township’s website, and each of the participating organizations will also be requested to post links to the Action Plan from their websites.

Transparency during the development of the Action Plan has been vitally important as community engagement and acceptance are keys to the long-term success of this effort. The Action Plan was developed in an open public process. Stakeholder groups were invited to participate in the Steering Committee, which met monthly. A public nonmotorized transportation survey was held that identified interests in the Township’s active transportation network and challenges that current users faced. This information supported the Findings of the analysis portion of the report.

All of this analysis information was shared with the stakeholders, and the draft Action Plan was posted on the Township’s website. Once adopted by the Township Board, the Action Plan will be posted on the Township’s website with links from several pages. The annual Van Buren Township Vision Zero Scorecards will also be posted on the website, and stakeholder organizations will be asked to add links to the annual scorecards as well. These proactive steps will ensure the onward relevance of the Safe Van Buren Roads and Streets Action Plan until the goal of halving fatalities and serious injuries is achieved by 2035.

1.0 GENERAL FUNDING APPROACH

In the pursuit of funding to support the priorities and initiatives in the Safe Streets 4 All Action Plan, a comprehensive approach is needed to identify and position for federal and state grants. A key step is to engage in the federal aid process for federal funding. In Wayne County, the process for securing federal transportation funding involves collaboration between local agencies and the Southeastern Michigan Council of Governments (SEMCOG). SEMCOG serves as the Metropolitan Planning Organization (MPO) for the region, coordinating transportation planning and funding allocation.

Once projects are prioritized, short-term priorities and eligible projects should be submitted for consideration by the Wayne County Federal Aid Committee. This should occur annually. The Committee selects projects for inclusion in the Transportation Improvement Program (TIP), which is a multi-year list of specific transportation projects scheduled for funding. Each surface transportation project using federal funding must be listed in the TIP before the federal government will obligate funds for it.

Major, long-term priorities should be submitted for inclusion in the SEMCOG Regional Transportation Plan (RTP), which outlines transportation priorities and strategies for Southeast Michigan. This plan

identifies and analyzes the region’s transportation needs, creating a framework for project priorities and is a key step in positioning for major funding opportunities.

Inclusion of the Township’s priority projects in the TIP and RTP is essential to positioning for federal formula funding available through MDOT and SEMCOG. However, it can also be helpful when competing for competitive grant funding. Indicating a project’s contribution or alignment with regional long-range plans has a beneficial impact on a project’s overall competitiveness.

2.0 FUNDING SOURCES

This section summarizes funding sources for projects identified as part of the Van Buren Township Safe Streets for All Action Plan. Our grant review focuses on identifying federal and state grant funding, as well as Financing options available to the Township to implement these projects. It is important to note that several of the opportunities listed in this report reflect the status of funding agencies at a point in time and are subject to change in the future.

**2.1 MDOT/SEMCOG TRANSPORTATION
ALTERNATIVES FUNDING**

2.1.1 Agency

Michigan Department of Transportation (MDOT), Southeast Michigan Council of Governments (SEMCOG)

2.1.2 Program Summary

The Transportation Alternatives Program (TAP), administered by the Southeast Michigan Council of Governments (SEMCOG), provides funding to support a variety of community-based transportation projects. This program focuses on enhancing pedestrian and bicycle infrastructure, improving access to public transportation, and supporting environmental mitigation efforts.

Eligible projects include the construction of sidewalks, bike lanes, multi-use trails, and streetscape improvements that make non-motorized travel safer and more accessible. TAP aims to create more sustainable, accessible, and aesthetically appealing communities, enhancing the quality of life for residents and promoting healthier lifestyles.

2.1.3 Annual Funding Available

The TAP program allocated approximately \$5.6 million in funding for Fiscal Years 2023-2025, and additional funding is available for 2024-2026.

2.1.4 Typical Funding Range

The typical funding range for projects varies. Awards can range from smaller grants around \$170,000 to larger grants exceeding \$1.6 million.

2.1.5 Eligible Projects/Uses

Eligible TAP projects include a variety of smaller-scale transportation improvements that enhance non-motorized mobility and safety. Typical project types include:

- Pedestrian bicycle facilities
- Recreational trails
- Streetscape improvements
- Environmental mitigation

These projects typically align with broader regional priorities like safety, transportation equity, and promoting sustainable infrastructure.

2.1.6 Compliance Considerations

TAP compliance considerations include adhering to federal and state environmental regulations, such as National Environmental Policy Act (NEPA) review and Americans with Disabilities Act (ADA) standards to ensure accessibility, especially for pedestrian pathways and public spaces. All projects must follow federal procurement processes, including competitive bidding and cost documentation, to ensure transparency and accountability. Ensuring alignment with regional transportation and safety plans, such as SEMCOG’s Bicycle and Pedestrian Mobility Plan, is also critical for compliance.

2.1.7 Analysis

TAP supports transportation safety projects that improve mobility, safety, and accessibility while enhancing Michigan’s natural and

cultural environment. TAP is ideally suited for projects that align with community-driven, non-motorized transportation needs, particularly those that encourage safer, healthier, and more accessible travel options beyond traditional roadways.

Projects that match well with TAP include non-motorized pathways and pedestrian infrastructure improvements, such as the development of sidewalks, bike lanes, and multi-use trails. These initiatives support active transportation, reduce pedestrian-vehicle conflicts, and promote safer walking and cycling routes. TAP projects often target areas with a high need for connectivity, providing safe routes for pedestrians, bicyclists, and transit users while reducing motorized traffic impacts on vulnerable road users.

**2.2 SAFE STREETS AND ROADS FOR ALL (SS4A)
GRANT PROGRAM - IMPLEMENTATION GRANTS**

2.2.1 Agency

U.S. Department of Transportation (USDOT)

2.2.2 Program Summary

The Safe Streets and Roads for All (SS4A) Program, administered by the U.S. Department of Transportation (USDOT), aims to support local initiatives that prevent roadway fatalities and serious injuries. This program offers grant funding to local, regional, and tribal entities to develop comprehensive safety action plans and implement strategies to make streets safer for all road users, including pedes-

trians, cyclists, and drivers.

The SS4A program prioritizes Vision Zero goals, focusing on reducing traffic deaths and severe injuries through systemic changes, infrastructure improvements, and community engagement.

2.2.3 Annual Funding Available

The program has an annual funding availability of up to \$1 billion per year over the course of Five years, from 2022 to 2026.

2.2.4 Typical Funding Range

The typical funding range varies depending on the type of grant:

- Planning Grants: \$200,000 to \$1 million.
- Implementation Grants: \$5 million to \$50 million

These grants are aimed at both developing comprehensive safety action plans and implementing projects that enhance roadway safety.

2.2.5 Eligible Projects/Uses

Eligible projects vary depending on whether the grant is for planning or implementation:

Planning Grants

- Safety action plans
- High-risk area analysis
- Stakeholder engagement related to safety planning

- Workshop outreach of roadway safety
- Identifying strategies to improve road safety both short-term and long-term

Implementation Grants

- Constructing or upgrading infrastructure
- Implementing traffic calming measures
- Enhancing signage, lighting, and signals
- Deploying advanced technologies
- Improving safe access for vulnerable road users
- Educational campaigns and safety enforcement programs

Both grants are focused on systemic changes aimed at significantly reducing road fatalities and injuries through coordinated and data-driven approaches.

2.2.6 Compliance Considerations

Recipients must adhere to federal guidelines, including environmental reviews under the National Environmental Policy Act (NEPA), Title VI of the Civil Rights Act, and Buy America provisions for infrastructure projects. Projects must also align with Vision Zero or similar safety goals aimed at reducing roadway fatalities. Applicants are also required to provide regular progress reports and ensure transparency and accountability in the use of funds, following standard federal grant reporting and performance metrics.

2.2.7 Analysis

Communities that successfully complete SS4A Action Plans have an edge competing for implementation grants to enhance road safety and reduce traffic fatalities. However, SS4A has become a very competitive program. To increase competitiveness, it is recommended to identify partnerships with neighboring communities, counties, or with regional planning partners like SEMCOG to submit joint applications.

