

CENTRAL ARKANSAS SAFETY ACTION PLAN

November 2024



ACKNOWLEDGMENTS

METROPLAN BOARD OF DIRECTORS

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Adopted by the Metroplan Board of Directors

Date: **November 20, 2024**

Resolution: **24-13**



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Our Goal:

**40% reduction in fatal and
serious injury crashes by 2040**

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LIST OF ABBREVIATIONS

ACAT	Arkansas Crash Analysis Tool
ADA	Americans with Disabilities Act
AR	Arkansas
ARDOT	Arkansas Department of Transportation
ETC	Equitable Transportation Communities
FHWA	Federal Highway Administration
HIN	High Injury Network
GIS	Geographic Information System
KABCO	Injury Severity Scale K – Fatal Injury A – Suspected Serious Injury B – Suspected Minor Injury C – Possible Injury O – No Apparent Injury
KSI	Killed or Serious Injury
LPI	Leading Pedestrian Interval
MUTCD	Manual on Uniform Traffic Control Devices
MVM	Million Vehicle Miles
NCHRP	National Cooperative Highway Research Project
NHTSA	National Highway Traffic Safety Administration
NWARPC	Northwest Arkansas Regional Planning Commission
PHB	Pedestrian Hybrid Beacon
RRFB	Rectangular Rapid Flashing Beacon
RSA	Road Safety Audit
SAPAC	Safety Action Plan Advisory Committee
SHSP	Strategic Highway Safety Plan
SS4A	Safe Streets and Roads for All
TWLT	Two Way Left Turn
UALR	University of Arkansas at Little Rock
USDOT	US Department of Transportation
VMT	Vehicle Miles Traveled
VRU	Vulnerable Road User
VSL	Variable Speed Limit



MESSAGE AND RESOLUTION FROM METROPLAN

In the past five years, 553 fatal motor vehicle crashes have taken the lives of Central Arkansans, with an additional 2,210 serious injury crashes impacting more lives. Included in this total are 118 fatal pedestrian and bicycle crashes. These deaths and injuries affect family, friends, businesses, and communities. We can do better.

I was inspired by the Metroplan Board's enthusiasm to participate in the federal Safe Streets and Roads for All program - an initiative that stands at the forefront of our commitment to community safety.

Metroplan has always prioritized the well-being of our community members, and it is with this spirit that we embrace the Central Arkansas Safety Action Plan's vision of a 40% reduction of fatal and serious injury collisions by 2040, with the eventual goal of zero. With the support of the U.S. Department of Transportation and our partners, we are embarking on a journey to transform our streets into safer spaces for everyone.

The Central Arkansas Safety Action Plan is a comprehensive strategy that addresses the most significant roadway safety concerns within the region. It is a blueprint for implementing projects and strategies aimed at preventing roadway deaths and serious injuries. This plan is not just a document; it is a testament to our resolve to achieve zero roadway deaths using a Safe System Approach.

The development of this action plan has been a collaborative effort, reflecting the insights and expertise of various stakeholders. As we move forward, your role in this initiative will be pivotal. Your support and guidance will be invaluable as we work together to create a legacy of safety that will benefit generations to come.

I invite you to review the enclosed Central Arkansas Safety Action Plan and join us in this vital mission. Together, we can build a safer, more resilient community.

Casey Covington

Metroplan Executive Director



RESOLUTION 24-13

A RESOLUTION APPROVING THE REGIONAL COMPREHENSIVE SAFETY ACTION PLAN SAFE STREETS AND ROADS FOR ALL

WHEREAS, Metroplan is the officially designated Metropolitan Planning Organization (MPO) for the Little Rock-North Little Rock-Conway metropolitan area; and

WHEREAS, the MPO is charged with the responsibility of providing for the continuing, cooperative and comprehensive transportation planning process for the Central Arkansas Regional Transportation Study;

WHEREAS, Metroplan received a Safe Streets and Roads for All planning grant to develop a regional Safety Action Plan (Resolution 22-15);

WHEREAS, the Metroplan Board of Directors, Policy Board of the MPO, recognizes that fatalities and serious injuries are not inevitable and chooses to aspire to Vision Zero to eliminate all fatal and serious injuries and sets a goal of reducing fatal and serious injury crashes by 40% by 2040 (Resolution 24-02);

WHEREAS, Metroplan has completed the consultant-led Regional Safety Action Plan, which was developed through consultation with expert stakeholders, Board members, the Safety Action Plan Advisory Committee, and public outreach across Central Arkansas.

WHEREAS, the Regional Safety Action Plan meets the requirements of Safe Streets and Roads for All;

WHEREAS, county-specific plans are incorporated into the previously adopted regional plan (Resolution 24-06) as completed;

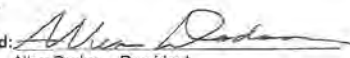
WHEREAS, the Central Arkansas Regional Safety Action Plan was subject to public comment from October 10, 2024, to November 10, 2024;

NOW, THEREFORE, BE IT RESOLVED, that the Metroplan Board of Directors, the Policy Committee of the MPO:

Section 1: That the Central Arkansas Regional Comprehensive Safety Action Plan is hereby approved and identifies a wide variety of strategies, goals, and potential projects.

Section 2: Will develop yearly progress reports through staff identifying changes in the number of fatal and serious injuries and high injury locations.

Duly recorded this 20th day of November 2024.

Signed: 
Allen Dodson, President
Judge, Faulkner County

Attested: 
Ken Kincaide, Secretary-Treasurer
Mayor, City of Cabot

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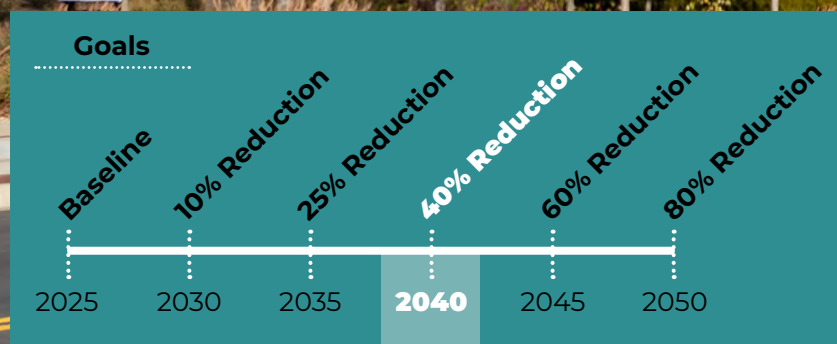
1 PURPOSE

The Central Arkansas Safety Action Plan is the Region's road map to provide safe streets and roads for all people. The purpose of this plan is to establish and implement steps that can help Central Arkansas reach zero fatal and serious injuries on the Region's roadways. To achieve this, Central Arkansas leaders from the Metroplan Board of Directors have committed to a goal of reaching zero fatal and serious injuries in Central Arkansas. The leaders set a key milestone goal of achieving a 40 percent reduction in fatal and serious injuries by the year 2040, with several interim goals starting with a baseline to be established in 2025 and incremental steps through the year 2050 to get to an 80% reduction.

- 2025 – Baseline
- 2030 – 10% Reduction
- 2035 – 25% Reduction
- **2040 – 40% Reduction**
- 2045 – 60% Reduction
- 2050 – 80% Reduction

The Safety Action Plan includes regional safety analysis results, public engagement to identify safety issues, equity analysis, project and policy recommendations, and an implementation plan that prioritizes locations for deployment of safety countermeasures. This plan was developed by Metroplan and funded through a grant from the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) Program.

The Central Arkansas Safety Action Plan focuses on safety and regional priorities within the four county Metroplan Region that includes Faulkner, Lonoke, Pulaski, and Saline Counties. Upon completion of the Safety Action Plan, supplemental plans that focused on the unique safety needs of each county were developed and are included at the end of this report.





The purpose of this plan is to establish and implement steps that can help Central Arkansas reach zero fatal and serious injuries on the Region's roadways.



Our Goal:

40% reduction in fatal and serious injury crashes by 2040

●●●●●

The SS4A program supports regional, local, and tribal initiatives to prevent roadway deaths and serious injuries.



1.1 WHAT IS A SAFETY ACTION PLAN?

The Bipartisan Infrastructure Law established the new Safe Streets and Roads for All (SS4A) discretionary program that will provide five billion dollars in grants from 2022 through 2026. The SS4A Program supports regional, local, and tribal initiatives to prevent roadway deaths and serious injuries. Both transportation safety planning and project implementation efforts are eligible for SS4A grant funding.

SS4A prioritizes safety for all users of the transportation network, including people walking and biking, as well as places priority on disadvantaged communities whose transportation needs and infrastructure have historically been overlooked. 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.

In 2023, Metroplan was awarded \$700,000 to develop the Central Arkansas Safety Action Plan to develop a comprehensive and well defined strategy to prevent roadway deaths and serious injuries. The Safety Action Plan includes the following components required by the United States Department of Transportation (USDOT):

- Leadership Commitment and Goal Setting
- Planning Structure
- Safety Analysis
- Engagement and collaboration
- Equity
- Policy and Process Changes
- Strategy and Project Selections
- Progress and Transparency Methods



1.2 SAFETY IN THE CENTRAL ARKANSAS REGION

The Central Arkansas Safety Action Plan identifies safety needs and recommendations within the Central Arkansas Region, which consists of Faulkner County, Lonoke County, Pulaski County, and Saline County. In total, the Region encompasses approximately 750,000 people. The Central Arkansas Safety Action Plan was developed in partnership with Central Arkansas cities, counties, Rock Region Metro, Metroplan, and ARDOT.

When it comes to fatal and serious injury crashes, unfortunately Central Arkansas is similar to much of the urbanized United States. Fatal and serious injuries in the Region have not declined despite significant efforts by local, regional, and

state authorities. In fact, the number of fatal crashes in Central Arkansas has increased almost every year since 2018.

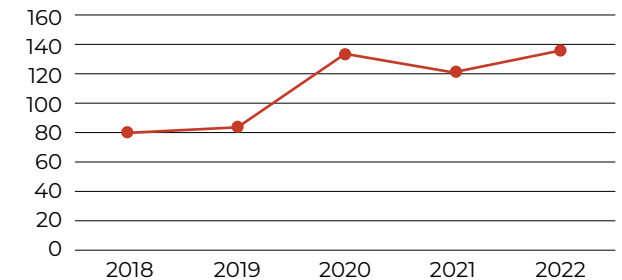
People that live in underserved areas face additional challenges of needing to get around without access to a vehicle, but often people in these areas have challenges walking, biking, using wheelchairs, or accessing transit due to poor infrastructure. Lack of sidewalks, poorly maintained pavement markings, wide roads that encourage high speeds, and lack of lighting are just some of the common examples of challenges in make walking, biking, or using a wheelchair more dangerous in Central Arkansas' underserved areas. The transportation system is often designed with just the automobile driver in mind, but residents that rely on walking, biking, or using a wheelchair as their primary means to get to school, work, or access transit must

Central Arkansas Region By Year

 **553**
Fatal
Crashes
2018-2022

 **2,210**
Serious Injury
Crashes
2018-2022

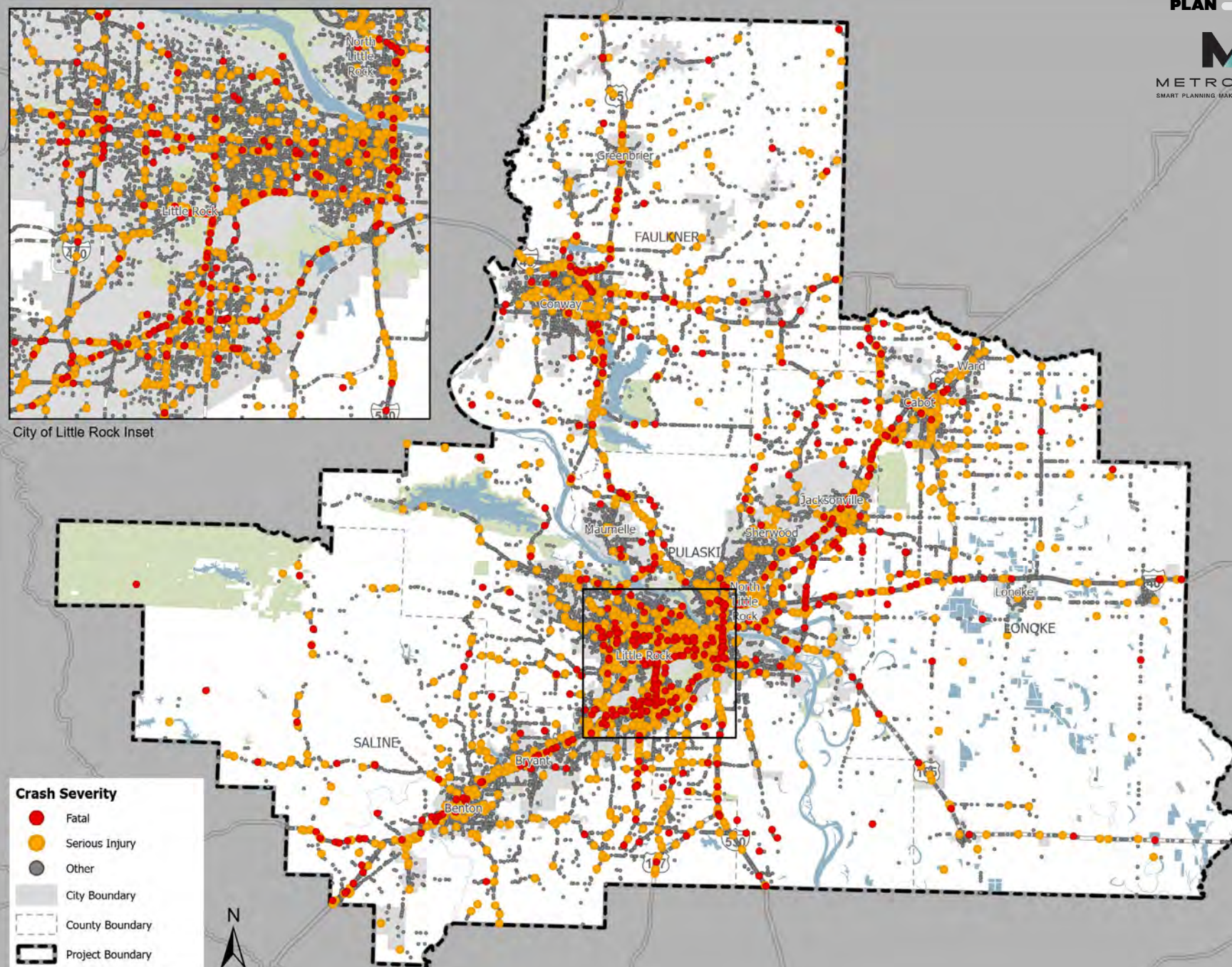
Fatal Crashes By Year



often navigate infrastructure that puts them at much greater risk of being killed or seriously injured.

Central Arkansas' Safety Action Plan recognizes that people walking or biking on our streets and roads are more vulnerable than those in automobiles. While the plan is focused on eliminating all fatal and serious injury crashes, priority is given to supporting safety for our most vulnerable road users that we know face a much higher fatal and serious injury rate when involved in a crash.

FIGURE 1: REGIONAL CRASH DATA (2018-2022)



1.3 SAFE SYSTEM APPROACH

The Safe System Approach is the foundation that will support the Region in achieving its goal of reaching zero fatal and serious injury crashes on Central Arkansas streets and roads. As part of its National Roadway Safety Strategy released in January 2022, USDOT adopted the Safe System Approach as its guiding paradigm to address roadway safety challenges nationwide. 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.

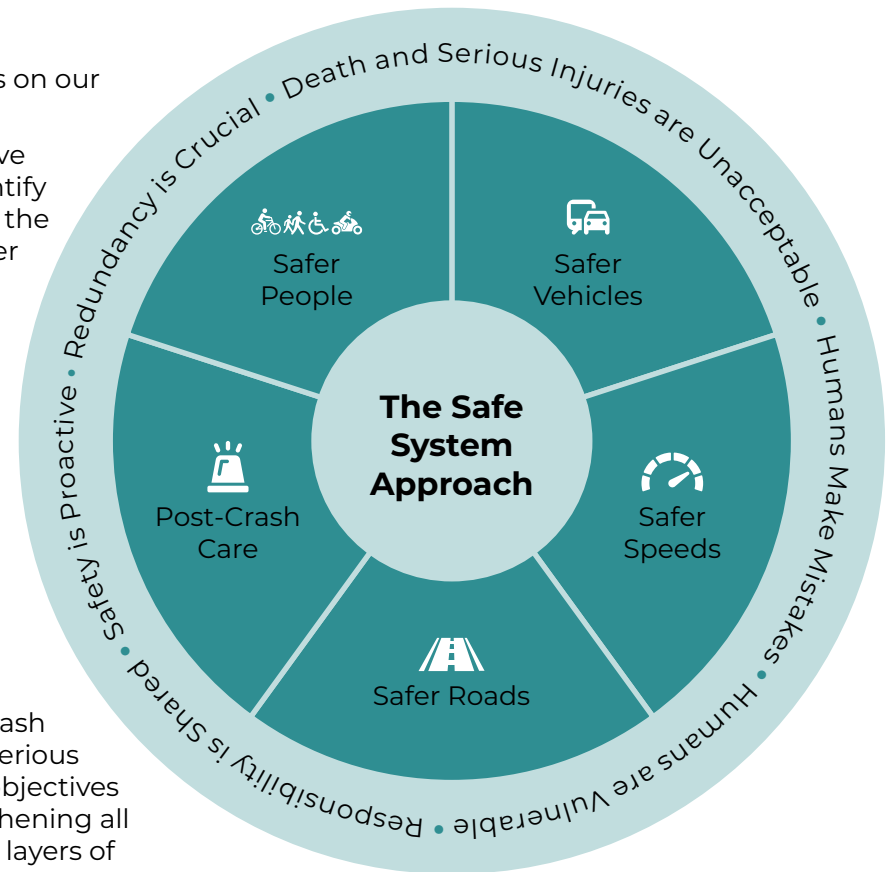
- **Death and Serious Injuries are Unacceptable.** The Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries on roadways.
- **Humans Make Mistakes.** People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation 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.
- **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.
- **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.

- **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 reacting afterwards.
- **Redundancy is Crucial.** Reducing risks requires that all parts of the transportation system be strengthened, so that if one part fails, the other parts still protect people.

There are five objectives of a Safe System Approach: safer road users, safer vehicles, safer roads, safer speeds, and post-crash care. To achieve zero fatal and serious injury crashes, all five of these objectives must be strengthened. Strengthening all objectives allows for redundant layers of protection against fatal and serious injuries on the roadway. The Central Arkansas Safety Action Plan was developed to strengthen the five Safe System objectives defined below by the National Roadway Strategy.

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

- **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.
- **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.

1.4 PLAN DEVELOPMENT AND GOVERNANCE

The Central Arkansas Safety Action Plan was developed to give the Region a holistic and well-defined strategy to achieve the goal of zero fatal and serious injury crashes. The plan was driven by data and closely analyzed crash data from 2018 through 2022. Through analysis, guided by the USDOT's National Roadway Safety Strategy, a high injury network was established for the Region. The high injury network identifies intersections and one-mile segments within the Region's roadway network that have the highest number of fatal and serious injury crashes. Establishing a high injury network focuses safety improvement efforts onto road segments and intersections that are historically causing the most harm to roadway users, thereby guiding future project implementation and safety efforts.

Extensive public engagement was performed with the goal of identifying areas of roadway safety concern within the community that could also be incorporated into the plan's priorities. As part of this effort, underserved communities were identified and prioritized. This safety analysis, public input, and equity assessment process helped establish and prioritize locations where the use of safety countermeasures can be most effectively implemented to reduce fatal and serious injury crashes. System improvements, which are improvements that can be widely implemented based on high-risk feature that are correlated with particular types of crashes, were also identified for the Region. 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.

Metroplan Board of Directors

The Safety Action Plan was adopted by the Metroplan Board of Directors on November 20, 2024. Metroplan's Board of Directors were updated monthly throughout the development of Safety Action Plan and provided input to the team through both the Board of Director's meetings as well as through two workshops with the Board to seek additional input. Agencies represented on Metroplan's Board of Directors are identified in the beginning of this Safety Action Plan.

Safety Action Plan Advisory Committee (SAPAC)

The Safety Action Plan Advisory Committee (SAPAC) was established and tasked with guiding the development of the Central Arkansas Safety Action Plan. The SAPAC represents a variety of voices from within the Central Arkansas Region that collaborated to form the Safety Action Plan. In addition to member agencies from Metroplan, the SAPAC included representatives from America Walks, Metropolitan Emergency Medical Services, and the Arkansas Highway Safety Office. The full list of representatives and agencies that participated on the SAPAC is included at the beginning of this Safety Action Plan. SAPAC members met monthly through both in-person and virtual meetings and provided continual advice, guidance, and support for the development of Central Arkansas Safety Action Plan.



The Safety Action Plan Advisory Committee (SAPAC) was established and tasked with the guiding the development of the Central Arkansas Safety Action Plan.



2 SAFETY AND EQUITY ANALYSIS

The Central Arkansas Safety Action Plan uses a data driven approach to identify roadway safety problem areas within the four-county Central Arkansas Region. The most recent five years of crash data, 2018 through 2022, available during the plan development was analyzed. The results of the safety analysis were used to support public engagement efforts and serve as a basis for the project recommendations, policy, and process improvement recommendations that are identified in this Safety Action Plan.

A regional systemic safety analysis was performed by analyzing focus areas identified in the Strategic Highway Safety Plan. Focus areas were prioritized within the Region as a whole and within each county in the Region: Faulkner County, Lonoke County, Pulaski County, and Saline County. The analysis also included a comparison of Central Arkansas' urban areas and rural areas using crash rates to better understand the unique challenges faced by different parts of the Region.

In addition to identifying crash trends within the Region, it is also important to know where fatal and serious injury crashes are happening. With crash data from 2018 through 2022, a Regional 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. Pedestrian and bicycle historic crash data and USDOT national equity data was overlayed on the HIN to further analyze characteristics of the road segments that make up the HIN.

2.1 EXISTING PLANS AND POLICIES THAT SUPPORT SAFETY

Safety is not new to Central Arkansas. Over the past decades, Metroplan and its member agencies have spent time and resources studying and investing in safety improvements. But more is still needed to make significant progress towards achieving zero fatal and serious injury crashes. A summary of some of the existing plans and policies that have been developed in the region are included below. Recommendations for additional plans and policies are included in the Recommendations Section.

Existing Plans

Within Central Arkansas many of the agencies have focused planning efforts on improving safety. These include targeted studies and plans in high crash hot spot areas as well as regional and statewide plans that look how to improve safety throughout the network. Some of the key plans whose contents informed the development of the Central Arkansas Roadway Safety Action Plan are listed below.

- Central Arkansas Transforming Mobility, 2024
- Central Arkansas Regional Greenways Plan, 2023
- Central Arkansas Multimodal Infrastructure Guidelines, 2022
- ARDOT Strategic Highway Safety Plan, 2022
- Arkansas Bicycle and Pedestrian Plan, 2017



Complete Streets is an initiative to provide streets that are safe and feel safe for all road users.

Existing Statewide Policies

Distracted Driving

Within the Central Arkansas Region, distracted driving is the second leading cause of fatal and serious injury crashes based on crash data from 2018 to 2022. Texting while driving was first banned in 2009 when the State of Arkansas passed a law to prohibit this. Since then, the State has strengthened this law to prohibit all road users from holding a cellular device while driving, except in a case of emergency.

Move Over Laws

Move Over Laws require motor vehicle operators to, when possible, move into the furthest lane from emergency response vehicles or law enforcement vehicles that are parked or stopped at the scene of an emergency. Within Arkansas, it is the law to move over to the farthest possible lane away from emergency response vehicles and if it is not possible to move over safely, drivers should slow down.

Helmet Laws

The National Highway Traffic Safety Administration (NHTSA) states that a motorcyclist that is not wearing a helmet is 40 percent more likely to suffer a fatal head injury than a helmeted motorcyclist. Arkansas law states that everyone on a motorcycle under the age of 21 must wear a helmet. However, there is currently no law within the State that requires motorcycle helmets for drivers over the age of 21. A law requiring helmet use for all riders could reduce fatal and serious injury motorcycle crashes in Central Arkansas.

Seatbelt Laws

In Arkansas, all drivers and passengers located in the front seat of a motor vehicle are required to wear a seat belt at all times. This applies to both adults and children. Additionally, all children under the age of 15 must wear a seat belt regardless of their location in the motor vehicle. However, Arkansas law does not currently require adults to wear seat belts when located in the back seat of a motor vehicle. A majority of states now require all passengers to wear a seatbelt which can reduce fatal and serious injuries.

Existing Local Policies

Complete Streets

Complete Streets is an initiative to provide streets that are safe and feel safe for all road users. Streets are designed and operated to enable safe use and support mobility for all users. That include people of all ages and abilities, regardless of mode of travel, such as vehicle, pedestrian, bicyclists, or public transit. Metroplan has developed the Multimodal Infrastructure Guidelines that address components of complete streets and the City of Conway, City of Little Rock, and City of North Little Rock each have plans

or policy related to complete streets in their cities.

