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MISSISSIPPI COUNTY SAFETY ACTION PLAN



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ACRONYMS

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
APP	Area of Persistent Poverty
ARDOT	Arkansas Department of Transportation
AV	Automated Vehicle
BIL	Bipartisan Infrastructure Law
CMF	Crash Modification Factor
CMV	Commercial Motor Vehicle
CV	Connected Vehicle
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
HIN	High Injury Network
LPI	Leading Pedestrian Interval
LRSP	Local Road Safety Plan
MUTCD	Manual on Uniform Traffic Control Devices
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NOFO	Notice of Funding Opportunity
NSC	National Safety Council
PDO	Property Damage Only
PHB	Pedestrian Hybrid Beacon
PSC	Proven Safety Countermeasure
RRFB	Rectangular Rapid Flashing Beacon
RSA	Road Safety Audit
SHSP	Strategic Highway Safety Plan
SS4A	Safe Streets and Roads for All
TSC	Transportation Safety Committee
TWTL	Two-Way Left-Turn Lane
USDOT	United States Department of Transportation



INTRODUCTION

Purpose

The Mississippi County Safety Action Plan is the framework to provide safe streets and roads for all road users in Mississippi County, Arkansas. The purpose of the Plan is to identify transportation safety countermeasures and strategies that lead to effective implementation with an eventual goal of eliminating all fatal and serious injury crashes on the County's roadways. To achieve this, Mississippi County and its partner agencies have committed to the following progression of goals:

- ✦ 50% reduction of fatal and serious injury crashes by 2035
- ✦ Zero fatal and serious injury crashes by 2050

The Safety Action Plan includes countywide safety analysis, public engagement to identify safety issues, project and policy recommendations, and an implementation plan that emphasizes progress tracking.

Safe Streets and Roads for All (SS4A) Program

This Safety Action Plan was developed by Mississippi County and funded through a grant from the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) Program. The SS4A Program was established by the Bipartisan Infrastructure Law (BIL) to fund planning and implementation projects for regional, local, and tribal organizations with the overall goal of preventing roadway deaths and serious injuries. SS4A prioritizes all types of road users with an emphasis on redundant layers of protection to both prevent crashes and minimize the harmful outcomes of crashes. It emphasizes eliminating fatal and serious injury crashes on all roads and streets and provides opportunities for local governments to pursue additional funding to reach that goal.

What is a Safety Action Plan

In 2022, Mississippi County was awarded \$160,000 to develop the Mississippi County Safety Action Plan to establish a comprehensive and well-defined strategy to prevent roadway deaths and serious injuries. To fulfill the requirements of the SS4A Program, this Safety Action Plan includes the following components:

1. Leadership Commitment and Goal Setting

Mississippi County and its partner agencies have made the commitment to an eventual goal of eliminating roadway fatalities and serious injuries. This goal establishes a target date for an ambitious reduction in fatal and serious injury crashes with an eventual goal of achieving zero roadway fatalities and serious injuries.

2. Planning Structure

Mississippi County formed a Transportation Safety Committee (TSC) of members committed to overseeing the development, implementation, and monitoring of the Safety Action Plan. This group of stakeholders provided input and guidance to the team throughout the development of the plan.

3. Safety Analysis

The Plan includes an analysis of historical crash data and existing conditions used to identify trends related to fatal and serious injury crashes across the County. This analysis considers contributing factors to crash events and detailed crash data elements, such as severity, sequence of events, road



user type, and weather conditions. A location-specific and systemic crash analysis identifies specific safety needs by location and across the study area. The analysis results in a geospatial identification of a High Injury Network (HIN) that identifies road segments and intersections with the highest density of fatalities and serious injuries.

4. Engagement and Collaboration

The development of the Safety Action Plan involved engagement with the public and relevant stakeholders across public and private sectors, conducted to collect representative community input. This effort also involved collaboration between involved stakeholders and the governing body to ensure effective coordination with existing plans and processes. Information received during these activities is summarized in the Safety Action Plan.

5. Policy and Process Changes

Existing policies and processes within Mississippi County were reviewed to identify existing transportation safety initiatives and potential improvements that would better prioritize transportation safety. New policies and processes, as well as revisions to existing policies and processes, are proposed in the Safety Action Plan for implementation.

6. Strategy and Project Selections

A list of strategies and projects were identified by the preceding Safety Action Plan components. The strategies and projects are consistent with the USDOT's Safe System Approach and prioritize multidisciplinary efforts to improve transportation safety. Prioritization of strategies and projects was conducted to provide strategic implementation timeframes.

7. Progress and Transparency

Outcome data is used to measure progress towards the County's goal. At minimum, the Safety Action Plan outline and resulting progress reports should be publicly posted each year.

Equity Considerations was a required component of a safety action plan at the time the development of the Mississippi County Safety Action Plan began. However, the SS4A Program and its required components for a safety action plan were updated in the March 2025 SS4A Notice of Funding Opportunity (NOFO). This update removed the requirement of the Equity Considerations component, but notes that equitable investment in the safety needs of underserved communities is still a priority of the SS4A Program. The 2025 NOFO states that "Underserved Community will use the same definition as Areas of Persistent Poverty for the purposes of this NOFO." Therefore, Areas of Persistent Poverty data is analyzed in the Mississippi County Safety Action Plan, as discussed later in this document.

Safe System Approach

The SS4A Program is guided by the USDOT's National Roadway Safety Strategy and Safe System Approach. As part of its National Roadway Safety Strategy released in January 2022, USDOT adopted the Safe System Approach as its guiding paradigm to address transportation safety challenges nationwide. The Safe System Approach is the foundation that will support Mississippi County in achieving its goal of reaching zero fatal and serious injury crashes on streets and roads within the County. This approach acknowledges both human mistakes and human vulnerability and is designed to protect all roadway users.



The Safe System Approach is built around the following six principles:

1. Death and Serious Injuries are Unacceptable

The Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries on roadways.

2. Humans Make Mistakes

People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation system can be designed and operated to accommodate certain types and levels of human mistakes and avoid death and serious injuries when a crash occurs.

3. Humans are Vulnerable

People have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates physical human vulnerabilities.

4. Responsibility is Shared

All stakeholders – including government at all levels, industry, nonprofit/advocacy, researchers, and the public – are vital to preventing fatalities and serious injuries on our roadways.

5. Safety is Proactive

Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and react afterwards.

6. Redundancy is Crucial

Reducing risks requires that all components of the transportation system be strengthened, so that if one fails, the remaining components still protect people.

The USDOT's National Roadway Strategy defines five objectives of a Safe System Approach as follows:

1. Safer People

Encourage safe, responsible behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.

2. Safer Roads

Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.

3. Safer Vehicles

Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.

4. Safer Speeds

Promote safer speeds in all roadway environments through a combination of thoughtful, context-appropriate roadway design, targeted education and outreach campaigns, and enforcement.

5. Post-Crash Care

Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.

To achieve zero fatal and serious injury crashes, all five of these objectives must be strengthened. The Mississippi County Safety Action Plan was developed to strengthen the five Safe System objectives, as strengthening all objectives allows for redundant layers of protection against fatal and serious injuries on the roadway.

Plan Development and Governance

The Mississippi County Safety Action Plan was developed by a project team consisting of Mississippi County staff and consultants to give the County a holistic and well-defined strategy to achieve the goal of zero fatal and serious injury crashes. The Plan was developed in line with the SS4A Program's components of a Safety Action Plan. The Plan includes all the SS4A components of a Safety Action Plan, such as leadership commitment and goal setting, planning structure, safety analysis, engagement and collaboration, policy and process changes, strategy and project selections, and progress and transparency.

The Plan was driven by data, through closely analyzing crash data from 2019 through 2023 and the development of a countywide high injury network (HIN). The HIN identifies roadway segments and intersections within the County's transportation network that have the highest number of fatal and serious injury crashes. Establishing a HIN enables safety improvements to focus on road segments and intersections that are historically causing the most harm to roadway users, thereby guiding future project implementation and safety efforts.

Extensive stakeholder engagement was performed with the goal of identifying areas of transportation safety concern within the community that could also be incorporated into the Plan's priorities. This safety analysis and stakeholder input process helped establish and prioritize locations where the use of transportation safety countermeasures can be most effectively implemented to reduce fatal and serious injury crashes. Systemic improvements, which are improvements that can be widely implemented based on high-risk features that are correlated with particular types of crashes, were also identified for the County. To encourage continued investment in safety improvements, safe design, and safe operation of the system, the Safety Action Plan also recommends policies that can be implemented to influence safer streets and roads.

Mississippi County Plan County Regions

Mississippi County contains two cities in which most of the residents reside or work; Osceola and Blytheville. A majority of the more urban areas within the County are located between the only interstate running through the County, I-55, and the eastern border of the County. Therefore, Mississippi County staff expressed concern regarding the Safety Action Plan including representation from across the County.

To address this concern, the project team worked with the County staff to split the County into three equally sized regions, using major roadways to create the boundaries, as shown **Figure 1**. This allowed the Plan to capture transportation safety concerns from communities throughout the County and provide recommendations for projects in each of the three Plan County Regions.



Figure 1: Mississippi County Safety Action Plan Regions

Quorum Court

The Mississippi County Quorum Court is the governing body of the County. The Mississippi County Safety Action Plan was adopted by the Quorum Court on June 24, 2025. The Court was updated and provided input periodically throughout the development of the Safety Action Plan.

Transportation Safety Committee (TSC)

The Transportation Safety Committee (TSC) was established and tasked with guiding the development of the Mississippi County Safety Action Plan. The TSC represents a variety of voices from within the County that collaborated to mold many components of the Safety Action Plan, including representatives from Mississippi County Road Department, Mississippi County Sheriff Department, Blytheville, Luxora, Manila, Osceola, Pafford, Wilson, Arkansas Department of Transportation (ARDOT), Arkansas Northeastern College, and the steel industry. The full list of representatives and agencies that participated on the TSC is included at the beginning of this Safety Action Plan. TSC members met regularly through both in-person and virtual meetings and provided continual advice, guidance, and support for the development of the Mississippi County Safety Action Plan.

SAFETY & UNDERSERVED COMMUNITIES ANALYSIS

Analysis of data related to safety is paramount to the effectiveness of identifying transportation safety needs in Mississippi County. The data-driven approach provides an inclusive process for assessing the needs of the community based on existing, historical, and expected safety issues.

The results of the safety and underserved communities analyses were used to support stakeholder engagement efforts and serve as a basis for the project recommendations and policy and process improvement recommendations that are identified in the Safety Action Plan.

Safety Analysis

The safety analysis aims to assess existing conditions and historical trends that describe the baseline transportation safety conditions in Mississippi County. The safety analysis reviews crash data obtained from ARDOT for all crashes that occurred in Mississippi County within the most recent five complete years; January 1, 2019 through December 31, 2023. One of the most crucial elements of the crash data is crash severity, as it identifies whether a crash is life-threatening. The safety analysis considers all crash severities; however, fatal and suspected serious injury crashes are analyzed in more detail to align with the Plan's goal of eliminating all fatal and serious injury crashes in Mississippi County.

Originally developed by the National Safety Council (NSC), the KABCO Injury Classification Scale is a common system used to categorize injury severity resulting from vehicular crash events. The State of Arkansas utilizes the following KABCO injury classification scale with definitions provided by the Federal Highway Administration (FHWA):

(K) Fatal Injury

- ✦ Referred to as "fatal crash" in this Plan.
- ✦ Any injury that directly results in the death of a living person within 30 days of a motor vehicle crash.

(A) Suspected Serious Injury

- ✦ Referred to as "serious injury crash" in this Plan.
- ✦ Incapacitating Injury: Any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.
- ✦ Inclusions: Severe lacerations, broken or distorted limbs, skull or chest injuries, abdominal injuries, unconsciousness at or when taken from the scene, unable to leave the scene without assistance, and others.
- ✦ Exclusions: Momentary unconsciousness, and others.

(B) Suspected Minor Injury

- ✦ Referred to as "minor injury crash" in this Plan.
- ✦ Non-Incapacitating Injury: Any injury other than a fatal injury or an incapacitating injury, which is evident to observers at the scene.
- ✦ Inclusions: Lump on head, abrasions, bruises, minor lacerations, and others.
- ✦ Exclusions: Limping (the injury cannot be seen, and others.)

(C) Possible Injury

- ✦ Possible Injury: Any injury reported or claimed which is not a fatal injury, incapacitating injury or non-incapacitating evident injury.
- ✦ Inclusions: Momentary unconsciousness, claim of injuries not evident, complaint of pain, limping, nausea, hysteria, and others.

(O) No Apparent Injury

- ✦ Property Damage Only (PDO), or Non-Injury: No personal injury.
- ✦ Inclusions: Harm to wild animals, or birds, which have monetary value and others.
- ✦ Exclusions: Mechanical failure during normal operation, such as tire blowout, broken fan belt or axle.

The Mississippi County Safety Action Plan aligns with the SS4A Program’s emphasis on vulnerable road users such as pedestrians and bicyclists. Therefore, crashes involving these road users are closely reviewed. The Plan’s definitions for these types of crashes are as follows, based on the Arkansas crash report terminology:

✦ **Pedestrian Crash**

Arkansas crash reports use the term ‘pedestrian’ to identify crashes that involved any persons traveling on their feet or on a human-powered, nonmotorized device not propelled by pedaling, such as a wheelchair, skateboard, and roller skates.

✦ **Bicyclist Crash**

Arkansas crash reports use the term ‘pedalcycle’ to identify crashes that involved persons riding non-motorized devices that are propelled by pedaling, such as bicycles, tricycles, and unicycles. For simplicity, this Plan will refer to pedalcycle crashes as bicycle crashes.

Historical Crash Data Analysis

The historical crash data analysis focuses on trends in crash data over time, from 2019 through 2023. These trends help understand the recent baseline crash occurrences in Mississippi County and identify realistic goals for improving safety in the future. The five-year crash data shows an average of approximately 859 total crashes per year, including an average of 41 fatal and serious injury crashes per year. The historic crash data is summarized by severity and year in **Table 1**. The fatal and serious injury crashes are provided by year in **Figure 2**.

Table 1: 2019 – 2023 Crash Data by Severity

Crash Severity	Year					Total
	2019	2020	2021	2022	2023	
Fatal (K)	5	8	6	10	4	33
Suspected Serious Injury (A)	25	25	42	34	46	172
Suspected Minor Injury (B)	82	90	120	114	122	528
Possible Injury (C)	151	120	128	112	115	626
No Apparent Injury (O)	580	567	617	541	630	2935
Total	843	810	913	811	917	4294

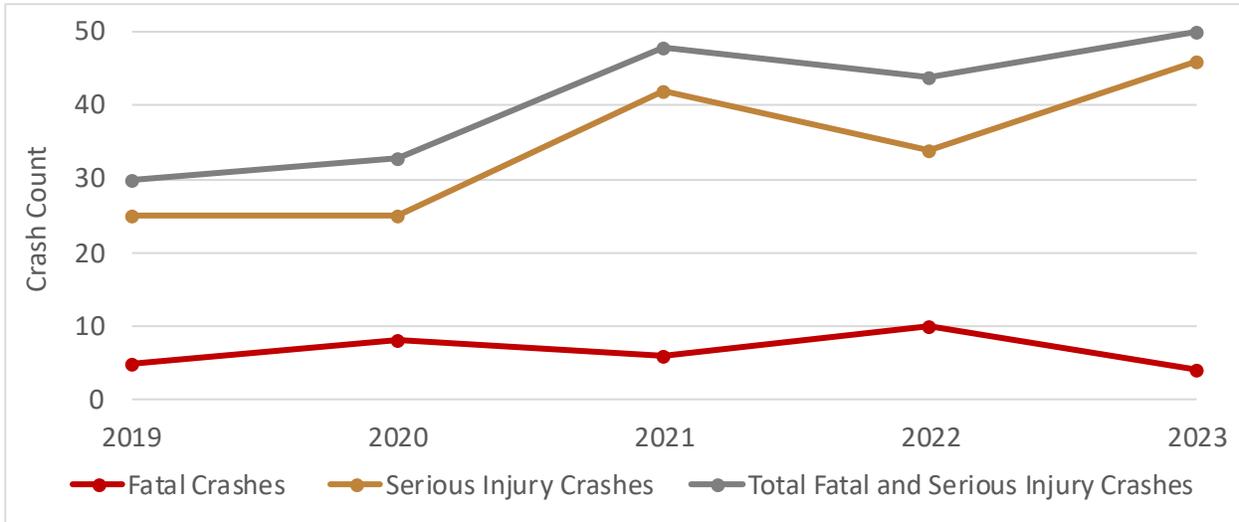


Figure 2: Fatal and Serious Injury Crashes (2019 – 2023)

The number of fatal crashes in Mississippi County has gone up and down over the last five years, reaching a five-year low of four crashes in 2023. However, in the years fatal crashes decreased serious injury crashes increased. The number of serious injury crashes in the County trended upwards from 2019 to 2023, nearly reaching double the 2019 count of serious injury crashes in 2023. This resulted in an overall increase in the total number of fatal and serious injury crashes from 2019 to 2023.

Systemic Safety Analysis

The systemic crash analysis analyzes types of crashes and contributing factors among all crashes within Mississippi County from 2019 through 2023, not just fatal and serious injury crashes. It helps identify safety issues related to focus areas identified in the Arkansas Strategic Highway Safety Plan (SHSP), which is a data-driven comprehensive plan that establishes the State’s strategies for achieving its goal of zero roadway fatalities. Led by ARDOT, the Arkansas SHSP identifies fourteen focus areas within five emphasis areas that are based on the five Safe System objectives and are representative of the State’s most critical roadway safety challenges. These safety focus areas are defined as follows:

Safe Road Users

❏ Occupant Protection (Unrestrained)

This addresses crashes where an occupant was not using a seatbelt.

❏ Older Drivers

This addresses crashes where a driver is over the age of 65 years old.

❏ Younger Drivers

This addresses crashes where a driver is under the age of 25 years old.

❏ Impaired Driving

This addresses crashes where a driver is physically impaired, under the influence of medication/drugs, or under the influence of alcohol.

❏ Distracted Driving

This addresses crashes where a driver takes their eyes off the road (visual), hands off the wheel (manual), or mind off driving (cognitive). This includes drowsy driving and phone usage when driving.

✦ **Non-Motorists**

This addresses crashes involving a non-motorist or otherwise vulnerable road user, including pedestrians and bicyclists.

Safe Vehicles

✦ **Large Commercial Motor Vehicles (CMV)**

This addresses crashes involving a commercial motor vehicle (CMV), which is defined as having a gross combination weight rating of more than 26,000 pounds.

✦ **Motorcycles**

This addresses crashes involving a motorcycle.

✦ **Connected and Automated Vehicles**

This addresses crashes involving a connected vehicle (CV) or automated vehicle (AV). CVs talk to each other and the infrastructure around them. AVs use technology for some or all aspects of vehicle control with limited driver input.

Safe Roads

✦ **Roadway Departure**

This addresses crashes where a vehicle crosses an edge line or a center line, including running into an adjacent travel lane or running off the roadway all together.

✦ **Intersections**

This addresses crashes occurring at or near a junction where roadways intersect other roadways or a railroad.

Safe Speeds

✦ **Speeding and Aggressive Driving (Speeding Relation)**

This addresses crashes involving a driver who is racing, exceeding the speed limit, driving too fast for conditions, failing to yield, failing to obey traffic control devices, changing lanes in an unsafe manner, or following a vehicle too closely.

Post-Crash Care

✦ **Emergency Services and Incident Management (Secondary Crashes)**

This addresses the need for rapid and efficient emergency services and incident management, which includes emergency response time, clearing a crash scene to minimize secondary crashes, and trauma system communications.

✦ **Traffic Records and Data Analysis**

This addresses the need for reliable, accurate, uniform, and complete traffic records so that data analysis can effectively inform safety decisions.

The countywide crash data provides the opportunity to assess twelve of the SHSP focus areas, which included all focus areas except for Connected and Automated Vehicles and Traffic Records and Data Analysis. By understanding these crash trends, contributing factors are identified and targeted with safety countermeasures to reduce fatal and serious injury crashes. The Mississippi County 2019 through 2023 crash data is summarized by the twelve SHSP focus areas in **Table 2**.

Table 2: SHSP Focus Area Crash Summary (2019 – 2023)

Arkansas SHSP Focus Area	Year					Total Crashes	Fatal & Serious Injury Crashes
	2019	2020	2021	2022	2023		
Unrestrained	5	4	10	13	5	37	2
Older Drivers	34	38	66	47	39	224	6
Younger Drivers	69	62	57	56	65	309	21
Impaired Driving	18	20	17	11	17	83	13
Distracted Driving	15	7	8	7	12	49	3
Non-Motorist	10	6	7	12	16	51	23
CMV	38	41	51	49	66	245	17
Motorcycles	4	5	6	8	4	27	10
Roadway Departures	357	352	444	398	419	1970	136
Intersections	372	348	408	343	388	1859	80
Aggressive Driving	2	4	6	2	5	19	1
Secondary Crashes	0	0	0	0	0	0	0

The systemic analysis identifies roadway departure and intersection crashes as the most prevalent focus areas by count of total crashes, as well as by total fatal or serious injury crash count, in Mississippi County. Crashes involving younger drivers, older drivers, and CMVs make up the rest of the top five most common SHSP focus area crashes of all crashes that occurred within the County from 2019 through 2023. Four of these five SHSP focus areas are also the top five most common types of crashes that resulted in a fatality or serious injury. Non-motorist crashes replaced older driver crashes in the top five most common SHSP focus areas that resulted in a fatality or serious injury. Non-motorist and motorcycle crashes show the highest fatal or serious injury rate per total crash count, proving these types of crashes as particularly vulnerable. Almost half of the crashes in Mississippi County from 2019 through 2023 that involved a non-motorist resulted in a fatality or serious injury. More than one third of the crashes that involved a motorcycle resulted in a fatality or serious injury. The fatal and serious injury crashes are compared for each SHSP focus area in **Figure 3**.

In Mississippi County, crashes involving commercial motor vehicles (CMV) are a notably common type of accident, contributing significantly to the area's traffic incidents. CMV crashes are in the top five most common SHSP focus areas for all crash severities and in the top five for fatal and serious injury crashes. This contrasts sharply with the broader state of Arkansas, where such crashes are relatively infrequent and do not represent a major portion of the State's overall crashes, making up less than seven percent of all crashes from 2019 through 2023 in Arkansas. The disparity highlights regional differences in traffic patterns and potential risk factors unique to Mississippi County. Mississippi County contains the highest concentration of steel manufacturers in the nation, making it a key hub for the industry and therefore heavy vehicle traffic. The County should make it a priority to implement projects, policies, and strategies that focus on safety improvements related to CMVs.

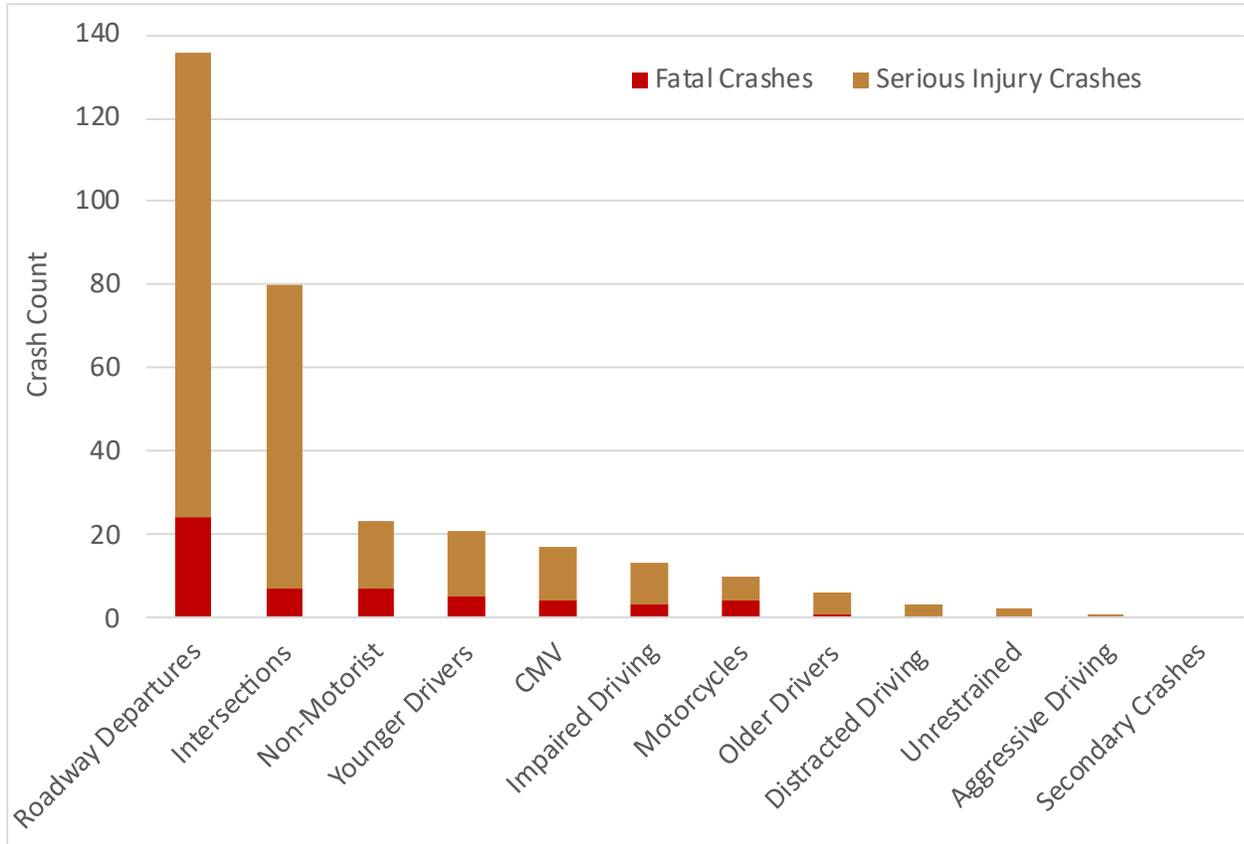


Figure 3: Fatal and Serious Injury Crashes (2019 – 2023) by SHSP Focus Areas

The SHSP focus areas with the highest number of fatal and serious injury crashes are more closely reviewed in **Figure 4**. Roadway departure and intersection crashes are the top two focus areas in the County based on fatal and serious injury crashes. Both focus areas experienced a large increase from 2020 to 2021. However, intersection crashes decreased from 2019 to 2020 and have since leveled off, while fatal and serious injury roadway departure crashes decreased in 2023. This trend is likely a result of the COVID 19 pandemic, which reduced vehicle traffic volumes in 2020 and 2021 and allowed vehicles on the road to travel faster, leading to more severe crash outcomes. These types of crashes likely leveled off as traffic volumes and speeds began to return to normal levels.

It is likely that the trend of non-motorist crashes is also a result of the COVID 19 pandemic. During the COVID 19 pandemic, pedestrian and bicycle traffic increased as vehicular volumes decreased due to many jobs shifting to being remote and atypical work and other activity schedules. This likely contributed to the decrease in non-motorist fatal and serious injury crashes from 2019 through 2021, as there was a lower risk of conflict between modes of transportation. However, as vehicle traffic volumes began to increase and return to normal at the end of the COVID 19 pandemic, non-motorist volumes may not have decreased as people kept their active outdoor hobbies, remote work, and atypical schedules, resulting in a higher risk of conflict between modes of transportation.