The application effort can be demanding, requiring detailed data collection, analysis of accident and safety trends, and a clearly articulated safety improvement plan. The administrative effort, post-award, involves coordinating with multiple stakeholders, managing timelines, and tracking measurable outcomes—a significant undertaking, especially for smaller communities with limited staff.

2.3 REBUILDING AMERICAN INFRASTRUCTURE WITH SUSTAINABILITY AND EQUITY

2.3.1 Agency

U.S. Department of Transportation (USDOT)

2.3.2 Program Summary

The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program is a federal program designed to fund critical transportation and infrastructure projects across the United States. RAISE prioritizes projects that promote sustainability, enhance safety, and advance economic competitiveness. This program specifically aims to support infrastructure improvements in underserved communities to provide equitable access to transportation resources.

A key component of RAISE is its emphasis on environmental and economic sustainability. Projects funded through the program are encouraged to incorporate green practices, such as reduced emissions and increased energy efficiency, and must align with broader climate goals. Additionally, RAISE funding promotes job creation, regional economic development, and improved quality of life by addressing transportation gaps and barriers to accessibility.

2.3.3 Annual Funding Available

The program has an annual funding availability of up to \$1.5 billion per year over the course of Five years, from 2022 to 2026.

2.3.4 Typical Funding Range

The program has a grant maximum of \$25 million. Applicants must provide a 20 percent non-federal match unless the project is in a disadvantaged area.

2.3.5 Eligible Projects/Uses

Eligible activities include the following types of capital projects, which all fall under program authorization for other USDOT transportation programs:

- Highway or bridges
- Public transportation
- Passenger and freight rail transportation
- Intermodal projects
- Projects to replace or rehabilitate a culvert or prevent stormwater runoff for the purpose of improving habitat for aquatic species while advancing the goals of the RAISE program

2.3.6 Compliance Considerations

Recipients must adhere to federal guidelines, including environmental reviews under the National Environmental Policy Act (NEPA), Davis-Bacon Prevailing Wage, Title VI of the Civil Rights Act, and Buy America provisions for infrastructure projects. Applicants are also required to provide regular progress reports and ensure transparency and accountability in the use of funds, following standard federal grant reporting and performance metrics.

2.3.7 Analysis

RAISE grants provide critical funding for transformative infrastructure projects that prioritize sustainability and equity. The program measures projects in seven areas of merit criteria:

- Safety
- Environmental Sustainability
- Quality of Life
- Economic Competitiveness and Opportunity
- State of Good Repair
- Innovation
- Partnership and Collaboration

The application process demands a substantial effort, requiring detailed project plans that align with federal objectives and demonstrate potential benefits in sustainability and equity. Further, the program requires completion of a Benefit-Cost Analysis to quantify monetary benefits exceed the project costs. This level of detail often necessitates advanced data analysis, technical expertise, and close collaboration among various stakeholders, posing a challenge for smaller or resource-limited municipalities.

Van Buren Township and the DDA have applied for this program previously, submitting the Belleville Road widening between Tyler and Ecorse Roads in 2024. Planning or implementation for improvements to Ecorse Road may be a good application, although it should be noted that the County would need to be a stronger partner in the project application.

2.4 CARBON REDUCTION PROGRAM/CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENTS PROGRAM (CRP/CMAQ)

2.4.1 Agency

Southeast Michigan Council of Governments (SEMCOG)

2.4.2 Program Summary

SEMCOG currently issues a combined call for projects for the Carbon Reduction and Congestion Mitigation Programs. These programs combined aim to reduce congestion and vehicle emissions to improve air quality throughout Southeast Michigan. The program typically issues calls for inclusion on regional project lists three years ahead of funding availability.

Carbon Reduction Program

The Carbon Reduction Program, established by the Bipartisan Infrastructure Law, provides \$6.4 billion in funding over Five years to help states reduce transportation-related carbon emissions. This program is administered by the Federal Highway Administration and supports strategies such as improving traffic management, expanding public transit, enhancing pedestrian infrastructure, and promoting alternative fuels and port electrification.

Projects must be consistent with the state’s carbon reduction strategy in collaboration with metropolitan planning organizations. The funding is distributed through formula grants, allowing states flexibility in project selection.

Congestion Mitigation and Air Quality Program

The Congestion Mitigation and Air Quality (CMAQ) Program is a federal initiative designed to support transportation projects that reduce congestion and improve air quality in regions that do not meet or are struggling to maintain federal air quality standards. Funded by the FHWA, the program targets areas with high levels of air pollutants such as ozone, carbon monoxide, and particulate matter, helping them comply with the Clean Air Act requirements.

CMAQ funding is often directed toward innovative strategies such as improving public transportation, promoting alternative fuel use, implementing traffic flow improvements, and encouraging non-motorized transportation like biking and walking. By addressing both traffic congestion and emissions, the CMAQ Program contributes to sustainable urban development and healthier communities.

2.4.3 Annual Funding Available

The Carbon Reduction Program provides \$6.4 billion in funding over Five years, which averages about \$1.2 billion annually for distribution to states. The CMAQ program provides approximately \$2.6 billion annually and is authorized through FY 2026. Each state received funding based on formula allocation, which allows flexibility in selecting eligible projects aligned with carbon reduction strategies. SEMCOG receives approximately \$10 million in Carbon Reduction Program and \$25 million in CMAQ funds annually.

2.4.4 Typical Funding Range

Most Carbon Reduction Program awards through SEMCOG are below \$1 million and typically require a 20 percent matching commitment. CMAQ awards for surface transportation improvements are generally below \$3 million. Higher amounts are awarded for transit improvements such as bus replacement.

2.4.5 Eligible Projects/Uses

Eligible project work types in SEMCOG’s Carbon Reduction Program include:

- Lighting improvements that achieve energy efficiency
- Signals/ITS optimization
- Alternative fuels infrastructure
- Non-motorized/pedestrian improvements
- Intersection improvements
- Roundabouts

CMAQ awards for surface transportation projects are typically focused on traffic signal optimization or Intelligent Transportation Systems (ITS) but does include funding for roundabouts or additions of turn-lanes.

2.4.6 Compliance Considerations

Grant recipients must provide data on expected and actual carbon emissions reductions resulting from funded projects. This often involves baseline assessments, setting reduction targets, and ongoing

monitoring to measure the effectiveness of emissions reductions. Projects must comply with applicable federal laws and regulations, including environmental policies (e.g., the National Environmental Policy Act), labor laws, and Buy America requirements for material sourcing.

2.4.7 Analysis

Both the Carbon Reduction Program and CMAQ align with many of the project or project components listed in the SS4A Action Plan. Since Van Buren Township is not an eligible Act 51 recipient, it will be important to work with Wayne County to submit eligible projects for consideration for funding.

**2.5 HIGHWAY INFRASTRUCTURE PROJECTS
COMMUNITY PROJECT FUNDING**

2.5.1 Agency

US Department of Transportation (via US Congress Appropriation)

2.5.2 Program Summary

The Highway Improvement Program (HIP) allocates targeted Financial resources for specific highway and infrastructure projects. These funds are typically distributed to projects that address safety improvements, increase roadway efficiency, and reduce congestion. The program prioritizes projects with significant community benefits, including enhancements to transportation accessibility, economic growth potential, and environmental sustainability.

Funding for the HIP Community Project Funding Account is allocated through the annual federal appropriations process, with Congress earmarking a portion of the budget specifically for community-focused highway projects. Although projects are appropriated through congressional action, they must still meet federal criteria for funding and is subject to applicable federal requirements.

2.5.3 Annual Funding Available

Funding for the HIP program varies each year, typically totaling between 1-2 percent of the federal-aid fund. In FY 2024, nearly \$1.9 billion in HIP awards were included in the budget.

2.5.4 Typical Funding Range

The typical funding range for the program can range from as low as \$500,000 to as high as \$10 million dollars. Most project awards are in the \$1 million range. A 20 percent non-federal match is typically required.