Complete Communities

Complete Communities is an urban and rural planning concept that aims to meet the basic needs of all residents within a community. In 2012, the City of North Little Rock formed a Complete Communities Committee to assess walkability and move North Little Rock towards better connected, walk-friendly neighborhoods. North Little Rock prioritizes the walkability within the City by maintaining sidewalks, increasing the ability to walk to schools, and implementing pedestrian friendly signal timing.

Bicycle Friendly Communities

The League of American Bicyclists developed the Bike Friendly Community program to evaluate how communities, businesses, and universities accommodate bicyclists. The evaluation process considers equity and accessibility, engineering of safe and convenient bike facilities, education on how to ride safely, encouragement to develop a strong bike culture, and evaluation and planning for future bikeways. The cities of Little Rock and North Little Rock have received Bronze status for being bicycle friendly. The University of Central Arkansas and Hendrix College have both received Bronze status, while the City of Conway, where both universities are located, has received Silver status.

2.2 CENTRAL ARKANSAS CRASH ANALYSIS

A comprehensive crash analysis was conducted to identify factors contributing to fatal and serious injury crashes within the Central Arkansas Region. This analysis

allowed the team to identify patterns and trends in crash data, such as focus areas or specific types of crashes that occur frequently. Factors such as speeding, distracted driving, impaired driving, and intersection related crashes were analyzed to understand their impact on the Region.

Additionally, the crash analysis viewed crash trends in urban versus rural areas within the Central Arkansas Region to identify any variations in crash rates and contributing

factors. A region-to-region comparison was also performed to assess crash trends in Central Arkansas with Northwest Arkansas.

By understanding these crash trends, contributing factors were identified and targeted with safety countermeasures to reduce fatal and serious injury crashes.

Fatal and Serious Injury Crashes By Year

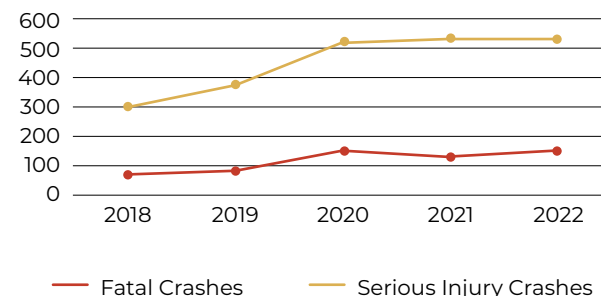


FIGURE 2: REGIONAL PEDESTRIAN CRASHES (2018-2022)

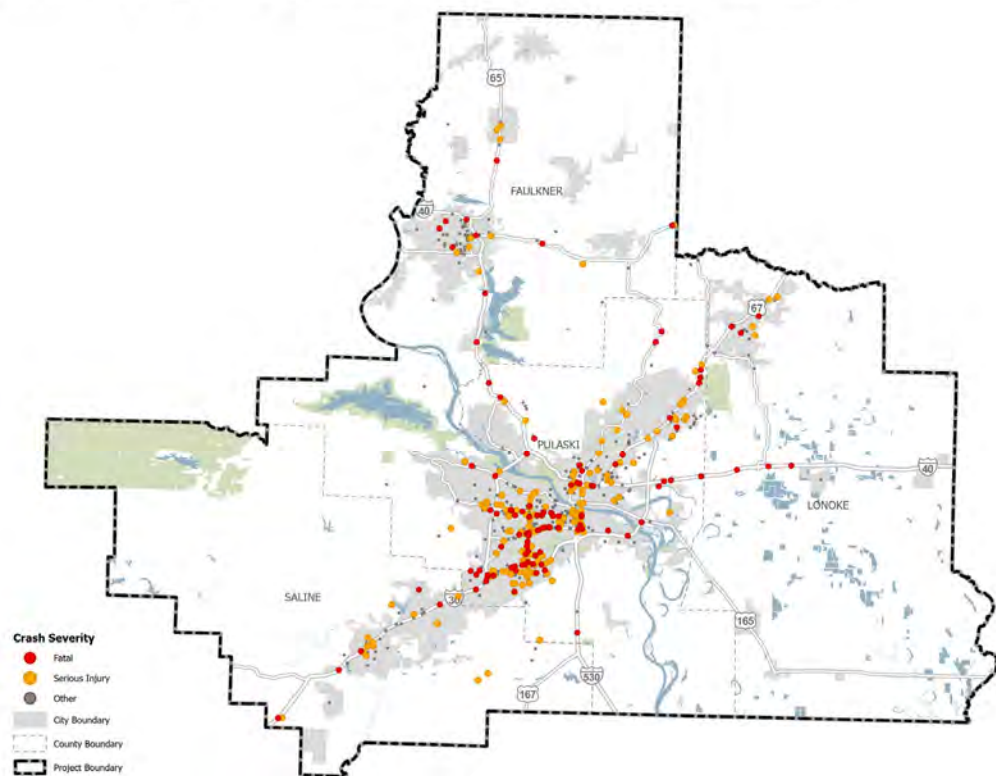
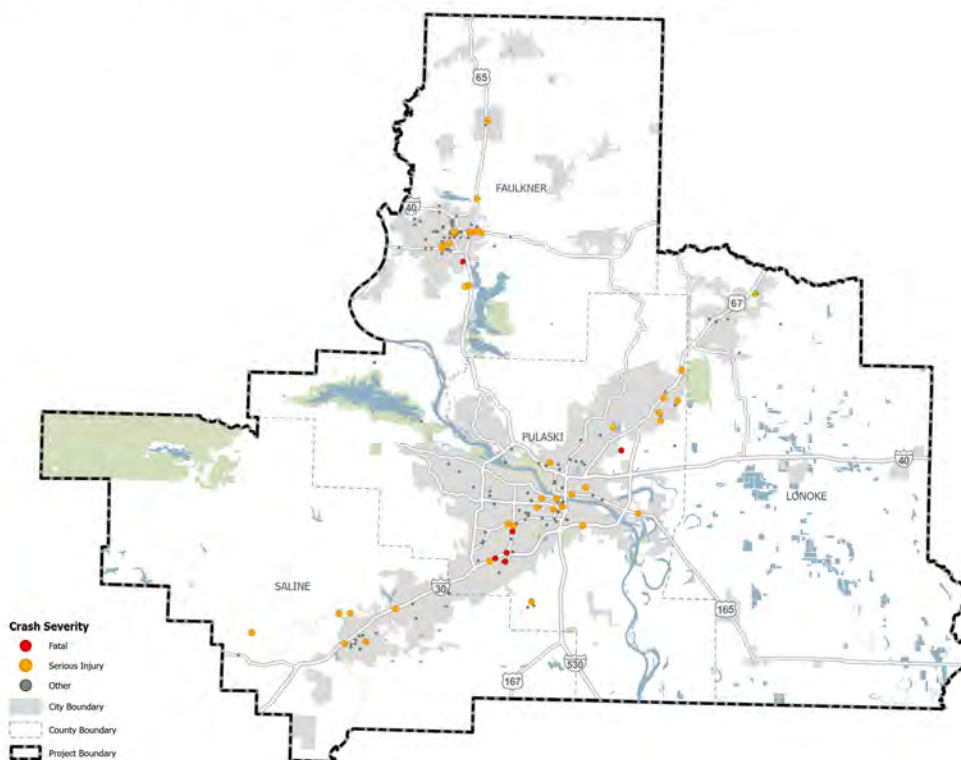


FIGURE 3: REGIONAL BICYCLE CRASHES (2018-2022)



Pedestrian crash data includes 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. 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.

Regional Analysis

The Arkansas Strategic Highway Safety Plan (SHSP) identifies focus areas of safety for the State. The focus areas identified by the SHSP are crash types and factors that are prominent within the State and often lead to fatal and serious injury crashes. The following nine focus areas identified by the Arkansas SHSP were analyzed in the Central Arkansas Safety Action Plan:

- **Impaired Driving** – This focus area addresses crashes involving drivers under the influence of alcohol, drugs, or medication.
- **Distracted Driving** – This focus area addresses crashes related to drivers operating a motor vehicle while taking their eyes off the road, hands off the wheel, or mind off of driving.
- **Non-motorist** – This focus area includes crashes involving pedestrians, bicyclists, or other vulnerable road users that are not in a motor vehicle.
- **Commercial Motor Vehicles (CMV)** – This

focus area addresses crashes that involve motor vehicles with a gross combination weight of 26,001 pounds or more.

- **Motorcycles** – This focus area addresses crashes that involve two or three wheeled vehicles with a seat for the rider.
- **Roadway Departures** – This focus area addresses crashes that occur when a vehicle crosses an edge line or a center line, leaving their travel lane.
- **Intersections** – This focus area involves crashes that occur at an intersection where two roads cross each other.
- **Aggressive Driving** – This focus area addresses crashes that involve racing, exceeding the speed limit, and driving too fast for roadway conditions.
- **Secondary Crashes** – This focus area identifies crashes that occurred within the impact area of the preceding crash and may contribute to increased congestion.

Crash data from 2018 through 2022 was filtered to analyze crashes related to the SHSP focus areas. A summary of the crash

data over the last five years for fatal and serious injury crashes within the Central Arkansas Region for each of the SHSP focus areas is provided in **Table 1**.

Fatal and Serious Injury Crashes by Arkansas SHSP Focus Area

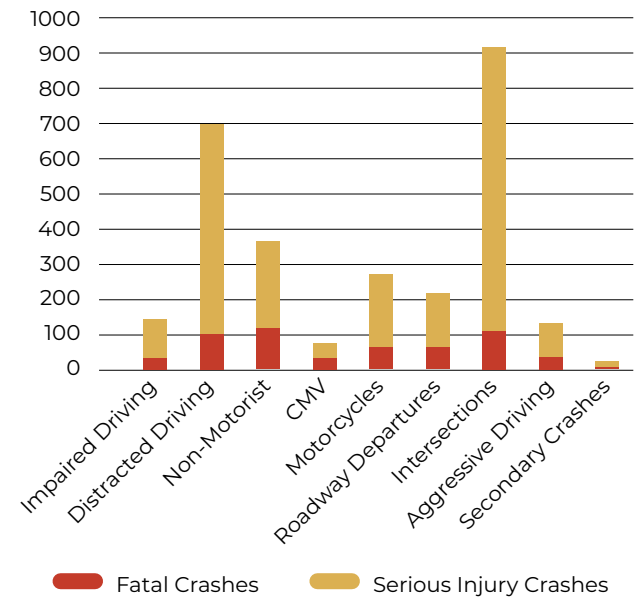
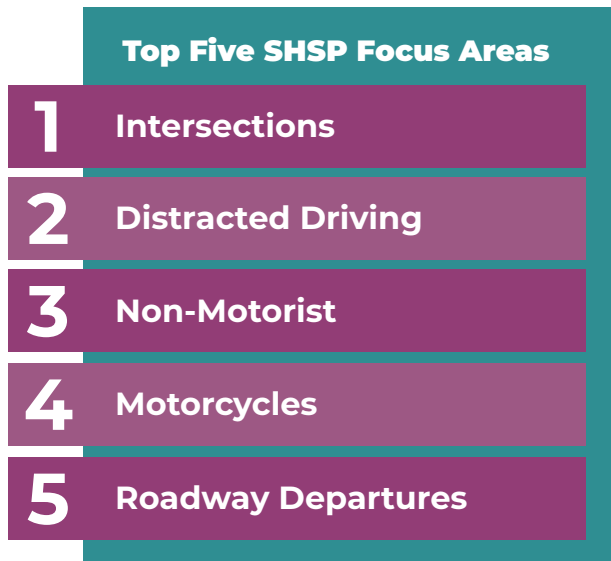


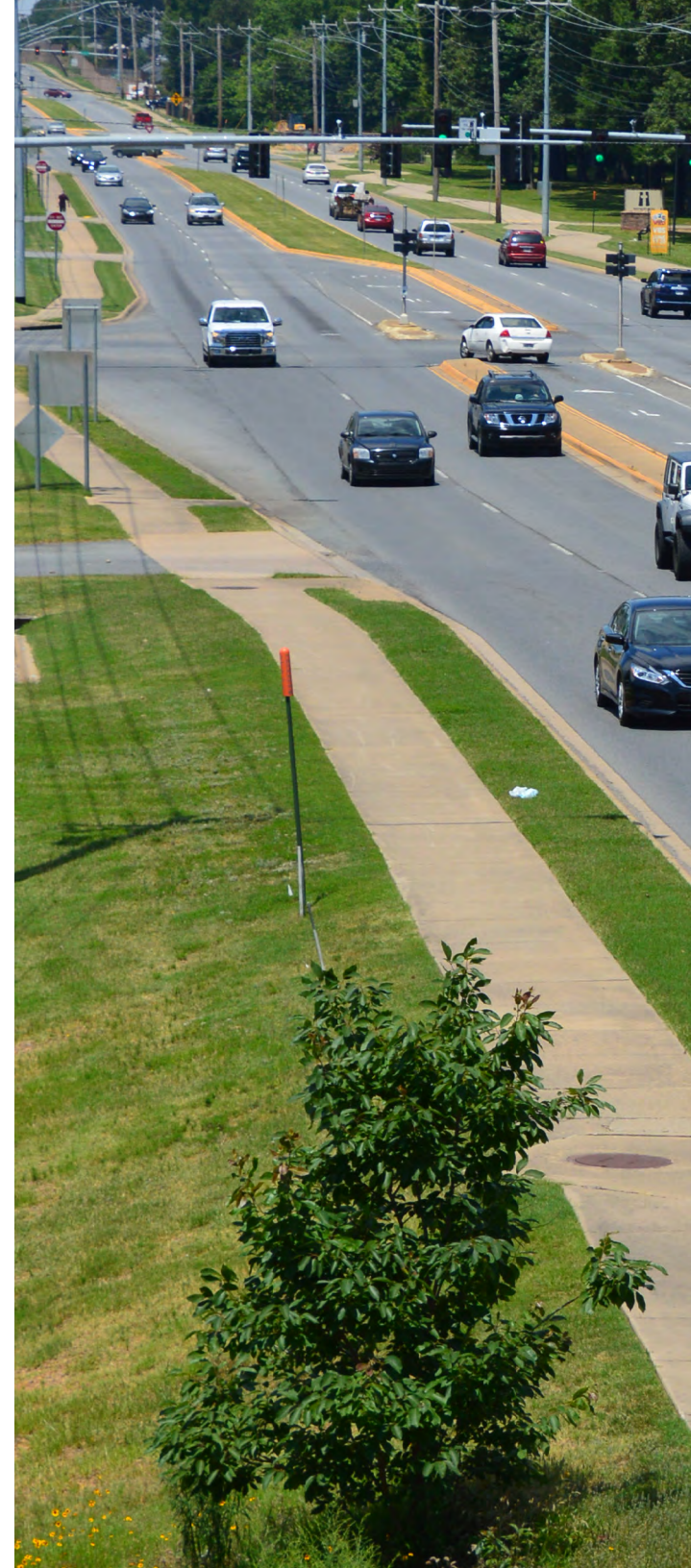
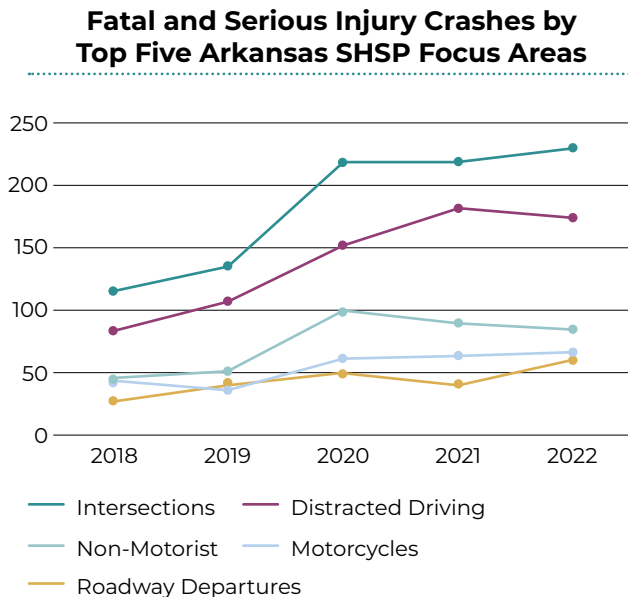
Table 1: Arkansas SHSP Focus Area Fatal and Serious Injury Crash Summary (2018-2022)

SHSP Focus Area	2018	2019	2020	2021	2022	Fatal Crashes	Serious Injury Crashes	Total # of Fatal & Serious Injury Crashes
Impaired Driving	16	25	38	37	25	31	110	141
Distracted Driving	83	107	152	182	174	104	594	698
Non-Motorist	43	51	99	89	84	118	248	366
CMV	13	12	16	12	18	27	44	71
Motorcycles	42	37	62	64	66	65	206	271
Roadway Departures	27	42	48	41	60	64	154	218
Intersections	115	135	219	219	229	111	806	917
Aggressive Driving	20	21	34	31	24	31	99	130
Secondary Crashes	3	7	3	6	1	4	16	20



The SHSP focus areas with the highest number of fatal and serious injury crashes were more closely reviewed. Intersections and distracted driving were the top two focus areas in the Region based on fatal and serious injury crashes and both have seen a sharp increase over the past five years. The other three areas, while higher in 2022 than in 2018, have generally leveled off the past three years. However, the five-year trend for each is concerning when considering the Region's goal to reduce fatal and serious injury crashes 40% by 2040 and eventually get to zero. The Region needs to continue to make safety a priority and invest in both targeted and systemic countermeasures that can address these areas and begin a trend downward.

The focus areas identified by the Arkansas SHSP are crash types and factors that are prominent within the State and often lead to fatal and serious injury crashes.



Rural vs Urban

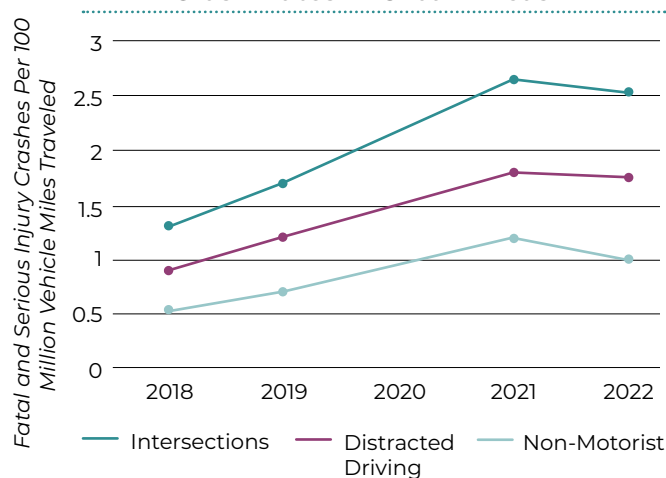
To investigate crash types that are more common in urban or rural portions of Central Arkansas, crash rates, in crashes per 100 million vehicle miles traveled (VMT), were calculated. VMT measures the amount of travel for all vehicles in a geographic region over one year. Crash rates were calculated for each SHSP focus area in both urban and rural areas. Intersections and distracted driving crashes were the top two focus areas for both urban and rural areas. Non-motorist crashes were the third highest in urban areas while roadway departures were the third highest in rural areas.

Regional Comparison

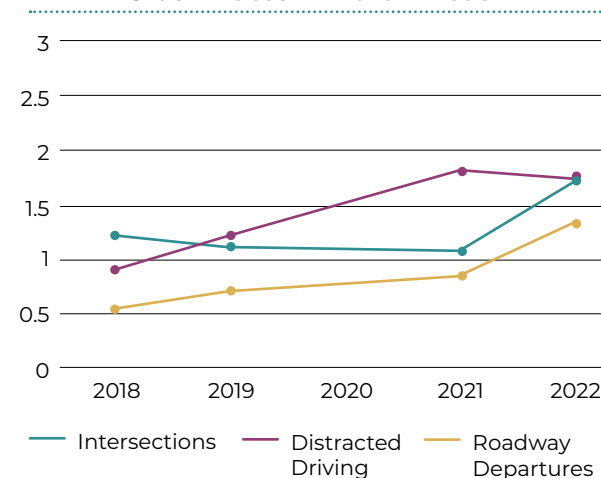
Based on the crash rate analysis that compared the Central Arkansas Region and the Northwest Arkansas Region, two focus areas were higher within the Central Arkansas Region, intersection related and non-motorist crashes. Intersection-related crashes refer to accidents that occur at intersections, such as collisions between vehicles entering or crossing the intersection, failure to yield right of way, or running red lights or stop signs. These types of crashes can be influenced by factors such as traffic congestion, inadequate intersection design, or driver behavior. Non-motorist crashes, on the other hand, involve pedestrians, bicyclists, or other individuals who are not in motor vehicles. These types of crashes can occur due to a variety of reasons, including lack of pedestrian infrastructure, driver negligence, or failure to yield to non-motorists.

The higher crash rates in these two focus areas in the Central Arkansas Region suggest that there may be specific challenges or issues related to intersection safety and the protection of non-motorists in that Region. It

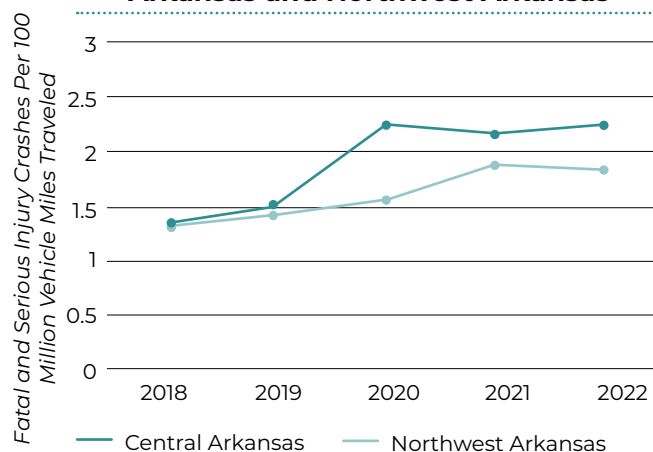
Three Highest Arkansas SHSP Focus Area Crash Rates in Urban Areas



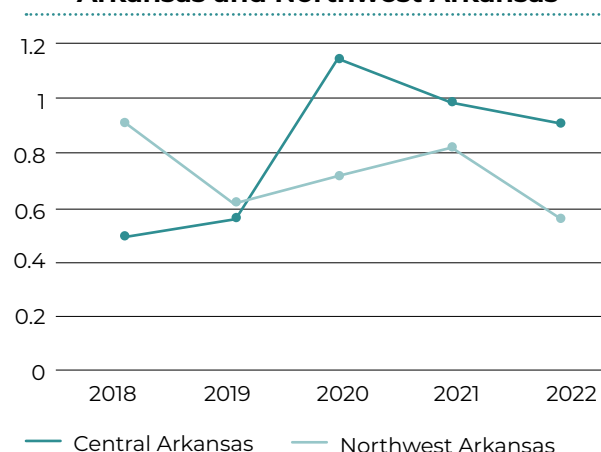
Three Highest Arkansas SHSP Focus Area Crash Rates in Rural Areas



Intersection Crash Rates in Central Arkansas and Northwest Arkansas



Non-Motorist Crash Rates in Central Arkansas and Northwest Arkansas



is important for transportation planners and authorities to analyze the underlying causes of these crashes and implement appropriate measures to improve safety for both motorists and non-motorists in the Central Arkansas Region.

2.3 REGIONAL HIGH INJURY NETWORK

High Injury Network and Intersections

A key component of the Central Arkansas Safety Action Plan is identifying a Regional High Injury Network (HIN). The HIN shown in **Figure 4** is made up of one-mile segments with a high frequency of fatal and serious injury crashes. Segments on the HIN are the most common focus for targeted safety countermeasures, projects, and strategies to achieve the goal of 40 percent reduction in fatal and serious injury crashes. The Central Arkansas HIN consists of about 19 percent of the functionally classed roadway miles within the Central Arkansas Region that are not interstates, freeways, or expressways. These roadways account for approximately 77 percent of fatal and serious injury crashes that did not occur on interstates, freeways, or expressways from 2018 through 2022.

A Regional High Injury Intersection set was also established as part of the Central Arkansas Safety Action Plan, shown in **Figure 5**. This set is made up of intersections that had at least two fatal and serious injury crashes that occurred within 250 feet of the intersection from 2018 through 2022. The set of High Injury Intersections consists of about seven percent of intersections within Central Arkansas that are not at intersections with interstates, freeways, or expressways. These intersections account for approximately 58 percent of fatal and serious injury crashes that occurred within 250 feet of an intersection from 2018 through 2022.