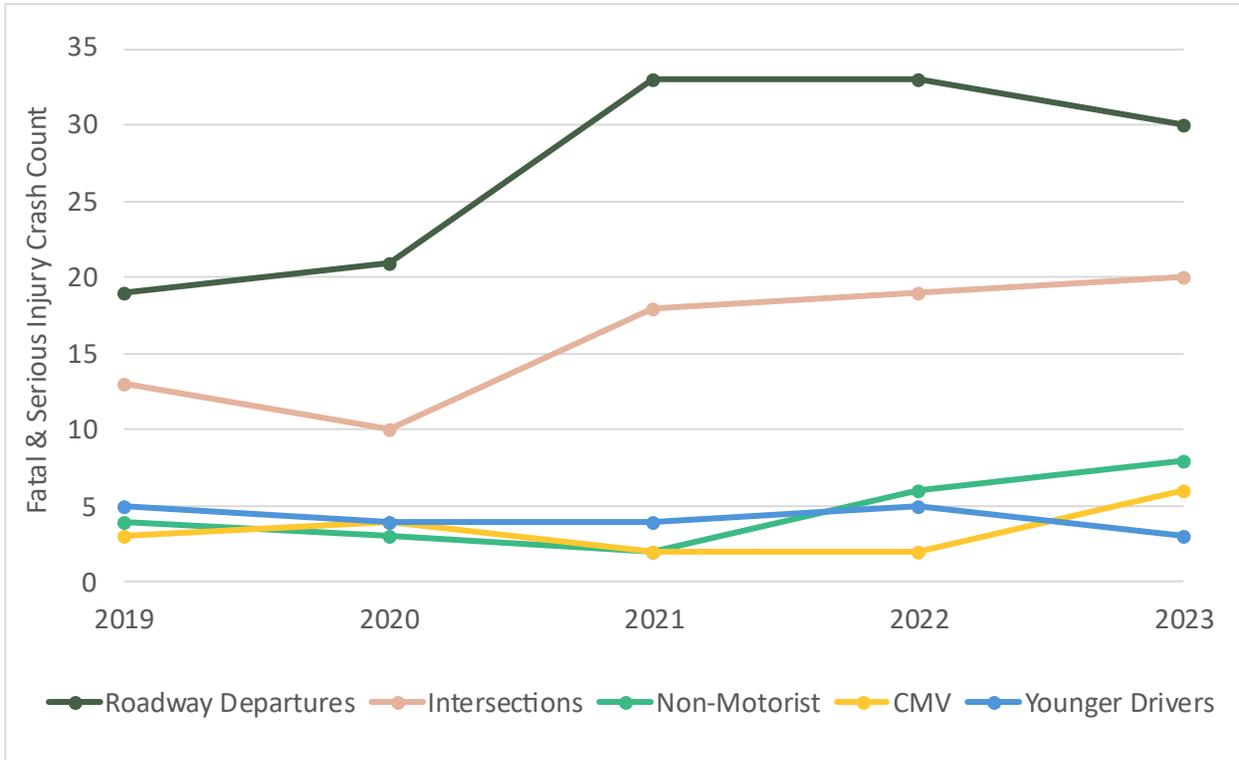


Figure 4: Top 5 Arkansas SHSP Focus Area Crash Summary

The individual trends and overall increase trend of these top five SHSP focus areas contributing to fatalities and serious injuries on roadways are concerning when considering the County’s goal to reduce fatal and serious injury crashes 50 percent by 2035 and eventually get to zero. The County needs to continue to make safety a priority and invest in both targeted and systemic countermeasures that can address these SHSP focus areas. Focusing on these areas will be a critical investment for the County to begin realizing a downward trend in fatal and serious injury crashes.

Safety Analysis by Plan County Region

The 2019 through 2023 crash data within each of the three Plan County Regions of Mississippi County is summarized by the twelve SHSP focus areas in **Table 3**. The fatal and serious injury crash counts for the SHSP focus areas in each region are compared in **Figure 3**. Roadway departure crashes are the most common SHSP focus area that led to fatal and serious injuries in all three Plan County Regions, as well as the most common crash type for all severities in the West and South regions. Intersection crashes are the second most common SHSP focus area that led to fatal and serious injuries in all three regions and are the most common crash type for all severities in the East Region.

Like the Countywide crash trends, crashes involving CMVs are one of the top five most common SHSP focus area crash types for each of the three regions. CMV crashes were the third most common type of crash related to fatal and serious injury crashes in the West Region, despite most of the steel manufacturers being in the East Region. This may be a result of the road network around the concentration of steel manufacturers in the East Region being designed and maintained to better accommodate high CMV volumes.

Table 3: SHSP Focus Area Crash Summary (2019 – 2023) by Plan County Region

Arkansas SHSP Focus Area	Total Crashes			Fatal & Serious Injury Crashes		
	West	East	South	West	East	South
Unrestrained	5	21	10	0	1	1
Older Drivers	21	136	67	2	3	1
Younger Drivers	17	181	111	1	8	12
Impaired Driving	11	48	25	2	6	5
Distracted Driving	9	24	16	1	0	2
Non-Motorist	5	29	24	2	13	8
CMV	26	125	94	3	8	6
Motorcycles	1	20	6	1	7	2
Roadway Departures	225	1138	606	13	76	47
Intersections	130	1279	450	11	45	24
Aggressive Driving	0	12	7	0	0	1
Secondary Crashes	0	0	0	0	0	0

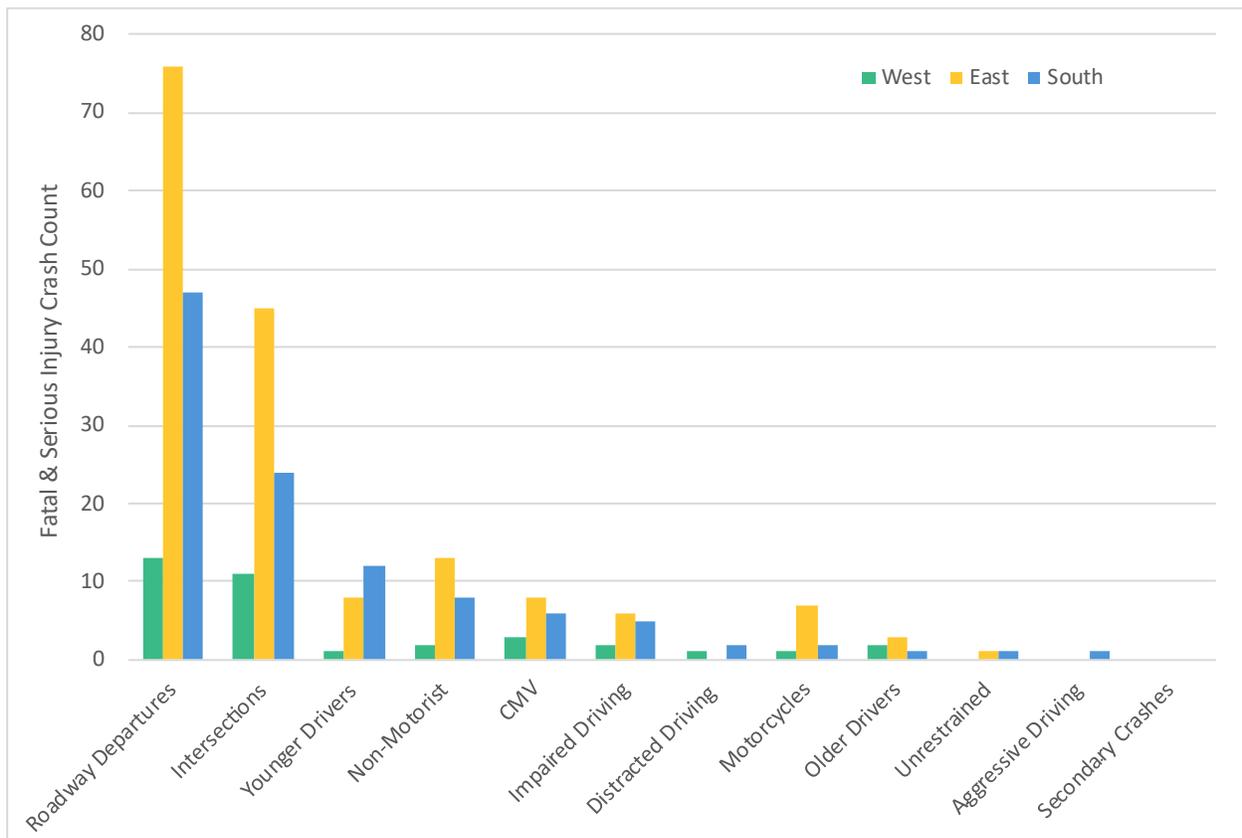


Figure 5: Fatal and Serious Injury Crashes (2019 – 2023) by SHSP Focus Areas and Plan County Region

The five-year crash counts for the East Region are significantly higher than the counts for the other regions in almost every SHSP focus area. However, the East Region has the greatest population of the three regions and therefore is more likely to yield the most crashes, while the West Region has the lowest population and is expected to contain the fewest crashes. To normalize the crash data to determine if crashes in the East Region are overrepresented or if they are proportional to the population of the area, census tract population data was used. The results are provided in **Table 4**.

Table 4: Crashes (2019 – 2023) by Plan County Region Normalized by Population

Region	Total Crashes	Fatal & Serious Injury Crashes	% of Fatal & Serious Injury Crashes	Fatal & Serious Injury Crashes/1,000 People
West	1235	25	2%	5.7
East	2671	111	4%	5.1
South	389	70	18%	6.0

The West Region had the lowest fatal and serious injury crash count for almost every SHSP focus area and the lowest overall fatal and serious injury crash count. However, the South Region had significantly fewer crashes overall than the other two regions and a significantly higher percentage of all crashes within the South Region were fatal or serious injury crashes than the percentage in the other regions. The normalized fatal and serious injury crash rates for each region show that although the East Region has the highest number of crashes overall, fatal and serious injury crashes, and fatal and serious injury crashes in almost every SHSP focus area, the fatal and serious injury crashes from 2019 through 2023 are overrepresented in the South Region.

Countywide High Injury Network

In addition to identifying crash trends within the County, it is also important to know where fatal and serious injury crashes are happening. With crash data from 2019 through 2023, the Countywide High Injury Network (HIN) was established. The HIN identifies road segments and intersections on which the most fatal and serious injury crashes have occurred over the last five years. The HIN represents a small percentage of the roadway network but encompasses a large number of fatal and serious injury crashes.

Only crashes with a severity of fatal (K) or suspected serious injury (A) were considered in the development of the HIN. The Mississippi County HIN was developed utilizing the following methodology:

1. Spatial Join

Base roadway lines provided by ARDOT were geospatially mapped in a geographic information systems (GIS) database. The 2019 through 2023 crash data was overlaid with the roadway lines by geospatial mapping according to each crash event's reported latitude and longitude.

To provide context of high injury locations along roadways, each fatal and serious injury crash was spatially joined to the closest roadway by proximity. Where crashes were located at an intersection of two roadways, the major roadway was given priority and determined as the roadway associated with the crash. This produced a dataset of roadways with a corresponding count of fatal and serious injury crashes.

To provide context of high injury locations at intersections, each fatal and serious injury crash located within 100 feet of an intersection within a city's boundary and within 200 feet of an intersection outside of a city's boundary was spatially joined to the closest intersection by proximity. Different proximity distances were used to assign crashes to intersections within and outside of city boundaries because intersections within cities in Mississippi County are often spaced closer than 200 feet apart.

These spatial join processes produced two data sets:

- ✦ Roadway lines with corresponding fatal and serious injury crash information
- ✦ Intersection points with corresponding fatal and serious injury crash information

2. Roadway Segmentation

Properties such as roadway functional classification and average daily traffic (ADT) were joined to the roadway lines. A nationwide transportation model dataset based off crowdsourced location data was used to estimate ADT where no traffic volumes were publicly available.

All roadway lines associated with at least one fatal or serious injury crash were broken into roadway segments. This segmentation process was determined by roadway attributes such as ADT, posted speed limits, changes in elevation, intersections with other roadways, roadway section profile, presence of sidewalks, and land use.

Where appropriate, gaps were filled between segments located closely to each other so that continuous and logical segments make up the HIN. Each of the resulting roadway segments represent a traveled way defined by unique road attributes that road users would experience while traveling on the segment.

3. Ranking by Frequency of Fatal and Serious Injury Crashes

Once roadway segmentation was completed, the segments were ranked by total number of fatal and serious injury crashes. Intersections with the highest number of fatal and suspected serious injury crashes were considered separately to determine the highest crash locations by intersection.

4. Crash Rate Consideration

Crash rates, expressed as fatal and serious injury crashes per mile, were calculated for each roadway segment. These crash rates normalized the segments by accounting for segment lengths. Some segments were determined to have an artificially high crash rate due to short segment length or low ADT. These segments were determined to have a skewed crash rate and were excluded from the HIN.

5. Selection of High Injury Roadway Segments and Intersections

The resulting roadway segments and intersections were included in the HIN.

The threshold for the HIN roadway segments was at least two fatal and serious injury crashes per segment. The resulting 52 HIN roadway segments, consisting of approximately 72 roadway miles, are shown in **Figure 6** and identified in **Appendix A**.

The threshold for the HIN intersections was at least two fatal and serious injury crashes within 100 feet of the intersection within a city's boundary or within 200 feet of an intersection outside of a city. This difference in the buffer distance around an intersection takes into consideration that intersections are often spaced closer in urban areas than rural areas. The resulting ten intersections included in the HIN are shown in **Figure 7** and identified in **Appendix B**.

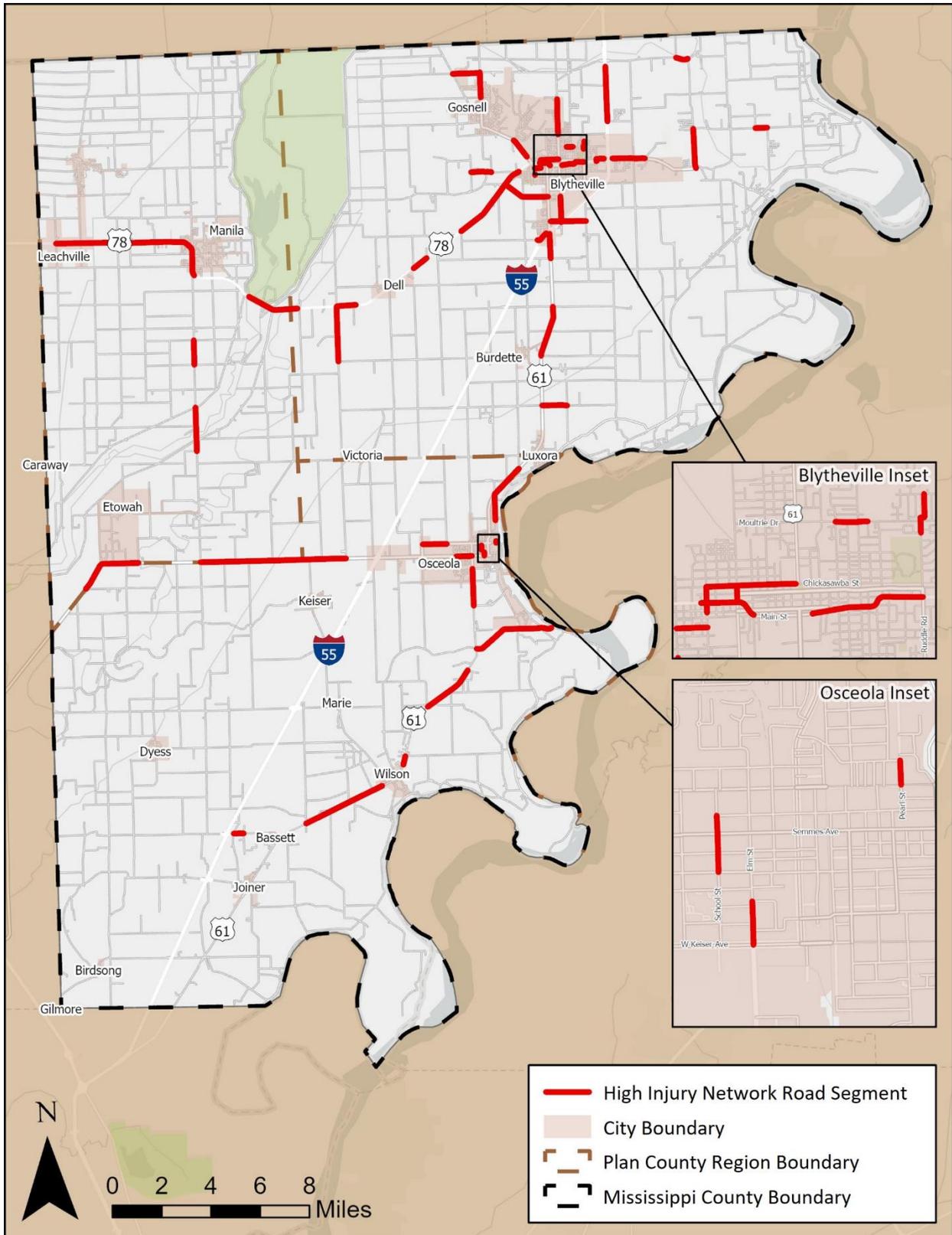


Figure 6: Mississippi County High Injury Network Road Segments

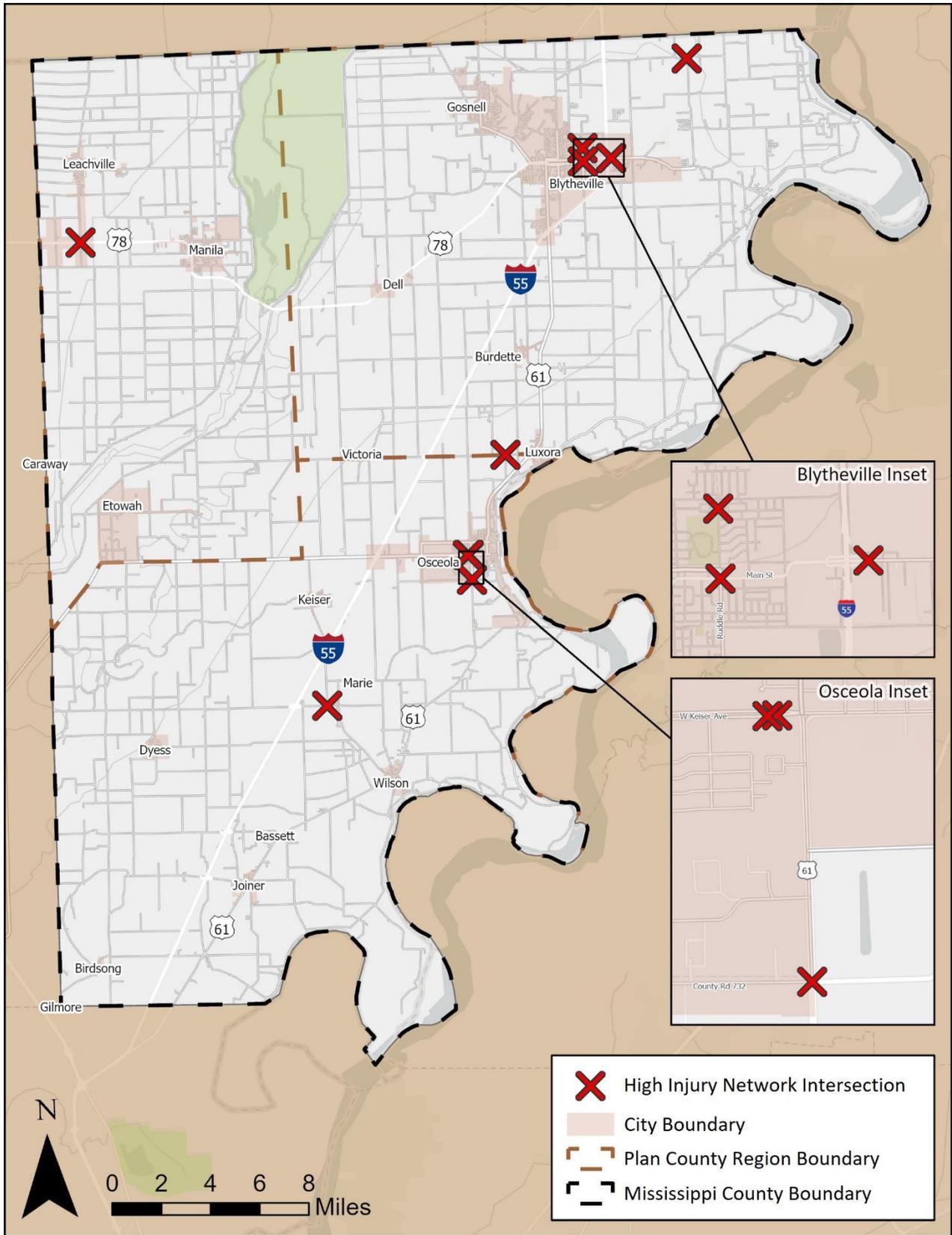


Figure 7: Mississippi County High Injury Network Intersections

The Mississippi County HIN road segments consist of about four percent of the roadway miles within the County that are not interstates, freeways, or expressways. These roadways account for approximately 67 percent of fatal and serious injury crashes that did not occur on interstates, freeways, or expressways in Mississippi County from 2019 through 2023.

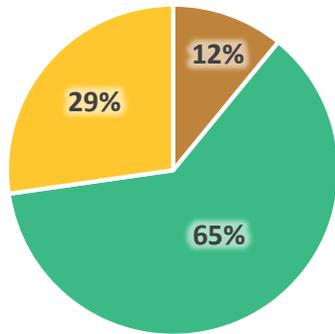
The Mississippi County HIN intersections make up about 7 percent of all intersections within the County that are not at intersections with interstates, freeways, or expressways. These intersections account for approximately 14 percent of fatal and serious injury crashes that occurred within an intersection in Mississippi County from 2019 through 2023.

High Injury Network by Plan County Region

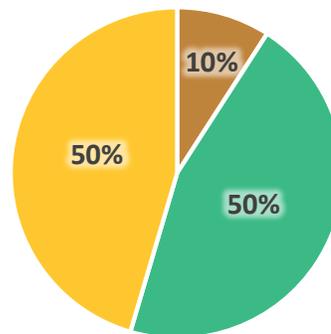
A summary of the HIN road segments and intersections within each of the three Plan County Regions is provided in **Figure 8**.

Note that the percentages for the HIN road segment and intersection statistics up to more than 100 because some of the HIN road segments and intersections fall along shared region boundaries or crossed region boundaries so they are included in the count for both regions the segments and intersections touch. Two HIN road segments included in the counts of HIN road segments and miles fall along the shared boundary of the West and South regions and therefore are counted for both of these regions. One HIN road segment included in the count of HIN road segments and miles spans the shared boundary of the West and East regions and therefore is counted for both regions. One HIN intersection included in the count of HIN intersections falls on the shared boundary of the East and South regions and therefore is counted for both regions.

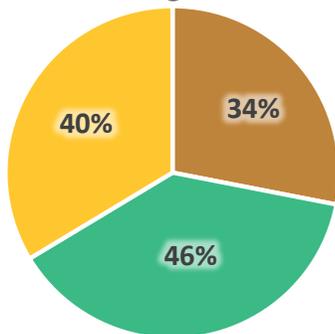
Number of HIN Road Segments



Number of HIN Intersections



HIN Road Segment Mileage



- West Region
- East Region
- South Region

Figure 8: High Injury Network by Plan County Region

Underserved Communities Analysis

Ensuring equitable investment in the safety needs of underserved communities is an important part of the Mississippi County Safety Action Plan. The SS4A Underserved Communities Tool was used to identify census tracts consistent with the definition of an Area of Persistent Poverty (APP) in the Infrastructure Investment and Jobs Act (IIJA, 49 USC 6702(a)(1)). The SS4A Underserved Communities Tool map, shown in **Figure 9**, indicates that Mississippi County as a whole meets the definition of an area of persistent poverty. The data further indicates that the County meets the definition of a rural community.

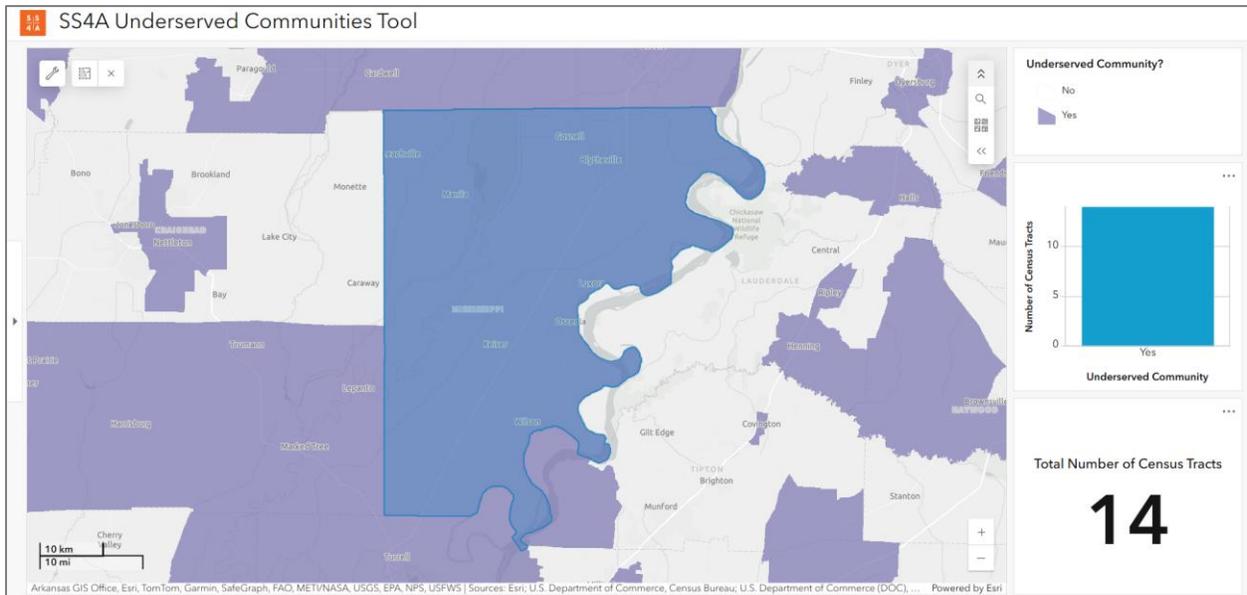


Figure 9: SS4A Underserved Communities Tool

Census tract data for the 14 census tracts that make up Mississippi County was downloaded from the tool and carefully reviewed for additional information. Nine of the Mississippi County census tracts individually qualify as areas of persistent poverty, as shown in **Figure 10**. Nearly all of the West Region area is identified as underserved. About 30 percent of the East Region area is identified as underserved. About 94 percent of the South Region area is identified as underserved.

Figure 10 also shows the census tract data overlaid with the HIN to emphasize where the transportation safety improvements are needed within underserved communities. About 74 percent of the Countywide HIN road segments fall within underserved communities. About 70 percent of the Countywide HIN intersections fall within underserved communities. All of the West Region HIN road segments fall within an underserved community. Almost half of the East Region HIN road segments fall within an underserved community. About 93 percent of the South Region HIN road segments fall within an underserved community.