2.5.5 Eligible Projects/Uses

Eligible project uses for the HIP program are capital projects eligible under title 23 of the USC. This section allows funding to support a broad range of projects aimed at improving transportation infrastructure, including construction, reconstruction, rehabilitation, and preservation of highways, bridges, and tunnels. Additionally, it supports projects that enhance traffic flow, improve safety, and reduce congestion, as well as those that promote environmental sustainability, like bicycle and pedestrian infrastructure and air quality improvements.

The section also permits funds to be used for projects on both federal-aid highways and some locally significant roads, providing flexibility to address state and local transportation priorities. Eligible activities include public transportation projects, intelligent transportation systems, and projects that support alternative transportation, like electric vehicle charging infrastructure.

2.5.6 Compliance Considerations

The program requires recipients to adhere to a range of federal compliance activities, primarily covering environmental review, wage requirements, civil rights protections, and domestic material sourcing. Environmental reviews are mandated under the National Environmental Policy Act (NEPA) to assess any potential impacts a project might have on the natural and built environment. These reviews can vary in complexity, from simpler categorical exclusions for low-impact projects to extensive Environmental Impact Statements (EIS) for projects with significant effects.

Davis-Bacon Act prevailing wage standards also apply, as well as civil rights protections. Additionally, the Buy America provisions require the use of domestically sourced steel, iron, and manufactured goods in construction.

2.5.7 Analysis

HIP awards are obtained through the congressional appropriations process through Senate and House Representative offices. Although the Township is not an eligible Act 51 agency, it is eligible to accept

HIP funding according to federal law. Requests are typically solicited each spring for consideration in the following Fiscal Year federal budget.

2.6 MICHIGAN ENHANCEMENT/CRITICAL INFRASTRUCTURE GRANTS

2.6.1 Agency

Michigan Strategic Fund (via Michigan Legislative Appropriation)

2.6.2 Program Summary

Existing in one form or another since the FY 2018 State budget, these grants are typically highly dependent on the amount of excess revenue available for appropriation by the State Legislature. Although it is anticipated that state revenues will be much lower than in past future budget years, these grant opportunities are likely to continue.

2.6.3 Annual Funding Available

Funding varies by year, depending on levels of state general fund revenue. Approximately \$750 million was included in the FY 2025 budget for these grants.

2.6.4 Typical Funding Range

Recent grants have averaged \$3.4 million, grants range from \$100,000 to \$20 million

2.6.5 Eligible Projects/Uses

A wide variety of local initiatives are funded through these appropriations, including transportation, safety, and economic development projects.

2.6.6 Compliance Considerations

Compliance requirements are relatively low in comparison to federal funding. Grantees must enter a grant agreement with the Michigan Strategic Fund, which is administered by the Michigan Economic Development Corporation.

2.6.7 Analysis

These grants, which are budget earmarks, are subject to appropriation in the Michigan state budget as submitted by State Representatives and Senators annually. These grants are typically awarded to projects that promote economic development, infrastructure improvements, public safety, community revitalization, and other public interest initiatives. Once awarded, grants are administered by the Michigan Strategic Fund and/or Michigan Economic Development Corporation.

Michigan Enhancement Grants can be very useful for local governments as they are awarded outside of competitive grant processes. These grants are directly allocated by legislators, often bypassing the more generalized funding programs. To position for a grant, extensive communication with legislators needs to take place providing information on the proposed project and how it will positively

impact residents and constituents of the legislature. It is also important to acknowledge that these grants can be impacted by politics in Lansing and locally, regardless of the merits of the project. If a community or local leaders do not have a good relationship with state legislators, earmark funding is less likely to come to fruition. Further, the ability to secure this funding often depends on a legislator’s position on key committees or a position on other issues.

2.7 SAFE ROUTES TO SCHOOL GRANT (MINOR & MAJOR)

2.7.1 Agency

Michigan Department of Transportation (MDOT)

2.7.2 Program Summary

The Michigan Safe Routes to School (SRTS) program offers mini-grants and major grants to help communities create safer, more accessible paths for children walking or biking to school. The mini-grant program provides smaller amounts of funding, typically used for non-infrastructure activities such as educational programs, traffic safety campaigns, and walk-to-school events that encourage safe practices and community engagement around student transportation. These grants are ideal for schools and communities looking to promote safety awareness with a quick, low-cost intervention. The major-grant program, in contrast, supports larger infrastructure projects that address physical improvements along school routes. This may include the installation of sidewalks, crosswalks, bike

lanes, and other modifications designed to reduce traffic hazards and improve accessibility. The major grants require a more comprehensive application process and extensive collaboration between school district and local government.

2.7.3 Annual Funding Available

Funding is determined on an annual basis by a federally-defined funding formula based on student enrollments.

2.7.4 Typical Funding Range

Mini-grants, which supports SRTS programming, provides grants up to \$120,000 at a maximum of \$15,000 per involved school. The SRTS major grant program can provide up to \$300,000 in infrastructure funds.

2.7.5 Eligible Projects/Uses

SRTS funding may be used for the planning, design, and construction of infrastructure-related projects that will substantially improve the ability of students to walk and bicycle to school, including sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, secure bicycle parking facilities, and traffic diversion improvements in the vicinity of schools.

2.7.6 Compliance Considerations

Compliance considerations for the program include ensuring that funded projects align with the program’s goal of promoting safe and

accessible walking and biking routes for students. Grant recipients must adhere to federal and state regulations, such as the Americans with Disabilities Act (ADA), and any local ordinances or school district policies related to safety improvements. Projects must also include an educational or community outreach component to engage students, parents, and the broader community in promoting active transportation and safety. Regular reporting on project progress and outcomes is typically required.

2.7.7 Analysis

The SRTS program can be a great opportunity to implement small projects in proximity to schools and neighborhoods. However, common challenges associated with the program are allocation of school district resources as part of the planning process and high administrative and reporting burdens during implementation. Further, there is limited overlap between projects identified in the SS4A Action Plan and school areas. Participation in the program should consider commitment on behalf of Van Buren Public Schools leadership and technical support available from the local government.

2.8 MDOT TRANSPORTATION ECONOMIC DEVELOPMENT FUND - CATEGORY C (URBAN CONGESTION RELIEF)

2.8.1 Agency

Michigan Department of Transportation (MDOT)

2.8.2 Program Summary

MDOT Transportation Economic Development Fund (TEDF) Category C funding supports transportation projects that alleviate traffic congestion, enhance safety, and improve road conditions in heavily populated urban areas. Projects must address congestion on high-traffic roads, specifically county primary or city major streets eligible for federal aid, and include improvements such as additional travel lanes, left-turn lanes, intersections, or advanced traffic systems. Funding covers typical highway construction costs, excluding routine maintenance, and requires a 20 percent local match. Funds are distributed using a formula established in legislation, with project proposals reviewed by Metropolitan Planning Organizations and administered by the Michigan Department of Transportation.

2.8.3 Annual Funding Available

Funding varies each year by legislative appropriation, but \$5.5 million was awarded for Category C projects in FY 2023.

2.8.4 Typical Funding Range

The typical funding range for grants ranges between \$1 million and \$2.5 million. Grants. For infrastructure projects, larger awards (often between \$1 million and \$3 million) are common, while smaller

amounts are typically allocated for planning or technical assistance projects.

2.8.5 Eligible Projects/Uses

Projects eligible for Category C funding must meet one of the following three objectives:

- Improve the operational level of service in heavily congested areas.
- Reduce the accident rate on heavily congested roadways.
- Improve the surface and base condition of heavily congested roadways

2.8.6 Compliance Considerations

As state funding, the program does not include federal requirements, unless the project is also utilizing another source of federal funding. Grant recipients are still required to maintain detailed records of project expenditures, progress reports, and outcomes to demonstrate compliance with grant terms and facilitate audits, if needed.

2.8.7 Analysis

This program would be ideal for projects providing a capacity enhancement to address safety issues such as addition of turn-lanes or widening. The Belleville Road projects between Tyler and Ecorse is already slated to receive TEDF Category C funding, so inclusion of future projects within the Township may not occur immediately.