Our Goal:

40% reduction in fatal and serious injury crashes by 2040

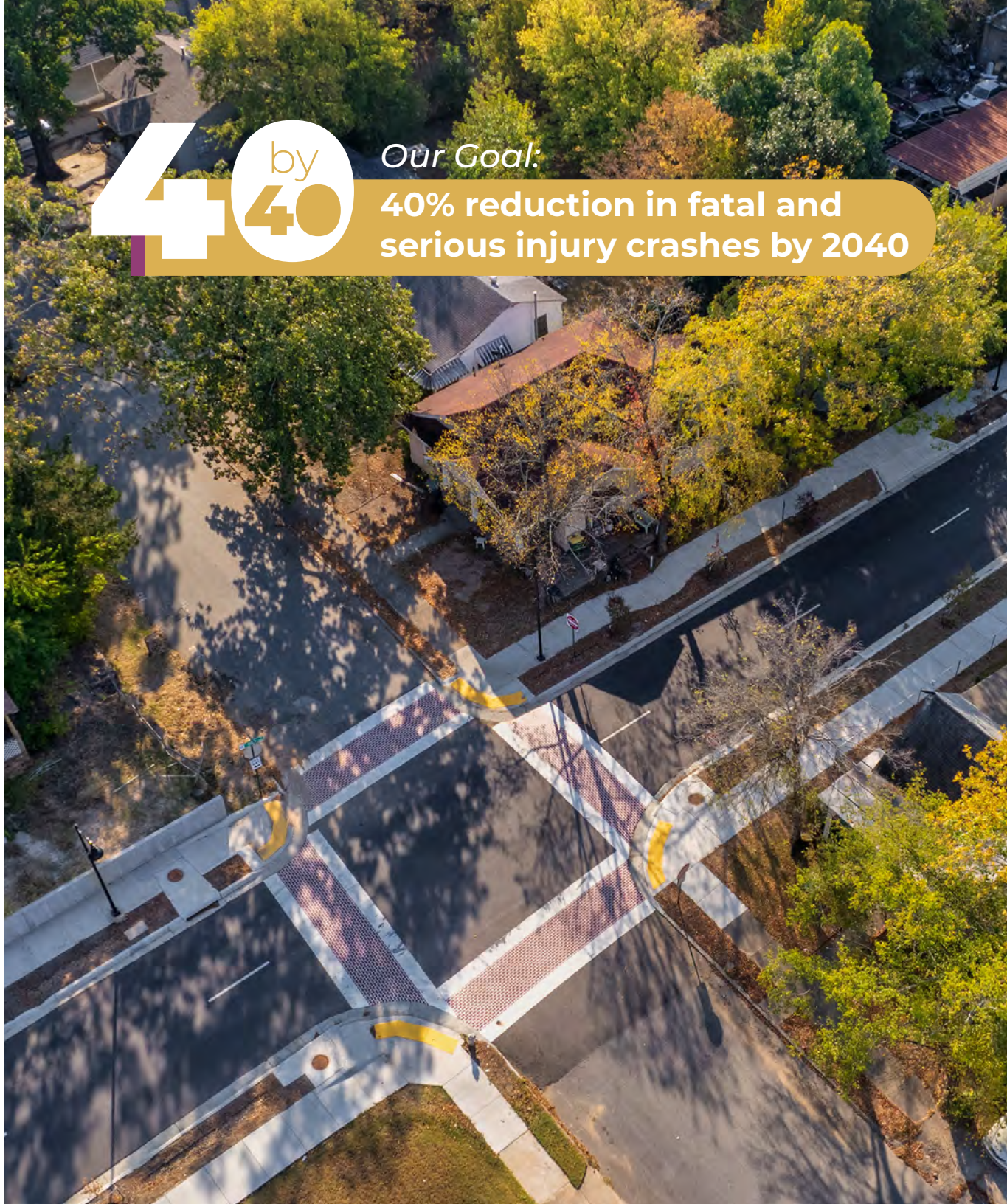


FIGURE 4: REGIONAL HIGH INJURY NETWORK (2018-2022)



City of Little Rock Inset

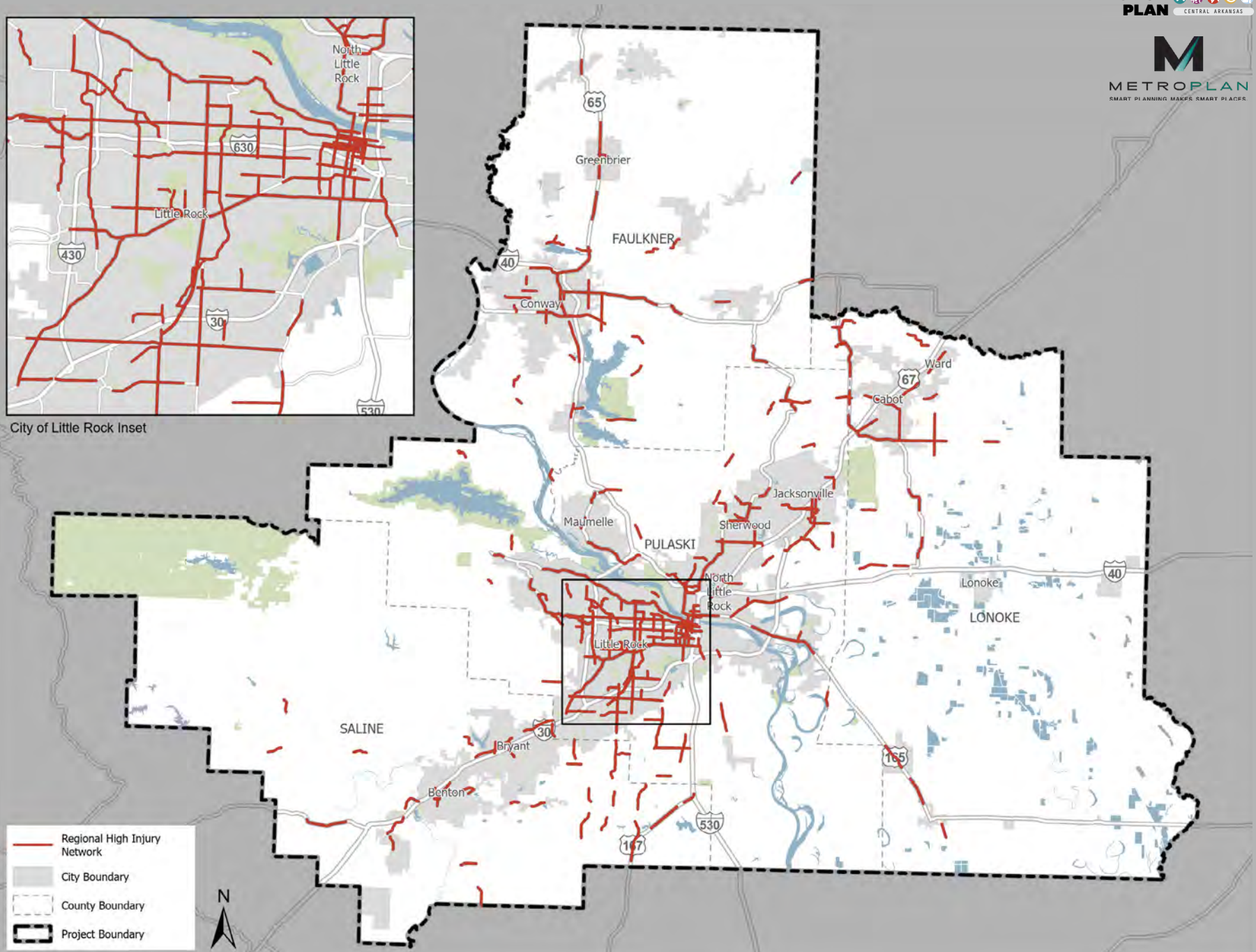
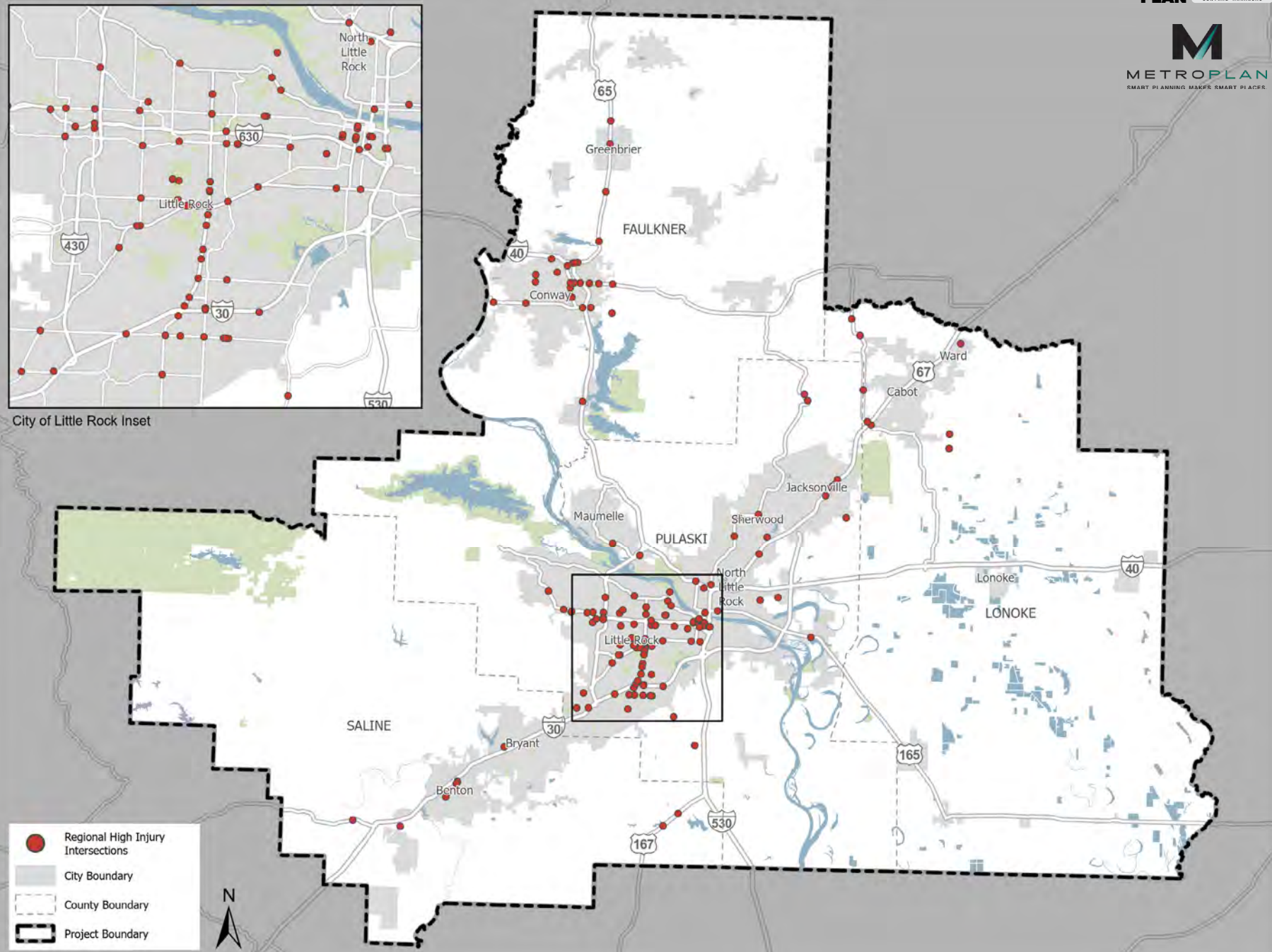
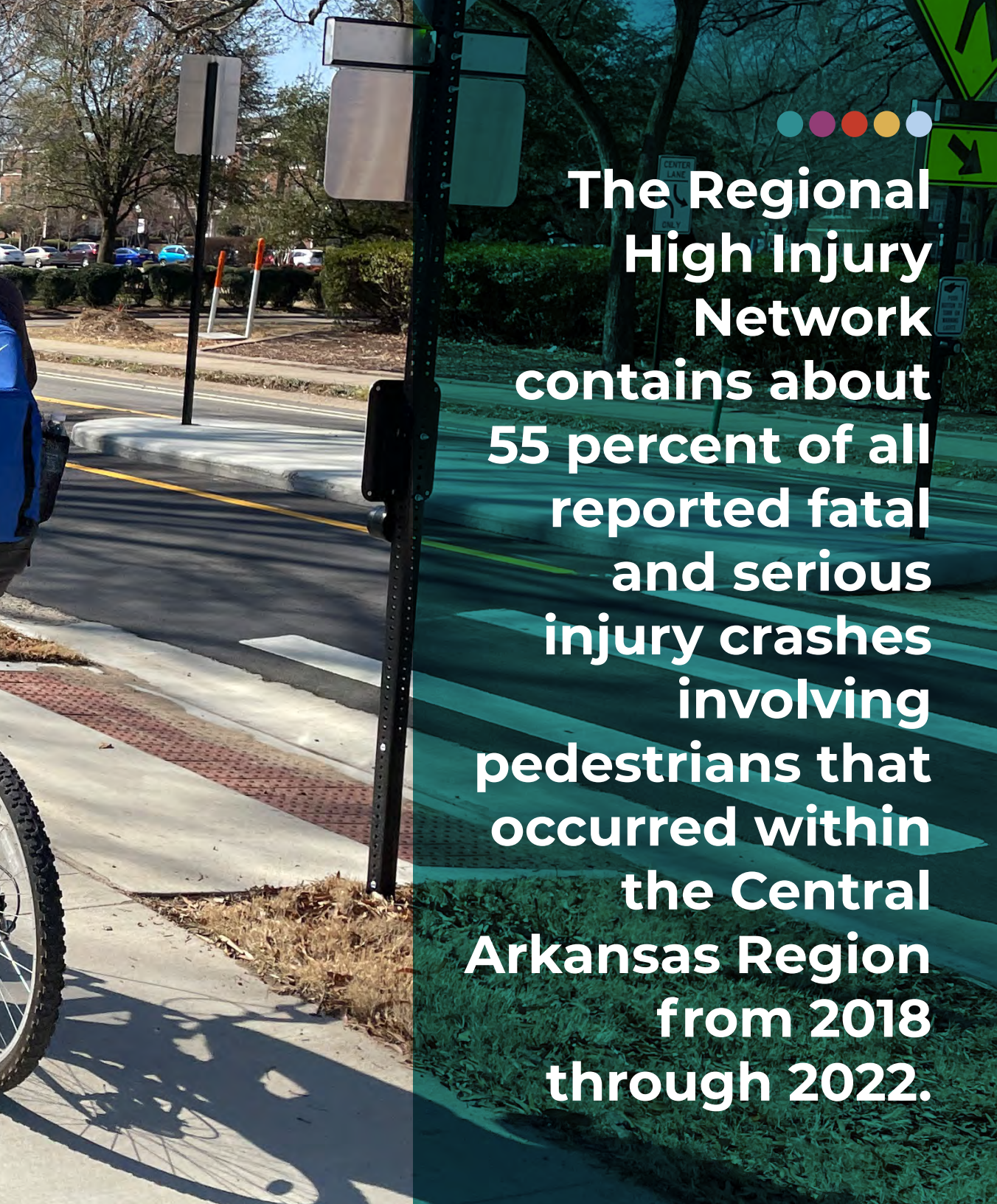


FIGURE 5: REGIONAL HIGH INJURY INTERSECTIONS (2018-2022)







The Regional
High Injury
Network
contains about
55 percent of all
reported fatal
and serious
injury crashes
involving
pedestrians that
occurred within
the Central
Arkansas Region
from 2018
through 2022.

Pedestrian and Bicycle Crash Overlay

The Safe System Approach is focused on the safety of all road users. To account for crashes involving non-motorized modes of transportation, fatal and serious injury crashes that involved a pedestrian or a bicycle from 2018 through 2022 were overlayed onto the Regional HIN and Regional High Injury Intersection data sets, shown in **Figure 6** and **Figure 7**.

The Regional HIN contains about 55 percent of all reported fatal and serious injury crashes involving pedestrians that occurred within the Central Arkansas Region from 2018 through 2022. Forty percent of the HIN contains one or more fatal and serious injury crashes involving a pedestrian. The Regional HIN contains about 65 percent of all reported fatal and serious injury crashes involving bicycles within the Central Arkansas Region from 2018 through 2022. Sixteen percent of Regional HIN contains one or more fatal and serious injury crashes involving bicycles.

The Regional High Injury Intersections contains about 19 percent of all reported fatal and serious injury crashes involving a pedestrian within 250 feet of an intersection in the Central Arkansas Region from 2018 through 2022. Twenty nine percent of the Regional High Injury Intersections contains one or more fatal and serious injury crashes involving a pedestrian. The Regional High Injury Intersections contains about 17 percent of all reported fatal and serious injury crashes involving bicycles within 250 feet of an intersection in the Central Arkansas Region from 2018 through 2022. Eight Regional High Injury Intersections contain one or more fatal and serious injury crashes involving bicycles.

FIGURE 6: REGIONAL HIGH INJURY NETWORK - FATAL AND SERIOUS INJURY PEDESTRIAN CRASHES (2018-2022)

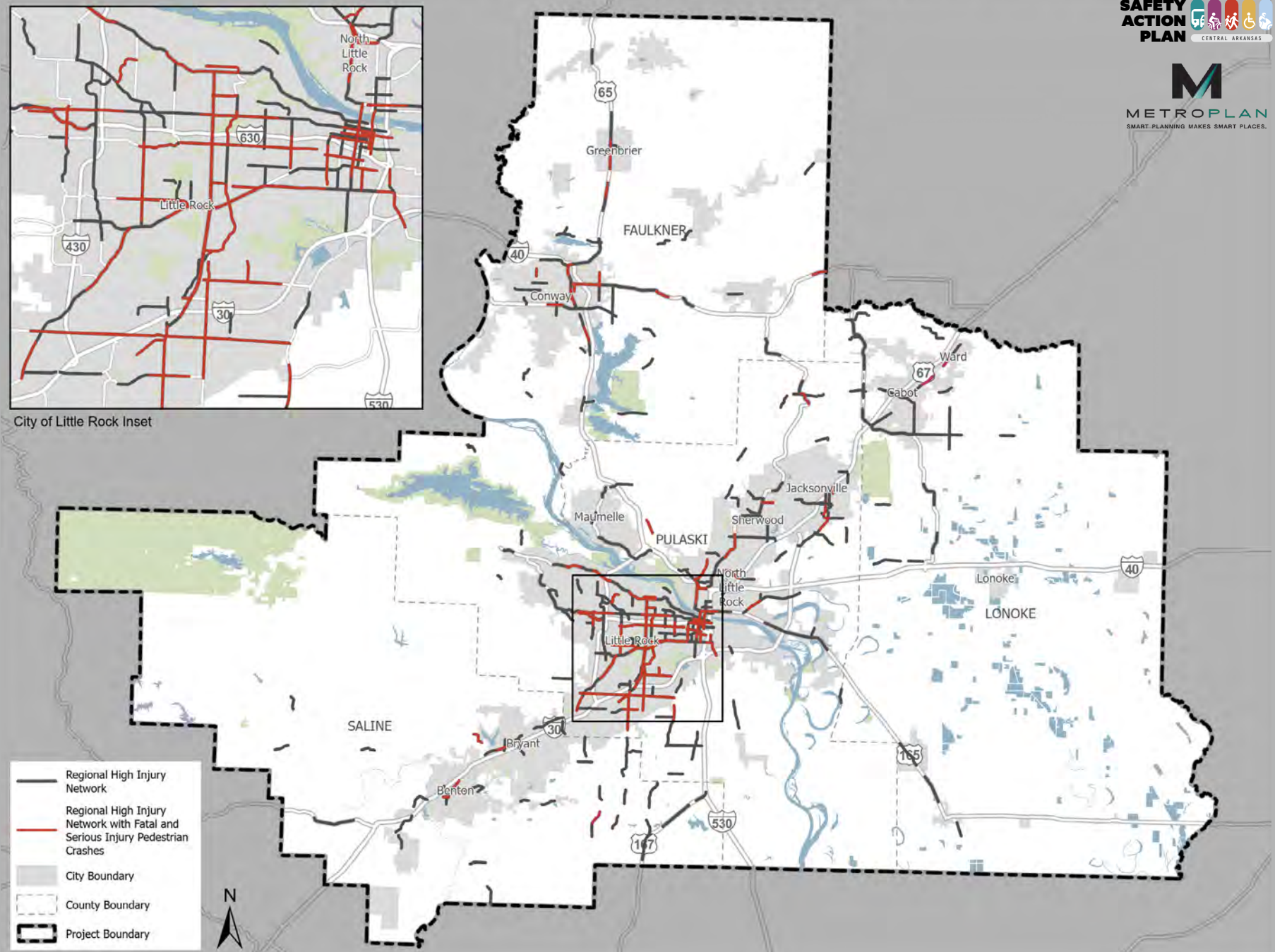
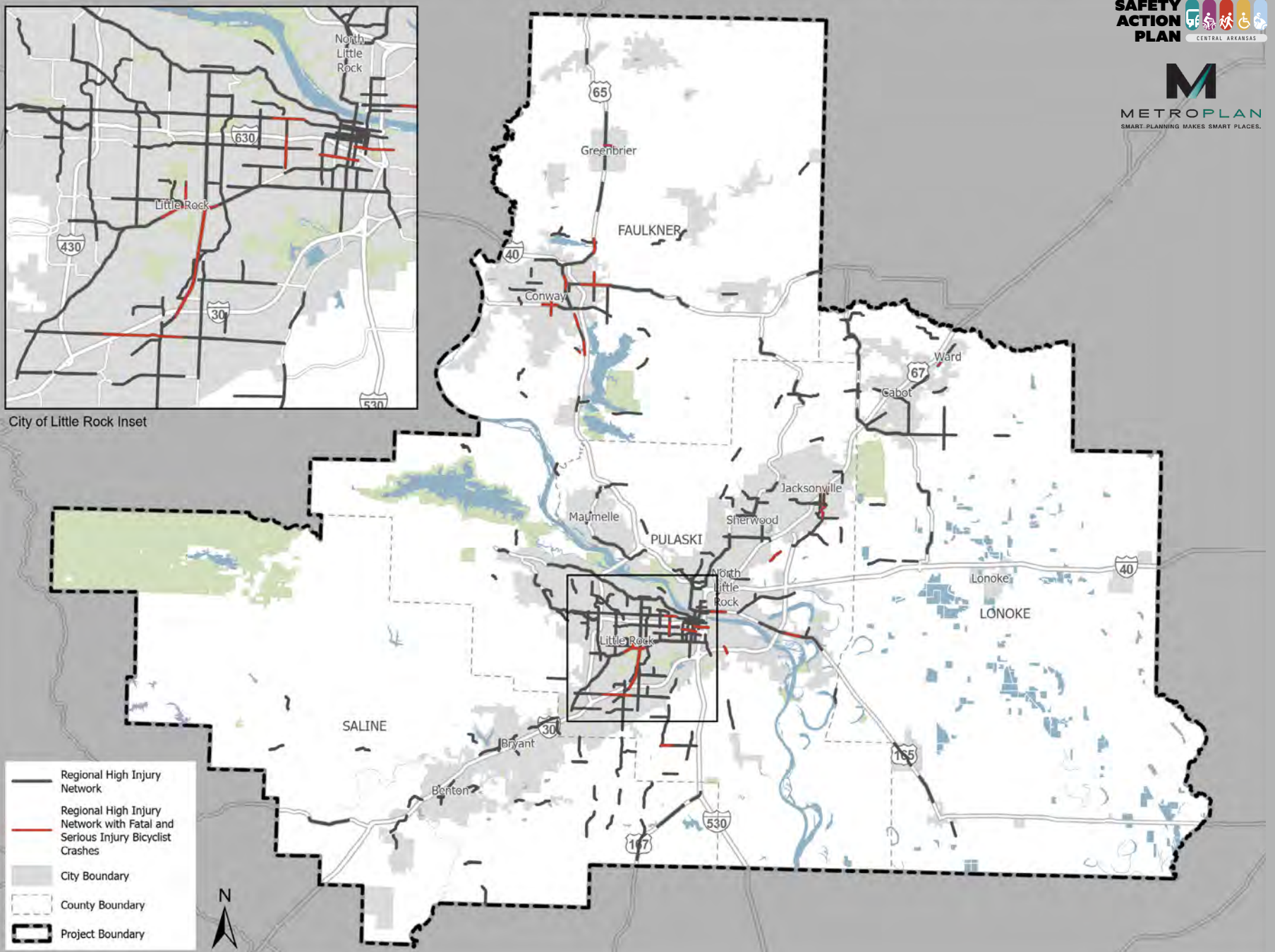


FIGURE 7: REGIONAL HIGH INJURY NETWORK - FATAL AND SERIOUS INJURY BICYCLE CRASHES (2018-2022)





2.4 EQUITY ANALYSIS

The USDOT Equitable Transportation Communities (ETC) national census tract data helps identify historical underinvestment in disadvantaged communities. This information is crucial for understanding the cumulative burden that these communities experience in various areas. The ETC Explorer, maintained by USDOT, is an interactive web application that

allows users to explore disadvantaged census tracts on a national and state level.

The ETC Explorer uses 2020 Census Tracts and data to analyze five components, each of which have numerous factors that make up their score: Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability. By examining these components, the ETC Explorer aims

to shed light on the challenges faced by disadvantaged communities and inform policies and initiatives to address them. The ETC Explorer is a valuable tool for policymakers, researchers, and community members to gain insights into the specific needs and burdens of different communities. It helps identify areas that require targeted investment and support to promote equity and improve transportation.



The ETC Explorer uses 2020 Census Tracts and data to analyze five components, each of which have numerous factors that make up their score: Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability.

The overlay of disadvantaged census tracts onto the Central Arkansas HIN revealed that 30 percent of the Regional HIN fell within, partially within, or along a disadvantaged census tract, as shown in **Figure 8**. This information is important as it highlights the connection of transportation safety concerns and communities experiencing historical underinvestment.