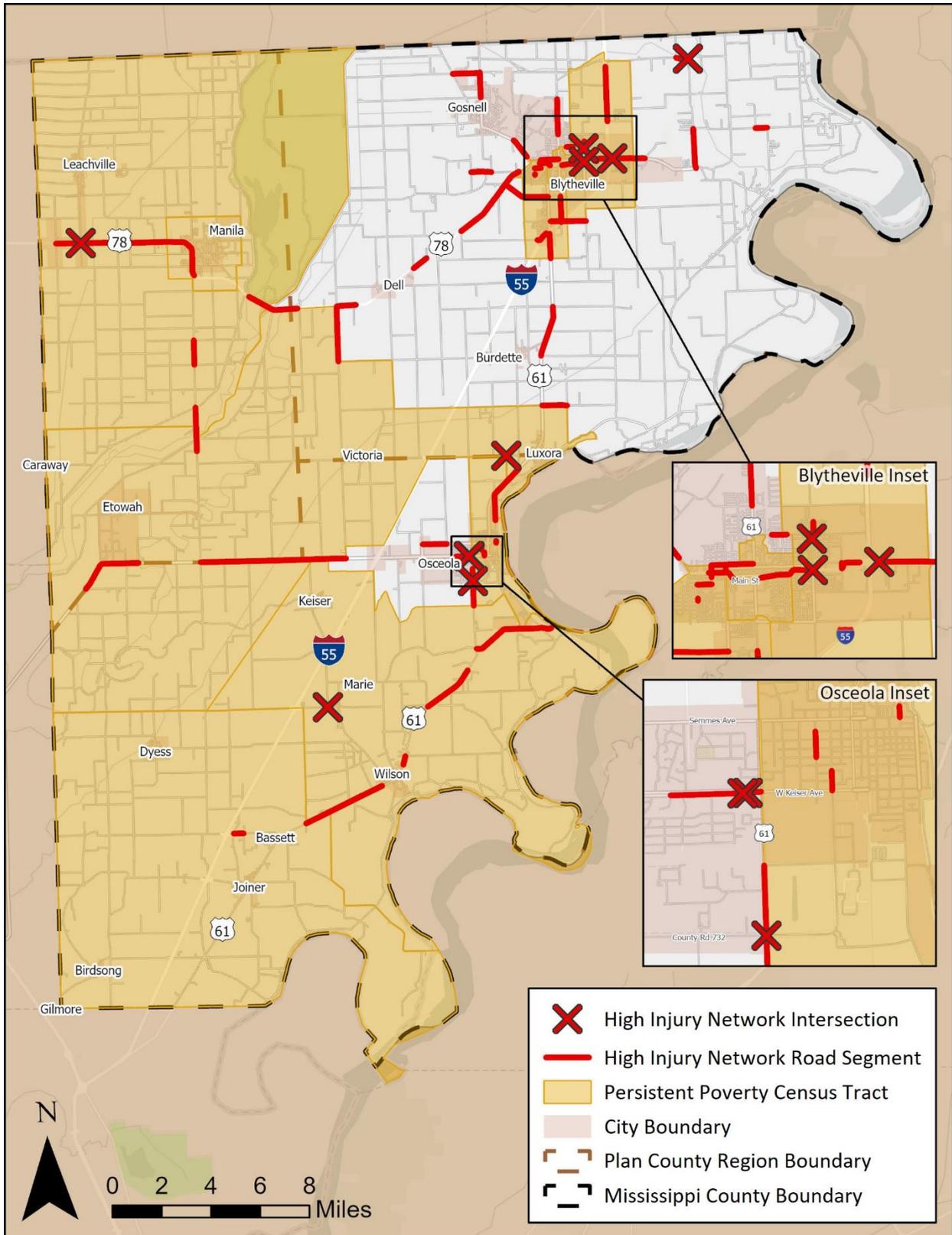


Figure 10: Mississippi County Underserved Community Census Tracts

COMMUNITY ENGAGEMENT

A robust community engagement process is a key component of a Safety Action Plan. Community engagement and collaboration provides local knowledge and experience related to transportation safety that may identify safety concerns and potential improvements that would otherwise not be apparent if solely relying on available data. Collaboration between involved stakeholders and Mississippi County is also a crucial part of the Plan development since it encourages effective coordination with existing plans, processes, and policies.

Mississippi County implemented a multi-faceted engagement program and the results of this engagement process were incorporated into each of the recommended projects.

Engagement Opportunities

In order to reach as many people as possible in the planning process, several engagement events were held and a variety of platforms were used to gather stakeholder and public feedback and input on the Mississippi County Safety Action Plan. Several engagement methods were used, including both in-person and online public engagement, which consisted of in-person community engagement events, a project website, an online survey, and an interactive comment map. While the project team was not able to provide convenient in-person engagement opportunities to each person in the County, the online formats were utilized to give every person in the County an opportunity to provide their input. The TSC was leveraged to spread awareness of the online tools to all areas and communities of Mississippi County.

In-Person Engagement

The in-person community engagement events were project held at various locations spread geographically across Mississippi County with the intention of reaching all types of communities. Each in-person event included displays of large maps with crash data to provide context on crash occurrence locations, as shown in **Figure 11**. Members of the community were asked to share their own experiences related to transportation safety in Mississippi County and their input was noted. The details of the in-person community engagement events are listed in **Table 5**.

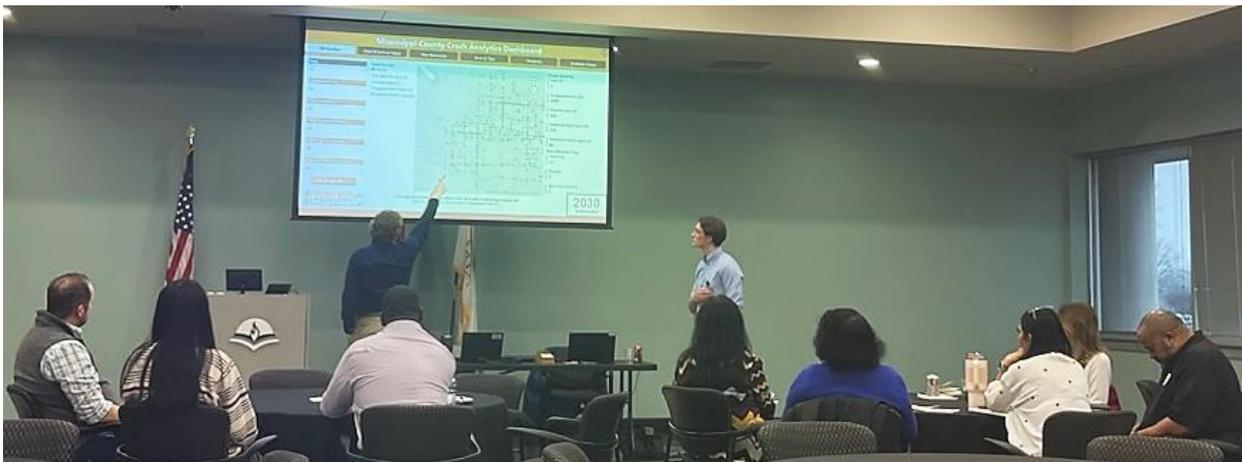


Figure 11: Community Engagement Event at Arkansas Northeastern College

Table 5: In-Person Community Engagement Events

Event Name	Date	Location	Region
Osceola Thriving Communities	November 12, 2024 (Tuesday)	Arkansas Northeastern College Osceola Center 2868 W Semmes Ave, Osceola, AR 72370	South
Mt. Pleasant Christian Center	December 17, 2024 (Tuesday, 5:30PM – 7:00PM)	New Mt. Pleasant Christian Worship Center 522 S Broadway Street, Osceola, AR 72370	South
Arkansas Northeastern College	January 30, 2025 (Thursday, 12:00PM – 1:30PM)	Arkansas Northeastern College 2501 S Division St, Blytheville, AR 72315	East
Wilson	March 21, 2025 (Friday, 11:30AM – 1:00PM)	The Grange at Wilson Gardens 15 S Jefferson St, Wilson, AR 72395	South

Online Engagement

Online engagement was conducted using an online project website, survey, and interactive comment map. The printed public engagement cards utilized as advertisements for public participation and education are shown below in **Figure 12**.



Figure 12: Public Engagement Card

Project Website

The project website, located at www.MississippiCountySAP.com, provided members of the community with public access to information explaining the SS4A program, progress on the Mississippi County Safety Action Plan, a crash data analytics dashboard, survey, and interactive comment map for targeted location input. Over the course of the in-person events, hundreds of project cards were handed out to point people to access the project website. During the project’s engagement period, the project website had 526 total page views.

✦ **Survey**

Participants at in-person community engagement events were encouraged to access the online survey with computers provided at the events. Community members that did not attend in-person engagement events were able to access the survey via the project website. The survey was open for input from December 17, 2024 through March 31, 2025 and received 58 responses.

✦ **Interactive Comment Map**

The online interactive comment map allowed stakeholders and the public to drop a pin and comment at a particular location, identifying it as a place they have a safety concern or have an idea of an opportunity for improvement and differentiating if their comment relates to vehicles, pedestrians, or bicyclists. The interactive map had options for the public to drop a pin and leave a comment where they have witnessed or been in a crash or a near-crash experience. The interactive map also allowed the public to draw lines and leave comments for various improvements such as sidewalk and roadway resurfacing. The interactive comment map was open for comments from December 17, 2024 through March 31, 2025 and received 123 comments, shown in **Figure 13**. Of the total comments, there were 80 Point Comments and 43 Segment Comments.

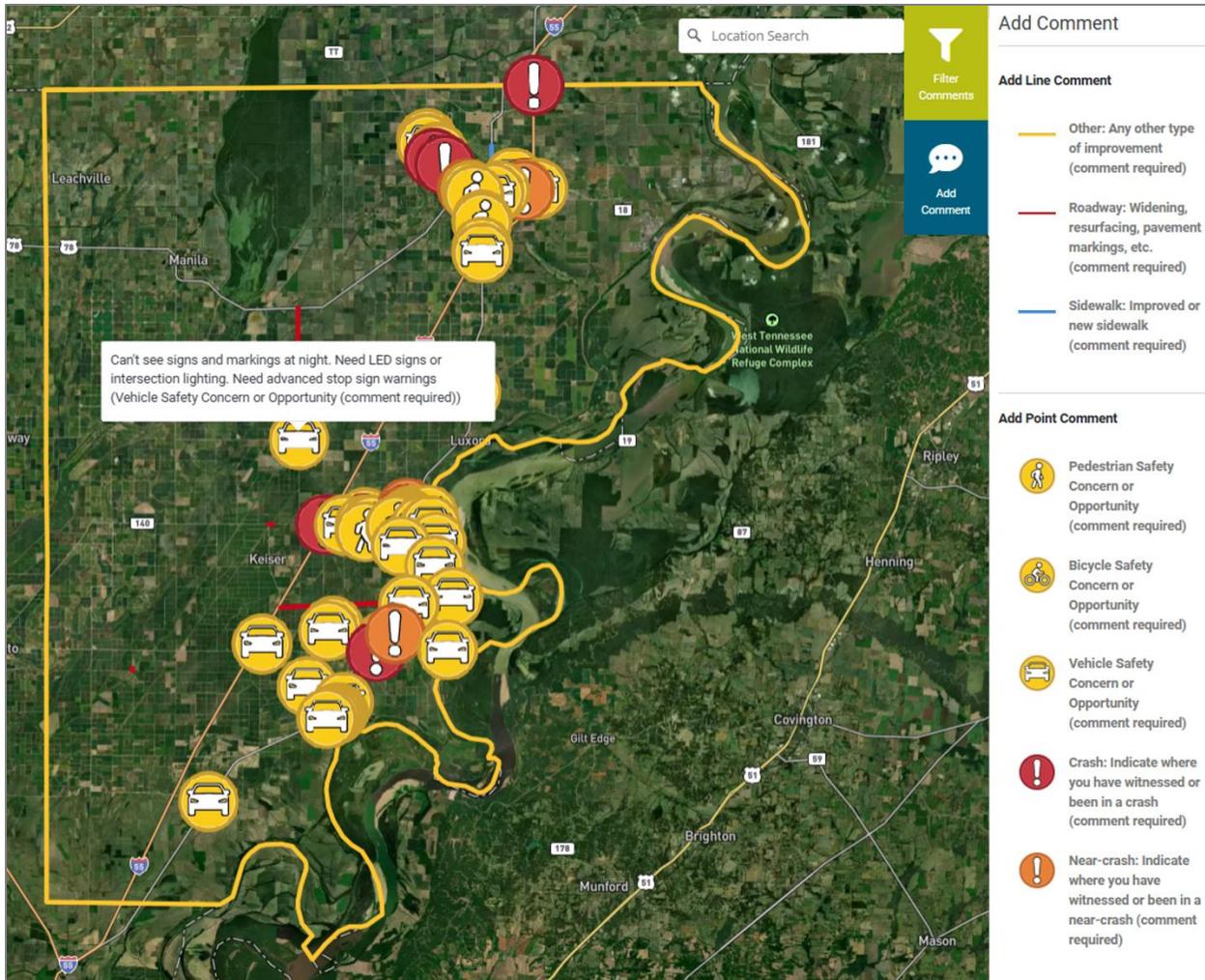


Figure 13: Interactive Comment Map

Engagement Takeaways

Throughout the entire engagement process, several themes rose to the top as consistent safety concerns from stakeholders and the public via the online survey and interactive comment map, as well as feedback from in-person events. The most common recurring themes were related to heavy vehicles, pedestrian facilities in downtown areas, sidewalk connectivity to parks and schools, pavement conditions, and traffic calming. These themes often overlap and are intertwined in certain locations, highlighting the complexity and urgency of addressing these issues.

The number of each comment type from the interactive comment map is shown in **Figure 14**.

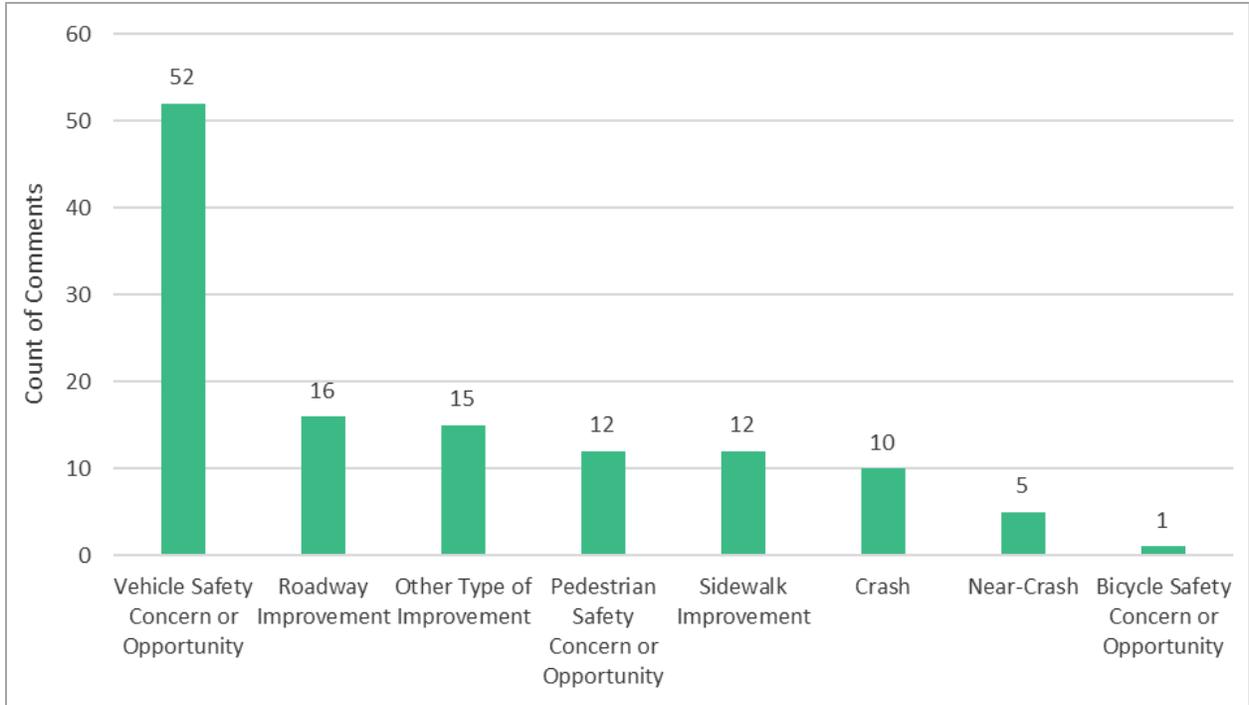


Figure 14: Number of Interactive Comment Map by Comment Type

Overview of Stakeholder and Public Comments by Location

Comments on the interactive comment map were primarily concentrated in Blytheville, Osceola, and Wilson. Themes from the comments in each location are as follows:

Blytheville

- ✦ Access management concerns
- ✦ Sight distance limitations and low visibility concerns
- ✦ Heavy vehicle concerns
- ✦ Safety concerns for all modes of transportation in the vicinity of schools
- ✦ Pedestrian safety concerns

Osceola

- ✦ Heavy vehicle concerns
- ✦ Pedestrian and bicyclist safety concerns
- ✦ Pavement condition concerns
- ✦ Intersection safety concerns
- ✦ Roadway flooding and drainage concerns

Wilson

- ✦ Speeding concerns
- ✦ Pedestrian safety concerns
- ✦ Pavement condition concerns

NEEDS ASSESSMENT

The needs assessment prioritizes the Mississippi County HIN road segments and intersections to identify locations that exhibit the greatest need for safety countermeasures as compared to other locations throughout Mississippi County, considering all factors contributing to transportation safety in the County. The prioritization scoring criteria meets key objectives of the SS4A Program by prioritizing locations with the highest number of fatal and serious injury crashes and locations where vulnerable road users such as pedestrians and bicyclists are more likely to travel. Crash data, stakeholder and public input, location characteristics, and census data are all considered as scoring criteria.

The outcome is a prioritized list of locations that require strategic investment of resources for future safety improvements, which directly aligns with the Plan’s goal of reducing and ultimately eliminating fatal and serious crashes in Mississippi County. The five highest scoring HIN road segments in each of the three Plan County Regions are selected for projects. All ten HIN intersections are prioritized based on the scoring criteria, however all ten are selected for projects.

Location Prioritization Scoring Process

To determine a HIN roadway segment or intersection’s safety needs score, the prioritization process assigns scores to each location so that all roadway segments and all intersections can be ranked against each other based on similar criteria. The scoring criteria and corresponding point values were developed based on the County’s priorities and feedback from the TSC. The final prioritization criteria consisted of components related to crash data, stakeholder and public input, location characteristics, and census data. The prioritization scoring criteria and corresponding maximum point values are shown in **Table 6** and **Figure 15**. Each location can receive a maximum of 100 points.

Table 6: Location Scoring Criteria

Scoring Criteria	Scoring Criteria Component	Points
Crash Data	Number of Fatal and Serious Injury Crashes	30
	Number of Non-Motorist Crashes	20
	Total Number of Crashes	10
Stakeholder & Public Input	Number of Comments	15
	Comment Content	5
Location	Average Annual Daily Traffic (AADT)	5
	Proximity to Schools	5
	Proximity to Parks	5
Census Tract Data	Underserved Community	5
Maximum Total Points		100

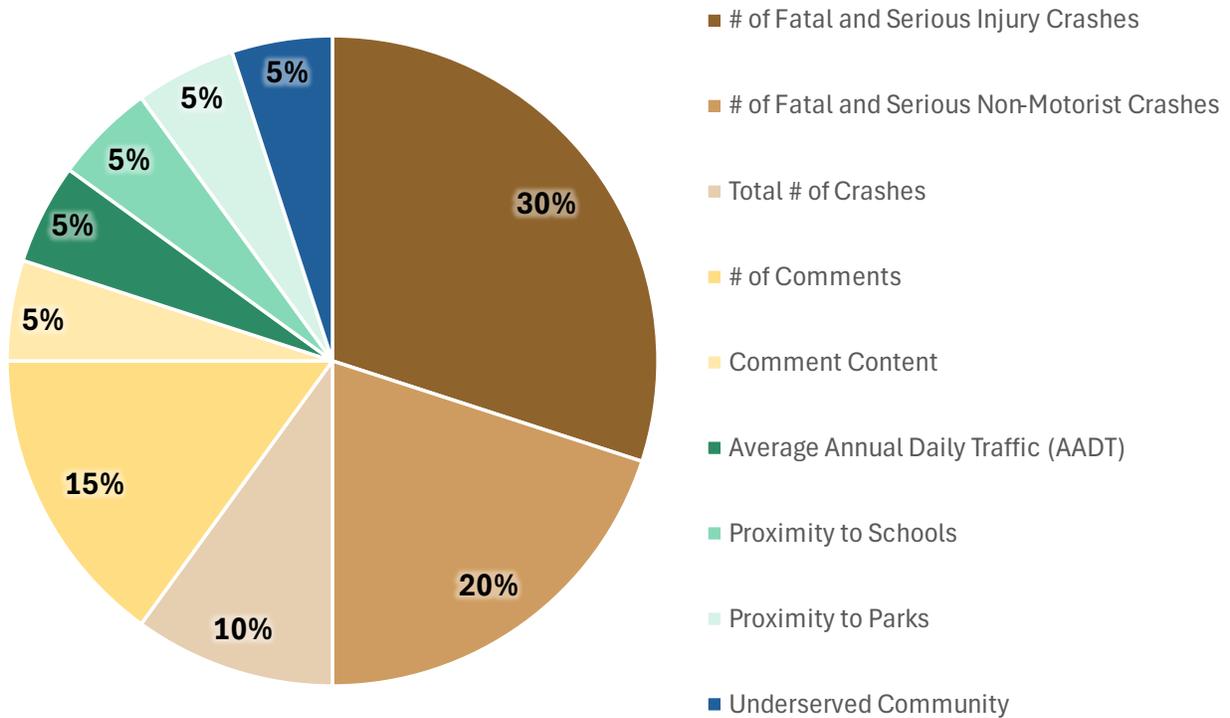


Figure 15: Location Scoring Criteria

The crash data criteria make up the largest portion of the score with a maximum of 60 points. This is consistent with the primary goal of the Mississippi County Safety Action Plan and focus of the SS4A Program related to the reduction and elimination of fatal and serious injury crashes, as well as vulnerable road users. Significant effort was put into stakeholder and public outreach to gather input from those that use the streets and roads in Mississippi County on a regular basis. Therefore, the stakeholder and public input collected through community engagement make up the second largest portion of the score with a maximum of 20 points. Location characteristics such as proximity to schools and parks are part of the scoring criteria so that locations near existing amenities and destinations that are often accessed by non-motorists are prioritized for safety improvements, particularly for vulnerable road users.

Lastly, census data is included so that the needs and burdens experienced by the community are considered in the prioritization process. While the new federal requirements have changed so that equity is no longer needed to be considered in project prioritization, Mississippi County staff and TSC chose to continue to prioritize improving safety in underserved communities in the County. However, the County and TSC did decide to reduce the weight awarded to locations within areas of persistent poverty under this scoring criteria from what was initially planned, to align with the USDOT's recently updated priorities.

Prioritization Results

Each HIN road segment and intersection is scored based on the scoring criteria discussed in the previous section. Tables with the full lists of the HIN road segments and intersections, with each location's data, score broken out by criteria, and total score, are provided in **Appendix A** and **Appendix B**. The top five

highest scoring HIN road segments in each of the three Plan County Regions of Mississippi County were identified to ensure the Safety Action Plan provides project recommendations across the County. All ten of the HIN intersections were selected for further evaluation and project development.

The top five HIN road segments in each of the three regions are presented in **Table 7** and **Figure 16 through Figure 18**. Two of the top five HIN road segments in the West Region are located along the boundary with the South Region, one of which scored the second highest in the West Region and is the fifth highest scoring road segment in the South Region. Due to this overlap, 14 unique HIN road segments are selected for projects.

Table 7: Prioritized Top Five HIN Road Segments in Each Plan County Region

Regional Rank	Road Name	Approximate Segment Extents	City	Region(s)	Total Score
West Region					
W-1	AR 18 Bypass	N County Rd 77 – State Hwy 77	Manila, Leachville	West	63
W-2*	State Hwy 140	S State Hwy 77 – State Hwy 181	N/A	West & South	33
W-3	State Hwy 18	N County Rd 281 – W County Rd 368	N/A	West & East	28
W-4	State Hwy 140	State Hwy 297 – S County Rd 121	Etowah	West & South	22
W-5	State Hwy 77	W County Rd 538 – N County Rd 193	N/A	West	16
East Region					
E-1	Main St/State Hwy 18	S 5th St – N Ruddle Rd	Blytheville	East	74
E-2	Main St/State Hwy 18	Interstate 55 Ramp – N State Hwy 980	Blytheville	East	60
E-3	Main St/State Hwy 18	S Lockard St – Interstate 55 Ramp	Blytheville	East	48
E-4	Main St/State Hwy 18	S 17th St – S 11th St	Blytheville	East	46
E-5	Ruddle Rd	Logan Ln – S Tennessee St	Blytheville	East	40
South Region					
S-1	Keiser Ave/State Hwy 140	Newport Drive – S Ermen Ln/US Hwy 61	Osceola	South	81
S-2	State Hwy 198	US Hwy 61 – S County Rd 661	N/A	South	47
S-3	US Hwy 61	S County Rd 343 – Lee St	Wilson	South	38
S-4	Elm St	Edrington Ave – US Hwy 61	Osceola	South	35
S-5*	State Hwy 140	S State Hwy 77 – State Hwy 181	N/A	West & South	33

*HIN road segment along the boundary of the West Region and South Region scored in the top five for both regions.

The ten HIN intersections are prioritized within each of the three Plan County Regions in **Table 8** and are shown in **Figure 16 through Figure 18**. One of the HIN intersections is located along the boundary of the East and South regions and scored fourth in the East Region and fifth in the South Region. Six of the HIN intersections fall along a HIN road segment that scored in the top five for one of the Plan County Regions.

Table 8: Prioritized HIN Intersections in Each Plan County Region

Regional Rank	Intersection	City	Region(s)	Road Type	Total Score
West Region					
W-1	State Hwy 18 Hwy & Main St	Leachville	West	State Route & Local Road	22
East Region					
E-1	Main St & Ruddle Rd	Blytheville	East	State Route & Local Road	49
E-2	Main St & Interstate 55 Ramp	Blytheville	East	State Routes	27
E-3	Parkside St & Ruddle Rd	Blytheville	East	Local Roads	24
E-4*	State Hwy 158 & County Rd 615	N/A	East & South	State Route & Local Road	15
E-5	State Hwy 150 & State Hwy 312	Number Nine	East	State Routes	11
South Region					
S-1	Keiser Ave & Dollar Store Shopping Center Dwy (median opening)	Osceola	South	State Routes	30
S-2	Keiser Ave & Taco Bell/KFC Dwy (median opening)	Osceola	South	State Routes	20
S-3	County Rd 732 & U S Hwy 61	Osceola	South	State Route & Local Road	18
S-4	State Hwy 14 & State Hwy 181	Marie	South	State Routes	16
S-5*	State Hwy 158 & County Rd 615	N/A	East & South	State Route & Local Road	15

*HIN intersection located on the boundary of the East Region and South Region.