2.9 MDOT TRANSPORTATION ECONOMIC DEVELOPMENT FUND - CATEGORY A (ECONOMIC DEVELOPMENT)

2.9.1 Agency

Michigan Department of Transportation (MDOT)

2.9.2 Program Summary

The Transportation Economic Development Fund (TEDF) Category A grant program was established to create a funding mechanism to respond quickly to immediate and non-speculative economic development opportunities. Category A grants are used to make transportation investments that are integral to the establishment, retention, and expansion of companies that attract visitors, are natural resource based, or can most easily locate anywhere in the world.

2.9.3 Annual Funding Available

Approximately \$10 million is available each year for TEDF Category A grants, depending on appropriations by the state legislature.

2.9.4 Typical Funding Range

The typical funding range for the program can range from as low as \$250,000 to as high as \$5 million. Grants have a 20 percent matching requirement and higher percentages of match can help competitiveness.

2.9.5 Eligible Projects/Uses

Eligible transportation improvements are fairly broad, but must relate or contribute to an immediate, non-speculative economic

development project. Key metrics in evaluating projects are job creation and how closely the project supports the applicable industry. Eligible industries include:

- High technology research
- Manufacturing
- Medical research/medical tourism
- Office centers of not less than 50,000 square feet

2.9.6 Compliance Considerations

Projects funded by TEDF Category A must follow the MDOT local agency review process. The program does not include federal requirements, unless the project is also utilizing another source of federal funding. Grant recipients are required to maintain detailed records of project expenditures, progress reports, and outcomes to demonstrate compliance with grant terms and facilitate audits, if needed.

The MDOT Office of Economic Development does conduct reviews of the company or entities supported by the grant to verify private investment and job creation occurs as projected in the grant agreement.

2.9.7 Analysis

Although this program does not prioritize transportation safety, several of the projects listed in the Van Buren Township SS4A Action Plan may support future economic development projects, especially

associated with the Detroit Region Aerotropolis. These projects can demonstrate shared safety and economic development benefits to better move commerce and employees in the region and Van Buren Township.

2.10 EDA PUBLIC WORKS AND ECONOMIC ADJUSTMENT ASSISTANCE PROGRAMS

2.10.1 Agency

U.S. Economic Development Administration

2.10.2 Program Summary

The Economic Adjustment Assistance (EAA) Program from the U.S. Economic Development Administration (EDA) provides flexible funding to help communities recover from economic shocks or address persistent economic challenges. The program supports projects that foster economic growth, including public infrastructure, planning, and technical assistance.

EAA funding can be used to implement strategies that promote job creation, diversification, and long-term economic sustainability, particularly in regions impacted by job losses or declining industries. It’s often utilized by communities seeking to address sudden changes in economic conditions or long-term structural adjustments.

2.10.3 Annual Funding Available

The EAA Program’s annual funding amount varies. Depending on

the federal budget and the specific appropriations allocated to the EDA for that Fiscal year, typically, the EDA receives several hundred million dollars annually, a portion of which is designated for specially for the program.

2.10.4 Typical Funding Range

The typical funding range for the program can range from as low as \$100,000 to as high as several million dollars. For infrastructure projects, larger awards (often between \$1 million and \$3 million) are common, while smaller amounts are typically allocated for planning or technical assistance projects.

2.10.5 Eligible Projects/Uses

Eligible project uses for the EAA program are designed to support economic recovery and long-term economic stability in communities experiencing economic distress. Common eligible uses include:

- Public infrastructure
- Planning
- Technical assistance
- Workforce development
- Entrepreneurship and business support
- Economic diversification
- Disaster recovery

The project must align with the program’s goals of fostering economic resilience, supporting job creation, and helping communities

adapt to changing economic conditions.

2.10.6 Compliance Considerations

Recipients must comply with various federal regulations, particularly the Uniform Administrative Requirements, Cost Principles, and Audit Requirements under 2 C.F.R. part 200, with updated guidelines from October 2024 taking precedence if conflicts arise. Additional compliance with Title VI of the Civil Rights Act and Section 504 of the Rehabilitation Act is mandatory, ensuring non-discrimination based on race, color, national origin, or disability.

The DOC’s Pre-Award Notification Requirements also apply, providing details on terms and expectations before the award is Finalized. Post-award, recipients are required to submit regular Financial, performance, and impact reports, typically semi-annually. This data includes job creation, investment attraction, and development metrics, often collected through surveys and specific EDA forms.

2.10.7 Analysis

Although this program does not prioritize transportation safety, several of the projects listed in the Van Buren Township SS4A Action Plan may support future economic development projects, especially associated with the Detroit Region Aerotropolis. These projects can demonstrate shared safety and economic development benefits to better move commerce and employees in the region and Van Buren Township.

2.11 SMART (STRENGTHENING MOBILITY AND REVOLUTIONIZING TRANSPORTATION) GRANTS PROGRAM

2.11.1 Agency

U.S. Department of Transportation (USDOT)

2.11.2 Program Summary

The Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program, administered by the U.S. Department of Transportation (USDOT), provides funding to support projects that use advanced technologies to improve transportation systems. This program focuses on integrating innovative solutions such as automation, connectivity, and artificial intelligence into transportation networks to enhance safety, efficiency, and accessibility.

Eligible applicants include state, local, and tribal governments, transit agencies, and metropolitan planning organizations. The program aims to create smart infrastructure that can adapt to emerging challenges and improve the overall mobility experience for all users.

2.11.3 Annual Funding Available

The SMART program provides up to \$100 million annually in funding for transportation projects that utilize advanced technologies.

2.11.4 Typical Funding Range

The typical funding range for projects under the program is between \$250,000 and \$2 million per project.

2.11.5 Eligible Projects/Uses

Examples of eligible projects under the SMART program include:

- Coordinated automation
- Connected vehicles
- Intelligent, sensor-based infrastructure
- Systems integration
- Smart traffic signals
- Commercial delivery and logistics
- Innovative aviation technologies
- Smart grid infrastructure

2.11.6 Compliance Considerations

Compliance considerations for the SMART Grants Program include adhering to federal procurement standards, environmental reviews, and data privacy/security regulations. Recipients must submit regular progress and Financial reports, ensure compliance with civil rights laws (Title VI, ADA), and potentially meet Buy America requirements. The program does have significant data monitoring and reporting requirements on the performance of project activities, including a Final program assessment and report. Projects are subject to audits and monitoring to ensure proper use of funds.

2.11.7 Analysis

Although not applicable to any specific projects or priorities in the SS4A Action Plan, the SMART grant program offers opportunities to implement advanced technologies, such as connected and au-

tomated vehicles, smart infrastructure, and data-driven mobility systems.

However, the program’s competitiveness and limited funding means that only a fraction of applicants will secure funding. Implementing advanced technologies requires significant upfront planning, possibly including partnerships with tech companies and infrastructure upgrades that can be costly and complex.

2.12 SEMCOG PLANNING ASSISTANCE PROGRAM

2.12.1 Agency

Southeast Michigan Council of Governments (SEMCOG)

2.12.2 Program Summary

The Planning Assistance Program, administered by Southeast Michigan Council of Governments (SEMCOG), offers Financial support to its member communities for planning projects that address regional priorities such as economic development, transportation, environmental protection, and public safety.

The program aims to enhance local planning efforts that align with SEMCOG’s goals, encouraging collaborative approaches to tackle infrastructure and growth challenges. Funding provided by the program helps municipalities and other eligible entities create plans, conduct studies, and develop strategies to improve long-term sustainability and quality of life in Southeast Michigan.

2.12.3 Annual Funding Available

The program’s funding typically has an annual availability of \$300,000. This funding is allocated to support planning initiatives that advance SEMCOG’s regional priorities, with the aim of assisting member communities in improving infrastructure, environmental, and economic outcomes across Southeast Michigan.

2.12.4 Typical Funding Range

The typical funding range for projects under the program is between \$10,000 and \$4,000 per project. This range allows for flexibility to supporting smaller studies to more comprehensive projects that align with SEMCOG’s regional goals. The program does have a minimum local match level of 18.15 percent.

2.12.5 Eligible Projects/Uses

Eligible projects for the Planning Assistance Program cover a wide range of planning activities that align with regional priorities. These include:

- Comprehensive planning
- Transportation planning
- Environmental sustainability
- Economic development
- Public safety and emergency planning

These projects are intended to enhance municipal planning efforts, ensuring that local initiatives align with broader regional and sustainability goals.