Additionally, the disadvantaged census tracts

were used as a factor in scoring segments of the HIN and High Injury Intersections to identify priority locations with the greatest need for safety improvements. This scoring process took into account whether a segment or intersection fell within a disadvantaged census tract and weighed those locations accordingly. By incorporating the disadvantaged census tracts into the scoring process, allows for prioritization in areas that not only have high injury rates

but also align with communities that have historically faced underinvestment. This approach helps ensure that resources are directed towards addressing safety concerns in a manner that promotes equity and supports the needs of disadvantaged communities.

FIGURE 8: REGIONAL HIGH INJURY NETWORK AND USDOT ETC DISADVANTAGED CENSUS TRACTS (2018-2022)

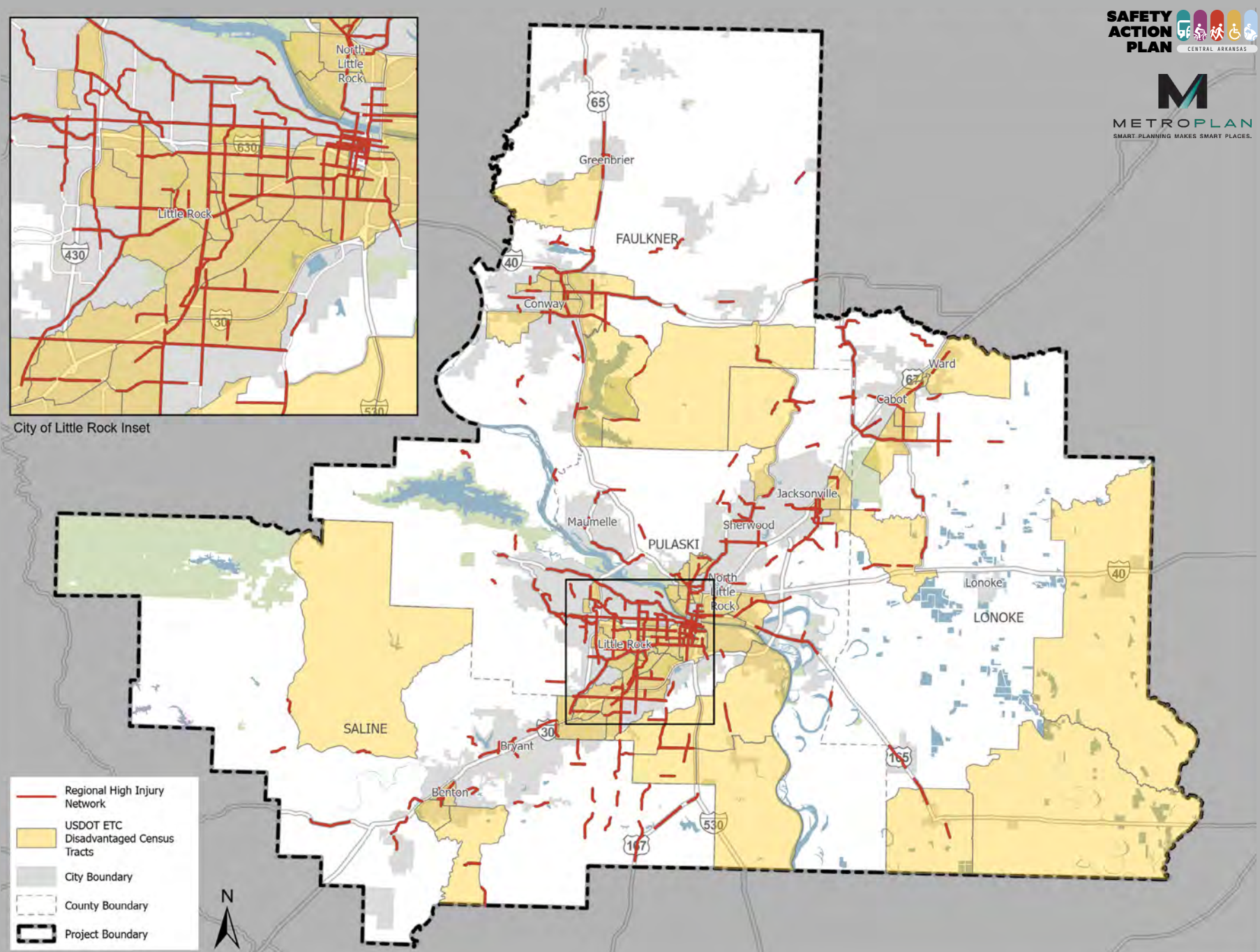
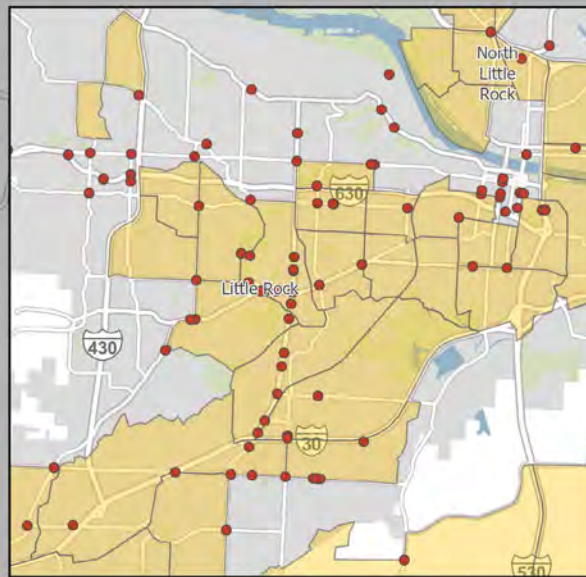
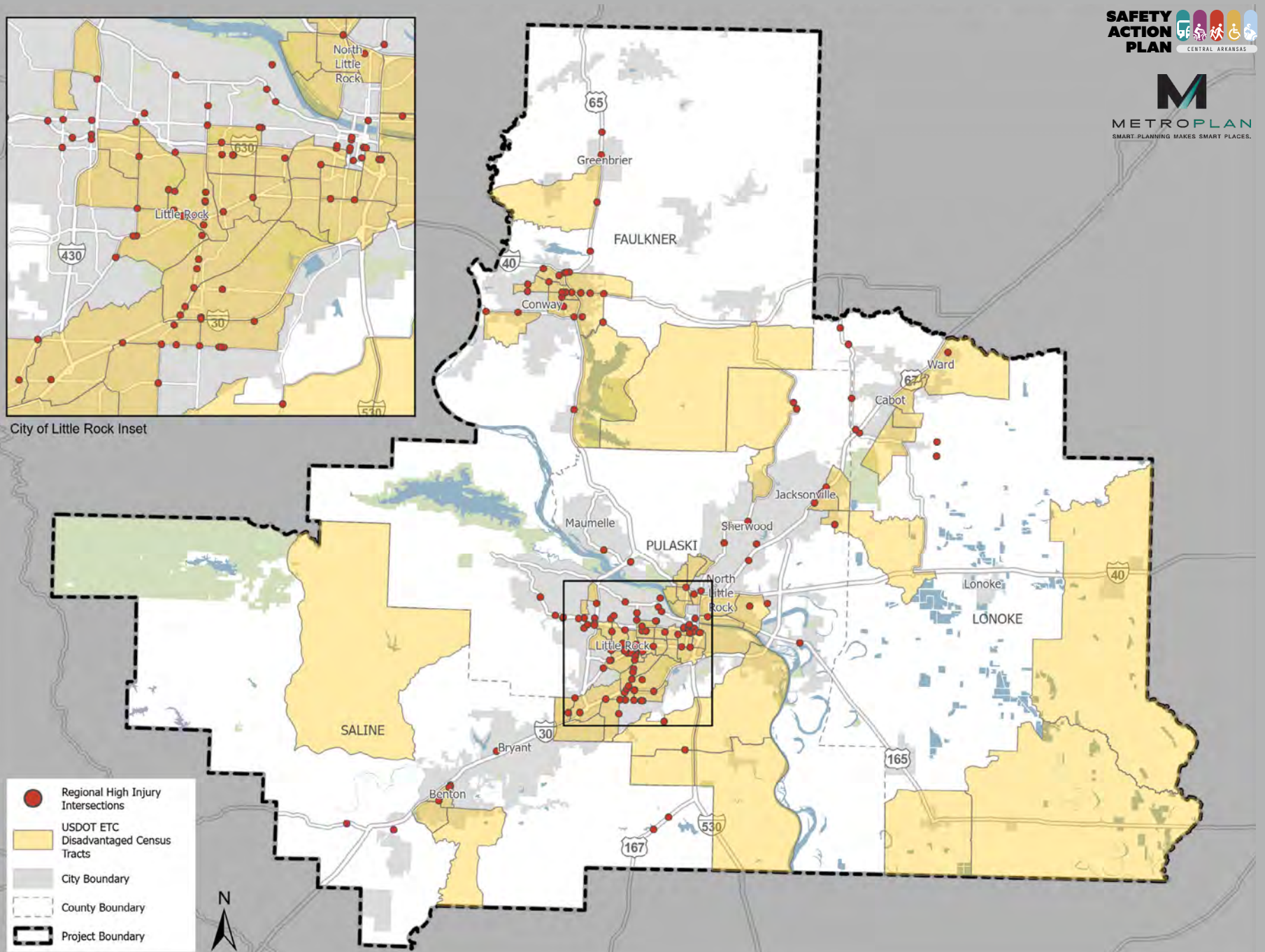


FIGURE 9: REGIONAL HIGH INJURY INTERSECTIONS AND USDOT ETC DISADVANTAGED CENSUS TRACTS (2018-2022)



City of Little Rock Inset





3 COMMUNITY ENGAGEMENT

A robust community engagement process is a key component of a Safety Action Plan. In Central Arkansas, a multi-faceted engagement program was implemented, and the results of this engagement process were incorporated into each of the recommended projects. Several engagement methods were used, including both online and in-person public engagement, which consisted of an online survey and an interactive mapping activity, open houses, and booths at community events. The project team also conducted stakeholder engagement, which included workshops with the Metroplan Board, meetings with the SAPAC, and stakeholder walk audits. The following subsections highlight key takeaways and themes heard throughout the engagement process.

3.1 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 public feedback and input on the Central Arkansas Safety Action Plan. The project team hosted seven standalone in-person open houses to promote project transparency and discussion and to provide a different way for the public to provide input. The project team also took

advantage of existing community events and set up a booth at five events, including the North Pulaski Annual Community Fest, Cabotfest, and Benton Jeepers Halloween Treat Fest, to continue to spread awareness of the Central Arkansas Safety Action Plan and collect input from the public. The project team created and maintained a project website with project information and online engagement opportunities consisting of an online survey and an interactive mapping activity. The online mapping activity allowed the public to drop a pin and comment at a particular location, identifying it as a place they feel safe, unsafe, or have an idea. The project team leveraged the media to further spread awareness of the Plan by conducting two radio interviews and publishing multiple press releases and a newspaper article about the efforts and advertising the project website for more information.

To incorporate and engage Central Arkansas stakeholders in the development of the Safety Action Plan, 12 stakeholder engagements were held to encourage participation in the plan and actively seek ideas and discussion. Engagement events included pop-up events at community festivals, open houses held in conjunction with local city and county meetings, and walk-audits held with community and local government representatives. A workshop was also conducted with driver operators at Rock Region Metro to seek their input on safety for transit users when accessing transit stops.

In total, over 400 members of the public were engaged in-person through the



The Safety Action Plan team assemble all comments collected into a GIS database that is available to public agencies in Central Arkansas. These comments can be used by local governments to inform decisions on safety and maintenance investments.

public engagement process and more than 1,200 comments were received through the website survey, interactive map, and in-person comments received at public engagement events.

Radio ads were run to advertise the public engagement events as well as encourage the public to provide input on the plan. Two radio interviews were conducted and several local media stations ran stories on the SS4A Safety Action Plan.



380 survey responses
746 comments on interactive map
60 comments at outreach events

Table 2: In-Person Engagement Events

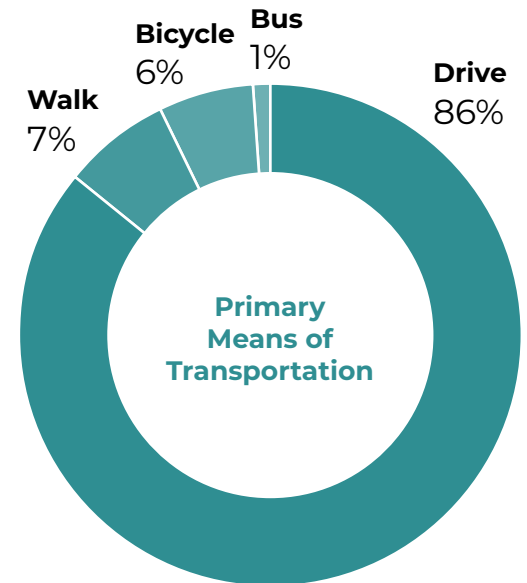
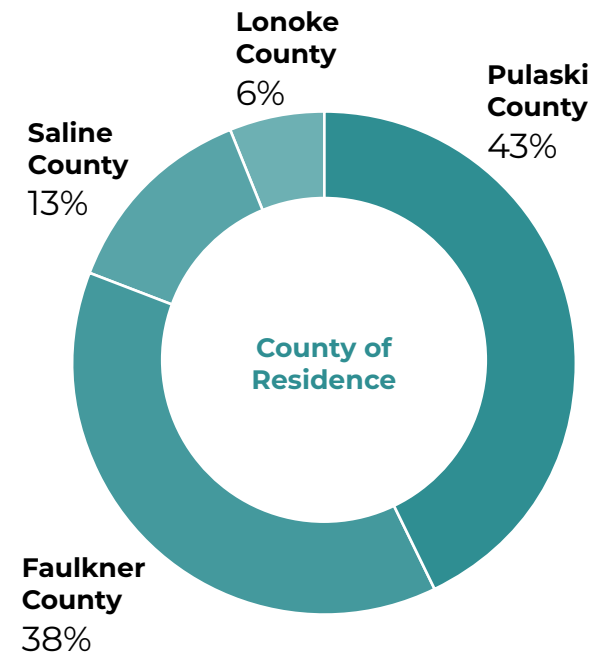
Engagement Events	Date	Type of Event	City / County
Benton Walk Audit	September 9, 2023	Walk Audit	Benton / Saline County
Cabot Walk Audit	September 20, 2023	Walk Audit	Cabot / Lonoke County
Greenbrier Walk Audit	October 5, 2023	Walk Audit	Greenbrier / Faulkner County
North Pulaski Annual Community Fest	October 7, 2023	Community Event	Jacksonville / Pulaski County
Cabotfest	October 14-15, 2023	Community Event	Cabot / Lonoke County
Benton Jeepers Halloween Treat Fest	October 21, 2023	Community Event	Benton / Saline County
Southwest Little Rock Walk Audit	November 2, 2023	Walk Audit	Little Rock / Pulaski County
Arkansas Cornbread Festival	November 4, 2023	Community Event	Little Rock / Pulaski County
Pulaski County Open House	November 14, 2023	Open House	Wrightsville / Pulaski County
Faulkner County Open House	November 21, 2023	Open House	Conway / Faulkner
Pulaski County Open House	November 28, 2023	Open House	Little Rock / Pulaski County
Pecan Festival	December 2, 2023	Community Event	Keo / Lonoke County
Saline County Open House	December 5, 2023	Open House	Bryant / Saline County
Lonoke County Open House	December 12, 2023	Open House	Cabot / Lonoke County
Pulaski County Open House	January 9, 2024	Open House	Sherwood / Pulaski County
Pulaski County Open House	January 11, 2024	Open House	Little Rock / Pulaski County
Downtown Little Rock Walk Audit	January 18, 2024	Walk Audit	Little Rock / Pulaski County
Rock Region Metro Operators Workshop	March 17, 2024	Workshop	Little Rock / Pulaski County
Wrightsville Walk Audit	August 22, 2024	Walk Audit	Wrightsville / Pulaski
North Little Rock Walk Audit	October 10, 2024	Walk Audit	North Little Rock / Pulaski
Maumelle Food Truck Festival	November 2, 2024	Community Event	Maumelle / Pulaski





Engagement events included pop-up events at community festivals, open houses held in conjunction with local city and county meetings, and walk-audits held with community and local government representatives.

Who is providing input?



What are their safety concerns?

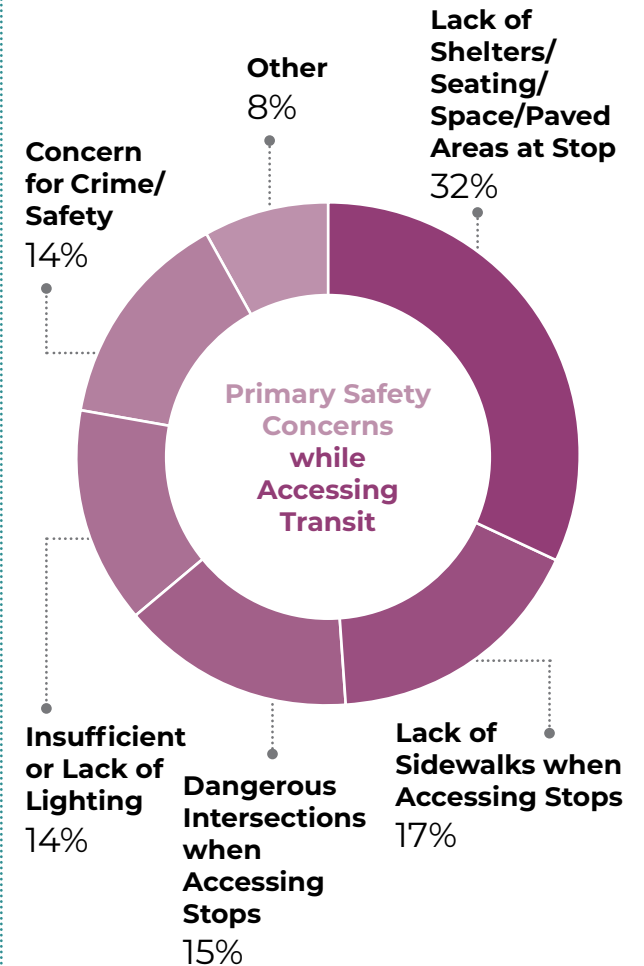
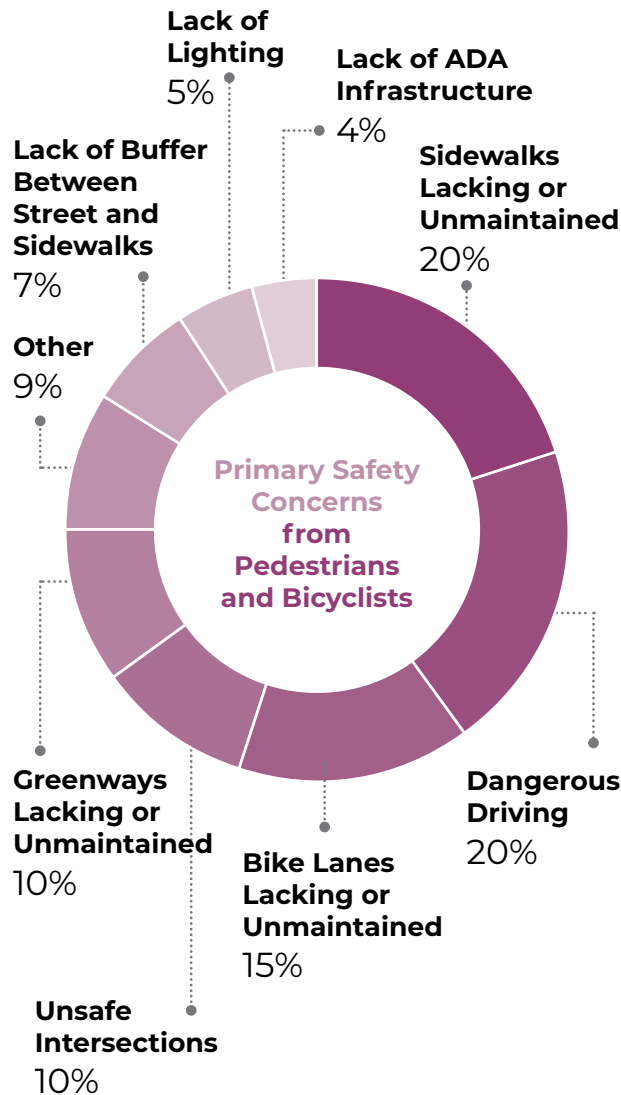
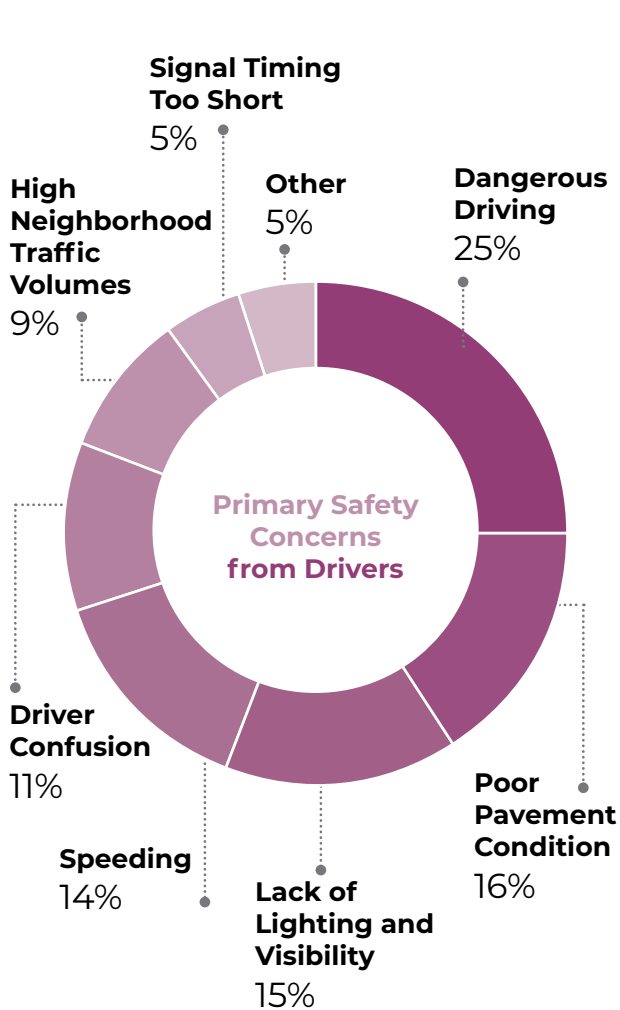
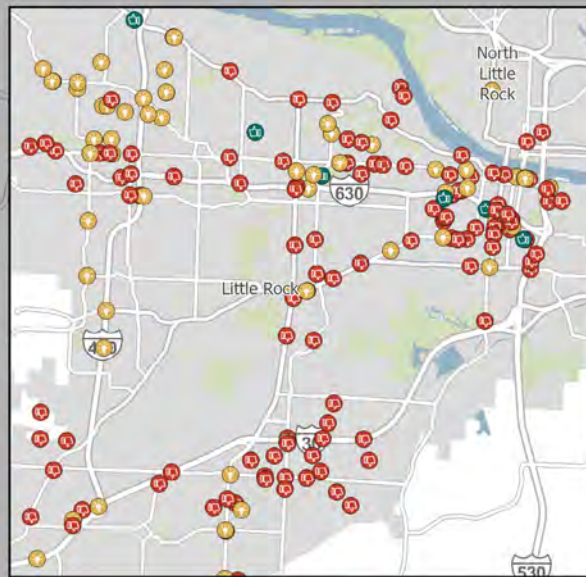


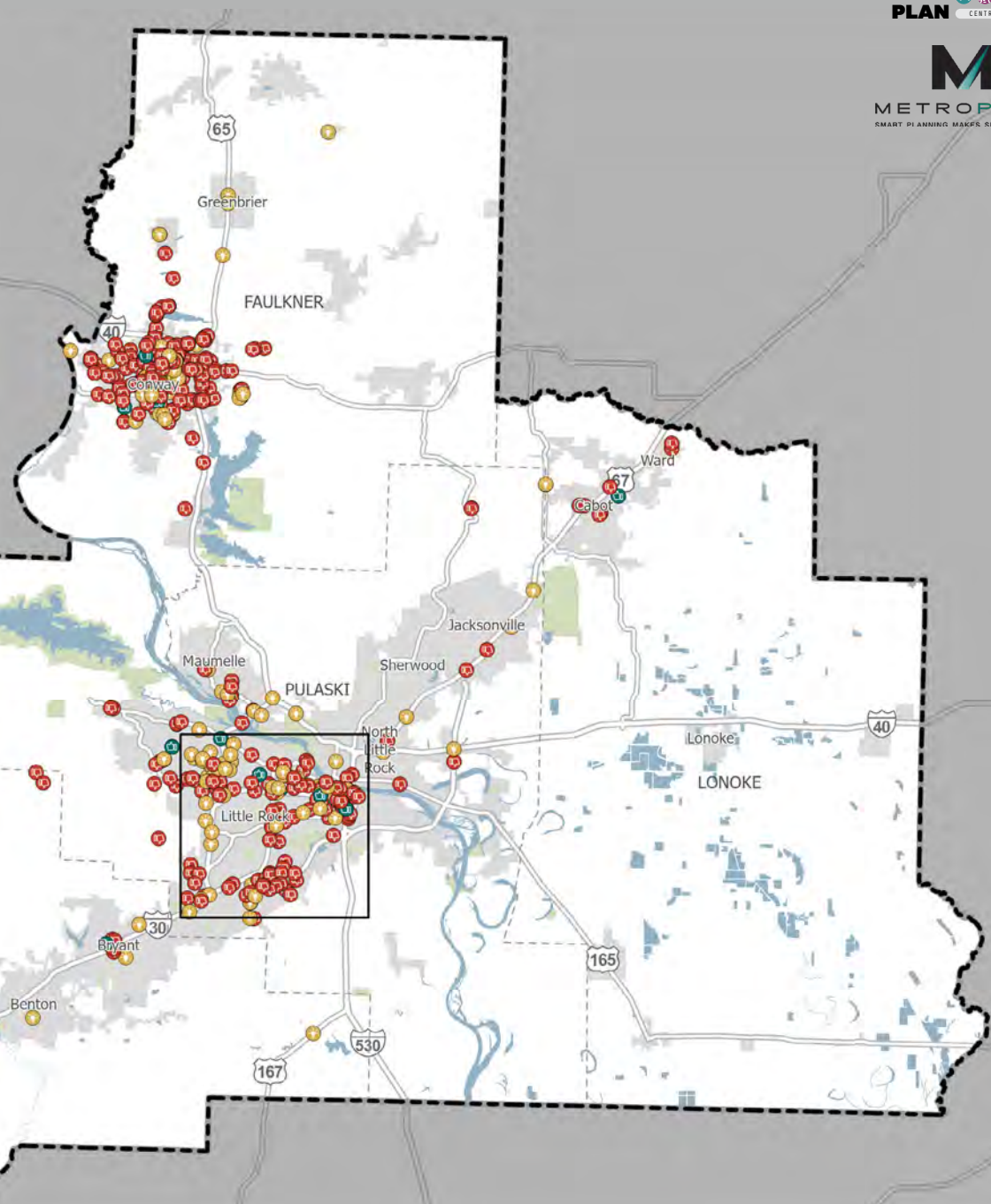
FIGURE 10: INTERACTIVE MAP COMMENTS



City of Little Rock Inset

**Interactive Map
Comments**

-  I Feel Safe Here!
-  I Don't Feel Safe Here!
-  Comment or Idea
-  City Boundary
-  County Boundary
-  Project Boundary



Walk Audits

Walk audits were held within Central Arkansas at five locations that had been identified as lacking pedestrian infrastructure or accessibility. A walk audit allows stakeholder agencies and local community residents the opportunity to identify and assess issues that obstruct safe environments for pedestrians, bicyclists, and people in wheelchairs. Each walk audit consisted of a workshop portion that was focused on education regarding safe and accessible pedestrian and bike facilities, discussion about issues in the local community, and discussion about specific issues on the planned walk audit route. The participants then spent several hours walking through the route to identify safety issues and potential countermeasures. Walk audits were held in the City of Benton, the City of Cabot, the City of Greenbrier, and two in the City of Little Rock.