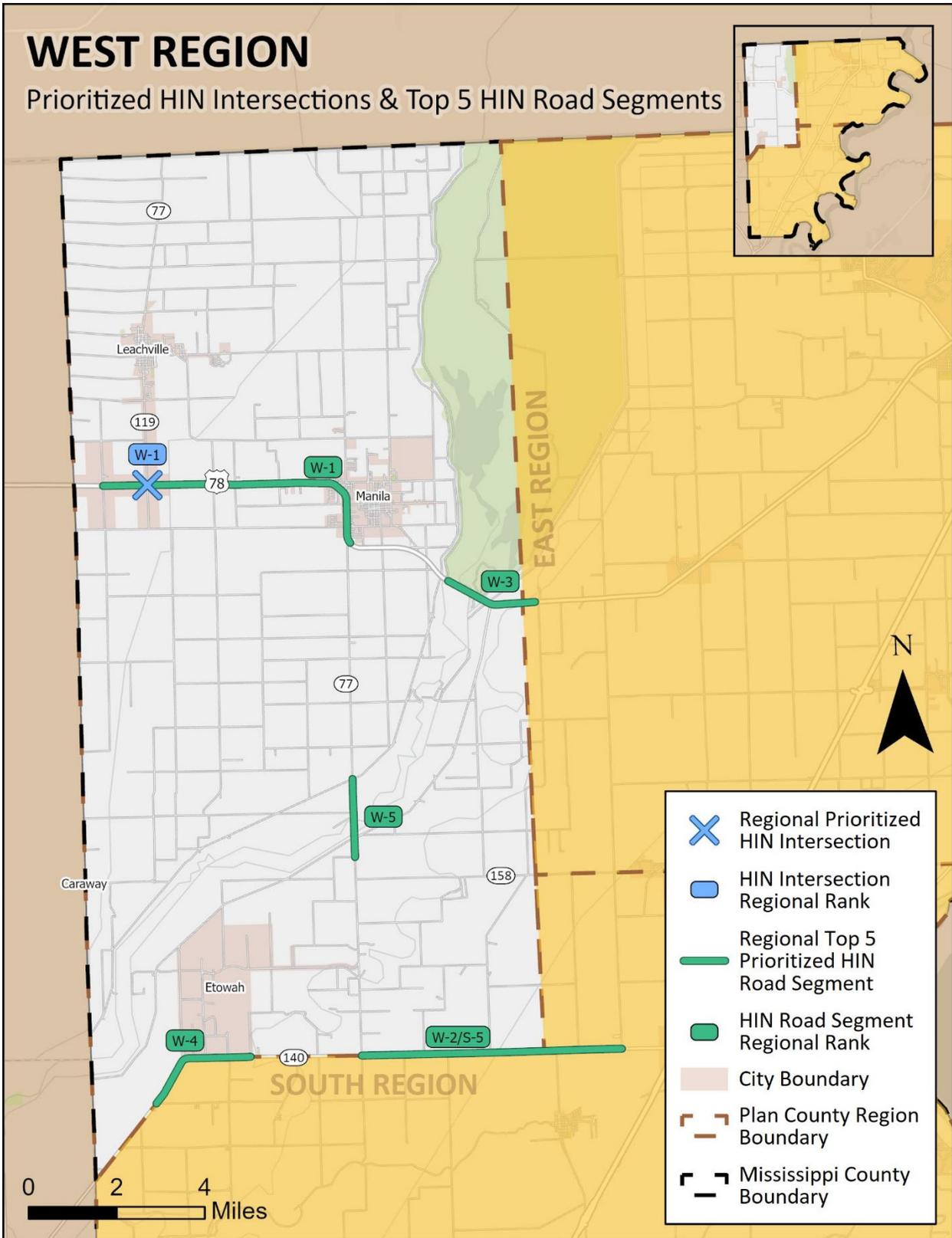


Figure 16: West Region Prioritized HIN Intersections and Top 5 HIN Road Segments

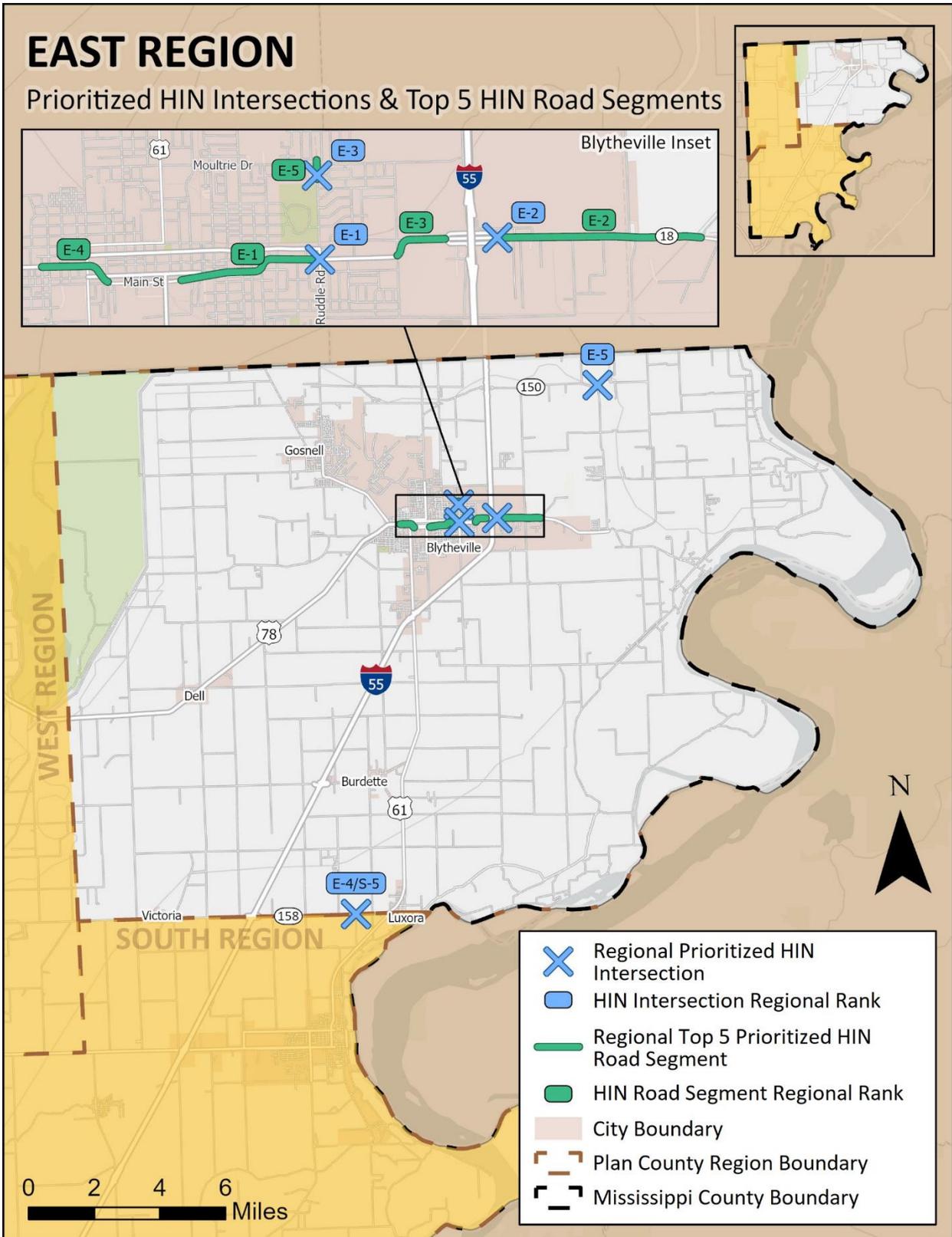


Figure 17: East Region Prioritized HIN Intersections and Top 5 HIN Road Segments

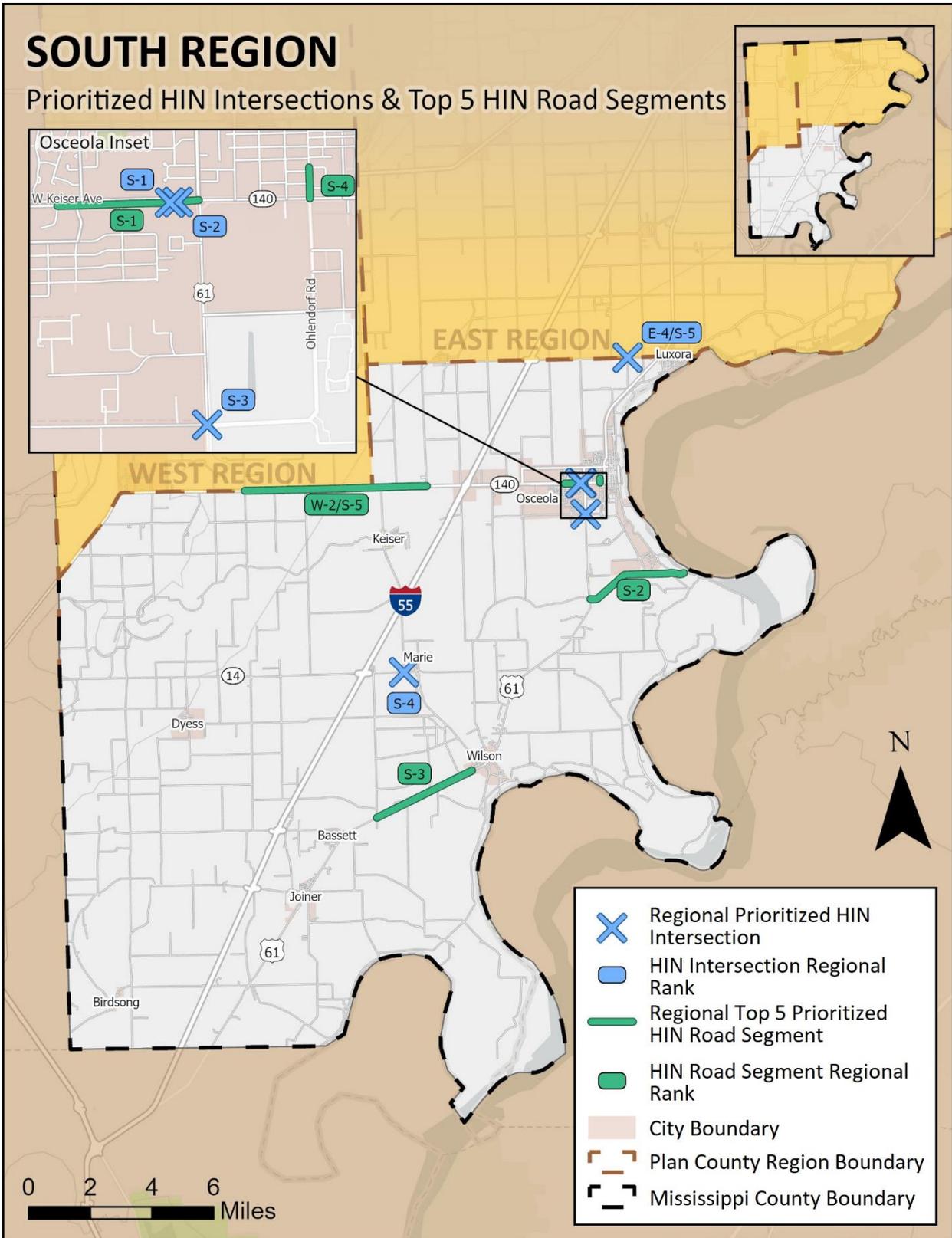


Figure 18: South Region Prioritized HIN Intersections and Top 5 HIN Road Segments

SAFETY COUNTERMEASURES TOOLBOX

The Safety Countermeasure Toolbox section describes countermeasures that have been historically proven to increase safety on roadways. These countermeasures have a positive impact on reducing the number and severity of crashes.

Safety countermeasures include changes in roadway geometry, operations, signage, pavement markings, or access management. The countermeasures defined in this section have been recommended from sources including the FHWA, National Highway Traffic Safety Administration (NHTSA), and ARDOT. In some instances, such as the use of speed safety cameras which are limited to highway work zones, school zones, and at railroad crossings with an officer present, state law may need to be reviewed and revised in order to implement the countermeasure on a wide-scale basis.

Strategic selection of safety countermeasures and strategies can help to implement the Safe System Approach so that redundant layers of protection are built into the road network to prevent crashes and minimize their severity. This section provides a variety of specific countermeasures and strategies that can be utilized at targeted locations and systemically across the entire transportation network to help reduce fatal and serious injury crashes in Mississippi County. While these countermeasures were identified through a reactive approach based on historic crash trends and community input at particular locations, they can be applied across the transportation network with the goal of proactively addressing the same risks present elsewhere.

Each of the countermeasures and strategies are accompanied by an anticipated timeframe of implementation. These timeframes account for any planning, design, or construction necessary to implement an item.

- ✦ **Immediate** (less than 1 year)
- ✦ **Short-term** (1 – 2 years)
- ✦ **Mid-term** (2-5 years)
- ✦ **Long-term** (more than 5 years)

FHWA Proven Safety Countermeasures

FHWA's Proven Safety Countermeasures (PSCs) are strategies and improvements effective in reducing deaths and serious injuries caused by crashes on all roadways. FHWA recommends the implementation of PSCs by transportation agencies nationwide to better accelerate the achievement of safety goals and move towards zero fatal and serious injury crashes. PSCs address the following safety focus areas: **Speed Management, Pedestrian and Bicyclist, Roadway Departure, and Intersections. Crosscutting Strategies** are also identified as part of the PSCs and address multiple safety focus areas.

Speed Management

With the potential for fatal injuries increasing as the speed of a crash increases, it is important to realize the need for proper speed management. The following countermeasures are proven to combat the potentially fatal effects of high-speed crashes before they even happen.



Appropriate Speed Limits for All Road Users (Immediate)

This strategy utilizes an engineering study conducted in accordance with the *Manual on Uniform Traffic Control Devices* (MUTCD) along with engineering judgement to determine

the appropriate speed limit for road users. This speed limit determination should also consider non-motorist activity, crash history, nearby land use, and observed speeds.



Speed Safety Cameras (Short-Term)

An effective and reliable technology that can aid the current methods in practice, speed safety cameras use speed measuring devices to detect a speeding vehicle and catalog the evidence for later penalization. These devices not only provide an alternative to current policing measures, but also offer an unbiased enforcement of speeding independent of driver age, race, gender, or socio-economic status. Arkansas state law currently limits use of speed safety cameras for enforcement to highway work zones, school zones, and at railroad crossings with an officer present.



Variable Speed Limits (Mid-Term)

When ideal conditions of a roadway are not met and the posted speed limit is predetermined for ideal conditions, there is a greater chance that a driver error could result in a crash. Variable speed limits can adapt to changing circumstances to reduce the risks of nonideal driving conditions, such as congestion, crashes, and weather. This countermeasure is particularly effective for urban and rural freeways with posted speed limits greater than 40 mph.

Pedestrian and Bicyclist

Often the most vulnerable users of the roadway, pedestrians and bicyclists require that transportation planners and engineers go beyond traditional design that focuses primarily on moving automobiles. The PSCs for these road users generally include improving the visibility of pedestrian and bicycle facilities and alerting drivers to be aware of potential pedestrian or bicycle encounters. These strategies are particularly useful near schools, transit stops, and other areas with a large amount of pedestrian or bicyclist activity.



Crosswalk Visibility Enhancements (Immediate)

The three main enhancements for crosswalk visibility are high-visibility crosswalks, improved lighting, and enhanced signing and pavement markings. These countermeasures do not just provide an increased potential for drivers to identify potential points of conflict, but they also assist in the decision-making of users trying to cross the road.



Leading Pedestrian Interval (LPI) (Immediate)

This countermeasure modifies signal timing so that pedestrians can enter the intersection approximately three to seven seconds before vehicles receive a green light. LPI's can reduce potential conflicts and increase the visibility of pedestrians crossing a roadway, especially for vehicles making turning movements. An engineering study should be conducted in accordance with the MUTCD to determine the appropriate application of an LPI at a signalized intersection.



Rectangular Rapid Flashing Beacons (RRFBs) (Short-Term)

Usually accompanied by a pedestrian warning sign, RRFBs flash with an alternating high-frequency and can increase the visibility and driver awareness of pedestrians in a crosswalk.



Pedestrian Hybrid Beacons (PHBs) (Mid-Term)

Many pedestrian fatalities occur at non-intersection locations, with one notable factor being the speed of vehicles in the area. PHBs are red-yellow signalizations that can be activated by a pedestrian to prompt approaching vehicles to stop and give the pedestrian the right-of-way for safe crossing.



Walkways (Mid-Term)

Any space that is well-defined and intended for the use of a person traveling by foot or using a wheelchair may be considered a walkway, including sidewalks, multi-use paths, and roadway shoulders. Roadway shoulders are some of the least safe walkways, while elevated sidewalks provide significantly more protection for pedestrians.



Bicycle Lanes (Mid-Term)

By creating a dedicated lane for bicyclists, the number of crashes between vehicles and bicycles can be reduced while also encouraging and facilitating bicycles as a mode of transportation. FHWA's Bikeway Selection Guide and Incorporating On-Road Bicycle Networks into Resurfacing Projects can be used to assist agencies in determining which facilities provide the most benefit in various contexts, as bicycle lanes are not limited to additional pavement markings adjacent to vehicular lanes. Separated bicycle lanes, which use vertical elements—such as flexible delineator posts, curbs, or vegetation—between the bicycle lane and motorized traffic lanes provide additional safety benefits.



Medians and Pedestrian Refuge Islands in Urban and Suburban Areas (Long-Term)

Medians and pedestrian refuge islands can be installed to reduce the high number of pedestrian fatalities that occur at midblock locations in urban and suburban areas. These countermeasures protect pedestrians and bicyclists as they cross one direction of multi-lane traffic at a time by using pavement markings and raised concrete curbs and landings to create physical separation between vehicles and non-motorists.



Road Diets (Roadway Reconfiguration) (Long-Term)

The common use of road diets involves converting an existing four-lane undivided roadway into a three-lane roadway with one through lane in each direction, access management medians and turn lanes, and potentially the installation of bike lanes. Road diets calm traffic which not only provides safer roads for pedestrians and non-motorized road users but also benefits motorized vehicles with regards to safer left-turns and consistent speeds.

Roadway Departure

Roadway departures are one of the most types of crashes that are seen in rural areas of Central Arkansas. The following countermeasures aim to reduce the number of departure-related fatalities.



Enhanced Delineation for Horizontal Curves (Immediate)

This strategy includes a variety of countermeasures aimed at increasing driver awareness of curves. Pavement markings, retroreflective strips on sign posts, delineators, chevron signs, and dynamic curve warning signs can be used to enhance delineation for horizontal curves.



Wider Edge Lines (Immediate)

Without identifiable travel lanes and upstream road alignment, the risk of roadway departure is heightened. By increasing the width of edge lines from the minimum of four inches to the maximum of six inches, associated crashes can be reduced by 37 percent. Wider edge lines are relatively low cost with a benefit-cost ratio of 25:1.



Longitudinal Rumble Strips and Stripes on Two-Lane Roads (Short-Term)

Rumble strips are a series of grooves in the pavement or raised elements along the travel lane lines intended to alert drivers through vibration or sound that their vehicle has left the travel lane. White edge line or yellow center line stripes may be painted over rumble strips to increase lane visibility during non-ideal conditions. These countermeasures can be used to alert drifting drivers and reduce many head-on and roadway departure fatal and serious injury crashes.



Roadside Design Improvements at Curves (Short-Term)

These countermeasures include treatments for the high-risk roadside environment along the outside of horizontal curves that reduce roadway departure fatalities and serious injuries. They may aim to give vehicles a chance to recover safely from roadway departures, such as removing hazards along the roadside and implementing clear zones, flattening steep side slopes, and adding or widening shoulders. Cable barriers, metal-beam guardrails, and concrete barriers may reduce the severity of a crash when a safe recovery is not possible.



SafetyEdgeSM (Short-Term)

SafetyEdgeSM is a low-cost and effective pavement edge technology that eliminates the potential for vertical drop-offs by shaping the edge of pavement at approximately 30 degrees from the pavement cross slope. This shallow slope allows for a controlled return to the travel lane for drivers who have left the roadway and combats edge raveling of asphalt.



Median Barriers (Mid-Term)

Longitudinal barriers that separate opposing traffic on a divided highway are used to redirect vehicles that have left the travel lane and are heading towards opposing traffic. Hotspots of head-on crashes can give a good idea of where median barriers may be of the most use. Median barriers installed on rural four-lane freeways have resulted in a 97 percent reduction in cross-median crashes.

Intersections

Responsible for a large portion of fatal and serious injury crashes, intersections are a major focal point for safety analyses. The following countermeasures will highlight the multitude of ways to reduce intersection related crashes.



Backplates with Retroreflective Borders (Immediate)

With one inch to three-inch-wide yellow retroreflective borders, these types of backplates improve the visibility of a traffic signal. This treatment to traffic signals accounts for older and color vision deficient road users, not to mention its usefulness during blackouts in providing a visible cue for drivers to stop at the intersection ahead of them.



Yellow Change Intervals (Immediate)

With practices in place that regularly review and update traffic signal timing policies relating to yellow change intervals, the length of yellow signal indication, rear-end crashes and crashes associated with red-light running can be reduced.



Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections (Immediate)

This treatment involves a series of low-cost countermeasures for stop-controlled intersections through better signage and pavement markings. Some methods for stop-controlled and through approaches include posting warning signs on both sides of the road, oversized warning signs, retroreflective signage, enhanced pavement markings.



Dedicated Left- and Right-Turn Lanes at Intersections (Mid-Term)

Left- and Right-turn only lanes can provide physical separation for turning traffic from through traffic for decelerating and waiting for a gap to turn. Thus, the potential for crash types like rear-end collisions or left-turns across opposing traffic is reduced.



Reduced Left-Turn Conflict Intersections (Mid-Term)

In the same realm as the previous countermeasure, these intersections are geometrically designed to alter how left-turn movements occur. Simplifying decision-making for drivers, the most effective of these designs rely on U-turns and can greatly reduce the potential for higher severity crash types, including head-on and angle crashes.



Roundabouts (Mid-Term)

Roundabouts are intersections that move traffic through channelized approaches along a circular configuration. They allow for safe and efficient routes by eliminating left-turn conflicts and keeping the traffic along roadways moving, thus minimizing delays and queueing. Roundabouts may also have traffic calming impacts.



Corridor Access Management (Long-Term)

Access management strategies aim to reduce potential conflicts between road users through the strategic control of entry and exit points along a corridor. Reducing driveway density, managing space between intersections, restricting specific movements, raised medians, and roundabouts can be used individually or in combination to enhance safety for all modes of transportation, encourage and facilitate walking and biking, and reduce congestion.

Crosscutting

While the countermeasures listed up until now have each addressed their corresponding crash types (speed, departures, intersections, and non-motorist), crosscutting is an area of focus that involves the reduction of multiple crash types with the application of a single countermeasure. Discussed below are those countermeasures and the crash types they address.



Pavement Friction Management (Short-Term)

This countermeasure utilizes textured pavement to enhance friction and skid resistance for vehicles. Pavement friction management can reduce roadway departure, rear-end, and non-motorist crashes, especially at curves, steep grades, and intersections that require road users to come to sudden stops.



Local Road Safety Plan (LRSP) (Short-Term)

LRSP's provide framework for roadway safety improvements on local roads by identifying a list of prioritized action items that can be implemented at a low-cost and timely process. All crash types can be addressed as these plans use localized crash data that can determine the hotspot locations for each crash type.



Road Safety Audit (RSA) (Short-Term)

This strategy utilizes a multidisciplinary team to analyze the existing safety conditions of a road and identify potential improvements with consideration for all road users, factors, and capabilities. Road safety audits can reduce crashes anywhere in the range of 10 to 60 percent and may affect one, some, or all crash types.



Lighting (Mid-Term)

While the number of fatal crashes occurring during the day and during the night are comparable, the nighttime fatality rate is higher due to less vehicles miles traveled at night. Therefore, improved lighting in area associated with turns, stoppage, or pedestrian crossings present ample safety benefits. All of the previously mentioned crash types can benefit from lighting in one form or another.

NHTSA Countermeasures that Work

The National Highway Traffic Safety Administration (NHTSA) developed the Countermeasures That Work reference guide of safety strategies and countermeasures, particularly focused on human behaviors related to transportation safety. This document presents strategies and countermeasures related to the following safety areas: alcohol-impaired driving, drug-impaired driving, seat belts and child restraints, speeding and speed management, distracted driving, motorcycle safety, young drivers, older drivers, pedestrian safety, bicycle safety, and drowsy driving. Countermeasures That Work also provides data-driven information such as effectiveness, costs, implementation time, and research references to support relevant countermeasures and strategies. More information on effective safety countermeasures and strategies considering human behavior for all road users can be found in NHTSA's Countermeasures That Work technical report.

Based on results from the Mississippi County Safety Action Plan's analysis and input, the following safety areas and corresponding strategies and countermeasures provided in NHTSA's Countermeasures That Work could be effective in reducing fatal and serious injury crashes in Mississippi County:

Pedestrian Safety

Pedestrians are particularly vulnerable to fatality and serious injury in crashes due to essentially having no protection. Vehicle types, travel speed/reaction time, weather, roadway conditions, and road user behaviors can all affect the likelihood and severity outcome of pedestrian crashes. Some effective pedestrian safety countermeasures and strategies include:

- ✦ Lower speed limits (Immediate)
- ✦ High-visibility enforcement at pedestrian crossings (Immediate)
- ✦ Pedestrian safety zones (Immediate)
- ✦ Elementary-age child pedestrian training (Short-term)
- ✦ Safe routes to school (Short-term)

Bicycle and Motorcycle Safety

Like pedestrians, bicyclists are also particularly vulnerable to fatality and serious injury in crashes due to essentially having no protection and often sharing the road with vehicles. Motorcyclists are also more vulnerable due to their lack of protective structure, smaller size, and poor visibility, especially compared to drivers of other motorized vehicles. As a result, the rate of life-threatening crashes for motorcycles is significantly higher compared with other motorized vehicles. Considering the vulnerability of bicyclists and motorcyclists in roadway design and implementing strategies to encourage safe bicycle and motorcycle use can be used together in improving safety for these road users. Some effective bicycle and motorcycle safety strategies include:

- ✦ Lower speed limits (Immediate)
- ✦ Universal bicycle and motorcycle helmet laws (Immediate)
- ✦ Bicycle safety education for children (Short-term)
- ✦ Safe routes to school (Short-term)
- ✦ GDL for motorcyclists (Short-term)
- ✦ Motorcycle rider training (Short-term)

Young Drivers

In general, young drivers are involved in significantly more crashes than adult drivers. Lack of experience can play a role in young drivers reacting inappropriately in dangerous situations. Young drivers also lack the brain development needed to make proper decisions and judgements. Some effective young driver countermeasures and strategies include:

- ✦ Enforcement of GDL (Immediate)
- ✦ Graduated driving license (GDL) (Short-term)
- ✦ GDL learner's permit (Short-term)
- ✦ GDL intermediate license nighttime restrictions (Short-term)
- ✦ GDL intermediate license passenger restrictions (Short-term)

Speeding and Speed Management

Research shows that speeding can increase the risk of crashes and their injury severity across all types of roadways and road users. Therefore, managing speed is a crucial component in reducing life-threatening crashes. Countermeasures changing geometric design of roadways and strategies encouraging safer driving behaviors can be applied in conjunction to encourage vehicles to operate at safe speeds. Some effective speeding and speed management countermeasures include:

- ✦ Lowering speed limits (Immediate)
- ✦ Increasing penalties (Immediate)
- ✦ Speed safety camera enforcement (Immediate)
- ✦ Dynamic speed display/feedback signs (Short-term)

ARDOT Countermeasures

ARDOT's traffic safety division publishes effective countermeasures and safety campaigns that improve roadway safety throughout the state. ARDOT has developed safety campaigns to raise awareness about different topics including safe driving, sharing the road with non-motorists, and work zones.