2.12.6 Compliance Considerations

This program has relatively light compliance requirements, generally limited to regular reporting. Grants over \$25,000 must follow MDOT procurement requirements for consultant selection.

2.12.7 Analysis

This funding source was utilized to supplement the corridor study and analysis for Belleville Road as part of the Township’s SS4A Action Plan. Future applications may be helpful to advance additional studies, preliminary planning, or design work to advance project readiness for funding opportunities.

2.13 RALPH C. WILSON, JR. LEGACY DESIGN & ACCESS FUND

2.13.1 Agency

Community Foundation for Southeast Michigan

2.13.2 Program Summary

The Ralph C. Wilson, Jr. Legacy Funds, administered by the Community Foundation for Southeast Michigan (CFSM), supports a range of initiatives aimed at improving the quality of life in Southeast Michigan and beyond. These funds focus on four main areas: caregiving, design and access, youth sports, and workforce development.

Grants are awarded to projects that align with the legacy of Ralph C. Wilson, Jr., emphasizing long-term impact, sustainability, and regional improvement. Nonprofits and organizations can apply for funding to support innovative programs that address these focus areas, promoting positive change in the community.

2.13.3 Annual Funding Available

The annual funding available through the Ralph C. Wilson, Jr. Legacy Funds varies depending on the specific focus area, but in total, approximately \$60 million has been committed to Southeast Michigan and Western New York over a 20-year period.

2.13.4 Typical Funding Range

Grants generally fall within the range of \$10,000 to \$50,000, aimed at improving public spaces, trails, and parks, enhancing access and connectivity for communities.

2.13.5 Eligible Projects/Uses

Supports the improvement of public spaces, trails, and parks, enhancing access and connectivity for communities.

2.13.6 Compliance Considerations

Grant reporting and compliance requirements are relatively light, typically including regular and Final reporting to achieve reimbursement.

2.13.7 Analysis

The Ralph Wilson Design and Access Fund can help fund start up planning and design for active transportation projects. If projects also contribute to broad, regional active transportation initiatives, support from the main Ralph Wilson Foundation for implementation is possible.

**2.14 MICHIGAN SHARED STREETS AND SPACES
GRANT PROGRAM (SSSG)**

2.14.1 Agency

Michigan Department of Transportation (MDOT)

2.14.2 Program Summary

The State Street Support Grant (SSSG) Program, administered by the Michigan Department of Transportation (MDOT), provides funding aimed at supporting state trunkline improvements in Michigan’s downtown and commercial core areas. A new program opened in 2024, the grant is designed to assist with projects that enhance streetscapes, encourage economic development, and promote pedestrian and vehicular safety.

Eligible projects typically include upgrades to infrastructure, such as sidewalks, lighting, and other enhancements that create a more welcoming and accessible environment in these vital areas. The program seeks to foster sustainable and vibrant communities throughout the state.

2.14.3 Annual Funding Available

The SSSG program is a newer program, First authorized in 2023. Grants have been appropriated for the program’s FY 2024 and 2025 funding at \$3 million in the First two years of the program.

2.14.4 Typical Funding Range

The maximum grant amount for this program is \$200,000. This al-

lows for flexibility in supporting a variety of infrastructure and street-scape improvement projects that align with the program’s goals of enhancing safety, accessibility, and economic vitality in downtown and commercial core areas.

2.14.5 Eligible Projects/Uses

Eligible projects include a variety of infrastructure and streetscape improvements aimed at enhancing downtown and commercial core areas. These include:

- Sidewalk and crosswalk improvements for better pedestrian safety and accessibility
- Installation or upgrades of street lighting to enhance visibility and security
- Landscaping and beautification efforts
- Improvements to drainage, utilities, and street pavement within the project scope
- Accessibility enhancements
- Installation of street furniture and other amenities

Project should focus on to improving both safety and the appeal of key areas, promoting economic development and creating more pedestrian-friendly environments.

2.14.6 Compliance Considerations

This program has very light administrative requirements, although most projects funded through this program are paired with feder-

al requirements that can increase administrative and compliance efforts.

2.14.7 Analysis

Funding appropriated for the program has been expended to date, so it remains to be seen if additional funds will be appropriated as part of future budgets.

2.15 ACTIVITIES TRANSPORTATION INFRASTRUCTURE INVESTMENT PROGRAM (ATIIP)

2.15.1 Agency

U.S. Department of Transportation (USDOT)

2.15.2 Program Summary

Established under the Bipartisan Infrastructure Law, ATIIP provides competitive grants to support the planning, design, and construction of safe, connected, and active transportation networks. These projects aim to enhance infrastructure for pedestrians, bicyclists, and other non-motorized modes of transport, improving access to public transportation, safety, and environmental sustainability.

2.15.3 Annual Funding Available

Total funding through USDOT for this program is \$200 million for active transportation networks and the enhancement of safety and connectivity in non-motorized modes of transportation.

2.15.4 Typical Funding Range

Funding ranges from \$100,000 to \$15 million, with a federal cost share of up to 80 percent, or 100 percent in high-poverty areas.

2.15.5 Eligible Projects/Uses

Eligible projects include planning and designing, and constructing safe, connected, and active transportation networks. Projects may focus on the following:

- Pedestrians
- Bicyclists
- Non-motorized transportation infrastructure

Projects must aim to improve safety, access to public transportation, and connectivity in communities while supporting environmental and economic sustainability efforts.

2.15.6 Compliance Considerations

This is a reimbursement grant program. Recipients are required to complete semi-annual progress reports and participate in FHWA project evaluations and data collection. This includes being evaluated by a third-party evaluator. There are also program specific reporting criteria that includes evaluation of safety improvements, how equity was promoted through the project, and quantifying the number of people engaged in walking and bicycling.

All awards must be administered pursuant to the Uniform Administrative Requirements, Cost Principles and Audit Requirements for

Federal Awards found in 2 CFR Part 200, as adopted by DOT at 2 CFR Part 1201. Build America, Buy America Act (BABAA) domestic material preferences apply under this program.

2.15.7 Analysis

As a nationwide competition, this program is extremely competitive, so it is important to ensure projects are a strong Fit with the grant merit criteria before applying. It also has very significant data reporting and administrative requirements relative to federal programs that should be considered prior to applying.

2.16 STATE INFRASTRUCTURE BANK

2.16.1 Agency

State Infrastructure Bank

2.16.2 Program Summary

The State Infrastructure Bank (SIB) Program, administered by the Michigan Department of Transportation (MDOT), offers low-interest loans to municipalities, counties, and other transportation agencies for transportation-related projects. The program provides flexible Financing to support various infrastructure improvements, such as roadways, bridges, transit systems, and other transportation facilities.

By offering favorable terms and expedited access to funding, the SIB Program helps local governments address critical infrastructure needs, enabling projects to move forward that may otherwise face funding delays. Eligible borrowers can benefit from these loans to enhance the safety, efficiency, and longevity of their transportation systems.

2.16.3 Annual Funding Available

The State Infrastructure Bank was capitalized in the late 1990s with a \$10 million federal grant. Availability of funding depends on outstanding debt and available assets.

2.16.4 Typical Funding Range

There is no minimum loan amount. Due to capital restrictions, Financing will generally not exceed \$2 million. MDOT will work with

applicants to identify other Financing sources for larger projects. The level of State Infrastructure Bank participation in proposed projects will be determined on a case-by-case basis. The maximum repayment term is 25 years with no minimum term.

2.16.5 Eligible Projects/Uses

- Highway road improvements
- Transit systems
- Bicycle and pedestrian facilities
- Transportation safety projects
- Infrastructure support for economic development
- Local and state transportation infrastructure

2.16.6 Compliance Considerations

Since the SIB program was developed utilizing federal funding, many federal requirements apply. Some of the applicable state and Federal laws, rules, and regulations include:

- National Environmental Policy Act (NEPA)
- Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970
- Civil Rights Act of 1964, including the Disadvantaged Business Enterprise program
- Davis-Bacon Act and state prevailing wage laws
- Common Rule with respect to procurement (Title 49 Code of Federal Regulations)

- Brooks Act (Public Law 92-582)
- Competitive bidding requirements as contained in state and Federal law
- Buy America
- Manual of Uniform Traffic Control Devices
- Americans with Disabilities Act (ADA)

2.16.7 Analysis

The SIB program is meant to be a source of short-term Financing or layer of debt as part of a larger project capital stack. Due to the small size of Michigan’s capitalization, loans are limited in size. It is not broadly applicable across projects but can be useful if short-term borrowing is necessitated by a project’s schedule.