Southwest Little Rock Walk Audit

In Southwest Little Rock, the Safety Action Plan team and representatives from Metroplan, City of Little Rock, Rock Region Metro, and local community groups gathered to talk about how to improve safety for vulnerable road users. The group spent the approximately two-hours in a workshop setting before heading out for a two-hour walk together to identify potential safety issues and solutions. The walk audit participants spoke with local residents while walking and identified a number of issues, some which the City of Little Rock was able to address immediately after the walk. The walk audit was primarily conducted along Baseline Road and Geyer Springs Road, two segments of the region's High Injury Network that also fall within the USDOT definition of an underserved area. Recommendations from the walk audit were incorporated into specific recommendations for safety improvements that appear later in this Safety Action Plan.





Joe T. Robinson School Safety Study

Tragically, during the first day of school as the Safety Action Plan was being developed, a Joe T. Robinson Elementary School employee was struck and killed while directing traffic at the Joe T. Robinson Elementary School in Pulaski County. The school is located on a high-speed state route with the Joe T. Robinson Middle and High Schools located across the street. The Central Arkansas Safety Action Plan team conducted a safety review of the operations at the three school campuses. The review included a field visit to observe campus and traffic operations as well as a series of meetings with ARDOT, Pulaski County Sheriff, and Pulaski County Special School District Officials, and representatives from the Parent Teacher Organization. The team developed a series of observations and recommendations to improve traffic operations and safety on the campus and reviewed them with ARDOT as well as school administrators and parents. Schools located on high-speed state routes are common throughout the Central Arkansas Region and the detailed study allowed the Safety Action Plan the opportunity to explore potential safety countermeasures closely that can be applied throughout the Region.



3.2 ENGAGEMENT TAKEAWAYS

Throughout the entire engagement process, several themes rose to the top as consistent safety concerns from the public and stakeholders via the online survey and interactive map activity, as well as feedback from in-person events and workshops. The most common recurring themes were traffic calming, pedestrian and bicyclist facilities, lighting, dangerous intersections, and maintenance of roadways and infrastructure. These themes often overlap and are intertwined in certain locations, highlighting the complexity and urgency of addressing these issues.

Traffic Calming Necessities

This theme highlights the need for traffic calming infrastructure within the Central Arkansas Region. Through the online interactive map, 16 percent of comments left on the map were about speeding or the need to lower the speed limit in an area. Comments included the suggestion of implementing roundabouts to slow drivers in residential areas with frequent speeding. Pedestrians near the University of Central Arkansas noted that drivers frequently speed up to avoid getting stopped by the pedestrian signal. A little over 25 percent of surveyors stated that speeding is a major concern while driving within the Region. Public comments highlighted the need for implementation of traffic calming strategies to lower vehicle speeds and enhance pedestrian safety, such as road diets and other strategies to create a safer environment for non-motorized road users.

Dangerous Intersections

Intersection related concerns were a

common theme throughout the public engagement process. Respondents focused their attention on intersections that are dangerous, both for vehicles and vulnerable road users. Many comments called out specific intersections that experience safety concerns, as well as operation issues, whether it be unsafe interactions between vehicles and pedestrians or bicyclists, frequent speeding, or limited sight distance. Intersection improvements to accommodate for more pedestrian and bicycle activity were desired in areas that experience high levels of multimodal travel, such as near downtown Little Rock, schools within the Region, and community centers. Large intersection crossings within the Region were highlighted as dangerous for pedestrians to cross. Signal timing adjustments were suggested particularly for left turn movements. Participants had mixed feelings on roundabouts within the Region, some stated that they are great while other did not support the designs.

Pedestrian and Bicycle Facilities

Participants expressed a strong desire for the development and enhancement of infrastructure dedicated to pedestrians and bicyclists, particularly near the University of Arkansas at Little Rock and the University of Central Arkansas. This includes the rehabilitation and installation of sidewalks, shared use paths, protected bicycle lanes, and trails to ensure safe travel routes for non-motorized roadway users. Existing sidewalks were often noted as uneven, overgrown, and narrow. Pedestrian and bicycle infrastructure is not consistent, participants noted that sidewalks and bicycle lanes will end abruptly and sometimes without warning.

Lighting

Survey comments and the public map comments highlighted the need for better and more consistent lighting within the Central Arkansas Region. Through the online survey, 15 percent of participants stated that lighting within the Region is a major safety concern for drivers and 20 percent of participants stated that lighting is a major safety concern for vulnerable road users. This includes lighting on streets, intersections, blind curves or hills, crosswalks, sidewalks, greenways, or bike lanes. Stakeholders also noted that many streetlights are out of commission and do not get fixed regularly. Dark local streets and the need for more street lighting both for automobiles and vulnerable roadway users, including activity areas specifically adjacent to the University of Central Arkansas in Conway, near schools and parks across the Region, and within residential neighborhoods.

Maintenance of Roadways and Infrastructure

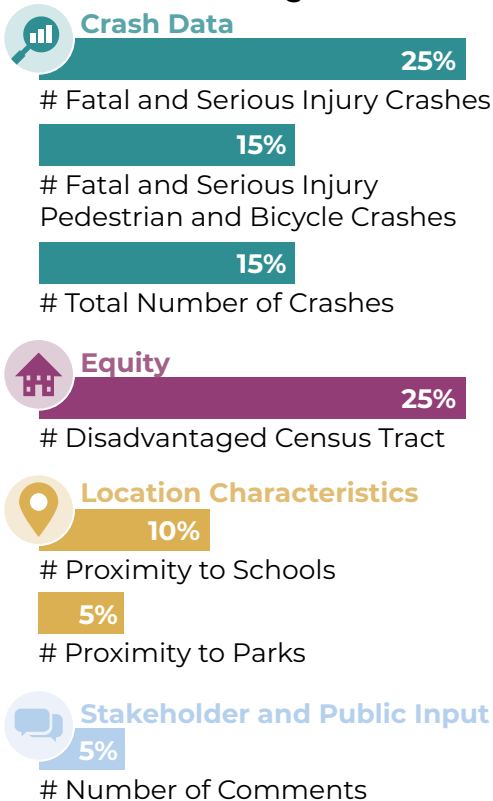
This theme highlights the critical need for regular maintenance of roadways and infrastructure for vehicles, pedestrians, and bicyclists. Public comments identified locations with potholes, missing signage, faded pavement markings for vehicle and bike lanes, deteriorating curb and sidewalk, and pedestrian push buttons and signals that no longer function properly, and dim or burnt-out streetlights. Bumpy, poorly lit, and unclearly marked roads and paths create unsafe conditions for all road users, as they make it difficult for each type of road user to navigate their dedicated path for travel without crossing paths with one another and to anticipate each traveler's movements.

4 NEEDS ASSESSMENT

4.1 SCORING

To determine a segment or intersection's safety needs score, the needs assessment scores each corridor segment and intersection based on the category or range the segment falls within for various criteria. The maximum score a location can receive is 100 points. The criteria and scoring were developed based on the Region's priorities and feedback from the SAPAC and include the corridor's crash data, equity data, location characteristics, and stakeholder and public input.

Scoring Criteria



Segments in the Regional HIN and the Regional High Injury Intersections were each scored and prioritized to identify the locations in Central Arkansas that have the greatest need for safety countermeasures. The 20 highest scoring HIN segments and 20 highest scoring High Injury Intersections in the Region were selected for projects according to the scoring criteria described in this section. The scoring criteria met key objectives of the SS4A Program by prioritizing locations with the highest number of fatal and serious injury crashes, locations that were in underserved areas, and locations where vulnerable road users such as pedestrians and people on bikes are more likely to travel.



Crash Data *(Total of 55 Points)*

The crash data is split into three components, each based on the characteristics of crashes that occurred along the segment or within 250 feet of the intersection from 2018 through 2022. This criteria carries the most weight because addressing issues in areas with documented safety concerns is the Region's priority and focus of this Plan.

Fatal and Serious Injury Crashes *(25 Points)*

The count of all fatal and serious injury crashes is worth the most points within the crash data criteria because the overall goal for the Region is to target a reduction in crashes that result in fatalities or serious injuries.

Fatal and Serious Injury Pedestrian and Bicycle Crashes *(15 Points)*

The count of all fatal and serious injury crashes that involved a pedestrian or bicycle is a separate component of the safety data because the safe system approach emphasizes the need to make roads safer for all road users, and pedestrians and bicyclists are typically the most vulnerable road users.

Total Number of Crashes *(15 Points)*

The count of all crashes is important to consider because a fatal or serious injury may not have occurred within the last five years, but a high crash density can indicate a major safety issue at that location.



Equity *(Total of 25 Points)*

The equity component of the score is based on the USDOT Equitable Transportation Community (ETC) Explorer data. This data identifies census tracts as disadvantaged using various factors including but not limited to transportation access, environmental burden, unemployment, weather risk, and health vulnerability.

Disadvantaged Census Tract *(25 Points)*

Scoring a location based on whether or not the segment or intersection is in a disadvantaged census tract prioritizes locations where funding safety improvement projects is likely a challenge.



Location Characteristics *(Total of 15 Points)*

Proximity to Schools *(10 Points)*

Segments and intersections receive points if they are within a mile of a school, receiving the full amount of points if they are less than a quarter mile away. This criteria prioritizes improving safety in the areas around schools, where students are often walking or rolling as their primary means of transportation.

Proximity to Parks *(5 Points)*

Similar to schools, segments and intersections receive points if they are within a mile of a park, receiving more points as they get closer. This helps target locations that may improve connectivity to recreation areas that the public walks or rolls to, as well as to existing and planned greenway trails and multi-use paths.



Stakeholder and Public Input *(Total of 5 Points)*

Number of Comments *(5 Points)*

A key purpose of the Central Arkansas Safety Action Plan is to make roads and streets safer for all road users. Significant effort was put into stakeholder and public outreach to gather input from those that use the streets and road in Central Arkansas on a regular basis. Therefore, the selection score considers where the stakeholders and public have identified issues and expressed concern at each potential project location.

4.2 REGIONAL PRIORITIZATION

The 20 highest scoring Regional HIN segments and 20 highest scoring Regional High Injury Intersections in Central Arkansas were selected for further evaluation and project development. A full list of the selected segments and intersections, with each location's data and score broken out by criteria, is included in **Appendix B**. The selected locations consist of HIN segments with a score of 63 points or more and High Injury Intersections with a score of 59 points or more. The prioritized Regional HIN segments and Regional High Injury Intersections are presented in **Table 3** and **Table 4** respectively.

All but two of the selected HIN segments are located within the City of Little Rock. The remaining two are adjacent segments of E Oak St in the City of Conway. Similarly, the only two selected High Injury Intersections that are not within the City of Little Rock are located along the selected segments of E Oak St, at the intersections with Harkrider St and Elsinger Blvd.

Of the 20 selected Regional HIN segments and the 20 selected Regional High Injury Intersections, no location received the maximum number of 100 points. The segment of Geyer Springs Rd from Forbing Rd to Baseline Rd scored highest among the HIN segments, with 96.5 points. The Geyer Springs Rd and Baseline Rd intersection, which is at the end of the highest scoring HIN segment, scored highest among the High Injury Intersections, with 88.5 points.

The HIN considers divided roads as two separate corridors, as crashes may be denser or have similar characteristics and causes specific to one side of the divided road. This resulted in overlapping northbound and

southbound segments of S University Ave scoring in the top 20 HIN segments. Seven northbound and southbound segments along S University Ave scored among the top 20 HIN segments, five of which were in the southbound direction. This southbound 3.9 mile stretch of S University Ave was the second longest continuous section selected for project development and contained six of the top 20 intersections.

The longest continuous distance of segments selected for project development is 4.0 miles of Baseline Rd, made up of four separate HIN segments and three top 20 intersections. Similarly, four separate segments and four intersections selected along Colonel Glenn Rd/Asher Ave/W Roosevelt Rd create a continuous 3.2 mile section, making it the third longest continuous section selected for project development.

The intersection of E 9th St and the southbound I-30W frontage road received a score of 60.5 points. However, this analysis captured crashes along the Interstate's mainlines and is already undergoing reconstruction. Therefore, this intersection was removed from consideration for future project development. With the removal of this intersection, 20 intersections still remain in the priority list for consideration of future projects because two intersections tied for 20th with 59 points.

FIGURE 11: SELECTED 20 HIGH INJURY NETWORK SEGMENTS AND 20 HIGH INJURY INTERSECTIONS

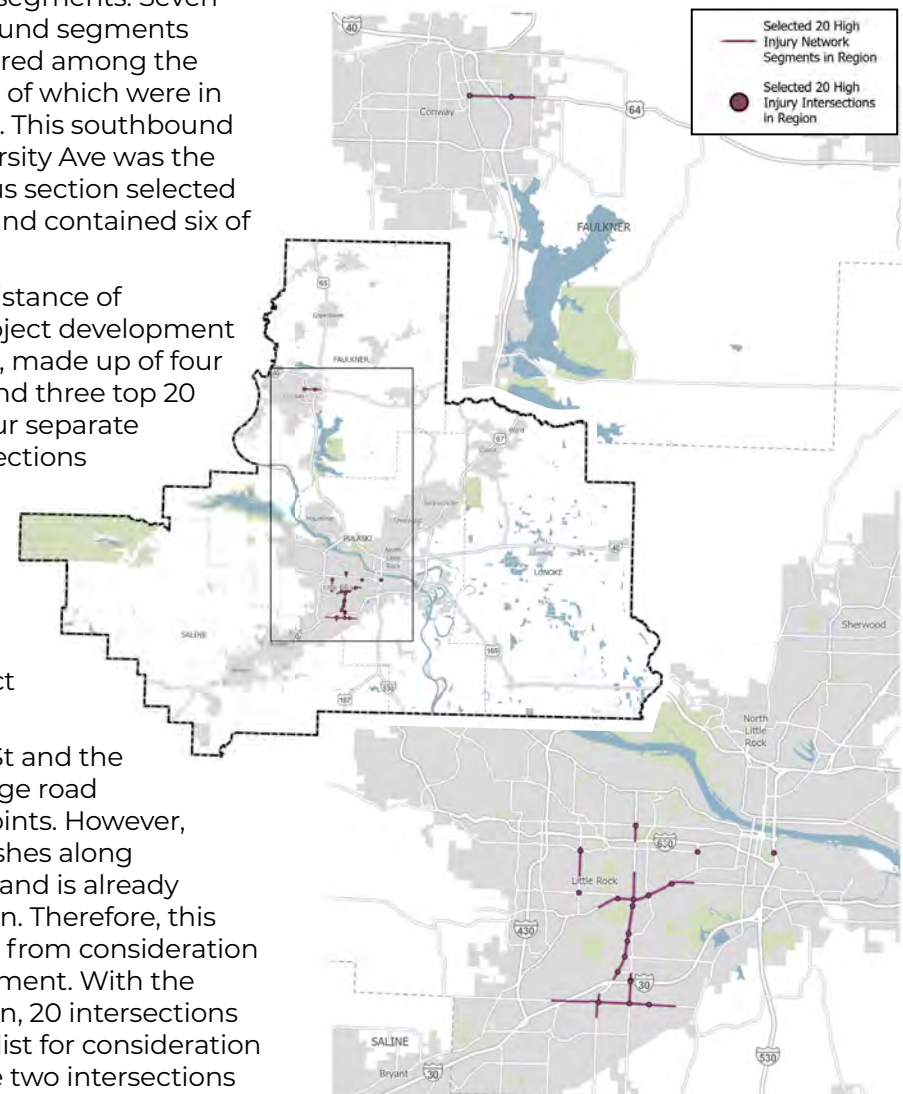


Table 3: Regionwide High Injury Network Segments Prioritized for Safety Improvements

Segment Name	Approximate Segment Boundary	City	County	State Route or Local Road	Total Score
Geyer Springs Rd	Forbing Rd – Baseline Rd	Little Rock	Pulaski	Local Road	96.5
S University Ave (NB)	W 50th St – 65th St	Little Rock	Pulaski	Local Road	91.5
S University Ave (NB)	Asher Ave – W 50th St	Little Rock	Pulaski	Local Road	89
S University Ave (SB)	Falls Blvd – 65th St	Little Rock	Pulaski	Local Road	86.5
Colonel Glenn Rd (US 70)	Whitfield St – Town And Country Ave	Little Rock	Pulaski	State Route	86.5
S University Ave (SB)	Asher Ave – Falls Blvd	Little Rock	Pulaski	Local Road	86
Asher Ave (US 70)	S University Ave – Adams St	Little Rock	Pulaski	State Route	85.5
Asher Ave/W Roosevelt Rd (US 70)	Adams St – Booker St	Little Rock	Pulaski	State Route	85.5
Baseline Rd (SH 338)	Verbena Dr – Dreher Ln	Little Rock	Pulaski	State Route	81.5
S University Ave (SB)	Berkshire Dr – Asher Ave	Little Rock	Pulaski	Local Road	75
E Oak St (US 64)	Bill Dean Dr – Bradley Cir	Conway	Faulkner	State Route	75
Colonel Glenn Rd (US 70)	Town And Country Ave – S University Ave	Little Rock	Pulaski	State Route	72
John Barrow Rd	Longacre Dr – W 29th St	Little Rock	Pulaski	Local Road	70
S University Ave (SB)	W 65th St – I-30	Little Rock	Pulaski	Local Road	69.5
Baseline Rd (SH 338)	Dreher Ln – Hilar Springs Rd/Scott Hamilton Dr	Little Rock	Pulaski	State Route	67.5
E Oak St (US 64)	Hamilton St – Bill Dean Dr	Conway	Faulkner	State Route	66.5
Chicot Rd	S University Ave – Nolen Dr	Little Rock	Pulaski	Local Road	65
Baseline Rd (SH 338)	Victoria Dr – Verbena Dr	Little Rock	Pulaski	State Route	64.5
Baseline Rd (SH 338)	McDonald Cir – Victoria Dr	Little Rock	Pulaski	State Route	64
S University Ave (SB)	W Markham St – US 630	Little Rock	Pulaski	Local Road	63

Table 4: Regionwide High Injury Intersections Prioritized for Safety Improvements

Intersection Name	City	County	State Route or Local Road	Total Score
Geyer Springs Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	88.5
S University Ave and Asher Ave (US 70)	Little Rock	Pulaski	Both	85.5
S University Ave (NB) and W 53rd St	Little Rock	Pulaski	Local	81.5
S University Ave (NB & SB) and Shopping Center Dwys	Little Rock	Pulaski	Local	79
Elsinger Blvd and E Oak St (US 64)	Conway	Faulkner	Both	75.5
University Ave and W Markham St	Little Rock	Pulaski	Local	74.5
John Barrow Rd and Kanis Rd	Little Rock	Pulaski	Local	72
S Woodrow St and W 12th St	Little Rock	Pulaski	Local	72
Fair Park Blvd/Mabelvale Pike and Asher Ave (US 70)	Little Rock	Pulaski	Both	70
S University Ave (NB & SB) and Mabelvale Pike	Little Rock	Pulaski	Local	69.5
N Chicot Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	68
Barrow Rd and W 36th St	Little Rock	Pulaski	Local	68
Asher Ave (US 70) and W 29th St	Little Rock	Pulaski	Both	64.5
Geyer Springs Rd and Young Rd	Little Rock	Pulaski	Local	61.5
Geyer Springs Rd and I-30 W	Little Rock	Pulaski	Both	61.5
S Bryant St and Asher Ave (US 70)	Little Rock	Pulaski	Both	61.5
S University Ave (NB & SB) and Forbing Rd	Little Rock	Pulaski	Local	61.5
Harkrider St (US 65) and Oak St (US 64)	Conway	Faulkner	Both	61
I-30 W (SB) and E 9th St*	Little Rock	Pulaski	Both	60.5
Stanton Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	59
S University Ave (NB & SB) and W 65th St (EB & WB)	Little Rock	Pulaski	Local	59

*The intersection of E 9th St and the southbound I-30W frontage road received a score of 60.5 points. However, this analysis captured crashes along the Interstate's mainlines and is already undergoing reconstruction. Therefore, this intersection was removed from consideration for future project development.

4.3 COUNTY PRIORITIZATION

In addition to the top 20 regionwide segments and intersections, the ten highest scoring Regional HIN segments and ten highest scoring Regional High Injury Intersections in each of the Central Arkansas Region's four counties were prioritized for further evaluation and project development. A full list of the selected segments and intersections for each county, with each location's data and score broken out by criteria, is included in Appendix B. Summary of the selected top ten HIN segments and top ten High Injury Intersections are included in **Table 5** and **Table 6** respectively.

SS4A Implementation Grants cannot be awarded to state agencies, meaning ARDOT is not able to receive funding from the USDOT through the SS4A Program. Although local agencies can receive funding to conduct projects on roadways owned by ARDOT, this would require additional coordination between the local agency and ARDOT. Therefore, in order to provide each county with projects that would not require additional coordination with ARDOT, the high scoring locations were split between state routes and local roads as equally as possible in each county. The five highest scoring state route HIN segments and the five highest scoring local roads in each county were prioritized for project development and comprise the top ten for

each county. Similarly, the five highest scoring intersections of two state routes or a state route and local road, as well as the five highest scoring intersections of two local roads were selected for project development, where applicable. All counties except for Pulaski County did not have five intersections of two local roads identified within the set of High Injury Intersections, so the next highest scoring intersections were selected until ten were selected for each county. Lonoke County only had eight regional High Injury Intersections, resulting in all eight being prioritized for project development.