✦ **Raised Pavement Markers**

A raised pavement marker is a small reflective device attached to the road that is used as a lane guide to drivers. Lighting conditions or rainfall can reduce a driver's ability to view the roadway, and raised pavement markers provide enhanced retro reflectivity which helps provide better roadway guidance. Due to wear and tear, raised pavement markers are expected to last less than two years after installation.

✦ **Slow Down Phone Down in Work Zones**

In February 2022, Arkansas State Police and Arkansas Highway Police started a zero-tolerance campaign to stop distracted driving, reckless driving, and speeding within work zones. Patrols are stationed in work zones to deter speeding and distracted driving. If an officer observes a driver speeding or using their phone, the driver will be pulled over and cited.

✦ **Safely Share the Road**

ARDOT implemented a Share the Road initiative which is a campaign that provides travelers with information on laws, policies, maps, and resources to commute safely on Arkansas' roadways, whether by walking, driving, or biking. The campaign offers information on how different modes of travel can safely share the roadway.

Other Countermeasures

Several additional safety countermeasures were identified by the TSC and through community engagement efforts in Mississippi County. These countermeasures are not explicitly identified in the countermeasures previously discussed but were considered and recommended in some cases for projects and systemic improvements in the Mississippi County Safety Action Plan.

✦ **Stop Bar and Yield Line Pavement Markings**

Stop bar and yield line pavement markings significantly enhance road safety by providing clear visual cues that improve driver awareness. Stop bars help ensure vehicles stop at safe distances from intersections or crosswalks, reducing the likelihood of collisions with other vehicles or pedestrians. Yield lines indicate what direction of traffic has the right of way at intersections.

✦ **T-Intersection Signage and Striping**

Signage and striping at T-intersections are low-cost, low-effort countermeasures that are essential for reducing the risk of crashes at intersections. Signage and striping increases safety by clearly indicating points where vehicles need to stop, yield, or turn and providing sufficient advance warning of the upcoming stop condition or potential conflict with turning vehicles. These visual aids increase driver awareness, reduce confusion, and promote orderly traffic flow, thereby decreasing the risk of collisions and improving overall road safety.

✦ **Guardrail**

Guardrails provide critical safety benefits by preventing vehicles from veering off the roadway, especially in hazardous areas such as curves, steep embankments, and bridges. They act as a physical barrier that absorbs impact and redirects errant vehicles back onto the road, reducing the severity of accidents and minimizing the risk of fatalities and serious injuries.

✦ **Construct or Widen Paved Shoulder**

Constructing shoulders on existing roads or designing wider shoulders for new roads can provide drivers with extra buffer should they be hauling a wide load, drift out of travel lanes, or need to make an emergency maneuver to avoid a crash. Paved shoulders also provide space for drivers to safely move out of travel lanes if a vehicle becomes inoperable.

✦ **Speed Reduction Pavement Markings at Curves**

Speed reduction pavement markings at horizontal curves, also known as optical speed bars or chevron markings, enhance safety by creating the illusion that a driver is going too fast leading drivers to reduce their speed before entering and throughout curves. These visual cues create heightened awareness and encourage safer driving behavior, therefore decreasing the likelihood of a crash caused by excessive speed. An example from FHWA of speed reduction pavement markings consisting of dashes along the sides of the approach to a curve with higher density toward the curve is provided in **Figure 19**.

✦ **Flashing Yellow Arrow Left-Turn Indication**

The use of a flashing yellow arrow to indicate a permissive left-turn phase instead of a circular green signal indication has been found to reduce the number of left-turn related crashes. Drivers turning left frequently mistake the circular green signal indication as implying that the left-turn movement has the right-of-way over opposing through traffic. A temporary solution may be to post “Left Turn Yield on Green” signs next to left-turn traffic signals with a permissive phase and no flashing yellow arrow signal.



Figure 19: Example Speed Reduction Pavement Markings at a Curve

RECOMMENDATIONS

This section provides recommendations for location-specific projects developed for the Countywide HIN road segments and intersections discussed in the previous section. This section also identifies systemic countermeasures for deployment throughout the County's transportation network along with policy changes and proposed new policies to create a safer future transportation network.

Location-Specific Recommendations

The five HIN road segments that scored highest for having the greatest need for safety improvements in each of the three regions of the County and all ten of the HIN intersections were selected for project development. After further review of the crash data, roadway characteristics, and stakeholder and public comments, overlapping or adjacent segments and intersections were consolidated into 14 corridor projects that incorporate five HIN intersections and five stand-alone intersection projects. The resulting project locations are listed in **Table 9** and **Table 10**, and shown in **Figure 20**. A description of each project, including crash maps and specific recommended countermeasures, is provided in **Appendix C**.

It should be noted that multiple HIN road segments were selected for projects along the same corridors but are included in the Safety Action Plan as separate corridor projects due to differences in roadway geometry, surrounding area, and historic crash patterns, as follows.

State Hwy 140: 3 Corridor Projects

- ✦ Two corridor projects are along the boundary of the West and South regions.
- ✦ One corridor project is in Osceola.

Main St/State Hwy 18: 6 Corridor Projects & 1 Intersection Project

- ✦ Two corridor projects are in the West Region, one of which is more urban as it follows along the west side of Manila while the other is rural and crosses into the East Region.
- ✦ Four Main St/State Hwy 18 corridor projects and the stand-alone intersection project are in Blytheville.
 - The western-most corridor project passes through a residential area of Blytheville.
 - The second western-most corridor project has primarily residential land uses along the south side and restaurants, retail, and other businesses along the north side.
 - The corridor project immediately west of Interstate 55 is where the overall corridor begins to transition from urban to rural, with less residential land uses and more hotels, fast food, and convenience stores.
 - The eastern-most corridor project is in the outskirts of Blytheville and is more rural surrounded by industrial and agricultural land uses.
 - The Main St/State Hwy 18 and Interstate 55 Ramp intersection project was not incorporated into the two adjacent eastern corridor projects due to the complexity of the existing interchange geometry, commercial access along the service roads, and unique historic crash data specific to the intersection.

To support developing cost estimates for the project recommendations, unit costs for individual countermeasures are provided in **Appendix D** in 2024 dollars. Crash modification factors (CMFs) from FHWA's CMF Clearinghouse are also provided for countermeasures with an available CMF to support cost-benefit analysis efforts.

Table 9: Mississippi County Safety Action Plan Location-Specific Corridor Projects

Overall Rank	Road Name	Approximate Segment Extents	City	Region(s)	Total Score
1	Keiser Ave/State Hwy 140	Newport Dr to S Ermen Ln	Osceola	South	81
2	Main St/State Hwy 18	S 5th St to N Ruddle Rd	Blytheville	East	74
3	AR 18 Bypass	N County Rd 17 to State Hwy 77	Manila, Leachville	West	63
4	Main St/State Hwy 18	Interstate 55 Ramp to N State Hwy 980	Blytheville	East	60
5	Main St/State Hwy 18	S Lockard St to Interstate 55 Ramp	Blytheville	East	48
6	State Hwy 198	US Hwy 61 to S County Rd 661	N/A	South	47
7	Main St/State Hwy 18	S 17th St to S 11th St	Blytheville	East	46
8	Ruddle Rd	Logan Ln to S Tennessee St	Blytheville	East	40
9	US Hwy 61	S County Rd 343 to Lee St	N/A	South	38
10	Elm St	Edrington Ave to US Hwy 61	Osceola	South	35
11	State Hwy 140	S State Hwy 77 to State Hwy 181	N/A	West & South	33
12	State Hwy 18	N County Rd 281 to W County Rd 368	N/A	West & East	28
13	State Hwy 140	State Hwy 297 to S County Rd 121	Etowah	West & South	22
14	State Hwy 77	W County Rd 538 to N County Rd 554	N/A	West	16

Table 10: Mississippi County Safety Action Plan Location-Specific Intersection Projects

Overall Rank	Intersection Name	City	Region(s)	Total Score
1	Main St and Interstate 55 Ramp	Blytheville	East	27
2	County Rd 732 and State Hwy 61	Osceola	South	18
3	State Hwy 14 and State Hwy 181	Marie	South	16
4	State Hwy 158 and County Rd 615	N/A	East & South	15
5	State Hwy 150 and State Hwy 312	N/A	East	11

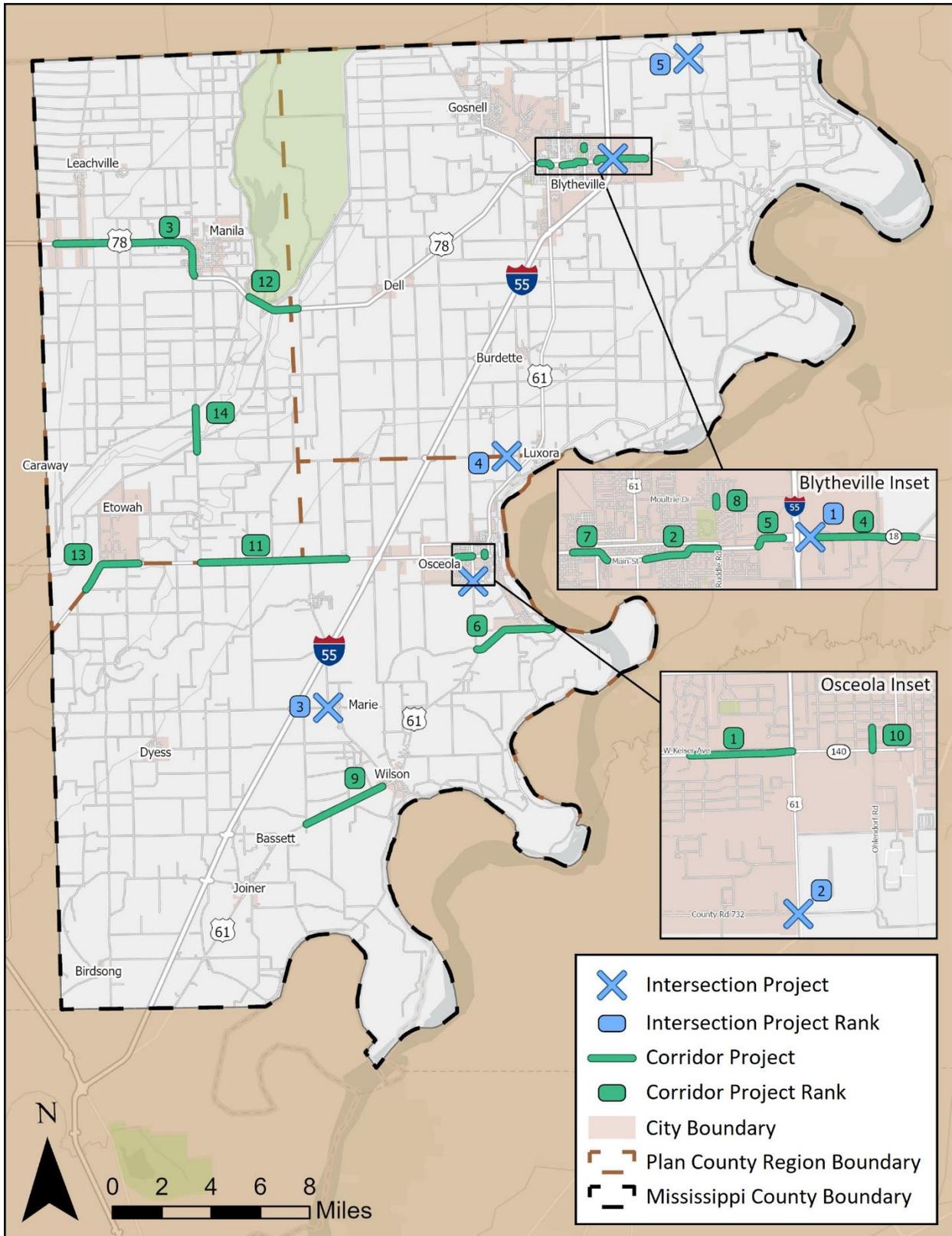


Figure 20: Mississippi County Safety Action Plan Location-Specific Projects

Systemic Improvements and Policy Recommendations

Systemic safety improvements describe improvements that are widely implemented based on high-risk roadway features that are correlated with particular crash types. For example, Countywide HIN road segments and intersections often had T-intersections with faded or missing pavement markings, often had limited signage, and many had little or no lighting in place. Safety countermeasures to address these types of roadway features should be applied to as many roadways in Mississippi County as possible with similar features regardless of crash history. These types of system wide improvements can make the County safer by addressing roadway features that lead to common crash types before the crashes occur in some instances.

Recommended systemic improvements for vulnerable road user safety, vehicular travel safety, and safer driver behavior are described in **Table 11 through Table 13**. While these safety countermeasures were identified through a reactive approach based on historic crash trends at particular locations, they can be applied across the transportation network with the goal of proactively addressing the same risks present elsewhere. The systemic improvements are accompanied by an anticipated timeframe for when the improvement could begin to be implemented. These timeframes include:

-  **Immediate:** < 1 year
-  **Short-Term:** 1-2 years
-  **Medium-Term:** 2-5 years
-  **Long-Term:** 5+ years

Table 11 through Table 13 also identify proposed policies to support the recommended systemic improvements. These types of policies will allow the County to proactively address safety issues on future projects by establishing policies that guide planning and design of transportation facilities with greater emphasis on safety for all road users.

Table 11: Recommended Systemic Improvements and Proposed Supporting Policies to Support Vulnerable Road User Safety

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
High Visibility Crosswalk Pavement Markings Immediate	Install high visibility crosswalk pavement markings (bar pairs, continental, or ladder pattern) using inlay or thermoplastic material across all paved approaches where there is sidewalk, including all roads and major commercial driveways.	Establish a requirement that all pedestrian crossings across roads and major commercial driveways must be identified with high visibility crosswalk markings that use inlay or thermoplastic material instead of paint.	FHWA recommends crosswalk patterns (bar pairs, continental, and ladder) that are more visible to drivers and pedestrians than the traditional transverse line crosswalks. Inlay or thermoplastic tape should be used instead of paint to make the markings highly reflective.
Sidewalks Medium-Term	Install sidewalks in areas where pedestrians are frequently present, crashes involving pedestrians occur at a higher rate than normal, walking is the primary mode of transportation for many residents in the area, or there is a gap in the existing sidewalk networks.	Establish a policy that requires sidewalks on future construction to be at least five feet wide if set back from the curb or six feet if at the curb face.	FHWA recommends a minimum width of five feet for sidewalks set back from the curb and six feet for sidewalks at the curb face. Five feet is the bare minimum width for two people to walk next to each other or for two people to pass each other.
Directional Ramps Medium-Term	Replace diagonal sidewalk access ramps with directional access ramps that align with the crosswalk.	Establish a requirement that all future access ramps be directional and align with the crosswalk.	The USDOT and US DOJ prefer the use of perpendicular curb ramps over diagonal curb ramps. Diagonal curb ramps may make it difficult to locate the clear space at the bottom of diagonal curb ramps that is outside active traffic lanes and the orientation can mislead people with vision impairments.

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Bikeways Medium-Term	Install bikeways such as bike lanes and side paths along corridors where bicyclists are frequently present, crashes involving bicycles occur at a higher rate than normal, biking is the primary mode of transportation for many residents in the area, or there is a gap in the existing bike lane network.	Establish design guidelines and implementation criteria for various types of bikeway and buffers to separate vehicle travel lanes and bike lanes. Establish criteria for when to consider shared-use paths, such as when there is insufficient space for sidewalk and bike lanes to be separate.	FHWA's Bikeway Selection Guide recommends different types of bikeway designs for various applications and provides factors to consider when selecting what type of bikeway to construct.

Table 12: Recommended Systemic Improvements and Proposed Supporting Policies to Support Vehicular Travel Safety

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
General Pavement Markings Immediate	Restripe pavement markings that are faded, worn away, or do not meet the minimum retroreflectivity specified in the MUTCD.	Develop a process for maintaining and tracking the conditions of pavement markings.	The MUTCD requires a minimum retroreflectivity of longitudinal pavement markings on roadways with a posted speed limit of 35 mph or greater. FHWA has identified methods for assessing pavement marking retroreflectivity when considering restriping pavement markings during the maintenance process.
Left-Turn YIELD on Green Sign Immediate	Post a "left turn yield on green" sign for left-turn traffic signal heads with a circular green signal indication during the permissive left-turn phase.	Establish the requirement that all left-turn traffic signal heads with a green ball indication during the permissive left-turn phase must have a supplemental "left turn yield on green" sign.	The MUTCD requires a "left turn yield on green" sign to be posted for left-turn traffic signals with a permissive left-turn phase if a separate left-turn signal is provided for permissive left-turns.

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Retroreflective Backplates Immediate	Add backplates with retroreflective borders to all traffic signal heads.	Establish the requirement that all traffic signal heads must have retroreflective backplates.	FHWA recommends a yellow retroreflective border with a width of one to three inches.
Stop Bars and Yield Lines Short-Term	Add stop bar and yield line pavement markings at all controlled approaches to traffic signals and stop signs, as well as in advance of signalized midblock pedestrian crossings, to indicate where vehicles must stop when the stop condition is present or yield when the yield condition is present.	Establish the requirement that all approaches to traffic signals and stop signs, as well as in advance of midblock pedestrian crossings, must have a stop bar pavement marking to indicate where vehicles must stop. Establish the requirement that all yield approaches to intersections must have yield line pavement markings to indicate where vehicles must yield.	The MUTCD recommends that stop lines should be placed a minimum of four feet in advance of the nearest crosswalk line at controlled intersections. Stop lines at midblock signalized locations are recommended to be placed at least 40 feet in advance of the nearest signal indication.
Stripe Pavement Markings Short-Term	Restripe four-inch centerline, lane line, and edge line pavement markings with retroreflective six-inch pavement markings to enhance visibility of lanes. Install reflective raised pavement markers along pavement marking stripes to further enhance visibility of lanes at night.	Develop a process for restriping existing centerline, lane line, and edge line pavement markings and installing reflective raised pavement markers. Establish a standard pavement marking width of six inches for centerline, lane line, and edge lines.	ARDOT has adopted six inches as the standard line width for centerline, lane line, and edge lines. FHWA recommends increasing edge lines from four-inches to six-inches, particularly along rural roads.

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
T-Intersection Treatment Short-Term	Improve signage and striping at all approaches to T-intersections, particularly for drivers at the stop-controlled approach to rural T-intersections. For example, for the stop-controlled approach double post oversized stop signs, stripe a stop bar, paint “STOP” in-lane pavement marking, stripe centerline and edge lines and install reflective raised pavement markers, post a stop ahead warning sign in advance of the intersection, and post a double headed arrow warning sign across from the stop-controlled approach.	Establish design guidelines and signing and striping design standards for rural T-intersections. Develop a process for maintaining the signing and striping at rural T-intersections.	FHWA’s Intersection Safety: A Manual for Local Rural Road Owners identifies enhanced sign and pavement marking improvements to consider for unsignalized intersections. This Manual’s recommendations include double posted stop ahead warning signs, double posted stop signs, a stop bar, and a double headed arrow across from the stop-controlled approach for drivers at the stop-controlled approach. Intersection ahead warning signs are recommended for the major road approach.
Intersection and Corridor Lighting Short-Term – Medium-Term	Install LED streetlights at intersections and along corridors where the frequency of nighttime crashes is higher than normal, there are high pedestrian and bicyclist volumes, or along the transition from rural to urban areas to indicate a change in surrounding area and increased risk for conflicts.	Develop lighting design standards to ensure adequate lighting coverage in future construction and reconstruction.	The 2023 FHWA Lighting Handbook provides roadway lighting design and application recommendations. This includes factors to consider from the American Association of State Highway and Transportation Officials (AASHTO) Roadway Lighting Design Guide Warranting System such as traffic volume and night-to-day crash ratio, as well as geometric and operational factors such as number of lanes, lane widths, turn lanes, and speed.

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
<p>Consistent Left-Turn Signal Indication Medium-Term</p>	<p>Update left-turn signal indications to be consistent throughout the County. Consider using all arrow indications for left-turn lane signals consisting of a steady red arrow, steady yellow arrow, flashing yellow arrow (only for protected/permissive left-turn conditions) supplemented with a “left turn yield on flashing yellow arrow” sign, and steady green arrow.</p>	<p>Establish a standard left-turn signal indication and develop design guidelines and criteria for left-turn signal treatments.</p>	<p>FHWA has found that converting the green ball indication for left-turns during the permissive phase to a flashing yellow arrow reduces the number of left-turn related crashes. Drivers turning left frequently mistake the green ball indication as implying that the left-turn has the right-of-way over opposing traffic. The 11th Edition of the MUTCD includes design guidelines for the implementation of flashing yellow arrow signal indications.</p>
<p>Two-Way Left-Turn Lane (TWLTL) Medium-Term</p>	<p>When addressing access management, where TWLTLs exist and head-on and sideswipe crashes occur at a higher-than-normal rate consider converting TWLTLs to dedicated left-turn lanes or installing raised medians to restrict left-turns into and out of commercial driveways.</p>	<p>Develop criteria for when to implement TWLTLs vs dedicated left-turn lanes. Establish spacing criteria for future access points.</p>	<p>TWLTLs are most effective where traffic volumes are low and there are few access points in a concentrated area, such as signalized intersections and unsignalized approaches. Raised medians are accepted as a safer treatment under almost all other conditions. National Cooperative Highway Research Program (NCHRP) has developed procedures for evaluating and selecting median treatments.</p>

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Dedicated Turn Lanes Medium-Term	Provide dedicated right-turn deceleration lanes and left-turn lanes to remove slowing and stopped turning vehicles from through traffic to reduce risk of rear-end crashes and aggressive driver behavior.	Establish design guidelines and implementation criteria for dedicated left-turn lanes and right-turn deceleration lanes at intersections and driveways.	FHWA has found that left-turn lanes can reduce the total number of crashes by 28 to 48 percent and right-turn lanes can reduce the total number of crashes by 14 to 26 percent.
Truck Route Medium-Term	Not Applicable	Establish a designated truck route network that strategically directs heavy vehicles away from high-crash locations. Major intersections along the truck route network should be designed and improved to facilitate safe and efficient truck movement.	The Arkansas State Highway Commission is authorized to designate and establish truck routes.
Access Management Long-Term	Consolidate access points to remove commercial driveways within an intersection and to reduce the density of access points along a corridor and along curves. If a driveway at the corner of an intersection is the only access point for a business, the driveway should be relocated to the intersection approach corner rather than a receiving corner, if possible. Consider constructing raised medians to restrict driveways to right-in right-out if the driveway location cannot be improved.	Develop access management guidelines by establishing a minimum spacing requirement between driveways and establishing a minimum spacing requirement between driveways and intersections.	AASHTO states that driveways should not be situated within the functional boundary of at-grade intersections. Therefore, NCHRP developed criteria for access separation distances based on posted speed limits and spill back rates.

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Roundabouts at Approaches to Cities Long-Term	Construct roundabouts along major state highways at the approaches to cities to calm traffic and indicate a change in surrounding area.	Establish design guidelines and implementation criteria for when to construct a roundabout at state highway approaches to cities.	AASHTO has found that converting a two-way stop-controlled intersection to a roundabout reduces fatal and injury crashes at the intersection by 82 percent. FHWA identifies roundabouts as an effective option for managing speed and transitioning traffic from high-speed to low-speed environments.

Table 13: Recommended Systemic Improvements and Proposed Supporting Policies to Support Safer Driver Behavior

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Portable Speed Feedback Signs Short-Term	Deploy portable dynamic speed feedback signs along corridors where speeding, where speed related crashes frequently occur, or at the approaches to cities.	Enhance speed enforcement capabilities by reviewing enforcement measures. Develop a plan for periodically relocating the portable dynamic speed feedback signs to reduce drivers becoming desensitized. Consider increased penalties for repeat speeding offenders. Promote the Speeding Slows You Down campaign.	In January 2023, FHWA published the Speed Safety Camera Program Planning and Operations Guide to help jurisdictions plan, deploy, and operate speed safety camera programs. In July 2023, Arkansas legalized the use of speed safety cameras that can capture images of speeding vehicles in interstate work zones and transmit information to an officer downstream who can issue a citation. NHTSA has developed material for the high-visibility enforcement mobilization campaign, Speeding Slows You Down.

Countermeasure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Bicycle and Motorcycle Helmets Medium-Term	Not Applicable	Enact universal coverage policies that require bicycle and motorcycle helmet use for all ages. Support adoption of these behaviors with concurrent education campaigns.	NHTSA recommends various safety practices for all motorcycle riders and bicyclists, including always wear a helmet. NHTSA has found that states with universal motorcycle helmet coverage laws had 53 percent higher rates of helmet use and 29 percent fewer motorcycle fatalities.
Younger Drivers and CMVs Medium-Term	Not Applicable	Implement public education campaigns and enforcement of safe driving practices in proximity of commercial vehicles with an emphasis on targeting teen drivers.	The NCHRP recommends education campaigns targeting teen drivers, including educating them on how to drive safely around commercial vehicles, which are prevalent throughout Mississippi County.

IMPLEMENTATION

Implementation is the real key to any planning effort. The Safety Action Plan was developed with input from hundreds of people across Mississippi County and the commitment of the Quorum Court to achieving its goals. But ultimately, success of the Plan lies in the ability to implement the recommendations. Mississippi County has committed to the goal of reducing and eliminating fatal and serious injuries on roadways throughout the County, to reporting and transparency of progress, and to taking action.

Commitment to Safety

Safety needs to remain at the forefront of conversations anytime transportation is discussed in Mississippi County. Implementation will require a continued focus and commitment towards safety every single day. The Mississippi County Quorum Court, partner agencies, TSC members, and the public that were engaged in the Plan's development process have all agreed that deaths and serious injuries on streets and roads in Mississippi County are not acceptable. The County has committed to the goal to reduce fatal and serious injury crashes by 50 percent by 2035 and eliminating all fatal and serious injury crashes by 2050 knowing it is ambitious, but achievable. The challenge is now to remain focused on that goal and move Mississippi County towards a place where no person is ever killed or seriously injured as they travel around the County.

Progress Reporting

Continuous reporting and communication of progress towards the goals of the Mississippi County Safety Action Plan is necessary to maintain support from its partners and the public, as the County strives to reduce and ultimately reach zero fatal and serious injury crashes. Ongoing transparency and measurement of progress will be conducted using a crash analytics dashboard.