2.17 CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (CRISI) PROGRAM

2.17.1 Agency

U.S. Department of Transportation (USDOT)

2.17.2 Program Summary

The Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program, administered by the U.S. Department of Transportation, provides funding to enhance the safety, efficiency, and reliability of intercity passenger and freight rail systems. This program supports a wide range of projects, including the deployment of innovative technologies, track and station upgrades, signal and communication enhancements, and grade cross safety improvements.

This program also prioritizes projects that reduce congestion, enhance multimodal connections, and address trail infrastructure needs in rural areas. Eligible applicants include public agencies, private companies, and transportation authorities.

2.17.3 Annual Funding Available

The annual funding for this program varies by Fiscal year. In Fiscal Year 2023, the program was authorized to provide up to \$1.43 billion in funding. The actual funding available may fluctuate each year depending on appropriations from Congress.

2.17.4 Typical Funding Range

There is no set minimum or maximum funding amount, and the

actual award size depends on available funds. Funding ranges can vary widely based on the scope and scale of the project. Awards can range from several million dollars for smaller, more localized projects, or to tens of millions of dollars for larger, more complex projects.

2.17.5 Eligible Projects/Uses

Eligible project uses under the CRISI program include a variety of activities aimed at improving rail infrastructure and safety.

2.17.6 Compliance Considerations

Projects funded by CRISI grants must comply with federal environmental regulations, including the National Environmental Policy Act (NEPA). Recipients are required to conduct environmental assessments or impact statements, addressing potential effects on local ecosystems, noise, air quality, and communities. The Federal Railroad Administration assesses compliance with these standards to minimize adverse effects and improve environmental stewardship.

2.17.7 Analysis

Generally, only applicable for roads with railroad crossings, this opportunity is only applicable to improvements that may be needed along Belleville Road north of Ecorse Road. CRISI also is an eligible program for congressionally directed spending items in the Federal budget, which has a less stringent application process. Smaller projects may be better positioned to seek CRISI funding through the earmark budget process.

3.0 FUNDING PROGRAMS NOT CONSIDERED A MATCH

Funding sources that were reviewed, but were determined not to be a good match for the Township’s SS4A project priorities include:

- Outdoor Recreation and Legacy Partnership Program - Michigan Department of Natural Resources (MDNR)
- Rural Surface Transportation Grant Program - U.S. Department of Transportation (USDOT)
- Reconnecting Communities Pilot - U.S. Department of Transportation (USDOT)
- Transportation Infrastructure Finance and Innovation Act Program (TIFIA) - Build America Bureau
- Small Urban Program - Michigan Department of Transportation (MDOT)
- Bridge Investment Program - United States Department of Transportation (USDOT)
- Railroad Crossing Elimination Program - United States Department of Transportation (USDOT)
- Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation (PROTECT) Program -U.S. Department of Transportation (USDOT) Federal Highway Administration
- Neighborhood Access and Equity Grant Program - U.S. Department of Transportation
- Michigan State Infrastructure Bank - Michigan Department of Transportation (MDOT)
- Recreation Passport Grants - Michigan Department of Natural Resources (DNR)
- Michigan Natural Resources Trust Fund - Michigan Department of Natural Resources (DNR)
- Land and Water Conservation Fund - Michigan Department of Natural Resources (DNR)
- High Priority Innovative Technology Deployment (HP-ITD) Program - U.S. Department of Transportation (USDOT)

#	FUNDING PROGRAM	AGENCY
1.1	MDOT/SEMCOG Transportation Alternatives Funding	"Michigan Department of Transportation (MDOT)/Southeast Michigan Council of Governments (SEMCOG)"
1.2	Safe Streets and Roads for All (SS4A) Grant Program - Implementation Grants	United States Department of Transportation (USDOT)
1.3	Rebuilding American Infrastructure with Sustainability and Equity (RAISE Program)	United States Department of Transportation (USDOT)
1.4	Carbon Reduction Program/Congestion Mitigation and Air Quality Improvement Program (CRP/CMAQ)	Southeast Michigan Council of Governments (SEMCOG)
1.5	Highway Infrastructure Projects Community Project Funding	United States Department of Transportation (USDOT) via Congressional Appropriation
1.6	Michigan Enhancement Grants	Michigan Legislature
1.7	Safe Routes to School Grants	Michigan Department of Transportation (MDOT)
1.8	MDOT Transportation Economic Development Fund - Category C (Urban Congestion Relief)	Michigan Department of Transportation (MDOT)
1.9	MDOT Transportation Economic Development Fund - Category A (Economic Development)	Michigan Department of Transportation (MDOT)
1.10	Public Works and Economic Adjustment Assistance Programs	US Economic Development Administration
1.11	SMART (Strengthening Mobility and Revolutionizing Transportation) Grants Program	United States Department of Transportation (USDOT)
1.12	Planning Assistance Program	Southeast Michigan Council of Governments (SEMCOG)
1.13	Ralph C. Wilson, Jr. Legacy Design & Access Fund	Community Foundation for Southeast Michigan
1.14	Michigan Shared Streets and Spaces Grant Program (SSSG)	Michigan Department of Transportation (MDOT)
1.15	Active Transportation Infrastructure Investment Program	United States Department of Transportation (USDOT)
1.16	State Infrastructure Bank	Michigan Department of Transportation (MDOT)

Figure 6-1. Funding Programs

GRANT OR LOAN	MATCHING REQUIREMENTS	FUNDING FREQUENCY	APPLICATION EFFORT	ADMINISTRATIVE BURDEN
Grant	20 percent non-federal matching	Semi-Annual (3 deadlines each year)	Moderate	Moderate
Grant	20 percent non-federal matching	Semi-Annual.	High	High
Grant	20 percent non-federal matching, except in disadvantaged areas where no match is required.	Annual	High	High
Grant	20 percent non-federal matching for most projects	Annual	Low	Moderate
Grant	20 percent Non Federal	Spring each year, with awards occurring after the Federal budget is passed.	Low	Moderate
Grant	None	Annual, through state budget process.	Low	Low
Grant	No matching required, although applicants may need to identify other funding to fund total project costs.	Annual	Moderate	High
Grant	20 percent match required	As part of Transportation Improvement Plan process	Low	Moderate
Grant	20 percent match required	Quarterly	Moderate	Moderate
Grant	Standard requirement is 50 percent non-federal funding	Rolling basis	High	Moderate
Grant	Cost sharing has not been required in recent grant cycles.	Annual	High	High
Grant	Local match ; 18.15 percent	Annual	Low	Low
Grant	Generally encouraged to provide matching funds	Annual	Low	Low
Grant	Not required	Annual	Moderate	Low
Grant	20 percent Non Federal	Annual	High	High
Loan	N/A	On-going Basis	Moderate	Moderate

#	GRANT SOURCES	Michigan Ave (US-12) and US-12 BR	Michigan Ave (US-12) and Denton Road	Ecorse Road and Denton Road	Ecorse Road and Beck Road	Ecorse Road and Morton Taylor Road	Ecorse Road and Haggerty Road	Tyler Road and Haggerty Road	Ecorse Road and I-275 Ramps	Haggerty Road & I-94 Curve North of North Service Drive	Haggerty Road & I-94 North Service Drive	Haggerty Road & I-94 Ramps	Haggerty Road & I-94 South Service Drive	Haggerty Road & Huron River Drive Haggerty Road/Metro Parkway & Huron River Drive	Hannan Road & Ecorse Road	Hannan Road & Tyler Road	Hannan Road & I-94 Service Drive/Northline
1.1	MDOT/SEMCOG Transportation Alternatives Funding		X					X									
1.2	Safe Streets and Roads for All (SS4A) Grant Program - Implementation Grants	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.3	Rebuilding American Infrastructure with Sustainability and Equity (RAISE Program)			X	X												
1.4	Carbon Reduction Program/Congestion Mitigation and Air Quality Improvement Program (CRP/CMAQ)		X					X									
1.5	Highway Infrastructure Projects Community Project Funding	X	X	X	X	X											