FIGURE 12: TOP HIGH INJURY NETWORK SEGMENTS AND INTERSECTIONS IN EACH COUNTY

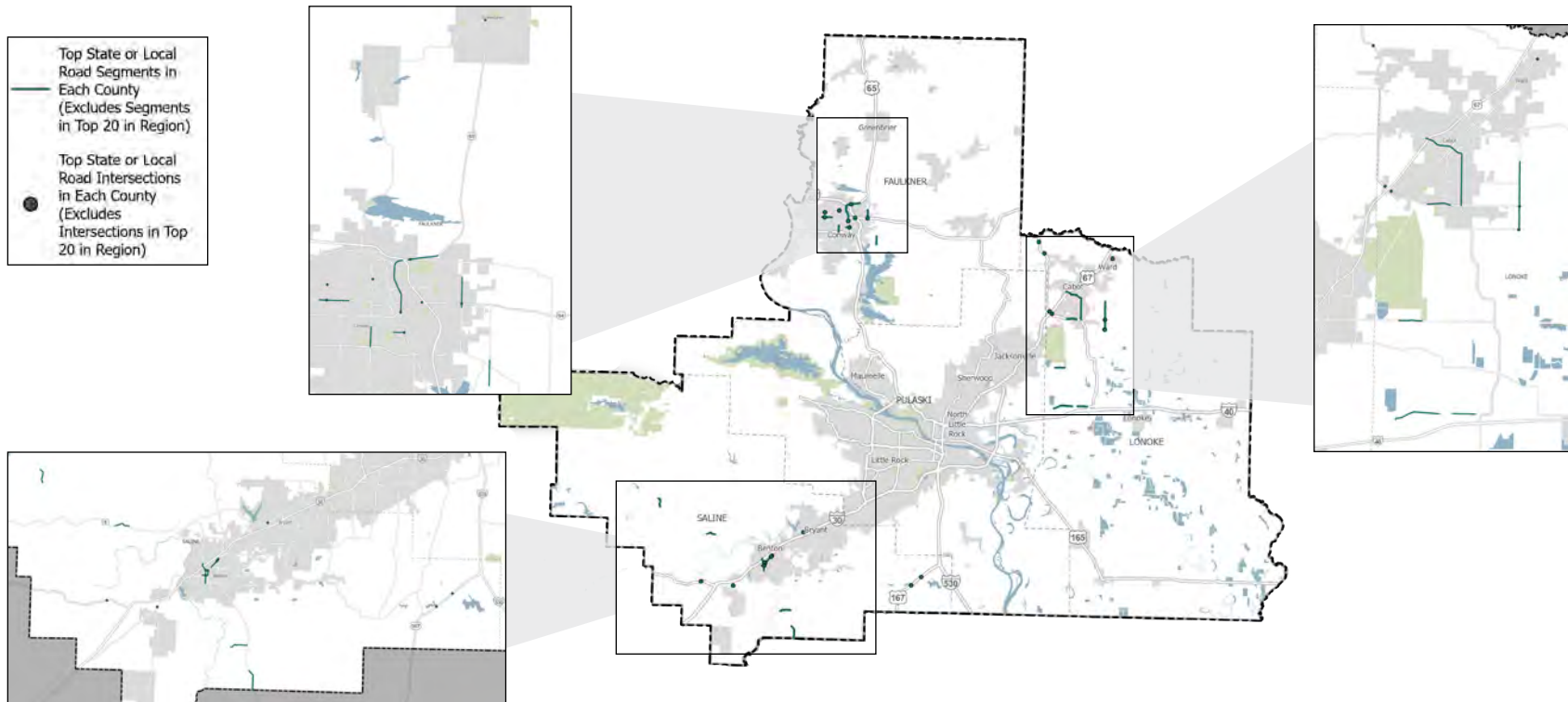


Table 5: County Level High Injury Network Segments Prioritized for Safety Improvements

Segment Name	Approximate Segment Boundary	City	County	State Route or Local Road	Total Score
Faulkner County					
E Oak St (US 64)	Bill Dean Dr – Bradley Cir	Conway	Faulkner	State Route	75.0
E Oak St (US 64)	Hamilton St – Bill Dean Dr	Conway	Faulkner	State Route	66.5
Harkrider St/Skyline Dr (US 64/US 65)	I-40 – Markrider St	Conway	Faulkner	State Route	61.5
US 64/US 65	Lakeview Dr – Lyons Ln	Conway	Faulkner	State Route	61.5
Skyline Dr (US 65)	I-40 – Ranger Dr	Conway	Faulkner	State Route	60.0
Donaghey Ave	South Blvd – Dave Ward Dr	Conway	Faulkner	Local Road	54.0
E German Ln	Raden St – Wendell Dr	Conway	Faulkner	Local Road	47.5
Skunk Hollow Rd	Odom Rd – SH 286		Faulkner	Local Road	44.0
Skunk Hollow Rd	SH 286 – Brister Ln		Faulkner	Local Road	44.0
Robins St	S German Ln – Harkrider St	Conway	Faulkner	Local Road	43.0
Prince St	Westfield Dr – Morningside Dr	Conway	Faulkner	Local Road	43.0
Lonoke County					
S Pine St (SH 89)	Alexis Dr – Campground Rd	Cabot	Lonoke	State Route	47.5
Pine St (SH 89)	N 5th St – Alexis Dr	Cabot	Lonoke	State Route	47.5
Bill Foster Memorial Hwy (SH 321)	Pickthorne Rd – N Candlewood Ln	Cabot	Lonoke	State Route	43.0
S Pine St (SH 89)	Campground Rd – Bill Foster Memorial Hwy	Cabot	Lonoke	State Route	42.0
W Main St (SH 89)	Willie Ray Dr – N 5th St	Cabot	Lonoke	State Route	41.5
S Kerr Rd (SH 5)	Keller Rd – Carson Bridge Rd		Lonoke	Local Road	41.0
Carson Bridge Rd	Ruth Rd – Zachary Ln		Lonoke	Local Road	41.0
Graham Rd	Sherman Hill Rd – Graham Acres Rd		Lonoke	Local Road	41.0
S Kerr Rd (SH 5)	Wayne Ln – Keller Rd		Lonoke	Local Road	41.0
Dogwood Ln	Mount Carmel Rd – Mount Tabor Rd/ Henrietta Dr		Lonoke	Local Road	16.0
Dogwood Ln	Campground Rd – Mount Carmel Rd		Lonoke	Local Road	16.0
Dogwood Ln	Watercrest Ln - Campground Rd		Lonoke	Local Road	16.0

Segment Name	Approximate Segment Boundary	City	County	State Route or Local Road	Total Score
Pulaski County					
Geyer Springs Rd	Forbing Rd – Baseline Rd	Little Rock	Pulaski	Local Road	96.5
S University Ave (NB)	W 50th St – 65th St	Little Rock	Pulaski	Local Road	91.5
S University Ave (NB)	Asher Ave – W 50th St	Little Rock	Pulaski	Local Road	89.0
S University Ave (SB)	Falls Blvd – 65th St	Little Rock	Pulaski	Local Road	86.5
Colonel Glenn Rd (US 70)	Whitfield St – Town And Country Ave	Little Rock	Pulaski	State Route	86.5
S University Ave (SB)	Asher Ave – Falls Blvd	Little Rock	Pulaski	Local Road	86.0
Asher Ave (US 70)	S University Ave – Adams St	Little Rock	Pulaski	State Route	85.5
Asher Ave/W Roosevelt Rd (US 70)	Adams St – Booker St	Little Rock	Pulaski	State Route	85.5
Baseline Rd (SH 338)	Verbena Dr – Dreher Ln	Little Rock	Pulaski	State Route	81.5
S University Ave (SB)	Berkshire Dr – Asher Ave	Little Rock	Pulaski	State Route	72.0
Saline County					
W Carpenter St/N East St (SH 35)	Kenwood Rd – E Sevier St	Benton	Saline	State Route	57.5
Military Rd	Old Congo Rd – Alcoa Blvd	Benton	Saline	Local Road	55.5
SH 9	Alum Fork Ranch Rd – Sulphur Springs Rd		Saline	State Route	44.0
SH 5	Whiteway Dr – Private Logging Rd		Saline	State Route	44.0
Friendship Rd	Friendship Rd – SH 35		Saline	Local Road	41.0
Shaw Bridge Rd	Bridge Cutoff Rd – Friendship Rd		Saline	Local Road	41.0
SH 35	Dale Rd – Mud Creek		Saline	State Route	41.0
SH 35	Mud Creek – CR 723		Saline	State Route	41.0
Market St	Carpenter St/SH 35 – Elm St	Benton	Saline	Local Road	40.0
Shaw Bridge Rd	Friendship Rd – Friendship Rd		Saline	Local Road	40.0
Sevier St	N Richards St – N East St	Benton	Saline	Local Road	40.0

Table 6: County Level High Injury Intersections Prioritized for Safety Improvements

Intersection Name	City	County	State Route or Local Road	Total Score
Faulkner County				
Elsinger Blvd and E Oak St (US 64)	Conway	Faulkner	Both	75.5
Harkrider St (US 65) and Oak St (US 64)	Conway	Faulkner	Both	61.0
Central Landing Blvd and E Oak St (US 64)	Conway	Faulkner	Both	58.0
S Broadview St (US 65) and Green Valley Dr/Church St (SH 25)	Greenbrier	Faulkner	Both	57.0
Harkrider St (US 65) and College Ave	Conway	Faulkner	Both	53.5
Harkrider St (US 65) and Robins St	Conway	Faulkner	Both	51.5
E German Ln and E Oak St (US 64)	Conway	Faulkner	Both	50.0
Towne Center Dr and Skyline Dr (US 65)	Conway	Faulkner	Both	50.0
Country Club Rd and W Tyler St	Conway	Faulkner	Local Road	43.5
Donaghey Ave and Tyler St	Conway	Faulkner	Local Road	41.5
Country Club Rd and Prince St	Conway	Faulkner	Local Road	37.0
Lonoke County				
Bill Foster Memorial Hwy (SH 5) and S 2nd St (SH 367)	Cabot	Lonoke	Both	33.5
2nd St (SH 367) and Moore St (SH 319)	Ward	Lonoke	Both	33.0
John Harden Dr/S Rockwood Rd and SH 5	Cabot	Lonoke	Both	13.0
SH 5 and Ballard Rd		Lonoke	Both	10.0
SH 5 and SH 319	Cabot	Lonoke	State Route	8.0
Mount Tabor Rd and Mount Tabor Rd/Henrietta Dr		Lonoke	State Route	6.0
Dogwood Ln and Mount Tabor Rd/Henrietta Dr		Lonoke	Local Road	5.0
Dogwood Ln and Mount Carmel Rd (SH 321)		Lonoke	Both	5.0

Intersection Name	City	County	State Route or Local Road	Total Score
Pulaski County				
Geyer Springs Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	88.5
S University Ave and Asher Ave (US 70)	Little Rock	Pulaski	Both	85.5
S University Ave (NB) and W 53rd St	Little Rock	Pulaski	Local Road	81.5
S University Ave (NB & SB) and Shopping Center Dwys	Little Rock	Pulaski	Local Road	79.0
University Ave and W Markham St	Little Rock	Pulaski	Local Road	74.5
John Barrow Rd and Kanis Rd	Little Rock	Pulaski	Local Road	72.0
S Woodrow St and W 12th St	Little Rock	Pulaski	Local Road	72.0
Fair Park Blvd/Mabelvale Pike and Asher Ave (US 70)	Little Rock	Pulaski	Both	70.0
S University Ave (NB & SB) and Mabelvale Pike	Little Rock	Pulaski	Both	68.0
N Chicot Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	64.5
Saline County				
N Market St and W Carpenter St (SH 35)	Benton	Saline	Both	50.0
E Carpenter St/N East St (SH 35) and Military Rd (SH 88)	Benton	Saline	Both	46.0
N Market St and W Sevier St	Benton	Saline	Local Road	44.0
Military Rd and US Post Office Dwy	Benton	Saline	Local Road	42.0
Landers Dr and Military Rd	Benton	Saline	Local Road	38.0
Springhill Rd and SH 5	Bryant	Saline	Both	23.5
US 167 (NB & SB) and Woodson Lateral Rd		Saline	Both	13.5
US 67 and Pawnee Dr		Saline	Both	6.0
High Point Dr/Old 88 Rd and US 70		Saline	Both	5.0
Springlake Rd and US 167 (EB & WB)		Saline	Both	5.0

Corridor Access Management Success Story in Central Arkansas

In early 2000, the Conway City Council, Metroplan Board of Directors, and Arkansas State Highway Commission (acting through the Arkansas State Highway and Transportation Department), adopted the Access Management Plan for State Highway 60/Dave Ward Dr.

A specific access management plan was developed for the first of two segments, identifying each median break and curb cut, establishing standards for driveways, and setting property interconnect agreements and requirements for new developments. A general access management plan for the second segment specifies requirements for the roadway cross-section and right-of-way, and standards for median breaks and driveways.

A safety study conducted on the corridor analyzed the three-year crash data before the Access Management Plan was implemented (1998 – 2000) and the three-year crash data after (2005 – 2007).

Before	After	% Change
3.01 crashes per MVM per year	2.20 crashes per MVM per year	26.9% decrease in all crashes
43.92 KA crashes per 100 MVM per year	9.11 KA crashes per 100 MVM per year	79.3% decrease in KA crashes

KA: Fatal and Serious Injury Crashes
MVM: Million Vehicle Miles Travelled

5 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. Identifying countermeasures that address roadway safety gives the Central Arkansas Region a toolbox for identified problem areas. Safety countermeasures include changes in roadway geometry, operations, signage, pavement markings, or access management. The safety countermeasure toolbox may also be used on roadways with safety concerns that are not identified in this plan. The countermeasures defined in this section have been recommended from sources including the FHWA, 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 updated in order to implement the countermeasure on a wide-scale basis.

5.1 FHWA PROVEN SAFETY COUNTERMEASURES

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

A driver traveling at 35 mph has a 45 percent chance of either killing or seriously injuring a pedestrian if hit, while that percentage drops to 5 percent if the speed is just 15 mph less, at 20 mph. This fact highlights the impact speed limits have on all road users and not just those in the vehicles.



Speed Safety Cameras:

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 (VSLs):

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. VSLs can adapt to changing circumstances to reduce the risks of nonideal driving conditions. 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 proven safety countermeasures 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.



Bicycle Lanes:

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.



Crosswalk Visibility Enhancements:

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:

Leading pedestrian intervals allow for pedestrians to enter the intersection a few seconds before conflicting turning movements, like right or left turning vehicles, are given a green light. Pedestrians can establish their presence with the help of these intervals and reduce their risk of going unnoticed.



Medians and Pedestrian Refuge Islands in Urban and Suburban Areas:

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.



Pedestrian Hybrid Beacons (PHB):

As stated in the previous countermeasure, 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.



Rectangular Rapid Flashing Beacons (RRFBs):

Usually accompanied by a pedestrian warning sign, RRFBs flash with an alternating high-frequency and can increase the visibility of pedestrians when trying to use a crosswalk.



Road Diets (Roadway Reconfiguration):

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.



Walkways:

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.

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.



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:

Enhanced delineation for horizontal curves includes additional delineation along the approach to a curve and/or within the curve. A few countermeasures are the installation of chevron signs, delineators, or enhanced conspicuity such as larger, fluorescent, and/or retroreflective signs.



Longitudinal Rumble Strips and Stripes on Two-Lane Roads:

Rumble strips are a series of grooves in the pavement or raised elements along the travel lane edges 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.



Median Barriers:

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.



Roadside Design Improvements at Curves:

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 obstructions 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 in the instance a safe recovery is not possible.



SafetyEdgeSM:

SafetyEdgeSM is a low-cost and effective pavement edge technology that eliminates the potential for vertical drop-offs by shaping the edge 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.



Wider Edge Lines:

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.

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:

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.



Corridor Access Management:

Access management strategies can be used individually or in combination to enhance safety for all modes of transportation, encourage and facilitate walking and biking, and reduce trip delay and congestion. Some strategies include tandem roundabouts that reduce left-turn conflicts, turn lanes, and reduction in density through driveway closure, consolidation, or relocation.



Dedicated Left- and Right-Turn Lanes at Intersections:

Left- and Right-turn only lanes can provide physical separation for turning traffic and thus reduce the potential for crash types like rear-end collisions or left-turns across opposing traffic.



Yellow Change Intervals:

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



Reduced Left-Turn Conflict Intersections:

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:

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.



Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections:

As the name suggests, 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 signs on both sides of the road, oversized advance intersection warning signs, and retroreflective signage.



Crosscutting

While the countermeasures listed up until now have each addressed their corresponding crash types (speed, departures, intersections, and pedestrians/bicycles), 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.



Lighting:

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.



Local Road Safety Plans:

Local road safety plans 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.



Pavement Friction Management:

With an emphasis on areas where vehicles make frequent turns, stops, and decelerations, the implementation of proper maintenance and treatment of pavement friction can prevent roadway departure, intersection, and pedestrian-related crashes.



Road Safety Audit (RSA):

An audit or assessment that is performed to analyze the existing safety conditions of a road and identify potential improvements with consideration for all road users, factors, and capabilities. RSAs can reduce crashes anywhere in the range of 10 to 60 percent and may affect one, some, or all crash types.

5.2 NHTSA COUNTERMEASURES THAT WORK

NHTSA developed the Countermeasures That Work reference guide. This guide consists of effective and science-based traffic safety countermeasures that address highway safety problem areas. While FHWA Proven Safety Countermeasures tend to focus more on engineering solutions, NHTSA Countermeasures that Work focus primarily on changing human behavior through education and enforcement.

Countermeasures for Children

Safe Routes to School

Safe Routes to School is a program that aims to make it safer for students to walk and bike to school and encourages more walking and biking where safety is not a barrier. The Safe Routes to School Program includes engineering and enforcement activities to improve traffic safety. Safe routes to school is a federal transportation funding program administered by FHWA.

Elementary-Age Child Pedestrian Training

Children from a young age should be taught knowledge and best practices to enable them to walk safely in environments with traffic and other safety hazards. Classes should be worked into the school's existing curriculum and should be led by trained instructors. Child pedestrian training should be provided for five-to-seven year olds to give children a foundation in roadway safety.

Universal Bicycle Helmet Laws

Bicyclists within the State of Arkansas are not required to wear a helmet while riding a bicycle. Requiring the use of helmets for all

bicyclists reduces the number of fatal and serious head injuries resulting from a bicycle crash. Studies by FHWA have found that 70 to 80 percent of all fatal bicycle crashes involve head injuries.

Bicycle Safety Education for Children

Bicycle safety education for children teaches children basic bicycle skills, traffic signs and signals, how to ride on streets with vehicles present, proper helmet use, and bicycle safety and maintenance. Young children have little to no knowledge of traffic operations and providing a basis in traffic laws and safe bicycle behaviors can change the way they operate a bicycle.

Countermeasures for Motorcycles

Universal Motorcycle Helmet Use Laws

Motorcycle helmet use laws require all motorcycle riders and passengers to wear a helmet. In Arkansas, only riders under the age of 21 are required to wear helmets. Use of helmets by all motorcycle riders could reduce the rate of fatal and serious injury crashes involving motorcycles in the state.

Motorcycle Rider Training

Requiring pre-licensing programs helps prepare motorcyclists to recognize potentially hazardous riding situations and encourage riders to ride within their own abilities.

Countermeasures for Speeding

Dynamic Speed Display/Feedback Signs

Dynamic speed display/feedback signs show drivers their speed and may encourage drivers to slow down. When drivers are speeding, the dynamic speed display/feedback sign will light up to notify the driver

that they are speeding. The automated speed display monitors also provide a method to collect location-specific travel speed data.

5.3 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 Markings

A raised pavement marking 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 markings provide enhanced retro reflectivity which helps provide better roadway guidance. Due to wear and tear, raised pavement markings 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.

5.4 OTHER COUNTERMEASURES

Several additional safety countermeasures were identified by the SAPAC and through public engagement efforts in Central Arkansas. These countermeasures are not explicitly identified in the countermeasures previously discussed, but were considered and recommended in some cases for projects and systemic improvements recommended in Central Arkansas.

Pedestrian Signal at Intersection

Installing pedestrian signals with count down timers at signalized intersections assign right of way to the pedestrian during certain parts of the traffic signal cycle and convey accurate information about the time available to cross. SAPAC members noted that some pedestrians are confused when they see a flashing hand symbol and believe that even if they are already in the intersection they must go back to where they started. Count down timers can reduce this confusion.

Buffer Between Vehicle Lane and Sidewalk/Bikeway

A buffer zone between vehicles and pedestrian/bicycle infrastructure of four to six feet provides a safer environment for pedestrians by moving them further away from travel lanes. This buffer can look different according to street type. The buffer helps promote safety by increasing the distance between the vehicles and pedestrians/bicycles. In the event of a car

crash, having pedestrians and bicycles located four feet or more off of the roadway can prevent further injuries.

Bus Stop Bulb-Out

Bus stop bulb outs allow buses to stop in lane and provide additional space at bus stops for pedestrians. Allowing buses to stop in lane reduces the amount of conflict because drivers do not have to reenter the traffic lane. Bulb out stops also increase bus reliability since the driver does not have to wait for a clearing in traffic to reenter the traffic lane.

Curb Extensions

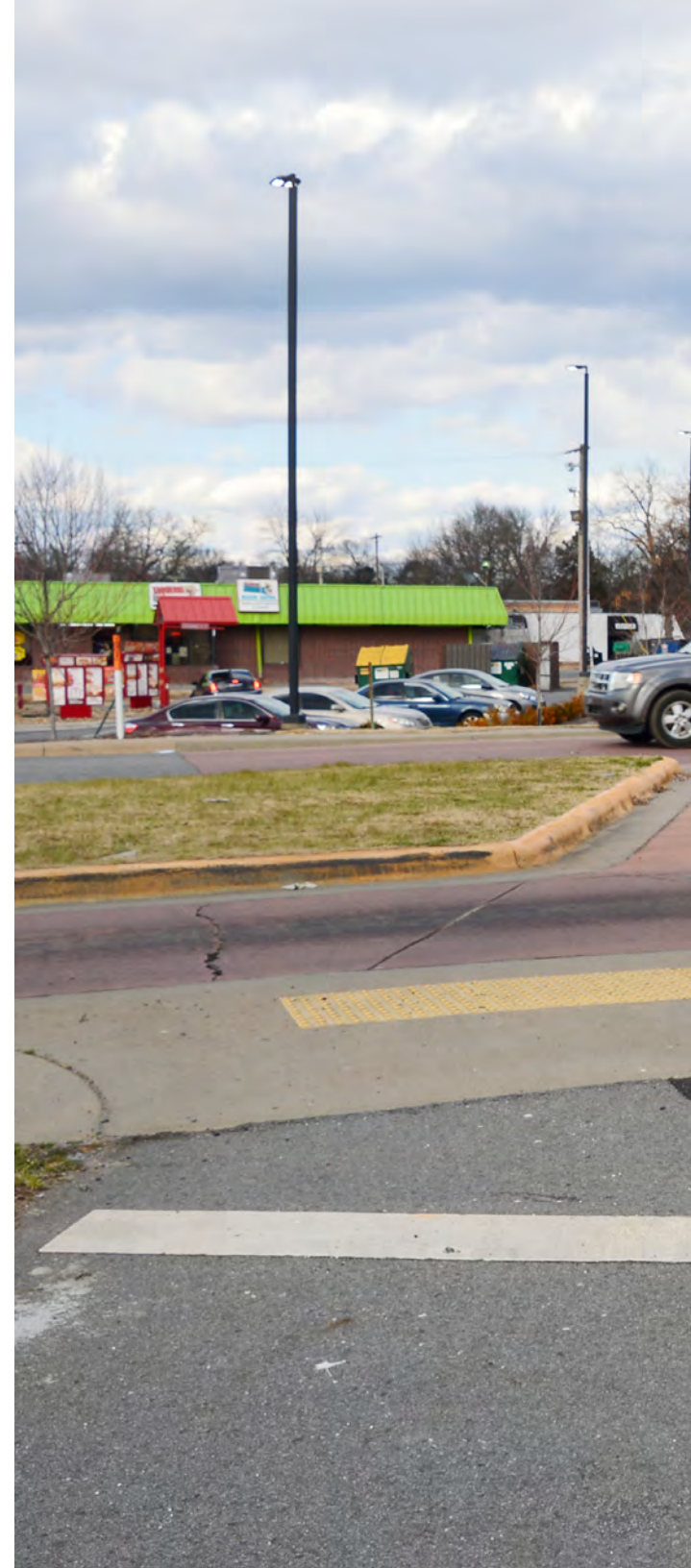
Curb extensions visually and physically narrow the roadway, which creates shorter and safer crosswalks for pedestrians. Curb extensions also increase the visibility of pedestrians by emphasizing where the crosswalk is located by reducing the roadway width there. Curb extensions can be implemented on downtown, neighborhood, and residential streets.

Flashing Yellow Arrow Left-Turn Indication

The use of a flashing yellow arrow to indicate a permissive left-turn phase instead of a green ball indication has been found to reduce 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.

Widen Paved Shoulder

Designing wider shoulders for new roads, or shoulders on existing roads, can provide drivers with extra buffer should they drift out of travel lanes or need to make an emergency maneuver to avoid crashes. An emergency shoulder also provides space for drivers to safely move out of travel lanes if a vehicle becomes inoperable.





6 RECOMMENDATIONS

This section provides recommendations for location-specific projects developed for the Regional HIN segment and Regional High Injury Intersections identified and prioritized in Section 4 – Needs Assessment. This section also identifies systemic countermeasures for deployment throughout the transportation network, policy changes and proposed new policies to create a safer future transportation network, and demonstration projects that could be used to determine the benefits of emerging technologies and strategies in the Central Arkansas Region.

6.1 LOCATION-SPECIFIC RECOMMENDATIONS

The 20 Regional HIN segments and 20 Regional High Injury Intersections that scored highest for having the greatest need for safety improvements in the Central Arkansas Region were selected for projects. After further review of the crash data, roadway geometry and general characteristics, and public comments, overlapping or adjacent segments and intersections were consolidated into ten regional projects that incorporate the 20 HIN segments and High Injury Intersections.