The crash analytics dashboard was originally created to identify and analyze trends in crash data throughout the development of the Safety Action Plan. This same dashboard will be used to track the outcome of safety countermeasures and strategies on crashes in Mississippi County. Comparing past trends to real-time trends will help identify measurable progress towards the Plan's goals. By providing this information through a user-friendly dashboard, the public can stay informed about the efforts being made to improve road safety in Mississippi County. This promotes transparency in achieving the goal of reducing fatal and serious injury crashes, and transparency leads to results. **Figure 21** shows the online dashboard to be used for progress and transparency.

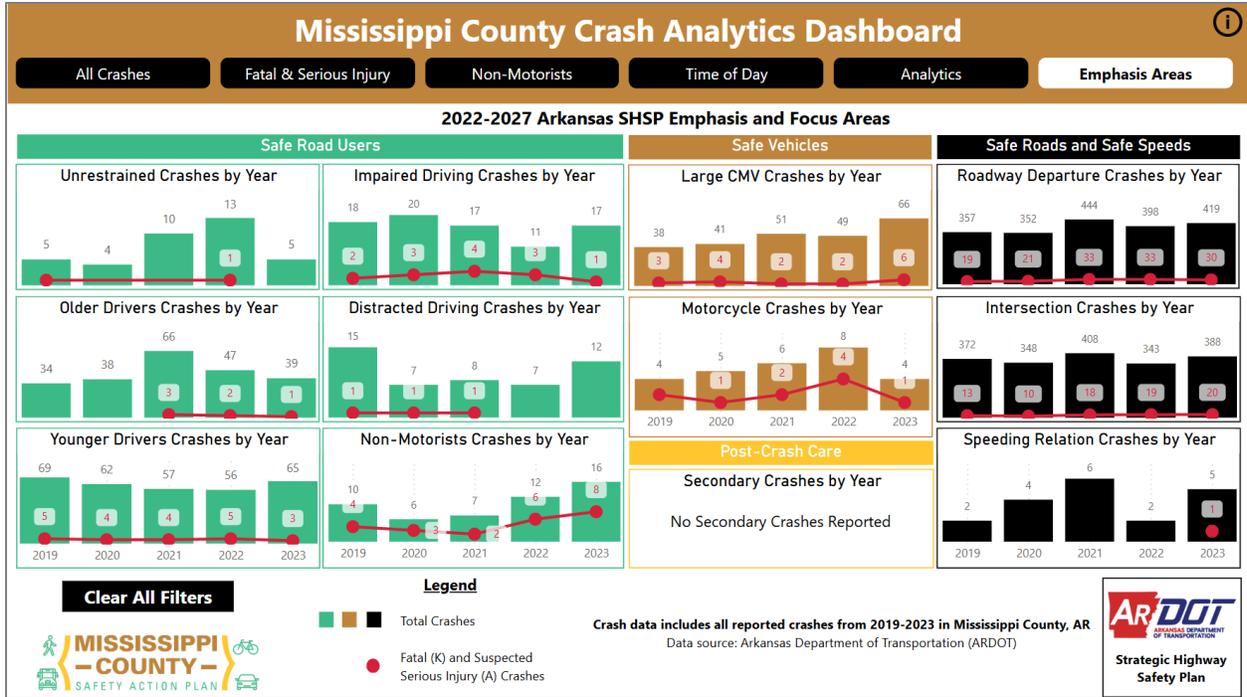


Figure 21: Mississippi County Crash Analytics Dashboard

Taking Action

Developing the Mississippi County Safety Action Plan is an important step towards achieving zero fatal and serious injuries, but the real work begins with taking actions to implement the Plan. The Safety Action Plan provides a strategic framework for preventing roadway fatalities and serious injuries for all road users in Mississippi County and allows the County to pursue additional funding for implementation through the SS4A Program. The recommendations provided in this Plan serve as specific projects that can be referenced for not only future SS4A Implementation Grant applications, but also for other future federal and state grant programs. This funding is very important toward achieving the goal to reduce fatal and serious crashes, but it alone will not get the County far enough. Mississippi County and its partner agencies need to prioritize safety when selecting projects at the local, regional, and state level. Policies that can create a greater focus on safety, both in the current operations of the transportation system and in future maintenance and construction activities, need to be established.

APPENDIX

Appendix A – Prioritized High Injury Network Roadway Segments

Appendix B – Prioritized High Injury Network Intersections

Appendix C – Location-Specific Recommendation Project Sheets

Appendix D – Countermeasure Unit Costs & Available CMFs

Appendix A – Prioritized High Injury Network Roadway Segments

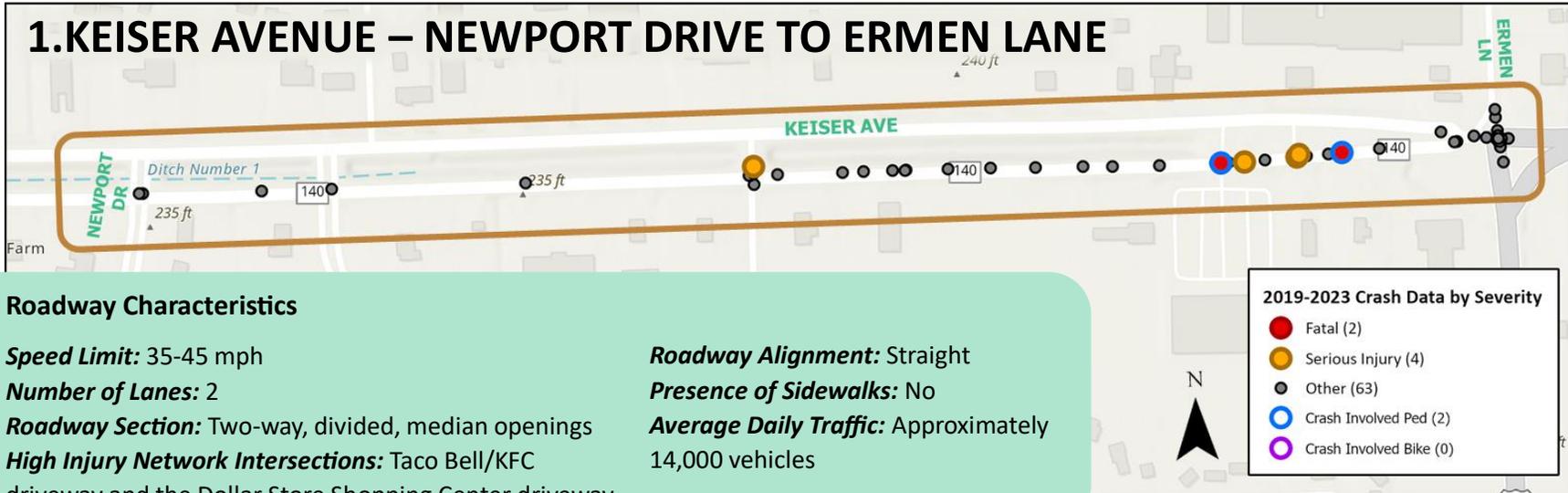
General Segment Information					Guiding Factors of Segment Selection (2018 - 2022 Crash Data)				Other Factors Considered					Selection Scoring									
Road Name	Approximate Segment Boundary	City	Region	State Route or Local Road	Fatal & Serious Injury Crash Count	Total Crash Count	Pedestrian Fatal & Serious Injury Crash Count	Bicyclist Fatal & Serious Injury Crash Count	Within an Area of Persistent Poverty	AADT	Proximity to a School (miles)	Proximity to a Park (miles)	Stakeholder & Public Comment Count	Fatal & Serious Injury Crash Count Score (30 pts)	Total Crash Count Score (20 pts)	Vulnerable Road User Crash Score (10 pts)	Area of Persistent Poverty Score (5 pts)	AADT (5 pts)	Proximity to a School Score (5 pts)	Proximity to a Park Score (5 pts)	# of Stakeholder & Public Comments Score (15 pts)	Stakeholder & Public Comment Score (5 pts)	Total Score
Keiser Ave	Newport Dr to S Ermen Ln	Osceola	South	State Route	7	112	2	0	N	14,000	0.5	0.25	5	24	10	15	0	5	3	4	15	5	81
Main St	S 5th St to N Ruddle Rd	Blytheville	East	State Route	10	138	1	0	Y	13,000	0.5	0.25	2	30	10	10	5	5	3	4	5	2	74
AR 18 Bypass	N County Rd 77 to State Hwy 77	Manila, Leachville	West	State Route	11	98	1	1	Y	9,500	0	0	0	30	8	15	5	5	0	0	0	0	63
Main St	Interstate 55 Service Rd to N State Hwy 980	Blytheville	East	State Route	7	86	0	0	Y	17,000	0	0	6	24	6	0	5	5	0	0	15	5	60
Main St	S Lockard St to S Interstate 55 Service Rd	Blytheville	East	State Route	3	159	0	0	Y	11,000	0	1	4	12	10	0	5	5	0	1	10	5	48
State Hwy 198	US Hwy 61 to S County Rd 661		South	State Route	4	31	0	0	Y	4,100	0	0.5	5	15	2	0	5	2	0	3	15	5	47
Main St	S 17th St to S 11th St	Blytheville	East	State Route	5	68	0	0	Y	11,000	0.5	0.25	2	18	4	0	5	5	3	4	5	2	46
Ruddle Rd	Logan Ln to S Tennessee St	Blytheville	East	Local Road	3	14	0	0	Y	3,800	0.5	0.1	3	12	1	0	5	2	3	5	10	2	40
US Hwy 61	S County Rd 343 to Lee St	Wilson	South	State Route	5	12	0	0	Y	3,600	0.25	1	2	18	1	0	5	2	4	1	5	2	38
Elm St	Edrington Ave to US Hwy 61	Osceola	South	Local Road	2	8	1	0	Y	637	0.5	1	1	9	0	10	5	0	3	1	5	2	35
Moultrie Dr	N 2nd St to Delmar St	Blytheville	East	Local Road	3	29	0	1	N	6,049	0.1	0.25	0	12	1	10	0	3	5	4	0	0	35
State Hwy 140	S State Hwy 77 to State Hwy 181		South, West	State Route	5	25	0	0	Y	3,200	0	0	1	18	1	0	5	2	0	0	5	2	33
Main St	N County Rd 567 to W Rose St	Blytheville	East	State Route	4	32	0	1	N	6,600	0	0.5	0	15	2	10	0	3	0	3	0	0	33
US Hwy 61	Incinerator Rd to E County Rd 764	Osceola	South	State Route	4	25	0	0	Y	4,500	1	1	1	15	1	0	5	2	1	1	5	1	31
Pearl St	E Quinn Ave to E Semmes Ave	Osceola	South	Local Road	1	10	1	0	Y	757	1	0	1	6	1	10	5	0	1	0	5	2	30
Chickasawba Ave	N 16th St to US Hwy 61	Blytheville	East	Local Road	2	59	0	0	Y	2,500	0.1	0.1	0	9	4	0	5	1	5	5	0	0	29
County Rd 230	State Hwy 18 to US Hwy 61	Blytheville	East	Local Road	2	10	0	0	Y	718	0.1	0.5	1	9	1	0	5	0	5	3	5	1	29
State Hwy 18	N County Rd 281 to W County Rd 368		East, West	State Route	3	33	0	0	Y	7,200	0	0.1	0	12	2	0	5	4	0	5	0	0	28
21st St	West St to Harmon St	Blytheville	East	Local Road	1	1	1	0	Y	1,100	1	0.25	0	6	0	10	5	1	1	4	0	0	27
Division St	Chickasawba Ave to Main St	Blytheville	East	State Route	1	59	0	0	Y	7,900	0.5	0.1	0	6	4	0	5	4	3	5	0	0	27
State Hwy 181	State Hwy 18 to W State Hwy 148		East	State Route	3	21	0	0	Y	1,700	0	0	2	12	1	0	5	1	0	0	5	2	26
US Hwy 61	E County Rd 956 to Driveway		South	State Route	1	2	0	0	Y	2,900	0	1	3	6	0	0	5	1	0	1	10	3	26
US Hwy 61	E County Rd 892 to E County Rd 850		South	State Route	3	20	0	0	Y	3,800	0	0	2	12	1	0	5	2	0	0	5	1	26
Division St	State Hwy 55 to State Hwy 312	Blytheville	East	State Route	2	22	0	0	Y	8,100	0	0	1	9	1	0	5	4	0	0	5	2	26
State Hwy 18	N County Rd 503 to Driveway		East	State Route	3	5	0	1	N	4,900	0	0	0	12	0	10	0	2	0	0	0	0	24
Vine St	S 21st St to S 16th St	Blytheville	East	Local Road	2	2	0	0	Y	19	1	0.5	1	9	0	0	5	0	1	3	5	1	24
Semmes Ave	S County Club Rd to S County Rd 535	Osceola	South	State Route	1	11	0	0	N	2,000	0.1	1	2	6	1	0	0	1	5	1	5	4	23
Elm St	Byrum Rd to US Hwy 61	Blytheville	East	Local Road	1	7	0	0	Y	53	0.25	1	2	6	0	0	5	0	4	1	5	1	22
State Hwy 140	State Hwy 297 to S County Rd 121	Etowah	South, West	State Route	4	11	0	0	Y	2,100	0	0	0	15	1	0	5	1	0	0	0	0	22
County Rd 761	State Hwy 150 to E County Rd 122		East	State Route	1	3	1	0	Y	280	0	0	0	6	0	10	5	0	0	0	0	0	21
6th St	E County Rd 88 to W Highland St	Blytheville	East	State Route	3	18	0	0	N	2,300	1	0	1	12	1	0	0	1	1	0	5	1	21
School St	W Johnson Ave to W Washington Ave	Osceola	South	Local Road	2	5	0	0	Y	379	0.1	1	0	9	0	0	5	0	5	1	0	0	20
Lockard St	E Hollywood Ave to State Hwy 18	Blytheville	East	Local Road	1	20	0	0	Y	338	0	1	1	6	1	0	5	0	0	1	5	1	19
Logan Ln	Grandview St to N Ruddle Rd	Blytheville	East	Local Road	1	4	0	0	Y	239	0.5	0.25	0	6	0	0	5	0	3	4	0	0	18
Pearl St	US Hwy 61 to Jacksonville Rd	Osceola	South	State Route	3	8	0	0	Y	1,400	0	0	0	12	0	0	5	1	0	0	0	0	18
16th St	Chickasawba Ave to W Ash St	Blytheville	East	Local Road	1	22	0	0	Y	207	1	0.25	0	6	1	0	5	0	1	4	0	0	17
US Hwy 61	S County Rd 631 to State Hwy 140		South	State Route	2	7	0	0	Y	3,300	1	0	0	9	0	0	5	2	1	0	0	0	17
County Rd 262	N County Rd 695 to State Hwy 239		East	Local Road	2	11	0	0	Y	723	1	0	0	9	1	0	5	0	1	0	0	0	16
US Hwy 61	E County Rd 378 to E County Rd 442		East	State Route	3	32	0	0	N	3,600	0	0	0	12	2	0	0	2	0	0	0	0	16
State Hwy 77	W County Rd 538 to N County Rd 554		West	State Route	2	14	0	0	Y	2,000	0	0	0	9	1	0	5	1	0	0	0	0	16
State Hwy 151	N County Rd 635 to Chickasawba Ave	Blytheville	East	State Route	2	11	0	0	N	5,800	1	1	0	9	1	0	0	3	1	1	0	0	15
State Hwy 77	W County Rd 410 to W County Rd 442		West	State Route	2	3	0	0	Y	2,000	0	0	0	9	0	0	5	1	0	0	0	0	15
State Hwy 181	E County Rd 54 to E County Rd 86	Gosnell	East	State Route	2	7	0	0	N	3,200	0.25	0	0	9	0	0	0	2	4	0	0	0	15
State Hwy 312	E County Rd 134 to State Hwy 18		East	State Route	2	11	0	0	N	6,500	1	0	0	9	1	0	0	3	1	0	0	0	14
State Hwy 150	N County Rd 855 to State Hwy 312		East	State Route	3	16	0	0	N	1,500	0	0	0	12	1	0	0	1	0	0	0	0	14
State Hwy 181	S County Rd 245 to S County Rd 259		South	State Route	1	1	0	0	Y	1,300	0	0	0	6	0	0	5	1	0	0	0	0	12
State Hwy 137	N County Rd 951 to N County Rd 967		East	State Route	2	5	0	0	N	5,000	0	0	0	9	0	0	0	3	0	0	0	0	12
State Hwy 120	US Hwy 61 to County Rd 270		East	State Route	1	1	0	0	Y	190	0	0	0	6	0	0	5	0	0	0	0	0	11
Barker Rd	Evrard Rd to E County Rd 286	Blytheville	East	Local Road	1	3	0	0	Y	105	0	0	0	6	0	0	5	0	0	0	0	0	11
State Hwy 18	State Hwy 181 to N County Rd 423		East	State Route	1	2	0	0	N	6,900	0	0	0	6	0	0	0	3	0	0	0	0	9
County Rd 196	N County Rd 583 to N County Rd 609		East	Local Road	2	4	0	0	N	82	0	0	0	9	0	0	0	0	0	0	0	0	9
Calumet Rd	State Hwy 151 to State Hwy 181	Gosnell	East	Local Road	1	8	0	0	N	413	0	0	0	6	0	0	0	0	0	0	0	0	6

Appendix B – Prioritized High Injury Network Intersections

General Intersection Information				Guiding Factors of Intersection Prioritization (2018 - 2022 Crash Data)				Other Factors Considered					Prioritization Scoring									
Intersection Name	City	Region	State Route or Local Road	Fatal & Serious Injury Crash Count	Total Crash Count	Pedestrian Fatal & Serious Injury Crash Count	Bicyclist Fatal & Serious Injury Crash Count	Within an Area of Persistent Poverty	AADT	Proximity to a School (miles)	Proximity to a Park (miles)	Stakeholder & Public Comment Count	Fatal & Serious Injury Crash Count (30 pts)	Total Crash Count Score (20 pts)	Vulnerable Road User Crash Score (10 pts)	Area of Persistent Poverty Score (5 pts)	AADT (5 pts)	Proximity to a School Score (5 pts)	Proximity to a Park Score (5 pts)	# of Stakeholder & Public Comments Score (15 pts)	Stakeholder & Public Comment Content Score (5 pts)	Total Score
Main St & Ruddle Rd	Blytheville	East	State Route & Local Road	5	76	1	0	Y	16,400	1	0.25	0	18	6	10	5	5	1	4	0	0	49
Keiser Ave & Dollar Store Shopping Center Dwy (median opening)	Osceola	South	State Routes	2	9	1	0	N	14,879	0.5	0.5	0	9	0	10	0	5	3	3	0	0	30
Main St & Interstate 55 Service Rd	Blytheville	East	State Routes	2	92	0	0	Y	18,173	0	0	0	9	8	0	5	5	0	0	0	0	27
Parkside St & Ruddle Rd	Blytheville	East	Local Road	2	3	0	0	Y	3,914	0.5	0.1	0	9	0	0	5	2	3	5	0	0	24
State Hwy 18 & Main St	Leachville	West	State Route & Local Road	3	9	0	0	Y	11,900	0	0	0	12	0	0	5	5	0	0	0	0	22
Keiser Ave & Taco Bell/KFC Dwy (median opening)	Osceola	South	State Routes	2	9	0	0	N	14,143	0.5	0.5	0	9	0	0	0	5	3	3	0	0	20
County Rd 732 & US Hwy 61	Osceola	South	State Route & Local Road	2	6	0	0	Y	8,800	0	0	0	9	0	0	5	4	0	0	0	0	18
State Hwy 14 & State Hwy 181	Marie	South	State Routes	2	7	0	0	Y	2,040	1	0	0	9	0	0	5	1	1	0	0	0	16
State Hwy 158 & County Rd 615	N/A	East & South	State Route & Local Road	2	4	0	0	Y	1,310	0	0	0	9	0	0	5	1	0	0	0	0	15
State Hwy 150 & State Hwy 312	Number Nine	East	State Routes	2	14	0	0	N	1,500	0	0	0	9	1	0	0	1	0	0	0	0	11

Appendix C – Location-Specific Recommendation Project Sheets

1. KEISER AVENUE – NEWPORT DRIVE TO ERMEN LANE



Roadway Characteristics

Speed Limit: 35-45 mph

Number of Lanes: 2

Roadway Section: Two-way, divided, median openings

High Injury Network Intersections: Taco Bell/KFC driveway and the Dollar Store Shopping Center driveway

Roadway Alignment: Straight

Presence of Sidewalks: No

Average Daily Traffic: Approximately 14,000 vehicles

Existing Conditions

This 1.15-mile segment of Keiser Avenue contains one of the top five High Injury Network (HIN) road segments in the South Region and two HIN intersections, which are two median openings located at the Taco Bell/KFC driveway and the Dollar Store Shopping Center driveway. The corridor has several wide driveways without clear signage or striping to differentiate entry from exit, and the median opening signage does not comply with MUTCD standards. Rear-end collisions frequently occur along the corridor near the driveways and intersections and two fatal pedestrian crashes have occurred. Keiser Avenue lacks sidewalks and crosswalks, making it difficult for pedestrians to access both sides of the road. Public comment noted sidewalk and bike infrastructure is needed along Keiser Avenue as the segment splits the City into two. Furthermore, the striping throughout this section is significantly faded, especially at the Ermen Lane intersection.

Countermeasure Summary

The countermeasures identified for Keiser Avenue between Newport Drive and Ermen Lane are recommended to address rear end crashes, crashes involving pedestrians, crashes at median openings, and crashes at driveways.

Countermeasure
Vulnerable Road User Countermeasures
<ul style="list-style-type: none"> Crosswalk Visibility Enhancements Pedestrian Hybrid Beacon Pedestrian Refuge Median/Island Pedestrian Signal with Leading Pedestrian Interval Shared Use Path
Vehicular Countermeasures
<ul style="list-style-type: none"> Corridor Access Management Dedicated Turn Lanes General Pavement Markings Restricted Crossing U-Turn (RCUT) Retroreflective Backplates Safety Lighting Wider Edge Lines



Roadway Characteristics

Speed Limit: 30 mph

Number of Lanes: 4

Roadway Section: Two-way, not divided, two-way left-turn lane (TWLTL)

High Injury Network Intersection: Ruddle Road

Roadway Alignment: Straight with S-curve

Presence of Sidewalks: Varies

Average Daily Traffic: Approximately 13,000 vehicles

Existing Conditions

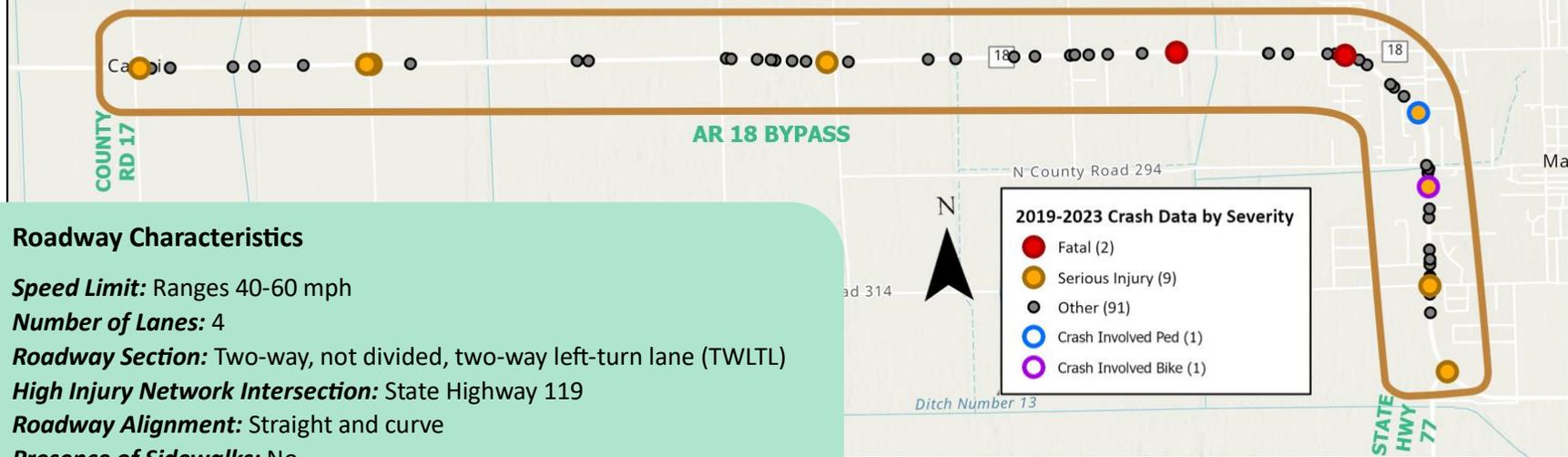
This 0.94-mile segment of Main Street includes one of the top five High Injury Network (HIN) road segments in the East Region, and one HIN intersection. This segment of Main Street includes an S-curve with clusters of crashes occurring along each curve and at intersections positioned immediately after the curve or within the curve. The corridor has a TWLTL running throughout, with numerous driveways and intersections along the entire length. Additionally, public comments noted the need for lighting along the corridor and crash data showed over 25 percent of crashes in this corridor occurred between dusk and dawn.

Countermeasure Summary

The recommended countermeasures for Main Street between S 5th Street and Ruddle Road are recommended to address crashes along the S-curve, crashes occurring at intersections, and crashes that occur between dusk and dawn.