Figure 6-2. Grant Sources

#	GRANT SOURCES	Michigan Ave (US-12) and US-12 BR	Michigan Ave (US-12) and Denton Road	Ecorse Road and Denton Road	Ecorse Road and Beck Road	Ecorse Road and Morton Taylor Road	Ecorse Road and Haggerty Road	Tyler Road and Haggerty Road	Ecorse Road and I-275 Ramps	Haggerty Road & I-94 Curve North of North Service Drive	Haggerty Road & I-94 North Service Drive	Haggerty Road & I-94 Ramps	Haggerty Road & I-94 South Service Drive	Haggerty Road & Huron River Drive Haggerty Road/Metro Parkway & Huron River Drive	Hannan Road & Ecorse Road	Hannan Road & Tyler Road	Hannan Road & I-94 Service Drive/Northline
1.6	Michigan Enhancement Grants	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.7	Safe Routes to School Grants																
1.8	MDOT Transportation Economic Development Fund - Category C (Urban Congestion Relief)	X	X	X	X	X	X		X		X		X			X	X
1.9	MDOT Transportation Economic Development Fund - Category A (Economic Development)	X	X	X	X	X											
1.10	Public Works and Economic Adjustment Assistance Programs	X	X	X													

Figure 6-2. Grant Sources

#	GRANT SOURCES	Michigan Ave (US-12) and US-12 BR	Michigan Ave (US-12) and Denton Road	Ecorse Road and Denton Road	Ecorse Road and Beck Road	Ecorse Road and Morton Taylor Road	Ecorse Road and Haggerty Road	Tyler Road and Haggerty Road	Ecorse Road and I-275 Ramps	Haggerty Road & I-94 Curve North of North Service Drive	Haggerty Road & I-94 North Service Drive	Haggerty Road & I-94 Ramps	Haggerty Road & I-94 South Service Drive	Haggerty Road & Huron River Drive Haggerty Road/Metro Parkway & Huron River Drive	Hannan Road & Ecorse Road	Hannan Road & Tyler Road	Hannan Road & I-94 Service Drive/Northline
1.11	SMART (Strengthening Mobility and Revolutionizing Transportation) Grants Program		X					X									
1.12	Planning Assistance Program						X	X				X					
1.13	Ralph C. Wilson, Jr. Legacy Design & Access Fund		X					X									
1.14	Michigan Shared Streets and Spaces Grant Program (SSSG)																

Figure 6-2. Grant Sources

#	GRANT SOURCES	Michigan Ave (US-12) and US-12 BR	Michigan Ave (US-12) and Denton Road	Ecorse Road and Denton Road	Ecorse Road and Beck Road	Ecorse Road and Morton Taylor Road	Ecorse Road and Haggerty Road	Tyler Road and Haggerty Road	Ecorse Road and I-275 Ramps	Haggerty Road & I-94 Curve North of North Service Drive	Haggerty Road & I-94 North Service Drive	Haggerty Road & I-94 Ramps	Haggerty Road & I-94 South Service Drive	Haggerty Road & Huron River Drive Haggerty Road/Metro Parkway & Huron River Drive	Hannan Road & Ecorse Road	Hannan Road & Tyler Road	Hannan Road & I-94 Service Drive/Northline
1.15	Active Transportation Infrastructure Investment Program							X									
1.16	State Infrastructure Bank	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.17	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program																

Figure 6-2 cont. Grant Sources

#	GRANT SOURCES	Reduce Speed Limit from 45 MPH to 35 MPH	Belleville Road and Costco Depot Drive/Yost Road – Signing and Markings	Belleville Road and Ecorse Road – Roundabout	Belleville Road and Tyler Road – Realignment and NB/SB Left-turn Phasing	Belleville Road and Robson Road – Future Signalization	Belleville Road and Menards/Aldi Drive-way – Signal Timing Adjustments	Belleville Road and Westlake Circle – Signal Timing and Access Road Connection	Belleville Road and North I-94 Service Drive and Ramp	Belleville Road and South I-94 Service Drive and Ramp	Belleville Road and I-94 Interchange – Two- or Four-Roundabout Interchange Reconfiguration
1.1	MDOT/SEMCOG Transportation Alternatives Funding				X						
1.2	Safe Streets and Roads for All (SS4A) Grant Program - Implementation Grants	X	X	X	X	X	X	X	X	X	X
1.3	Rebuilding American Infrastructure with Sustainability and Equity (RAISE Program)			X	X						X
1.4	Carbon Reduction Program/Congestion Mitigation and Air Quality Improvement Program (CRP/CMAQ)		X	X	X	X	X	X			X
1.5	Highway Infrastructure Projects Community Project Funding	X	X	X	X	X	X	X	X	X	X
1.6	Michigan Enhancement Grants	X	X	X	X	X	X	X	X	X	X
1.7	Safe Routes to School Grants										
1.8	MDOT Transportation Economic Development Fund - Category C (Urban Congestion Relief)			X							
1.9	MDOT Transportation Economic Development Fund - Category A (Economic Development)										
1.10	Public Works and Economic Adjustment Assistance Programs			X							
1.11	SMART (Strengthening Mobility and Revolutionizing Transportation) Grants Program										

Figure 6-2. Grant Sources

#	GRANT SOURCES	Reduce Speed Limit from 45 MPH to 35 MPH	Belleville Road and Costco Depot Drive/Yost Road – Signing and Markings	Belleville Road and Ecorse Road – Roundabout	Belleville Road and Tyler Road – Realignment and NB/SB Left-turn Phasing	Belleville Road and Robson Road – Future Signalization	Belleville Road and Menards/Aldi Drive-way – Signal Timing Adjustments	Belleville Road and Westlake Circle – Signal Timing and Access Road Connection	Belleville Road and North I-94 Service Drive and Ramp	Belleville Road and South I-94 Service Drive and Ramp	Belleville Road and I-94 Interchange – Two- or Four-Roundabout Interchange Reconfiguration
1.12	Planning Assistance Program			X							X
1.13	Ralph C. Wilson, Jr. Legacy Design & Access Fund										
1.14	Michigan Shared Streets and Spaces Grant Program (SSSG)										
1.15	Active Transportation Infrastructure Investment Program										
1.16	State Infrastructure Bank	X	X	X	X	X	X	X	X	X	X
1.17	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program										

Figure 6-2. Grant Sources

INELIGIBLE PROGRAM	AGENCY	NOTES
Outdoor Recreation and Legacy Partnership Program	Michigan Department of Natural Resources (MDNR)	Program priorities are not a Fit with any of the projects identified in the Action Plan.
Rural Surface Transportation Grant Program	U.S. Department of Transportation (USDOT)	Van Buren Township is not an eligible entity under this program.
Reconnecting Communities Pilot	U.S. Department of Transportation (USDOT)	Program priorities are not a Fit with any of the projects identified in the Action Plan.
Transportation Infrastructure Finance and Innovation Act Program (TIFIA)	Build America Bureau	This program is not a Fit for the types of projects included in the SS4A Action Plan.
Small Urban Program	Michigan Department of Transportation (MDOT)	Van Buren Township is not an eligible entity under this program.
Bridge Investment Program	United States Department of Transportation (USDOT)	None of the projects included in the Action Plan require modification to bridges.
Railroad Crossing Elimination Program	United States Department of Transportation (USDOT)	The railroad crossing location included in the Action Plan does not meet the conditions to warrant an application under this program.
Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation (PROTECT) Program	U.S. Department of Transportation (USDOT) Federal Highway Administration	Program priorities are not a Fit with any of the projects identified in the Action Plan.
Neighborhood Access and Equity Grant Program	U.S. Department of Transportation	Program was authorized as part of the Inflation Reduction Act and funding has been expended.
Michigan State Infrastructure Bank	Michigan Department of Transportation (MDOT)	Township and DDA are not eligible entities.
Recreation Passport Grants	Michigan Department of Natural Resources (DNR)	Program priorities are not a strong Fit with the projects listed in the Action Plan.
Michigan Natural Resources Trust Fund	Michigan Department of Natural Resources (DNR)	Program priorities are not a strong Fit with the projects listed in the Action Plan.
Land and Water Conservation Fund	Michigan Department of Natural Resources (DNR)	Program priorities are not a strong Fit with the projects listed in the Action Plan.
High Priority Innovative Technology Deployment (HP-ITD) Program	U.S. Department of Transportation (USDOT)	This grant is typically awarded to statewide ITS or enforcement efforts.