A summary of the recommendations is provided in **Table 7**. A complete description of each project, including crash maps and specific recommendations, is provided in **Appendix B**. It should be noted that University Ave was split into three projects based on the roadway geometry, surrounding area, and historic crash patterns. The northern section, between Markham St

and US 630, has the Park Avenue shopping center along the west side, War Memorial Park along the east side, and medical facilities on both sides. The central section, between Berkshire Dr and Colonel Glenn Rd/Asher Ave, separates the University of Arkansas in Little Rock (UALR) from retail and restaurants. The southern section, between Colonel Glenn Rd/Asher Ave and Forbing Rd, is divided with a grass or concrete median and passes through a wider variety of land uses.

All but one of the regional projects are in Pulaski County, with the remaining project being Oak St, a state route in Faulkner County. None of the top 20 Regional HIN segments or top 20 High Injury Intersections are in Lonoke County or Saline County, and the only segment selected for a regional project in Faulkner County is on a state route.

To support safety throughout the Central Arkansas Safety Action Plan, additional projects were identified for the highest scoring state route and highest scoring local road in Faulkner, Lonoke, and Saline Counties. These project locations are shown in **Figure 13** and listed **Table 8**, with more detailed information for each available in **Appendix B**.

To support developing cost estimates for the project recommendations, unit costs in 2024 dollars are provided in **Appendix C**. Unit costs are provided for infrastructure related to countermeasures aimed at safety improvements for vulnerable road use infrastructure, vehicular infrastructure, and transit infrastructure.

FIGURE 13: SAFETY ACTION PLAN PROJECTS

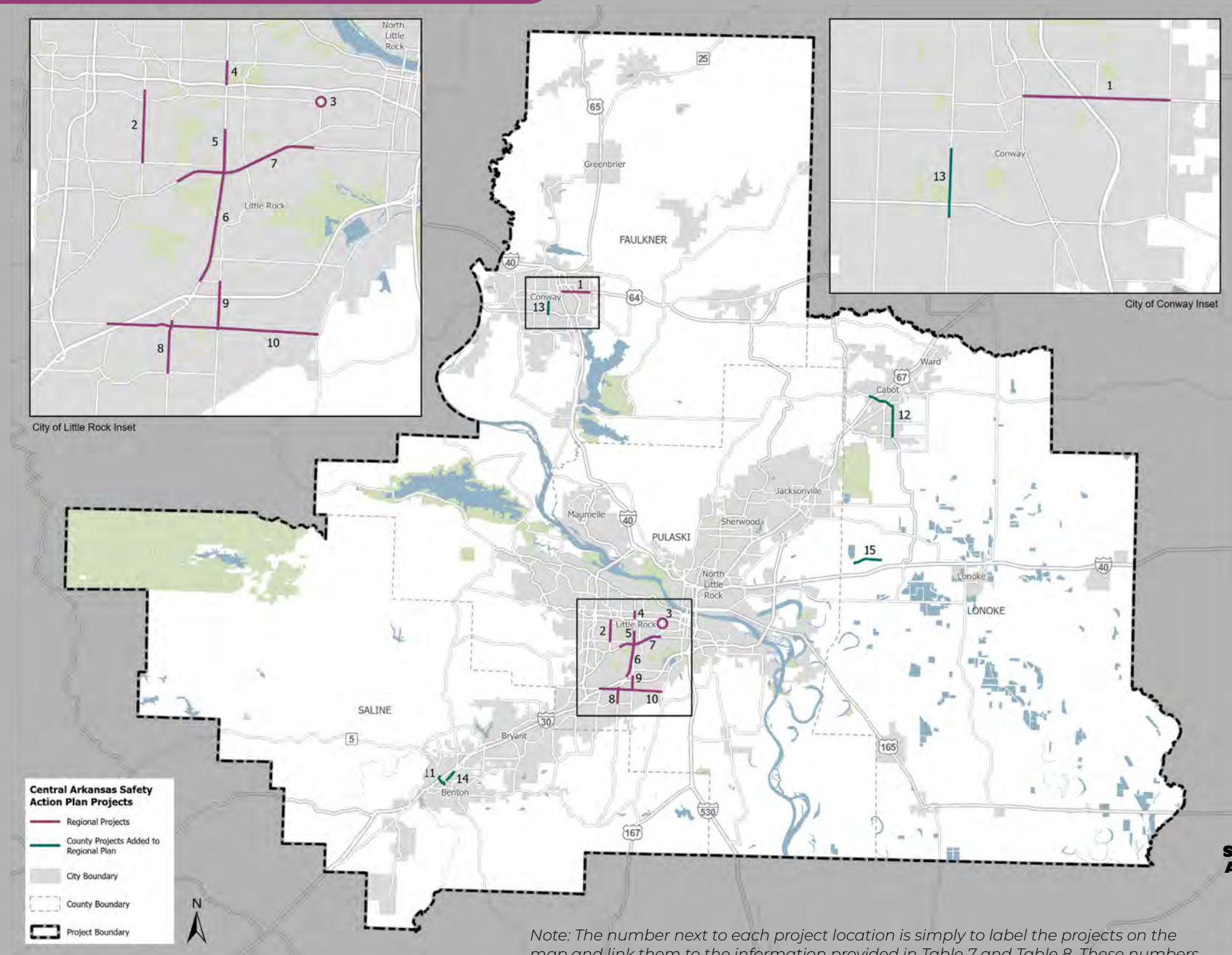


Table 7: Central Arkansas Safety Action Plan Location-Specific Regional Projects

Map ID*	Road Name	Approximate Segment Extents	Fatal Crashes	Serious Injury Crashes	City	County	Road Type
1	Oak St (US 64)	Harkrider St to German Ln	2	20	Conway	Faulkner	State Route
2	John Barrow Rd	Carti Way to 36th St	4	15	Little Rock	Pulaski	Local Road
3	Woodrow St & 12th St	N/A (Intersection)	1	4	Little Rock	Pulaski	Local Road
4	University Ave (North)	Markham St to US 630	1	3	Little Rock	Pulaski	Local Road
5	University Ave (UALR)	Berkshire Dr to Colonel Glenn Rd/Asher Ave	2	12	Little Rock	Pulaski	Local Road
6	University Ave (South)	Colonel Glenn Rd/Asher Ave to Forbing Rd	10	39	Little Rock	Pulaski	Local Road
7	Colonel Glenn Rd/Asher Ave/Roosevelt Rd (US 70)	Stannus St to Johnson St	15	55	Little Rock	Pulaski	State Route
8	Chicot Rd	Azalea Dr to Mabelvale Cut Off Rd	3	14	Little Rock	Pulaski	Local Road
9	Geyer Springs Rd	Forbing Rd to Baseline Rd	2	21	Little Rock	Pulaski	Local Road
10	Baseline Rd (SH 338)	Winston Dr to Abandoned Railroad	7	40	Little Rock	Pulaski	State Route

Table 8: Central Arkansas Safety Action Plan Location-Specific County Projects for Regional Plan

Map ID*	Road Name	Approximate Segment Extents	Fatal Crashes	Serious Injury Crashes	City	County	Road Type
11	Carpenter St/East St (SH 35)	Kenwood Rd to North St	0	8	Benton	Saline	State Route
12	Pine St (SH 89)	Rockwood Dr to Bill Foster Memorial Hwy	1	12	Cabot	Lonoke	State Route
13	Donaghey Ave	Bruce St to Moix Blvd	0	3	Conway	Faulkner	Local Road
14	Military Rd	Old Congo Rd to Alcoa Blvd	2	5	Benton	Saline	Local Road
15	Kerr Rd (SH 5)	Wayne Ln to Carson Bridge Rd	1	3		Lonoke	Local Road

* The Map ID number is simply to label the projects on the map and link them to information provided in the table. These numbers do not represent any prioritization for the projects.



Systemic safety improvements describe improvements that are widely implemented based on high-risk roadway features that are correlated with a particular crash types.

6.2 SYSTEMIC IMPROVEMENTS AND POLICY RECOMMENDATIONS

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

Recommended systemic improvements are provided in **Table 9 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 list of systemic improvements are accompanied by an anticipated timeframe for when the improvement could begin to be implemented. These timeframes include:

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

Table 9 through Table 13 also identify proposed policies to support the recommended systemic improvements. These types of policies will allow the Region 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.

Key Systemic Improvements

Of the systemic improvements identified, some of the recommendations that came up most often during the engagement efforts as well during field reviews when examining the corridors with HIN segments are included below.

- **Pavement Marking Improvements** to address faded, worn, or non-existent cross walks and other markings at many intersections.
- **Sidewalk Improvements** to complete missing gaps, replace uneven and broken sidewalks, and widen sidewalks to meet ADA requirements.
- **Lighting Improvements for Streets and Sidewalks** to provide safer streets and roads for drivers, pedestrians, and bicyclists at night.
- **Access Management** to consolidate access points and reduce the number of turning movements on corridors and increase safety for pedestrians, bicyclists, and people in wheelchairs that travel along those streets.

Vulnerable Road User Safety

Table 9: Recommended Systemic Improvements and Proposed Supporting Policies to Support Vulnerable Road Users Safety

Counter Measure 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.
Leading Pedestrian Interval (LPI) Immediate	Review signal timings at intersections with high pedestrian volumes, high turning vehicle volumes, or with a history of crashes involving a pedestrian. Adjust signal timings to reduce the time overlap between the pedestrian walk phase and the left-turn permissive phase and consider implementing an LPI.	Establish criteria for reducing the conflict between the pedestrian walk phase and left-turn phase and for when to implement an LPI.	FHWA recommends implementing an LPI of three to seven seconds to allow pedestrians to begin crossing before vehicles enter the intersection, particularly at intersections with high turning vehicle volumes.
Sufficient Pedestrian Crossing Time Immediate	Review the pedestrian signal timings where pedestrians frequently cross or a crash involving a pedestrian has occurred and adjust the timings as necessary to ensure sufficient crossing time. Consider using a seven second minimum walk interval and a walking speed of less than 3.5 feet per second in determining the pedestrian clearance time.	Conduct a walking speed study to determine what the average walking speed is throughout the Region or around different land uses. Use this value to establish criteria for when to use a walking speed of less than 3.5 feet per second in determining the pedestrian clearance time.	The MUTCD recommends using a walking speed of less than 3.5 feet per second where pedestrians who routinely use the crosswalk walk slower or use wheelchairs.
Accessible Pedestrian Signals (APS) Short-Term	Install APS at signalized pedestrian crossings.	Establish a requirement for APS at all signalized intersections with pedestrian crossings in future construction or as part of signal upgrades. Incorporate the addition of APS at signalized intersections into ADA transition plans.	MUTCD identifies factors relevant in determining whether a signalized intersection presents difficulties for pedestrians with vision disabilities and therefore may benefit from APS. ⁷ The ADA requires effective communication and information access. FHWA identifies APS as a means to communicate information.

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Countdown Pedestrian Signals Short-Term	Install a countdown pedestrian signal at all signalized intersections where pedestrians are frequently present or a crash involving a pedestrian has occurred. Retrofit all existing basic pedestrian signals with a countdown pedestrian signal head.	Establish a requirement for countdown pedestrian signals at all signalized intersections with pedestrian crossings in future construction or as part of signal upgrades.	The MUTCD states that crosswalks with a pedestrian change interval of more than seven seconds shall include a countdown display in order to inform pedestrians of the remaining safe crossing time.
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.	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. The Central Arkansas Regional Greenways Plan identifies proposed locations for pedestrians, bicyclists, and other non-motorized vehicles.
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.
Pedestrian Lighting Medium-Term	Add or improve lighting along sidewalks and walkways for pedestrians.	Develop a process for tracking and maintaining lighting assets along sidewalks and walkways for pedestrians. Establish a way for the public to report issues with pedestrian lights.	FHWA has developed recommended roadway luminance criteria based on a variety of factors to consider when assessing pedestrian lighting needs, including nearby land uses, roadway classification, crashes that occurred at night and crashes that involved pedestrians, and pedestrian and bicyclist volumes during hours of darkness.

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
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.
Sidewalk Buffers Long-Term	Where right-of-way or pavement is available, add a buffer zone of four to six feet between the road and sidewalk should be constructed to separate pedestrians from the street. The buffer zone may be created using bicycle lanes, street parking, a grass strip, or street furniture.	Establish a requirement for future sidewalk construction that a buffer zone of four to six feet be used to separate pedestrians from the street where sidewalk is present and right-of-way is available.	FHWA recommends a buffer zone of four to six feet. The buffer zone width and material varies depending on the street type. In downtown or commercial areas a buffer zone created with street furniture is usually appropriate. Parked cars and bicycle lanes can provide an additional buffer zone. In more suburban or rural areas, a grass strip, with or without trees, is generally most suitable.



Vehicular Travel Safety

Table 10: Recommended Systemic Improvements and Proposed Supporting Policies to Support Vehicular Travel Safety

Counter Measure 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.
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 Bar Pavement Markings Short-Term	Add stop bar 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.	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.	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.
Intersection and Corridor Lighting Short-Medium	Replace existing streetlights that are out. 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.	Develop lighting design standards to ensure adequate lighting coverage in future construction. Develop a process for maintaining streetlights and tracking lighting assets at intersections and along corridors. Establish a way for the public to report issues with streetlights.	The 2023 FHWA Lighting Handbook provides roadway lighting design and application recommendations. This includes factors to consider from the 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.

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Consistent Left-Turn Signal Indication Medium-Term	Update left turn signal indications to be consistent throughout the Region. 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.	Establish a standard left-turn signal indication and develop design guidelines and criteria for left-turn signal treatments.	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.
Two-Way Left-Turn Lane (TWLTL) Medium-Term	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.	Develop criteria for when to implement TWLTLs vs dedicated left-turn lanes.	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. NCHRP has developed procedures for evaluating and selecting median treatments.
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. 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.

Transit Safety

Table 11: Recommended Systemic Improvements and Proposed Supporting Policies to Support Transit

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Bus Stop Study Short-Term	Conduct a bus stop study to determine the optimal bus routes and locations for bus stops. Consider consolidation and relocation of bus stops to be near existing crosswalks or install high visibility crosswalks near the bus stops.	Establish bus stop design guidelines that include recommendations and criteria for bus stop spacing, distance from intersections, and distance from a signalized crossing.	The Metroplan Multimodal Infrastructure Guidelines provide guidance on bus stop design including floating bus stops, bus bulbs, pull-out stops, and bus shelters.

Emergency Services Safety

Table 12: Recommended Systemic Improvements and Proposed Supporting Policies to Support Emergency Services

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Move Over Law Immediate	Deploy Move Over signage along corridors with higher than normal severe crash rates, as severe crashes require more responders for a longer duration, such as roads on the Regional HIN.	Prepare and distribute educational materials instructing drivers on how to obey the Move Over law and issue warnings or citations to offenders.	FHWA identified an enforcement strategy for Move Over laws used in multiple states that involves deploying law enforcement personnel in pairs as part of targeted operations so that one officer can monitor vehicle speeds while another responds to a minor crash or stranded motorist.
Crash Review Task Force Short-Term	Not Applicable	Establish a multi-disciplinary crash review task force to review all fatal and serious injury crashes immediately following the incident, and based on these reviews recommend changes to existing infrastructure and policy that could reduce the likelihood of future crashes.	For example, the Washington, DC task force has met monthly since 2017 to review all fatal crashes that the DC police responded to. The task force conducts both data analysis and individual crash report reviews to prepare an annual summary of recommendations for the mayor, and city and county staff.

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Digital Alert System Short-Term	Install alert systems in all first responder vehicles that can send real-time alerts digitally to approaching drivers. These systems may also communicate between responding vehicles to reduce the risk of collision between responder vehicles.	Establish requirement for use of alert systems for all emergency vehicles in Central Arkansas.	Use of these systems may also improve compliance with Arkansas' Move Over Law by providing more advanced notice of stopped first responder vehicles.
Emergency Preemption Medium-Term	Deploy emergency vehicle preemption technology along major arterial corridors that provide access to and from emergency medical service facilities, and police and fire stations.	Develop agency policies that describe the appropriate use of emergency vehicle preemption systems.	Incident responders surveyed in seven of nine cities with emergency preemption deployments rated the benefits of the technology between "moderate" and "very high" in improving emergency response times and incident access. The MUTCD contains standards for implementing timing for preemption and priority control of traffic signals.
Emergency Response Vehicle Driving Simulator Medium-Term	Create an emergency response vehicle driving simulator to provide first responders with additional training.	Establish requirement for minimum training hours for all emergency vehicle drivers in Central Arkansas.	Emergency response agencies should begin identifying potential space and opportunities for sharing simulator for multiple first responders in Central Arkansas to minimize cost.

Driver Behavior Safety

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

Counter Measure and Timeframe	Systemic Improvement	Proposed Supporting Policy	Supplemental Guidance
Speed Feedback Signs Short-Term	Deploy dynamic speed feedback signs along corridors where speeding or speed related crashes frequently occur.	Enhance speed enforcement capabilities by reviewing enforcement measures. 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.
Share the Road Short-Term	Deploy additional bicycle-supportive signage and pavement markings 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.	Develop design guidelines for signage and pavement markings that mark where bicyclists share the lanes with vehicles. Develop a campaign to urge motorists, as well as vulnerable road users, to be always aware of all types of road users around them. Establish a way for the public to report near-miss crashes involving pedestrians and bicyclists.	NHTSA has developed tips for drivers, motorcyclists, bicyclists, and pedestrians on how to safely share the road.
Yielding to Pedestrians Short-Term	Implement in-street yield signage in the median at midblock and unsignalized intersection crosswalk locations and implement similar roadside signage at channelized right turn lane locations.	Distribute educational material and conduct high visibility enforcement to reinforce yield to pedestrian laws at crosswalk locations with high pedestrian use and at newly implemented crosswalks.	The MUTCD Figure 2B-2 identifies recommended signage for unsignalized pedestrian crosswalks.
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% higher rates of helmet use and 29% fewer motorcycle fatalities.



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Serious commitment from all leaders in the Central Arkansas towards the 40 by 40 goal could mean a dramatic decrease in fatal and serious injury crashes in the Region in the coming years. And by proving a 40 percent reduction is possible, the goal of zero fatal and serious injury crashes will seem more achievable than ever.



7 IMPLEMENTATION

Implementation is the real key to any planning effort. The Safety Action Plan was developed with input from hundreds of people across Central Arkansas and the commitment of the Metroplan Board to achieving its goals. But ultimately, success of the plans lies in the ability to implement its recommendations. Metroplan and its member agencies have committed to the 40 by 40 goal for reducing fatal and serious injuries in Central Arkansas, have committed to reporting and transparency of progress, and have committed to taking action.

7.1 COMMITMENT TO SAFETY

Completion of the Safety Action Plan allows

the Region to pursue additional funding for implementation through the USDOT's SS4A Program. This funding is very important toward achieving the 40 by 40 goal, but it alone will not get the Region far enough. Central Arkansas needs 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. And safety needs to remain at the forefront of conversations anytime transportation is discussed in the Central Arkansas.

Serious commitment from all leaders in the Central Arkansas towards the 40 by 40 goal could mean a dramatic decrease in fatal and

serious injury crashes in the Region in the coming years. And by proving a 40 percent reduction is possible, the goal of zero fatal and serious injury crashes will seem more achievable than ever.

7.2 PROGRESS REPORTING

Regular reporting and communication of progress towards the 40 by 40 goal is necessary as the Region strives to ultimately reach zero fatal and serious injury crashes. With milestone set every five years to reach the 40 percent reduction by 2040, close tracking of the Region's accomplishments (and setbacks) will be important to document every year.

As part of the Central Arkansas Safety Action



The Safety Action Plan was developed with input from hundreds of people across Central Arkansas and the commitment of the Metroplan Board to achieving its goals. But ultimately, success of the plans lies in the ability to implement its recommendations.

Plan, a dashboard was created to track implementation of the Plan and report on progress towards the 40 percent reduction. The dashboard provides fatal and serious injury statistics and keeps a focus on the Regional HIN and prioritized locations for projects. Additionally, the dashboard displays the past trends of fatal and serious injury statistics, allowing for year-to-year comparisons to track progress.

By providing this information through a user-friendly dashboard, the public can stay informed about the efforts being made to improve road safety in Central Arkansas. This promotes transparency in achieving the goal of reducing fatal and serious injury crashes, and transparency leads to results.

In addition to the dashboard reporting, fatal

and serious injury crashes in the central Arkansas region will be tracked annually by Metroplan and reported as part on the performance measure requirements. The HIN will also be analyzed with each update of the Safety Action Plan to ensure safety priorities are aligned with the most current crash data. Vulnerable road users have been a safety priority for Metroplan and will continue to be a focus of safety measures based on crash data. Metroplan will also continue to collaborate with ARDOT and the State Highway Safety Office on analyzing and reporting progress and safety metrics.

7.3 TAKING ACTION

Developing the Safety Action Plan is an important step towards achieving zero

fatal and serious injuries, but the real work begins with implementation of the Plan. Implementation will require a continued focus and commitment towards safety every single day. The Metroplan Board, Metroplan member agencies, SAPAC members, and the public that were engaged in the process have all agreed that deaths and serious injuries on streets and roads in Central Arkansas are not acceptable. The Metroplan Board has committed to the 40 by 40 goal knowing it is ambitious, but achievable. The challenge is now to remain focused on that goal and move Central Arkansas towards a place where no person is ever killed or seriously injured as they travel about the Region.

APPENDIX A

SEGMENT AND INTERSECTION PRIORITIZATION SCORING

Scoring Matrix Regionwide High Injury Network Segments Prioritized for Safety Improvements

General Segment Information					Guiding Factors of Segment Selection (2018 - 2022 Crash Data)					
Road Name	Approximate Segment Boundary	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Geyer Springs Rd	Forbing Rd – Baseline Rd	Little Rock	Pulaski	Local Road	2	21	939	962	7	0
S University Ave (NB)	W 50th St – 65th St	Little Rock	Pulaski	Local Road	4	16	587	607	6	0
S University Ave (NB)	Asher Ave – W 50th St	Little Rock	Pulaski	Local Road	6	13	407	426	4	2
S University Ave (SB)	Falls Blvd – 65th St	Little Rock	Pulaski	Local Road	5	15	315	335	5	1
Colonel Glenn Rd (US 70)	Whitfield St – Town And Country Ave	Little Rock	Pulaski	State Route	4	14	505	523	4	1
S University Ave (SB)	Asher Ave – Falls Blvd	Little Rock	Pulaski	Local Road	5	12	504	521	3	2
Asher Ave (US 70)	S University Ave – Adams St	Little Rock	Pulaski	State Route	2	19	441	462	4	0
Asher Ave/W Roosevelt Rd (US 70)	Adams St – Booker St	Little Rock	Pulaski	State Route	5	14	286	305	8	0
Baseline Rd (SH 338)	Verbena Dr – Dreher Ln	Little Rock	Pulaski	State Route	0	14	427	441	4	0
S University Ave (SB)	Berkshire Dr – Asher Ave	Little Rock	Pulaski	Local Road	2	10	464	476	4	0
E Oak St (US 64)	Bill Dean Dr – Bradley Cir	Conway	Faulkner	State Route	0	11	576	587	1	2
Colonel Glenn Rd (US 70)	Town And Country Ave - S University Ave	Little Rock	Pulaski	State Route	2	8	342	352	5	0
John Barrow Rd	Longacre Dr – W 29th St	Little Rock	Pulaski	Local Road	2	9	394	405	2	0
S University Ave (SB)	W 65th St – I-30	Little Rock	Pulaski	Local Road	2	8	352	362	4	1
Baseline Rd (SH 338)	Dreher Ln – Hilar Springs Rd/Scott Hamilton Dr	Little Rock	Pulaski	State Route	3	8	223	234	3	0
E Oak St (US 64)	Hamilton St – Bill Dean Dr	Conway	Faulkner	State Route	2	6	796	804	1	0
Chicot Rd	S University Ave – Nolen Dr	Little Rock	Pulaski	Local Road	3	8	452	463	1	0
Baseline Rd (SH 338)	Victoria Dr - Verbena Dr	Little Rock	Pulaski	State Route	2	7	440	449	1	1
Baseline Rd (SH 338)	McDonald Cir - Victoria Dr	Little Rock	Pulaski	State Route	2	7	555	564	2	1
S University Ave (SB)	W Markham St - US 630	Little Rock	Pulaski	Local Road	0	4	684	688	3	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Y	0.25	0.25	8	25	15.0	15.0	25	7.50	4	5	96.5
Y	0.25	0.25	0	25	15.0	15.0	25	7.50	4	0	91.5
Y	0.50	0.25	6	25	10.0	15.0	25	5.00	4	5	89.0
Y	0.25	0.25	1	25	7.5	15.0	25	7.50	4	2.5	86.5
Y	0.50	0.25	4	25	12.5	12.5	25	5.00	4	2.5	86.5
Y	0.50	0.25	8	22	12.5	12.5	25	5.00	4	5	86.0
Y	0.25	0.50	6	25	10.0	10.0	25	7.50	3	5	85.5
Y	0.25	0.50	3	25	7.5	15.0	25	7.50	3	2.5	85.5
Y	0.25	0.00	11	19	10.0	10.0	25	7.50	5	5	81.5
Y	0.25	0.25	4	16	10.0	10.0	25	7.50	4	2.5	75.0
Y	0.25	0.25	2	16	12.5	7.5	25	7.50	4	2.5	75.0
Y	0.50	0.25	5	13	7.5	12.5	25	5.00	4	5	72.0
Y	0.25	0.25	2	16	10.0	5.0	25	7.50	4	2.5	70.0
Y	0.25	0.25	0	13	7.5	12.5	25	7.50	4	0	69.5
Y	0.25	0.25	1	16	5.0	7.5	25	7.50	4	2.5	67.5
Y	0.50	0.25	6	10	15.0	2.5	25	5.00	4	5	66.5
Y	0.50	0.25	4	16	10.0	2.5	25	5.00	4	2.5	65.0
Y	0.50	0.25	4	13	10.0	5.0	25	5.00	4	2.5	64.5
Y	1.00	1.00	1	13	12.5	7.5	25	2.50	1	2.5	64.0
Y	0.50	0.25	4	4	15.0	7.5	25	5.00	4	2.5	63.0