Countermeasure
Vulnerable Road User Countermeasures
<ul style="list-style-type: none"> Bike Lanes Crosswalk Visibility Enhancements Pedestrian Signal with Leading Pedestrian Interval Sidewalks
Vehicular Countermeasures
<ul style="list-style-type: none"> Convert TWLTL to Dedicated Left Turn Lanes Corridor Access Management Curve Design Improvements Dedicated Turn Lanes Enhanced Curve Delineation Flashing Yellow Arrow Left Turn Signal General Pavement Markings Raised Medians Retroreflective Backplates Roundabouts Safety Lighting Speed Reduction Pavement Markings at Curves

3.AR 18 BYPASS – STATE HIGHWAY 77 TO N COUNTY ROAD 17



Roadway Characteristics

Speed Limit: Ranges 40-60 mph

Number of Lanes: 4

Roadway Section: Two-way, not divided, two-way left-turn lane (TWLTL)

High Injury Network Intersection: State Highway 119

Roadway Alignment: Straight and curve

Presence of Sidewalks: No

Average Daily Traffic: Approximately 9,500 vehicles

Existing Conditions

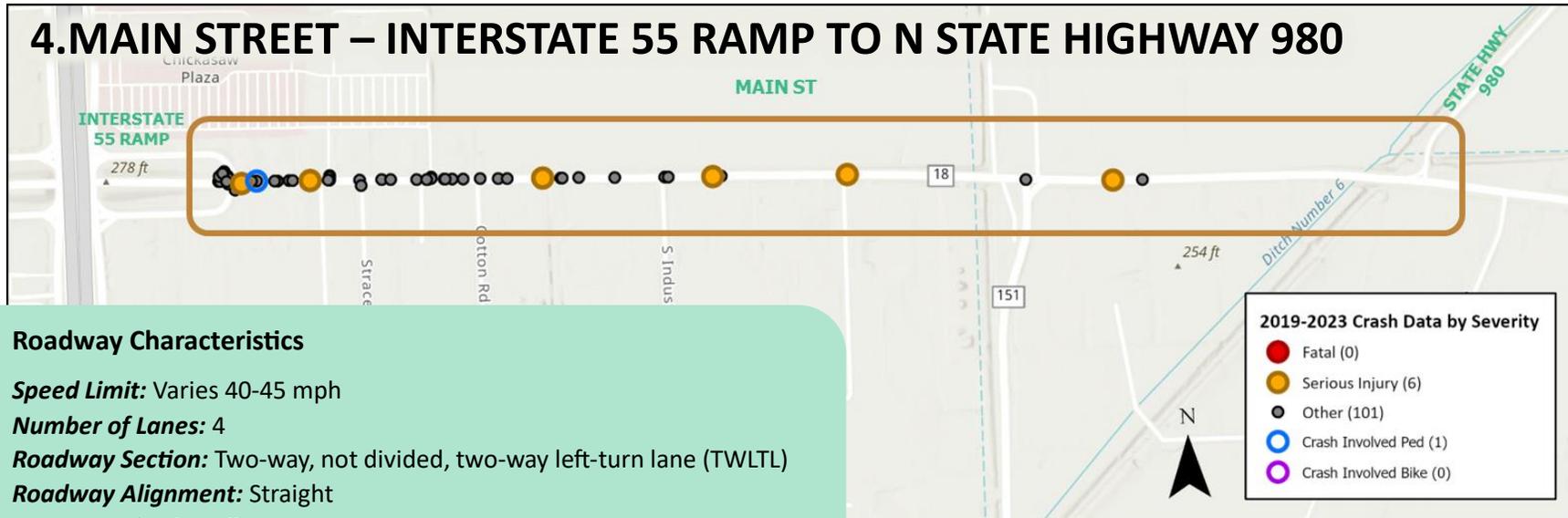
This 6.7-mile segment of the AR 18 Bypass includes one of the top five High Injury Network (HIN) road segments in the West Region, and one HIN intersection. The segment begins in a rural area and then continues through the City of Manila. The portion of the segment within the City of Manila has numerous access points to businesses and intersecting minor streets. More than 50 percent of the crashes along this corridor were related to intersections. One serious injury pedestrian crash and one serious injury bicycle crash were reported on the corridor, likely due to the absence of sidewalks and crosswalks. All crashes involving a pedestrian or bicyclist occurred between dusk and dawn. Additionally, over 30 percent of all crashes happened between dusk and dawn.

Countermeasure Summary

The countermeasures identified for AR 18 Bypass between N County Road 17 and State Highway 77 are recommended to address intersection crashes, crashes involving pedestrians and bicyclists, and crashes that occur between dusk and dawn.

Countermeasure
Vulnerable Road User Countermeasures
<ul style="list-style-type: none"> Sidewalk Crosswalk Visibility Enhancements Pedestrian Refuge Median/Islands
Vehicular Countermeasures
<ul style="list-style-type: none"> Corridor Access Management Dedicated Turn Lanes Enhanced Curve Delineation General Pavement Markings Roundabout/Traffic Signal Warrants Safety Lighting T-Intersection Treatment Transverse Rumble Strips Wider Edge Lines
Other Countermeasures
Road Safety Audit

4. MAIN STREET – INTERSTATE 55 RAMP TO N STATE HIGHWAY 980



Roadway Characteristics

Speed Limit: Varies 40-45 mph

Number of Lanes: 4

Roadway Section: Two-way, not divided, two-way left-turn lane (TWLTL)

Roadway Alignment: Straight

Presence of Sidewalks: No

Average Daily Traffic: Approximately 17,000 vehicles

Existing Conditions

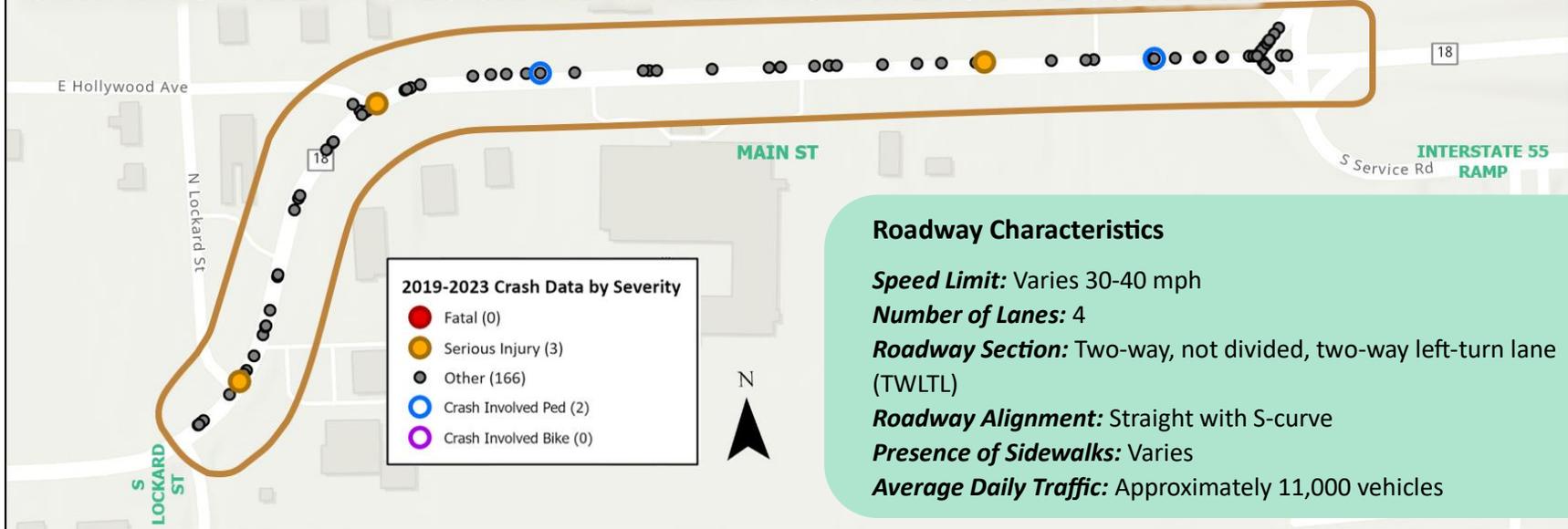
This 1.32-mile segment of Main Street includes one of the top five High Injury Network (HIN) road segments in the East Region, and one HIN intersection. A TWLTL is present along the entire corridor with numerous business driveways and intersecting minor roadways. Over 50 percent of crashes occurred at an intersection, likely due to the high number of access points and TWLTL causing driver confusion. Additionally, over 25 percent of crashes occurred between dusk and dawn.

Countermeasure Summary

The countermeasures identified for Main Street between Interstate 55 Ramp to N State Highway 980 are recommended to address at intersection crashes and crashes that occur between dusk and dawn.

Countermeasure
Vehicular Countermeasures
<ul style="list-style-type: none"> Convert TWLTL to Dedicated Left Turn Lanes with Medians Corridor Access Management Dedicated Turn Lanes General Pavement Markings Pavement Friction Raised Medians Roundabouts Safety Lighting

5.MAIN STREET – S LOCKARD STREET TO INTERSTATE 55 RAMP



Existing Conditions

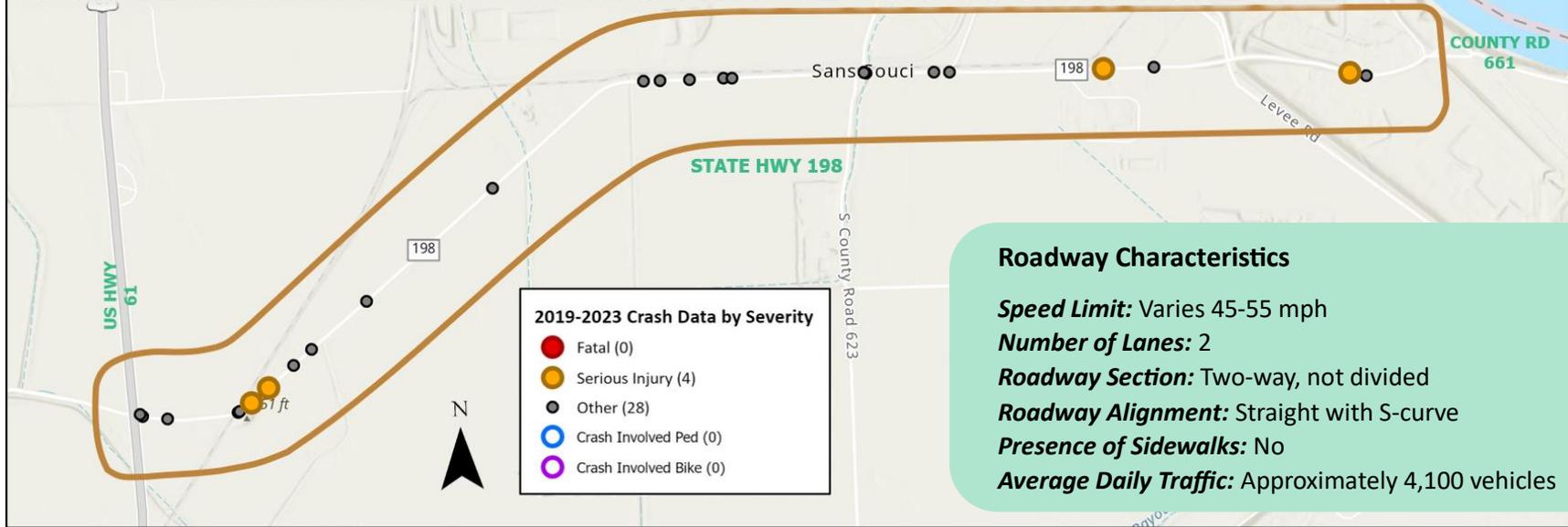
This 1.32-mile segment of Main Street includes one of the top five High Injury Network (HIN) road segments in the East Region. The corridor features an S-curve, with clusters of crashes occurring along each curve and at intersections located immediately after or within the curve. Public comments noted sight distance along the S-curve is not adequate. Over 20 percent of crashes occurred on wet, standing water, or slushy road surfaces. There were two pedestrian crashes along this segment, which lacks sidewalks and crosswalks for pedestrians to safely cross Main Street.

Countermeasure Summary

The countermeasures identified for Main Street between S Lockard Street and S Interstate 55 Ramp are recommended to address crashes occurring along the S-curve, crashes involving pedestrians, and crashes that occur on wet, standing water, or slushy road surfaces.

Countermeasure
Vulnerable Road User Countermeasures
Crosswalk Visibility Enhancements Pedestrian Hybrid Beacon Sidewalk
Vehicular Countermeasures
Convert TWLTL to Dedicated Left Turn Lanes Corridor Access Management Curve Design Improvements Dedicated Turn Lanes Enhanced Curve Delineation General Pavement Markings Pavement Friction Raised Medians Roundabouts Safety Lighting Speed Reduction at Curves

6.STATE HIGHWAY 198 – US HIGHWAY 61 TO S COUNTY ROAD 661



Existing Conditions

This 3.34-mile section of State Highway 198 includes one of the top five High Injury Network (HIN) road segments in the South Region. The route is heavily used by commercial motor vehicles accessing a steel plant from US Highway 61. Near the intersection with US Highway 61, there is an S-curve with a railroad crossing that is not grade-separated. Two serious injury crashes have occurred near this railroad crossing along the S-curve. Additionally, over 35 percent of crashes occur between dusk and dawn.

Countermeasure Summary

The countermeasures identified for State Highway 198 between US Highway 61 to S County Road 661 are recommended to address crashes that occur along the S-curve, crashes at the not grade-separated railroad crossing, and crashes that occur between dusk and dawn.

Countermeasure
Vehicular Countermeasures
Appropriate Speed Limits for All Road Users
Curve Design Improvements
Dedicated Turn Lanes
Enhanced Curve Delineation
General Pavement Markings
Grade Separated Railroad Crossing
Longitudinal Rumble Strips
Safety Lighting
Speed Reduction Pavement Markings at Curves
Wider Edge Lines

7. MAIN STREET – S 17TH STREET TO S 11TH STREET



Roadway Characteristics

Speed Limit: 35 mph

Number of Lanes: 4

Roadway Section: Two-way, not divided, two-way left-turn lane (TWLTL)

Roadway Alignment: Straight with S-curve

Presence of Sidewalks: Varies

Average Daily Traffic: Approximately 11,000 vehicles

Existing Conditions

This 0.47-mile segment of Main Street includes one of the top five High Injury Network (HIN) road segments in the East Region. This segment of Main Street includes an S-curve with clusters of crashes occurring along each curve and at intersections positioned immediately after the curve and within the curve. The corridor has a TWLTL running throughout, with numerous driveways and intersections along the entire length. Over 65 percent of crashes were reported as occurring at an intersection. Furthermore, over 25 percent of crashes in this corridor happened between dusk and dawn.

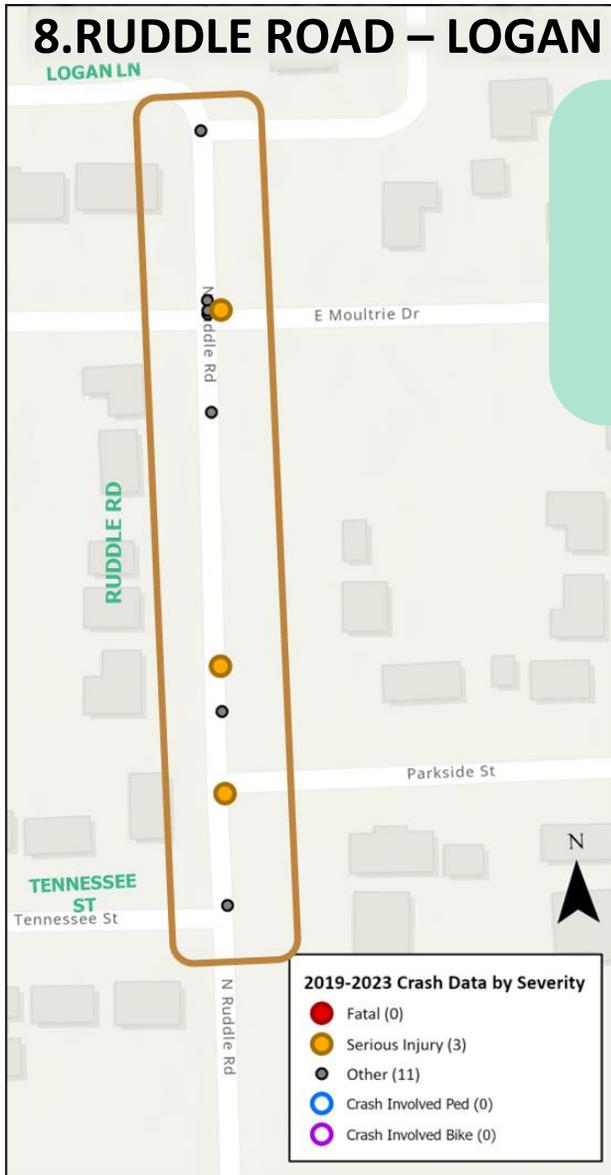
The sidewalk along this segment of Main Street is inconsistent, with sections missing, narrow, or overgrown with grass. Public comments have highlighted the need to replace these sidewalks with new ADA-compliant sidewalks.

Countermeasure Summary

The countermeasures identified for Main Street between S 17th Street and S 11th Street are recommended to address intersection crashes, crashes that occur along an S-curve, and crashes that occur between dusk and dawn.

Countermeasure
Vulnerable Road User Countermeasures
Crosswalk Visibility Enhancements Sidewalks
Vehicular Countermeasures
Convert TWLTL to Dedicated Left Turn Lanes Corridor Access Management Curve Design Improvements Dedicated Turn Lanes Enhanced Curve Delineation General Pavement Markings Raised Medians Retroreflective Backplates Roundabouts Safety Lighting Speed Reduction Pavement Markings at Curves

8. RUDDLE ROAD – LOGAN LANE TO S TENNESSEE STREET



Roadway Characteristics

Speed Limit: 30 mph
Number of Lanes: 2
Roadway Section: Two-way, not divided
High Injury Network Intersection: Parkside Street
Roadway Alignment: Straight
Presence of Sidewalks: Varies
Average Daily Traffic: Approximately 3,800 vehicles

Existing Conditions

This 0.12-mile segment of Ruddle Road includes a High Injury Network (HIN) road segment ranked among the top five in the East Region, as well as a HIN intersection. This part of Ruddle Road is located in a neighborhood near Walker Park and Blytheville Elementary School. Over 90 percent of crashes reported were related to intersections. Public feedback mentioned congestion during school hours at the intersection with Moultrie Drive. The stop sign on Ruddle Road at this intersection is not double posted and does not include a striped stop bar.

Countermeasure Summary

The identified countermeasures for Ruddle Road between Logan Lane and S Tennessee Street are recommended to address intersection crashes. Given the occurrence of two serious injury crashes at intersections on this low-speed neighborhood road, a more detailed road safety audit (RSA) is advised for this corridor. The RSA will closely examine the existing conditions to identify specific countermeasures that could enhance safety.

Countermeasure
Vulnerable Road User Countermeasures
Crosswalk Visibility Enhancements Sidewalk
Vehicular Countermeasures
Double Post Stop Signs General Pavement Markings Road Safety Audit Roundabout Safety Lighting Wider Edge Lines

9. US HIGHWAY 61 – S COUNTY ROAD 343 TO LEE STREET

Roadway Characteristics

Speed Limit: Varies 35-55 mph

Number of Lanes: 2

Roadway Section: Two-way, not divided

Roadway Alignment: Straight

Presence of Sidewalks: No

Average Daily Traffic: Approximately 3,600 vehicles



Existing Conditions

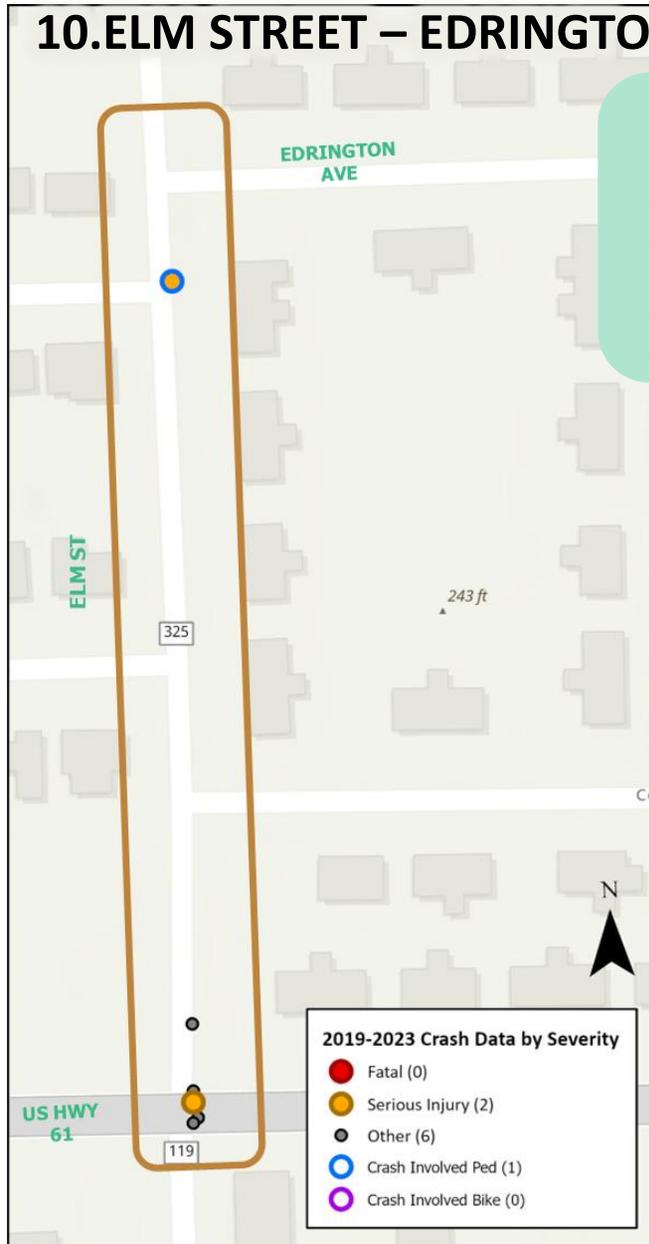
This 3.45-mile section of US Highway 61 features a High Injury Network (HIN) road segment ranked among the top five in the South Region. Being primarily rural, this segment experiences a high number of crashes, likely due to limited nighttime visibility and the constraints of its two-lane design. Over 50 percent of reported crashes were run-off-the-road or lane departure crashes, with more than 25 percent occurring under wet or slushy road surface conditions. Additionally, steep downgrades and loose gravel at the railroad crossing along US Highway 61 likely make it difficult for drivers to stop for trains.

Countermeasure Summary

The countermeasures identified for US Highway 61 between S County Road 343 to Lee Street are recommended to address run off the road crashes, crashes occurring with wet or slushy road surface conditions, and crashes near railroad crossings.

Countermeasure
Vehicular Countermeasures
General Pavement Markings
Guardrail
Pavement Friction
Roundabouts
Safer Railroad Crossings
Safety Lighting
Variable Speed Limit
Wider Edge Lines

10. ELM STREET – EDRINGTON AVENUE TO US HIGHWAY 61



Roadway Characteristics

Speed Limit: 30 mph

Number of Lanes: 2

Roadway Section: Two-way, not divided

Roadway Alignment: Straight

Presence of Sidewalks: Narrow and overgrown sidewalk

Average Daily Traffic: Approximately 637 vehicles

Existing Conditions

This 0.14-mile segment of Elm Street includes a High Injury Network (HIN) road segment that ranks among the top five in the East Region. Over 80 percent of reported crashes occurred at the intersection with US Highway 61, where the pavement markings are very worn and numerous driveways are located. One pedestrian crash was reported along this segment, which lacks adequate crosswalks or sidewalks. The existing sidewalks are narrow, overgrown with grass, and have cracked and uneven surfaces throughout the corridor. Public comments noted there is heavy pedestrian and bike traffic along Elm Street.

Countermeasure Summary

The countermeasures identified for Elm Street between Edrington Avenue and US Highway 61 are recommended to address intersection crashes and crashes involving pedestrians.

Countermeasure
Vulnerable Road User Countermeasures
Crosswalk Visibility Enhancements Sidewalks
Vehicular Countermeasures
Corridor Access Management Flashing Yellow Arrow Left Turn Signal General Pavement Markings Retroreflective Backplates Road Diet Wider Edge Lines

11. STATE HIGHWAY 140 – S STATE HIGHWAY 77 TO STATE HIGHWAY 181



Roadway Characteristics

Speed Limit: 55 mph

Number of Lanes: 2

Roadway Section: Two-way, not divided

Roadway Alignment: Straight

Presence of Sidewalks: No

Average Daily Traffic: Approximately 3,200 vehicles

Existing Conditions

This 8.87-mile segment of State Highway 140 includes a High Injury Network (HIN) road segment that ranks among the top five in the West and South Regions. State Highway 140 provides access to Interstate 55 from the West Region. Over 40 percent of reported crashes were run-off the road or lane departure crashes, likely due to the segment being narrow with no lighting. T-intersections along the corridor are frequent but lack adequate warning signage with guardrails.

Countermeasure Summary

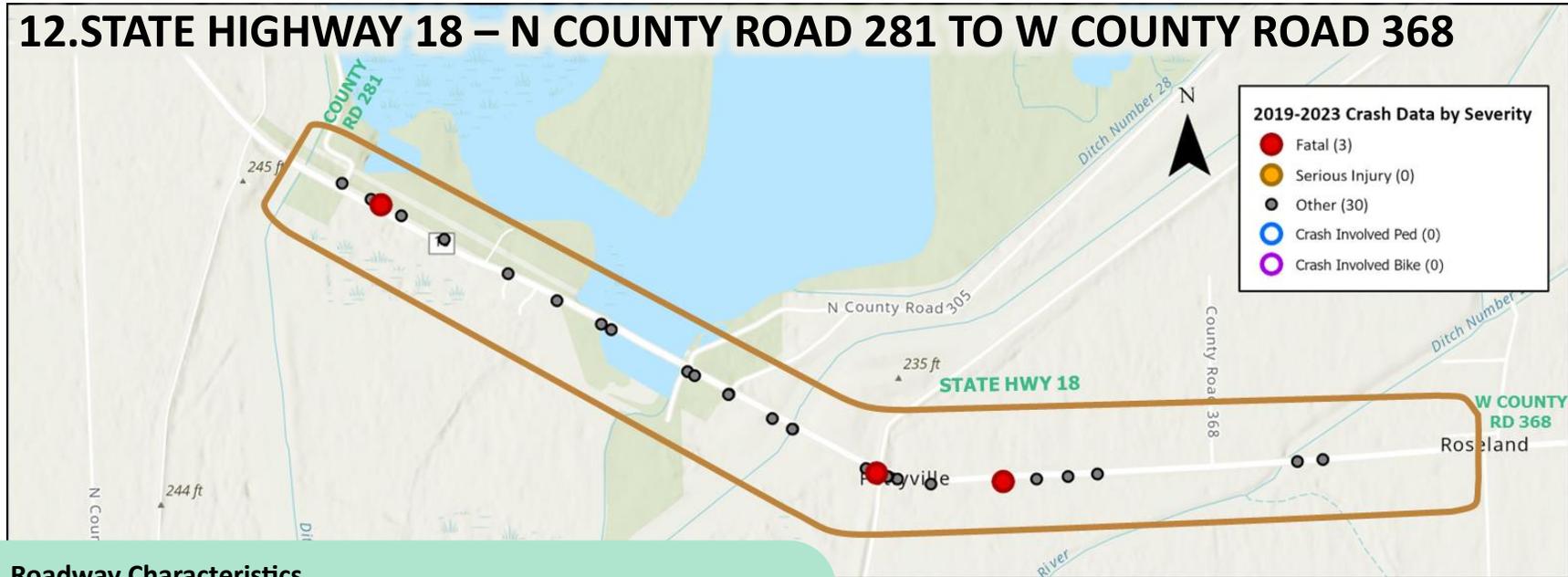
The countermeasures identified for State Highway 140 between S State Highway 77 and State Highway 181 are recommended to address run off the road and lane departure crashes.