Figure 6-3. Ineligible Programs

CONCLUSION

Injuries and fatalities related to traffic crashes are preventable incidents that can be reduced or eliminated through planning strategic policies, innovative and context-sensitive design, and committed local leadership. Van Buren Township’s SS4A Action Plan was developed following the USDOT program steps and requirements to ensure that the recommendations align with ongoing initiatives and that priority projects will be eligible for future funding. Through strategies and projects identified in this plan, Van Buren Township demonstrates dedication to making roadways safer for all users of all abilities.

Highest Priority Projects

Several priority projects have been identified as having the most severe crashes which are correctable by geometric mitigation, and therefore are expected to produce the largest return in safety benefits. These projects are recommended for the next step in the SS4A process to move forward with for future funding. Shown on Figure 7-1 are the following locations of the highest priority projects with high level cost estimates (costs do not include design engineering, right-of-way, or construction engineering).

- 1. Ecorse Road Michigan Left-Turn Blvd from west of Denton Road to east of Beck Road (\$13,000,000)
- 2. Ecorse Road and Haggerty Road right-turn lanes and signal improvements (\$750,000)
- 3. Haggerty Road and I-94 N Service Dr left-turn lanes/phasing and signal improvements (\$850,000)
- 4. Haggerty Road and I-94 S Service Dr signal installation and roadway improvements (\$920,000)
- 5. Belleville Road improvements including widening and left-turn phasing at Tyler Road (already funded for implementation and currently under design)

Self-Check

The USDOT provides a self check that the requirements of the Action Plan are met, as outlined in the SS4A Self-Certification Worksheet. Meeting these SS4A Action Plan requirements ensures that the community and partner agencies including the Wayne County Department of Roads will be eligible for future funding to implement the high priority safety projects.

The following table identifies each item of the Self-Certification Worksheet, whether the criteria is met, and where it may be found within this Action Plan.

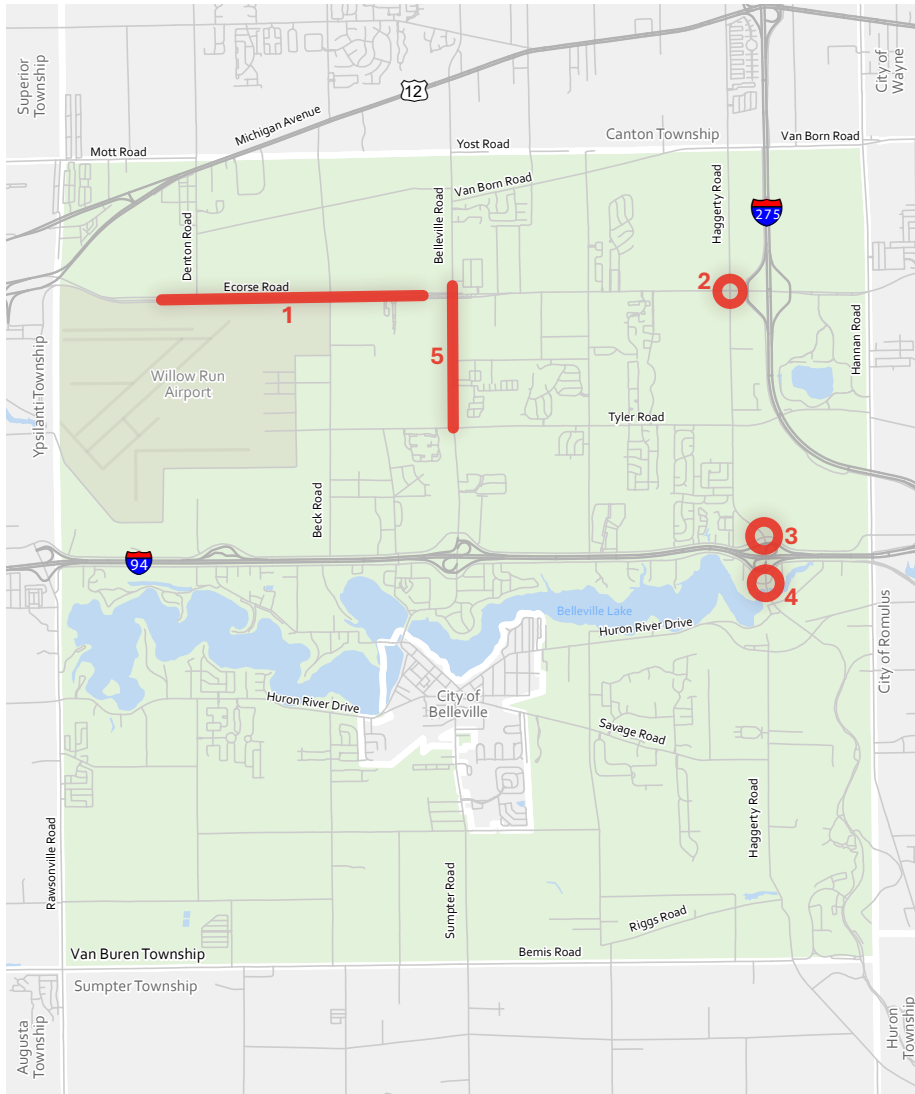


Figure 7-1. Highest Priority Locations
Source: Wade Trim

CATEGORY	QUESTION	ITEM ADDRESSED AND LOCATION
Leadership + Goal Setting	Are both of the following true? - A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries; and - The commitment includes either setting a target date to reach zero OR setting one or more NO targets to achieve significant declines in roadway fatalities and serious injuries by a specific date	Yes Section 2
Planning Structure	To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring?	Yes Section 2
Safety Analysis	Does the Action Plan include all of the following? - Analysis of existing conditions and historical trends to baseline the level of crashes involving fatalities and serious injuries across a jurisdiction, locality, Tribe, or region; - Analysis of the location where there are crashes, the severity, as well as contributing factors and crash types; - Analysis of systemic and specific safety needs is also performed, as needed (e.g., high risk road features, specific safety needs of relevant road users; and, - A geospatial identification (geographic or locational data using maps) of higher risk locations.	Yes Sections 3 + 4
Engagement + Collaboration	Did the Action Plan development include all of the following activities? - Engagement with the public and relevant stakeholders, including the private sector and community groups; - Incorporation of information received from the engagement and collaboration into the plan; and - Coordination that included inter- and intra-governmental cooperation and collaboration, as appropriate.	Yes Section 2
Equity Considerations	Did the Action Plan development include all of the following? - Considerations of equity using inclusive and representative processes; - The identification of underserved communities through data; and - Equity analysis, in collaboration with appropriate partners, focused on initial equity impact assessments of the proposed projects and strategies, and population characteristics.	Yes Section 2
Policy + Process Changes	Are both of the following true? - The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and - The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.	Yes Section 5w
Strategy + Project Selections	Does the plan identify a comprehensive set of projects and strategies to address the safety problems in the Action Plan, time ranges when projects and strategies will be deployed, and explain project prioritization criteria?	Yes Section 5
Progress + Transparency	Does the plan include all of the following? - A description of how progress will be measured over time that includes, at a minimum, outcome data - The plan is posted publicly online.	Yes Section 5
Action + Plan Date	Was at least one of your plans Finalized and/or last updated between 2019 and April 30, 2024?	Adopted by the Township in January 2025

Figure 7-2. Self-Certification Worksheet