Countermeasure

Vehicular Countermeasures

- General Pavement Markings
- Guardrail
- Longitudinal Rumble Strips
- Safety Lighting
- T-Intersection Treatment
- Wider Edge Lines

12.STATE HIGHWAY 18 – N COUNTY ROAD 281 TO W COUNTY ROAD 368



Roadway Characteristics

Speed Limit: 60 mph

Number of Lanes: 4

Roadway Section: Two-way, not divided, two-way left-turn lane (TWLTL)

Roadway Alignment: Straight with slight curve

Presence of Sidewalks: No

Average Daily Traffic: Approximately 7,200 vehicles

Countermeasure

Vehicular Countermeasures

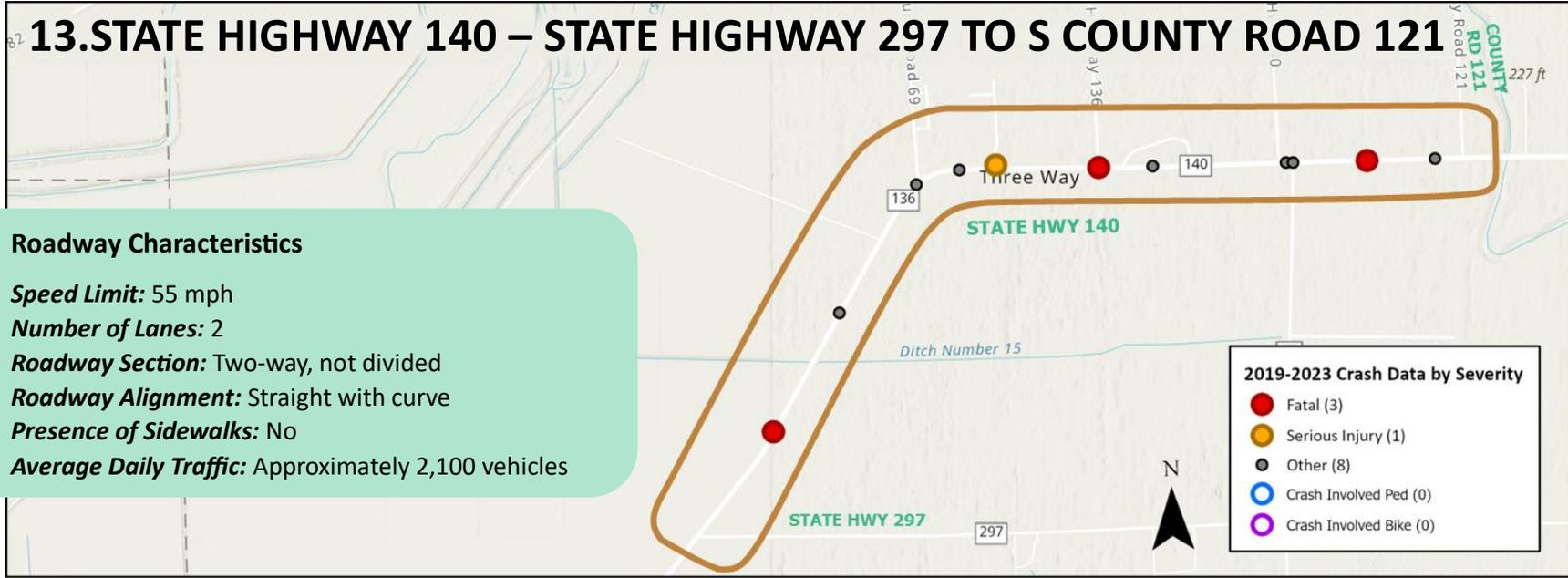
General Pavement Markings
Safety Lighting
T-Intersection Treatment
Wider Edge Lines

Existing Conditions

This 2.11-mile segment of State Highway 18 includes one High Injury Network (HIN) road segment that ranks among the top five in the West Region. State Highway 18 is primarily rural and provides a connection between the Cities of Manila and Blytheville. Over 25 percent of crashes reported involve run-off-the-road or lane departure crashes, with more than 65 percent of these occurring between dusk and dawn. The corridor has many T-intersections that lack adequate warning signage for approaching drivers.

Countermeasure Summary

The countermeasures identified State Highway 18 between N County Road 281 and W County Road 368 are recommended to address run-off-the-road and lane departure crashes, T-intersection crashes, and crashes that occur between dusk and dawn.



Existing Conditions

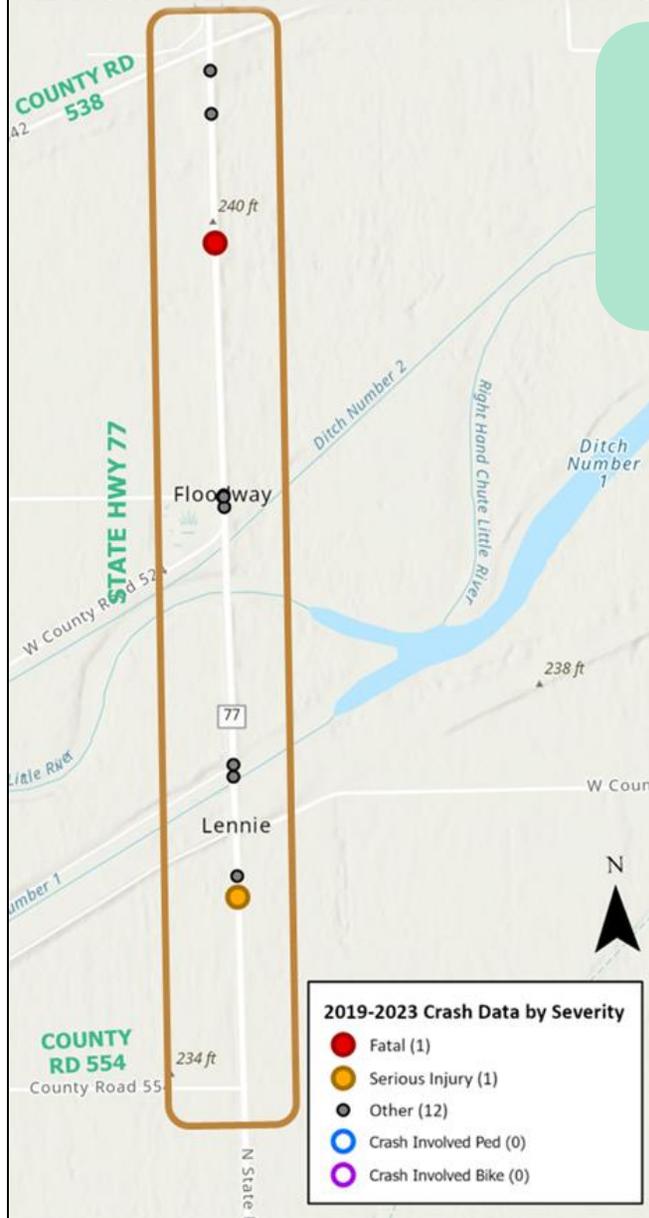
This 3.75-mile segment of State Highway 140 includes one High Injury Network (HIN) road segment that ranks among the top five in the West Region. Over 50 percent of reported crashes were run-off the road or lane departure crashes, likely due to the segment being narrow with no lighting. T-intersections along the corridor are frequent but lack adequate warning signage with guardrails. A fatal crash occurred at the intersection with Main Street, which had both a stop sign and a yield sign on the minor street leg. It is recommended that the yield sign be replaced with a stop sign.

Countermeasure Summary

The countermeasures identified State Highway 140 between State Highway 297 and S County Road 121 are recommended to address T-intersection crashes and run off the road or lane departure crashes.

Countermeasure
Vehicular Countermeasures
General Pavement Markings
Guardrail
Replace Yield Sign with Stop Sign
Safety Lighting
T-Intersection Treatment
Wider Edge Lines

14. STATE HIGHWAY 77 – W COUNTY ROAD 538 TO N COUNTY ROAD 554



Roadway Characteristics

Speed Limit: 55 mph

Number of Lanes: 2

Roadway Section: Two-way, not divided

Roadway Alignment: Straight

Presence of Sidewalks: No

Average Daily Traffic: Approximately 2,000 vehicles

Existing Conditions

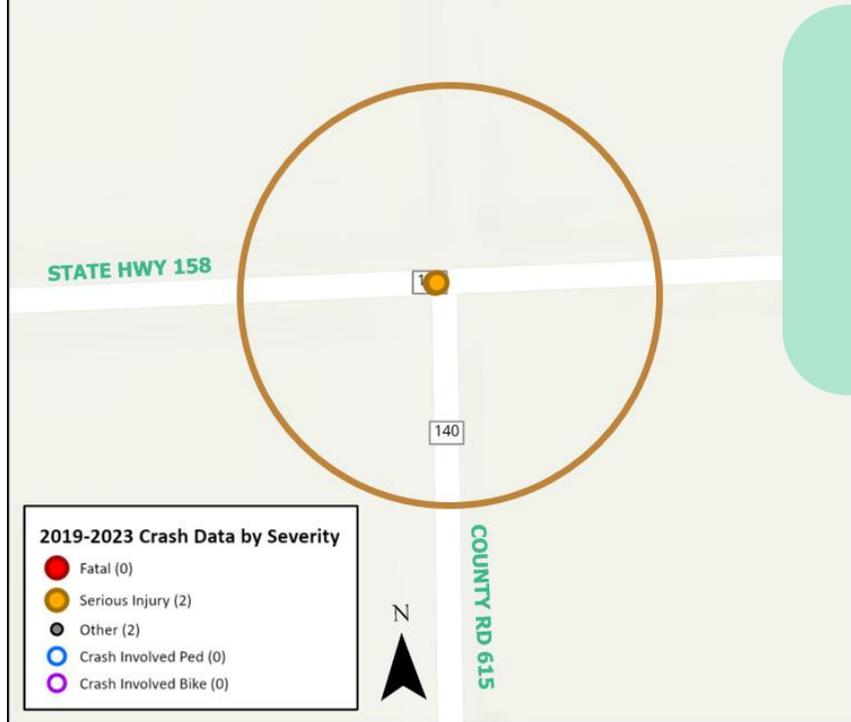
This 1.78-mile segment of State Highway 77 includes one High Injury Network segment that ranks among the top five in the West Region. Over 60 percent of reported crashes were run-off the road or lane departure crashes, likely due to the segment being narrow with no lighting. More than 50 percent of crashes along the segment occurred between dusk and dawn. T-intersections along the corridor are frequent but lack adequate warning signage with guardrails.

Countermeasure Summary

The countermeasures identified State Highway 77 between W County Road 538 and N County Road 554 are recommended to address run-off-the-road and lane departure crashes, T-intersection crashes, and crashes that occur between dusk and dawn.

Countermeasure
Vehicular Countermeasures
General Pavement Markings
Guardrail
Safety Lighting
T-Intersection Treatment
Wider Edge Lines

15.STATE HIGHWAY 158 & COUNTY ROAD 615



Intersection Characteristics

Intersection Type: T-Intersection

Control Type: Stop Sign on County Road 615

Speed Limit: 55 mph on State Highway 158 and County Road 615

Number of Lanes: 2 Lanes along State Highway 158 and County Road 615

Roadway Section: Two-way, not divided along State Highway 158 and County Road 615

Roadway Alignment: Straight on all approaches

Average Total Entering Daily Traffic: Approximately 1,310 vehicles

Existing Conditions

This intersection of State Highway 158 and County Road 615 is one of the four HIN intersections that were not located along one of the HIN segments that was in the top five for each Region. The intersection is rural with no lighting present. Pavement markings at the intersection are worn and do not include a stop bar for County Road 615. All crashes reported at the intersection of State Highway 158 and County Road 615 were run off the road crashes, 75 percent of these crashes occurred between dusk and dawn.

Countermeasure Summary

Countermeasures identified for the intersection of State Highway 158 and County Road 615 are recommended to address run-off-the-road and lane departure crashes, T-intersection crashes, and crashes that occur between dusk and dawn.

Countermeasure

Vehicular Countermeasures

General Pavement Markings
 Longitudinal Rumble Strips
 Paved Shoulder
 Safety Edge
 Safety Lighting
 T-Intersection Treatment
 Wider Edge Lines

16.STATE HIGHWAY 150 & STATE HIGHWAY 312



Intersection Characteristics

Intersection Type: T-intersection

Control Type: Stop Sign on State Highway 312

Speed Limit: 55 mph on State Highway 150 and State Highway 312

Number of Lanes: 2 Lanes along State Highway 150 and State Highway 312

Roadway Section: Two-way, not divided along State Highway 150 and State Highway 312

Roadway Alignment: Straight with a curve located west of the intersection

Average Total Entering Daily Traffic: Approximately 1,500 vehicles

Existing Conditions

This intersection of State Highway 150 and State Highway 312 is one of the four HIN intersections that were not located along one of the HIN segments that was in the top five for each Region. The intersection is rural with no lighting present. Pavement markings at the intersection are worn and do not include a stop bar for State Highway 312. Over 90 percent of all reported crashes at this intersection were run off the road or lane departure crashes, with 100 percent of crashes occurring between dusk and dawn.

Countermeasure Summary

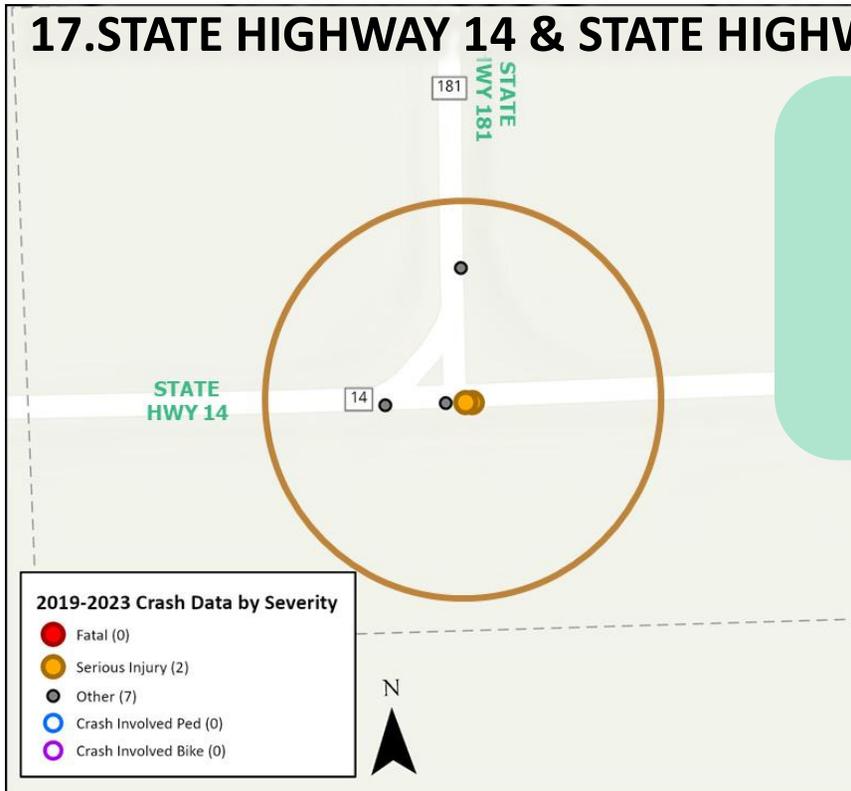
Countermeasures identified for the intersection of State Highway 150 and State Highway 312 are recommended to address run-off-the-road and lane departure crashes, T-intersection crashes, and crashes that occur between dusk and dawn.

Countermeasure

Vehicular Countermeasures

General Pavement Markings
Longitudinal Rumble Strips
Paved Shoulders
Safety Edge
Safety Lighting
T-Intersection Treatment
Wider Edge Lines

17.STATE HIGHWAY 14 & STATE HIGHWAY 181



Intersection Characteristics

Intersection Type: T-intersection

Control Type: Stop Sign on State Highway 181

Speed Limit: 55 mph on State Highway 14 and State Highway 181

Number of Lanes: 2 Lanes along State Highway 14 and State Highway 181

Roadway Section: Two-way, not divided along State Highway 14 and State Highway 181

Roadway Alignment: Straight on all approaches

Average Total Entering Daily Traffic: Approximately 2,040 vehicles

Existing Conditions

This intersection of State Highway 14 and State Highway 181 is one of the four HIN intersections that were not located along one of the HIN segments that was in the top five for each Region. Over 80 percent of all reported crashes at this intersection were run off the road or lane departure crashes that all occurred between dusk and dawn.

Pavement markings at the intersection are worn and do not include a stop bar for the State Highway 181 approach. Over 60 percent of crashes reported drivers disregarding the stop sign on the State Highway 181 approach.

Countermeasure Summary

Countermeasures identified for the intersection of State Highway 14 and State Highway 181 are recommended to address run-off-the-road and lane departure crashes, T-intersection crashes, and crashes that occur between dusk and dawn.

Countermeasure

Vehicular Countermeasures

General Pavement Markings
Longitudinal Rumble Strips
Paved Shoulder
Safety Lighting
T-Intersection Treatment
Wider Edge Lines

18.MAIN STREET & INTERSTATE 55 RAMP

Intersection Characteristics

Intersection Type: 4 leg intersection

Control Type: Two-way stop controlled

Speed Limit: 40 mph on Main Street and 35 mph on Interstate 55 Service Road

Number of Lanes: 4 lanes along Main Street and 2 lanes along Interstate 55 Service Road

Roadway Section: Two-way, not divided with two-way left-turn lane (TWLTL) along Main Street and two-way, not divided along Interstate 55 Service Road

Roadway Alignment: Straight along Main Street, Interstate 55 Service Road is curved

Average Total Entering Daily Traffic: Approximately 18,200 vehicles

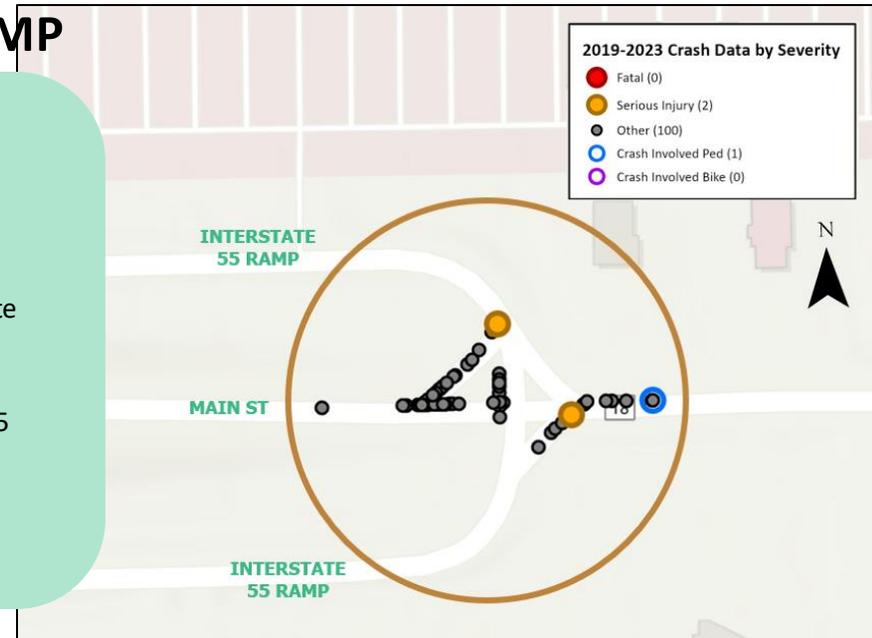
Existing Conditions

The intersection of Main Street and the Interstate 55 Ramp is a two-way stop-controlled intersection with high traffic volumes located on a High Injury Network (HIN) road segment. The Interstate 55 Ramp features a sharp turn radius with limited sight distance approaching the intersection.

Additionally, a Walmart driveway within the ramp creates more conflict points. The intersection is not sufficiently striped; for example, the westbound left-turn lane is not adequately marked for dedicated use of the TWLTL, potentially causing issues due to business driveways being located within 100 feet of the intersection. Public comments have noted frequent crashes at this location, and there has been one pedestrian crash. Comments emphasize the need for safe pedestrian crossings over Interstate 55, as there are no sidewalks along Main Street or crosswalks across the Interstate 55 Ramp.

Countermeasure Summary

Due to the large number of crashes and intersection geometry located at the intersection of Main Street and Interstate 55 Ramp a more detailed road safety audit (RSA) is recommended for this intersection to look more closely at the existing conditions to identify site specific countermeasures that may have a higher impact on reducing crashes.



Countermeasure
Other Countermeasures
Road Safety Audit

19. US HIGHWAY 61 & COUNTY ROAD 732



Intersection Characteristics

Intersection Type: 4 leg intersection

Control Type: Two-way stop controlled

Speed Limit: 55 mph on US Highway 61 and 35 mph on County Road 732

Number of Lanes: 2 Lanes along US Highway 61 and County Road

Roadway Section: Two-way, not divided along US Highway 61 and County Road 732

Roadway Alignment: Straight

Average Total Entering Daily Traffic: Approximately 8,800 vehicles

Existing Conditions

The intersection of US Highway 61 and County Road 732, located on the south border of the City of Osceola, has experienced over 30 percent of crashes involving run-off-the-road or lane departure crashes. At each corner of the intersection, crashes related to hitting a fixed object or running into the ditch have been reported. Notably, there are no curbs or guardrails present at any corner of this intersection and there is not a shoulder along County Road 732.

Countermeasure Summary

Countermeasures identified for the intersection of US Highway 61 and County Road 732 are recommended to address run-off the road or lane departure crashes.

Countermeasure

Vehicular Countermeasures

Curb/Guardrail along Intersection Corners
General Pavement Markings
Longitudinal Rumble Strips
Paved Shoulders
Wider Edge Lines

Appendix D – Countermeasure Unit Costs & Available CMFs

Countermeasure	Unit Cost Estimate	Unit	Assumptions & Notes	Resource	CMF (if available)
Vulnerable Road User Infrastructure					
Add Sidewalk	\$700,000	Per Mile (one side)	Assumes reconstruction of existing driveways. Does not include right-of-way, utility relocation, and site modifications.	FHWA PSC	0.598
Add Sidewalk Buffer	\$800,000	Per Mile (one side)	Assumes reconstruction of existing driveways. Does not include right-of-way, utility relocation, and site modifications.		N/A
Add Side Path	\$1,400,000	Per Mile (one side)	Assumes urban area with driveway crossings.	FHWA PSC	N/A
Add Bike Lane	\$60,000	Per Mile (one side)	Assumes a relatively standard striped bike lane design (not protected or shared use)	FHWA PSC	0.435-0.571
Add High Visibility Crosswalk Pavement Markings	\$5,000	Per Crossing		FHWA PSC	0.600-0.810
Convert Diagonal Ramps to Directional Ramps	\$30,000	Per Corner	Assumes changing one single ramp to two directional ramps.		N/A
Add Pedestrian Refuge Median/Island	\$20,000	Per Crossing		FHWA PSC	0.860-0.910
Add Pedestrian Hybrid Beacon (PHB)	\$150,000	Per Crossing		FHWA PSC	0.808-0.883
Add Pedestrian Signal at Existing Signalized Intersection	\$10,000	Per Crossing	Assumes one signal on each side of crossing. Would need four of these for crossing all legs of a four-leg intersection.		0.710-0.810
Update Traffic Signal Timings (to establish leading pedestrian interval)	\$6,000	Per Intersection	Assumes a single intersection analysis, coordinated signal retiming will increase cost based on location	FHWA PSC	0.830-0.900
Create Grade Separated Crossing	\$4,000,000	Per Crossing	Assumes pedestrian bridge over road.		NA

Countermeasure	Unit Cost Estimate	Unit	Assumptions & Notes	Resource	CMF (if available)
Vehicular Infrastructure					
Curve Design Improvements	\$1,000,000	Per Curve	Assumes an average between 500,000-1,500,000.	FHWA PSC	N/A
Enhance Curve Delineation	\$750	Per 100 Feet of Curve		FHWA PSC	0.725-0.820
Add Speed Reduction Pavement Markings along Curve Approaches	\$2,000	Per Curve			0.670-0.750
Pavement Friction Treatment	\$350,000	Per Lane Mile	Assumes 10-foot lanes.	FHWA PSC	0.422-0.522
Add Longitudinal Rumble Strips	\$15,000	Per Approach	Assumes a three-lane approach.	FHWA PSC	0.870-0.890
Add Paved Shoulder	\$135,000	Per Mile	Assumes four-foot shoulder.		0.670-0.850
Add SafetyEdge	\$2,500	Per Mile (one side)	Values range depending on height of the SafetyEdge (1.5-3 inches) - Assumes adding the SafetyEdge Treatment into an existing resurfacing project.	FHWA PSC	0.892
Add Guardrail	\$60	Per Linear Foot	Assumes Type A guardrail.		
Convert 4" Striping to 6" Striping (3 lane)	\$230,000	Per Mile (Full Road Width)	Assumes two edge lines and TWLTL centerline.	FHWA PSC (wider edgelines)	0.635-0.825
Convert 4" Striping to 6" Striping (5 lane)	\$325,000	Per Mile (Full Road Width)	Assumes two edge lines, two lane lines, and TWLTL centerline.	FHWA PSC (wider edgelines)	0.635-0.825
Add Reflective Raised Pavement Markers Along Centerline	\$3,500	Per Mile (One Stripe)	Assumes along one yellow centerline stripe, 1 color, bi-directional.		0.810-0.870
Add Reflective Object Markers (small for mailboxes/poles)	\$150	Per Marker			N/A
Add Reflective Object Markers (large for culverts)	\$200	Per Marker			N/A
Add Reflective Object Markers on Guardrail	\$20	Per Linear Foot			N/A
Add/Improve Intersection Pavement Markings	\$5,000	Per Approach	Assumes within 200 feet of the intersection. Assumes a 100-foot left-turn storage lane and a through right lane. Assumes the		0.871-0.898

Countermeasure	Unit Cost Estimate	Unit	Assumptions & Notes	Resource	CMF (if available)
			removal and addition of pavement markings.		
Stripe Stop Bars/Yield Lines	\$400	Per Lane	Assumes 10-foot lanes.		0.33
Add In-Lane Pavement Marking	\$550	Per Marking	For example, STOP and lane-use arrows.		0.652-0.693
Add Reflective Tape on Sign Post	\$30	Per Sign	Assumes 6 feet of tape needed per sign.		0.750-0.820
Add Plaque Under Sign	\$150	Per Plaque	For example, ALL-WAY plaque for stop signs.		N/A
Add Advance Warning Signage (with Flashing Beacon)	\$20,000	Per Approach	Assumes two static signs with a flashing beacon on each.		0.64
Add Intersection Lighting	\$20,000	Per Intersection	Assumes 4 lights per intersection	FHWA PSC	0.792-0.881
Add Retroreflective Backplates	\$300	Per Backplate		FHWA PSC	0.85
Update Left-Turn Signal to Flashing Yellow Arrow	\$10,000	Per Approach			0.857-0.975
Add Dedicated Turn Lanes	\$200	Linear Foot	Assumes rural cross section with no curb and gutter.	FHWA PSC	0.730-0.834
Intersection Reconfiguration	\$4,750,000	Per Intersection			Formula available
Collect Traffic Volume Counts for Signal Warrant Analysis	\$5,000	Per Intersection	Assumes 24-hour tube counts		N/A
Add Traffic Signal	\$600,000	Per Intersection	Assumes four-legged intersection.		0.560-0.716
Add Roundabout	\$750,000	Per Intersection	Assumes cost shown is an average of typical range (500,000-1,000,000).	FHWA PSC	0.213-0.319
Access Management	\$1,250,000	Per Mile (Both Sides)	Reduction in curb cuts and removal of or conversion of two-way left turn to dedicated left turn. Does not include right-of-way, utility relocation, and site modifications.	FHWA PSC	Formula available
Convert TWLTL to Dedicated Turn Lanes	\$15,000	Per Approach	Assumes the addition of some sort of raised concrete (4 ft.) median/barrier and restriping.		N/A

Countermeasure	Unit Cost Estimate	Unit	Assumptions & Notes	Resource	CMF <i>(if available)</i>
Construct Raised Concrete Median	\$850	Cubic Yard			0.580-0.720
Add Corridor Lighting	\$375,000	Per Mile	Assumes new poles at 200 feet spacing.	FHWA PSC	0.630-0.680