Scoring Matrix Regionwide High Injury Intersections Prioritized for Safety Improvements

General Intersection Information				Guiding Factors of Intersection Selection (2018 - 2022 Crash Data)					
Intersection Name	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Geyer Springs Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	0	8	215	223	2	0
S University Ave and Asher Ave (US 70)	Little Rock	Pulaski	Both	1	7	314	322	2	0
S University Ave (NB) and W 53rd St	Little Rock	Pulaski	Local Road	1	6	98	105	4	0
S University Ave (NB & SB) and Shopping Center Dwys	Little Rock	Pulaski	Local Road	2	5	103	110	2	1
Elsinger Blvd and E Oak St (US 64)	Conway	Faulkner	Both	0	6	156	162	0	1
University Ave and W Markham St	Little Rock	Pulaski	Local Road	1	2	235	238	3	0
John Barrow Rd and Kanis Rd	Little Rock	Pulaski	Local Road	1	5	195	201	1	0
S Woodrow St and W 12th St	Little Rock	Pulaski	Local Road	1	4	64	69	4	0
Fair Park Blvd/Mabelvale Pike and Asher Ave (US 70)	Little Rock	Pulaski	Both	0	5	162	167	1	0
S University Ave (NB & SB) and Mabelvale Pike	Little Rock	Pulaski	Local Road	1	6	155	162	0	0
N Chicot Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	0	5	321	326	0	0
Barrow Rd and W 36th St	Little Rock	Pulaski	Local Road	2	4	110	116	1	0
Asher Ave (US 70) and W 29th St	Little Rock	Pulaski	Both	2	2	49	53	3	0
Geyer Springs Rd and Young Rd	Little Rock	Pulaski	Local Road	0	4	189	193	0	0
Geyer Springs Rd and I-30 W	Little Rock	Pulaski	Both	0	4	177	181	0	0
S Bryant St and Asher Ave (US 70)	Little Rock	Pulaski	Both	0	4	104	108	0	1
S University Ave (NB & SB) and Forbing Rd	Little Rock	Pulaski	Local Road	0	5	76	81	2	0
Harkrider St (US 65) and Oak St (US 64)	Conway	Faulkner	Both	0	4	121	125	0	1
I-30 W (SB) and E 9th St	Little Rock	Pulaski	Both	1	2	148	151	1	0
Stanton Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	1	4	80	85	1	0
S University Ave (NB & SB) and W 65th St (EB & WB)	Little Rock	Pulaski	Local Road	0	2	252	254	1	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Y	0.25	0.50	5	25	13	10	25	7.5	3	5.0	88.5
Y	0.5	0.50	4	25	15	10	25	5.0	3	2.5	85.5
Y	0.25	0.25	0	25	5	15	25	7.5	4	0.0	81.5
Y	0.5	0.25	0	25	5	15	25	5.0	4	0.0	79.0
Y	0.5	0.25	1	25	9	5	25	5.0	4	2.5	75.5
Y	0.5	0.25	2	10	13	15	25	5.0	4	2.5	74.5
Y	1	1.00	2	25	11	5	25	2.5	1	2.5	72.0
Y	0.5	0.25	0	20	3	15	25	5.0	4	0.0	72.0
Y	0.25	1.00	2	20	9	5	25	7.5	1	2.5	70.0
Y	0.25	0.50	0	25	9	0	25	7.5	3	0.0	69.5
Y	1	0.50	2	20	15	0	25	2.5	3	2.5	68.0
Y	1	0.50	2	25	5	5	25	2.5	3	2.5	68.0
Y	0.5	1.00	4	15	1	15	25	5.0	1	2.5	64.5
Y	0.5	0.50	2	15	11	0	25	5.0	3	2.5	61.5
Y	0.5	0.50	2	15	11	0	25	5.0	3	2.5	61.5
Y	0.5	0.25	2	15	5	5	25	5.0	4	2.5	61.5
Y	1	1.00	0	20	3	10	25	2.5	1	0.0	61.5
Y	0.5	0.25	0	15	7	5	25	5.0	4	0.0	61.0
Y	0.25	0.25	0	10	9	5	25	7.5	4	0.0	60.5
Y	1	1.00	1	20	3	5	25	2.5	1	2.5	59.0
Y	0.5	0.25	0	5	15	5	25	5.0	4	0.0	59.0



Scoring Matrix County Level High Injury Network Segments Prioritized for Safety Improvements

General Segment Information					Guiding Factors of Segment Selection (2018 - 2022 Crash Data)					
Road Name	Approximate Segment Boundary	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Faulkner County										
E Oak St (US 64)	Bill Dean Dr – Bradley Cir	Conway	Faulkner	State Route	0	11	576	587	1	2
E Oak St (US 64)	Hamilton St – Bill Dean Dr	Conway	Faulkner	State Route	2	6	796	804	1	0
Harkrider St/Skyline Dr (US 64/US 65)	I-40 – Markrider St	Conway	Faulkner	State Route	1	6	519	526	1	0
US 64/US 65	Lakeview Dr – Lyons Ln	Conway	Faulkner	State Route	0	7	359	366	0	1
Skyline Dr (US 65)	I-40 – Ranger Dr	Conway	Faulkner	State Route	2	10	363	375	0	0
Donaghey Ave	South Blvd - Dave Ward Dr	Conway	Faulkner	Local Road	0	3	238	241	0	2
E German Ln	Raden St - Wendell Dr	Conway	Faulkner	Local Road	1	2	166	169	1	1
Skunk Hollow Rd	Odom Rd - SH 286		Faulkner	Local Road	2	2	16	20	0	0
Skunk Hollow Rd	SH 286 - Brister Ln		Faulkner	Local Road	1	2	26	29	0	0
Robins St	S German Ln - Harkrider St	Conway	Faulkner	Local Road	0	3	38	41	2	0
Prince St	Westfield Dr - Morningside Dr	Conway	Faulkner	Local Road	0	3	169	172	0	0
Lonoke County										
S Pine St (SH 89)	Alexis Dr – Campground Rd	Cabot	Lonoke	State Route	1	4	109	114	0	0
Pine St (SH 89)	N 5th St - Alexis Dr	Cabot	Lonoke	State Route	0	2	249	251	0	0
Bill Foster Memorial Hwy (SH 321)	Pickthorne Rd - N Candlewood Ln	Cabot	Lonoke	State Route	0	3	117	120	0	0
S Pine St (SH 89)	Campground Rd - Bill Foster Memorial Hwy	Cabot	Lonoke	State Route	0	3	138	141	0	0
W Main St (SH 89)	Willie Ray Dr - N 5th St	Cabot	Lonoke	State Route	0	2	348	350	0	0
S Kerr Rd (SH 5)	Keller Rd - Carson Bridge Rd		Lonoke	Local Road	0	2	8	10	0	0
Carson Bridge Rd	Ruth Rd - Zachary Ln		Lonoke	Local Road	0	2	5	7	0	0
Graham Rd	Sherman Hill Rd - Graham Acres Rd		Lonoke	Local Road	0	2	3	5	0	0
S Kerr Rd (SH 5)	Wayne Ln - Keller Rd		Lonoke	Local Road	1	1	25	27	0	0
Dogwood Ln	Mount Carmel Rd - Mount Tabor Rd/ Henrietta Dr		Lonoke	Local Road	0	2	7	9	0	0
Dogwood Ln	Campground Rd - Mount Carmel Rd		Lonoke	Local Road	0	2	21	23	0	0
Dogwood Ln	Watercrest Ln - Campground Rd		Lonoke	Local Road	0	2	33	35	0	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Faulkner County											
Y	0.25	0.25	2	16	12.5	7.5	25	7.50	4	2.5	75.0
Y	0.50	0.25	6	10	15.0	2.5	25	5.00	4	5	66.5
Y	1.00	0.25	8	10	12.5	2.5	25	2.50	4	5	61.5
Y	0.25	0.25	19	10	7.5	2.5	25	7.50	4	5	61.5
Y	1.00	0.25	10	16	7.5	0.0	25	2.50	4	5	60.0
Y	0.50	0.00	10	4	5.0	5.0	25	5.00	5	5	54.0
Y	0.25	1.00	2	4	2.5	5.0	25	7.50	1	2.5	47.5
Y	0.00	0.00	0	4	0.0	0.0	25	10.00	5	0	44.0
Y	0.00	0.00	0	4	0.0	0.0	25	10.00	5	0	44.0
Y	0.50	0.25	0	4	0.0	5.0	25	5.00	4	0	43.0
Y	0.50	0.25	2	4	2.5	0.0	25	5.00	4	2.5	43.0
Lonoke County											
Y	0.25	0.50	2	7	2.5	0.0	25	7.50	3	2.5	47.5
Y	0.25	0.25	12	1	5.0	0.0	25	7.50	4	5	47.5
Y	0.25	0.25	0	4	2.5	0.0	25	7.50	4	0	43.0
Y	0.25	0.50	0	4	2.5	0.0	25	7.50	3	0	42.0
Y	0.50	0.50	0	1	7.5	0.0	25	5.00	3	0	41.5
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
N	0.00	0.00	0	1	0.0	0.0	0	10.00	5	0	16.0
N	0.00	0.00	0	1	0.0	0.0	0	10.00	5	0	16.0
N	0.00	0.00	0	1	0.0	0.0	0	10.00	5	0	16.0

General Segment Information					Guiding Factors of Segment Selection (2018 - 2022 Crash Data)					
Road Name	Approximate Segment Boundary	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Pulaski County										
Geyer Springs Rd	Forbing Rd – Baseline Rd	Little Rock	Pulaski	Local Road	2	21	939	962	7	0
S University Ave (NB)	W 50th St – 65th St	Little Rock	Pulaski	Local Road	4	16	587	607	6	0
S University Ave (NB)	Asher Ave – W 50th St	Little Rock	Pulaski	Local Road	6	13	407	426	4	2
S University Ave (SB)	Falls Blvd – 65th St	Little Rock	Pulaski	Local Road	5	15	315	335	5	1
Colonel Glenn Rd (US 70)	Whitfield St – Town And Country Ave	Little Rock	Pulaski	State Route	4	14	505	523	4	1
S University Ave (SB)	Asher Ave – Falls Blvd	Little Rock	Pulaski	Local Road	5	12	504	521	3	2
Asher Ave (US 70)	S University Ave – Adams St	Little Rock	Pulaski	State Route	2	19	441	462	4	0
Asher Ave/W Roosevelt Rd (US 70)	Adams St – Booker St	Little Rock	Pulaski	State Route	5	14	286	305	8	0
Baseline Rd (SH 338)	Verbena Dr – Dreher Ln	Little Rock	Pulaski	State Route	0	14	427	441	4	0
S University Ave (SB)	Berkshire Dr – Asher Ave	Little Rock	Pulaski	Local Road	2	10	464	476	4	0
Colonel Glenn Rd (US 70)	Town And Country Ave - S University Ave	Little Rock	Pulaski	State Route	2	8	342	352	5	0
John Barrow Rd	Longacre Dr – W 29th St	Little Rock	Pulaski	Local Road	2	9	394	405	2	0
S University Ave (SB)	W 65th St – I-30	Little Rock	Pulaski	Local Road	2	8	352	362	4	1
Baseline Rd (SH 338)	Dreher Ln – Hilar Springs Rd/Scott Hamilton Dr	Little Rock	Pulaski	State Route	3	8	223	234	3	0
Chicot Rd	S University Ave – Nolen Dr	Little Rock	Pulaski	Local Road	3	8	452	463	1	0
Baseline Rd (SH 338)	Victoria Dr - Verbena Dr	Little Rock	Pulaski	State Route	2	7	440	449	1	1
Baseline Rd (SH 338)	McDonald Cir - Victoria Dr	Little Rock	Pulaski	State Route	2	7	555	564	2	1
S University Ave (SB)	W Markham St - US 630	Little Rock	Pulaski	Local Road	0	4	684	688	3	0
W 12th St	Laverne Cir - S Monroe St	Little Rock	Pulaski	Local Road	1	7	425	433	3	0
S Shackleford Rd	Financial Centre Pkwy - US 430 (NB)	Little Rock	Pulaski	Local Road	0	8	643	651	0	0
Broadway St (US 70)	Willow St - N Beech St	North Little Rock	Pulaski	State Route	0	6	379	385	4	0
W Markham St	Plaza Dr - N Jackson St	Little Rock	Pulaski	Local Road	1	2	569	572	2	0
S University Ave (NB)	UALR Campus Dr - Asher Ave	Little Rock	Pulaski	Local Road	2	6	217	225	3	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Pulaski County											
Y	0.25	0.25	8	25	15.0	15.0	25	7.50	4	5	96.5
Y	0.25	0.25	0	25	15.0	15.0	25	7.50	4	0	91.5
Y	0.50	0.25	6	25	10.0	15.0	25	5.00	4	5	89.0
Y	0.25	0.25	1	25	7.5	15.0	25	7.50	4	2.5	86.5
Y	0.50	0.25	4	25	12.5	12.5	25	5.00	4	2.5	86.5
Y	0.50	0.25	8	22	12.5	12.5	25	5.00	4	5	86.0
Y	0.25	0.50	6	25	10.0	10.0	25	7.50	3	5	85.5
Y	0.25	0.50	3	25	7.5	15.0	25	7.50	3	2.5	85.5
Y	0.25	0.00	11	19	10.0	10.0	25	7.50	5	5	81.5
Y	0.25	0.25	4	16	10.0	10.0	25	7.50	4	2.5	75.0
Y	0.50	0.25	5	13	7.5	12.5	25	5.00	4	5	72.0
Y	0.25	0.25	2	16	10.0	5.0	25	7.50	4	2.5	70.0
Y	0.25	0.25	0	13	7.5	12.5	25	7.50	4	0	69.5
Y	0.25	0.25	1	16	5.0	7.5	25	7.50	4	2.5	67.5
Y	0.50	0.25	4	16	10.0	2.5	25	5.00	4	2.5	65.0
Y	0.50	0.25	4	13	10.0	5.0	25	5.00	4	2.5	64.5
Y	1.00	1.00	1	13	12.5	7.5	25	2.50	1	2.5	64.0
Y	0.50	0.25	4	4	15.0	7.5	25	5.00	4	2.5	63.0
Y	1.00	0.00	2	10	10.0	7.5	25	2.50	5	2.5	62.5
Y	0.50	0.25	2	10	15.0	0.0	25	5.00	4	2.5	61.5
Y	0.25	0.25	0	7	7.5	10.0	25	7.50	4	0	61.0
Y	0.25	0.25	2	4	12.5	5.0	25	7.50	4	2.5	60.5
Y	0.25	0.50	4	10	5.0	7.5	25	7.50	3	2.5	60.5



General Segment Information					Guiding Factors of Segment Selection (2018 - 2022 Crash Data)					
Road Name	Approximate Segment Boundary	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Pulaski County Continued										
Chicot Rd	Shady Grove Rd – Castle Valley Rd	Little Rock	Pulaski	Local Road	2	9	76	87	2	0
Broadway St (US 70)	W 6th St - W Charles Bussey Ave	Little Rock	Pulaski	State Route	1	3	481	485	2	0
S Woodrow St	Lamar St - W Charles Bussey Ave	Little Rock	Pulaski	Local Road	2	6	198	206	2	1
S University Ave (NB)	Midtown Ave - W Charles Bussey Ave	Little Rock	Pulaski	Local Road	1	3	914	918	1	0
N Rodney Parham Rd	Hidden Valley Dr - Old Forge Dr	Little Rock	Pulaski	Local Road	0	5	677	682	0	0
S University Ave (SB)	US 630 - Broadmoor Dr	Little Rock	Pulaski	Local Road	1	4	638	643	1	0
Kanis Rd	Westside Dr - Rock Creek	Little Rock	Pulaski	Local Road	2	7	199	208	2	0
John F Kennedy Blvd (SH 107)	Kierre Dr - Toltec Dr	North Little Rock	Pulaski	State Route	0	5	237	242	1	0
Roosevelt Rd (SH 365)	Broadway St - I-30 (NB)	Little Rock	Pulaski	State Route	0	6	340	346	0	0
Pike Ave (SH 365)	W Pershing Blvd - W 11th St	North Little Rock	Pulaski	State Route	1	3	113	117	3	0
SH 107	Sumner Cemetery Rd- Roderweis Rd		Pulaski	State Route	2	4	35	41	1	0
Colonel Glenn Rd (US 70)	Old Stage Coach Rd - Whitfield St	Little Rock	Pulaski	State Route	0	8	216	224	0	0
Old Stage Coach Rd (SH 5)	Herndon Rd - Colonel Glenn Rd	Little Rock	Pulaski	State Route	1	6	104	111	2	0
W Roosevelt Rd (US 70)	Booker St - Dr Martin Luther King Dr	Little Rock	Pulaski	State Route	1	5	150	156	1	0
N 1st St (SH 161)	John Harden Dr - Stonewall Dr	Jacksonville	Pulaski	State Route	1	3	307	311	1	0
Camp Robinson Rd (SH 176)	W 44th St - Bluebell Dr	North Little Rock	Pulaski	State Route	1	4	201	206	1	0
John F Kennedy Blvd (SH 107)	E E Ave - Hardee's Dwy	North Little Rock	Pulaski	State Route	1	4	347	352	0	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Pulaski County Continued											
Y	0.25	0.25	1	16	0.0	5.0	25	7.50	4	2.5	60.0
Y	0.25	0.50	6	4	10.0	5.0	25	7.50	3	5	59.5
Y	0.25	0.25	0	10	5.0	7.5	25	7.50	4	0	59.0
Y	0.50	0.00	4	4	15.0	2.5	25	5.00	5	2.5	59.0
Y	0.50	0.25	1	7	15.0	0.0	25	5.00	4	2.5	58.5
Y	1.00	0.25	3	7	15.0	2.5	25	2.50	4	2.5	58.5
Y	1.00	0.25	2	13	5.0	5.0	25	2.50	4	2.5	57.0
Y	0.25	0.00	1	7	5.0	2.5	25	7.50	5	2.5	54.5
Y	0.25	0.25	2	7	7.5	0.0	25	7.50	4	2.5	53.5
Y	0.25	0.25	1	4	2.5	7.5	25	7.50	4	2.5	53.0
Y	0.00	0.00	2	7	0.0	2.5	25	10.00	5	2.5	52.0
Y	0.50	0.25	3	10	5.0	0.0	25	5.00	4	2.5	51.5
Y	1.00	0.25	1	10	2.5	5.0	25	2.50	4	2.5	51.5
Y	0.25	0.25	1	7	2.5	2.5	25	7.50	4	2.5	51.0
Y	0.25	0.50	0	4	7.5	2.5	25	7.50	3	0	49.5
Y	0.50	0.00	0	7	5.0	2.5	25	5.00	5	0	49.5
Y	0.50	0.25	0	7	7.5	0.0	25	5.00	4	0	48.5

General Segment Information					Guiding Factors of Segment Selection (2018 - 2022 Crash Data)					
Road Name	Approximate Segment Boundary	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Saline County										
W Carpenter St/N East St (SH 35)	Kenwood Rd – E Sevier St	Benton	Saline	State Route	0	8	299	307	0	0
Military Rd	Old Congo Rd – Alcoa Blvd	Benton	Saline	Local Road	2	5	331	338	1	0
SH 9	Alum Fork Ranch Rd - Sulphur Springs Rd		Saline	State Route	1	2	17	20	0	0
SH 5	Whiteway Dr - Private Logging Rd		Saline	State Route	2	1	10	13	0	0
Friendship Rd	Friendship Rd - SH 35		Saline	Local Road	0	1	2	3	0	0
Shaw Bridge Rd	Bridge Cutoff Rd - Friendship Rd		Saline	Local Road	1	0	9	10	0	0
SH 35	Dale Rd - Mud Creek		Saline	State Route	0	1	8	9	0	0
SH 35	Mud Creek - CR 723		Saline	State Route	0	1	3	4	0	0
Market St	Carpenter St/SH 35 - Elm St	Benton	Saline	Local Road	0	2	81	83	0	0
Shaw Bridge Rd	Friendship Rd - Friendship Rd		Saline	Local Road	0	0	0	0	0	0
Sevier St	N Richards St - N East St	Benton	Saline	Local Road	0	2	49	51	1	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Saline County											
Y	0.50	0.00	5	10	7.5	0.0	25	5.00	5	5	57.5
Y	0.50	0.50	1	10	7.5	2.5	25	5.00	3	2.5	55.5
Y	0.00	0.00	0	4	0.0	0.0	25	10.00	5	0	44.0
Y	0.00	0.00	0	4	0.0	0.0	25	10.00	5	0	44.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.00	0.00	0	1	0.0	0.0	25	10.00	5	0	41.0
Y	0.25	0.25	2	1	0.0	0.0	25	7.50	4	2.5	40.0
Y	0.00	0.00	0	0	0.0	0.0	25	10.00	5	0	40.0
Y	0.25	0.25	0	1	0.0	2.5	25	7.50	4	0	40.0



Scoring Matrix County Level High Injury Intersections Prioritized for Safety Improvements

General Intersection Information				Guiding Factors of Intersection Selection (2018 - 2022 Crash Data)					
Intersection Name	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Faulkner County									
Elsinger Blvd and E Oak St (US 64)	Conway	Faulkner	Both	0	6	156	162	0	1
Harkrider St (US 65) and Oak St (US 64)	Conway	Faulkner	Both	0	4	121	125	0	1
Central Landing Blvd and E Oak St (US 64)	Conway	Faulkner	Both	1	2	174	177	1	0
S Broadview St (US 65) and Green Valley Dr/Church St (SH 25)	Greenbrier	Faulkner	Both	0	4	62	66	0	0
Harkrider St (US 65) and College Ave	Conway	Faulkner	Both	0	3	71	74	0	0
Harkrider St (US 65) and Robins St	Conway	Faulkner	Both	0	3	37	40	2	0
E German Ln and E Oak St (US 64)	Conway	Faulkner	Both	0	2	162	164	1	0
Towne Center Dr and Skyline Dr (US 65)	Conway	Faulkner	Both	0	4	119	123	0	0
Country Club Rd and W Tyler St	Conway	Faulkner	Local Road	1	1	14	16	1	0
Donaghey Ave and Tyler St	Conway	Faulkner	Local Road	0	2	49	51	0	0
Country Club Rd and Prince St	Conway	Faulkner	Local Road	0	2	36	38	0	0
Lonoke County									
Bill Foster Memorial Hwy (SH 5) and S 2nd St (SH 367)	Cabot	Lonoke	Both	1	3	191	195	0	0
2nd St (SH 367) and Moore St (SH 319)	Ward	Lonoke	Both	0	2	17	19	0	0
John Harden Dr/S Rockwood Rd and SH 5	Cabot	Lonoke	Both	0	2	73	75	0	0
SH 5 and Ballard Rd		Lonoke	Both	1	1	14	16	0	0
SH 5 and SH 319		Lonoke	State Route	1	1	40	42	0	0
Mount Tabor Rd and Mount Tabor Rd/Henrietta Dr		Lonoke	Local Road	0	2	6	8	0	0
Dogwood Ln and Mount Tabor Rd/Henrietta Dr		Lonoke	Local Road	0	2	6	8	0	0
Dogwood Ln and Mount Carmel Rd (SH 321)		Lonoke	Both	0	2	19	21	0	0
Pulaski County									
Geyer Springs Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	0	8	215	223	2	0
S University Ave and Asher Ave (US 70)	Little Rock	Pulaski	Both	1	7	314	322	2	0
S University Ave (NB) and W 53rd St	Little Rock	Pulaski	Local Road	1	6	98	105	4	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Faulkner County											
Y	0.50	0.25	1	25	9	5	25	5.0	4	2.5	75.5
Y	0.50	0.25	0	15	7	5	25	5.0	4	0.0	61.0
Y	1.00	0.25	1	10	9	5	25	2.5	4	2.5	58.0
Y	0.25	0.25	1	15	3	0	25	7.5	4	2.5	57.0
Y	0.25	0.50	8	10	3	0	25	7.5	3	5.0	53.5
Y	1.00	0.50	0	10	1	10	25	2.5	3	0.0	51.5
Y	0.50	1.00	0	5	9	5	25	5.0	1	0.0	50.0
Y	Far	0.50	0	15	7	0	25	0.0	3	0.0	50.0
Y	0.25	1.00	0	5	0	5	25	7.5	1	0.0	43.5
Y	0.50	0.50	3	5	1	0	25	5.0	3	2.5	41.5
Y	0.50	1.00	0	5	1	0	25	5.0	1	0.0	37.0
Lonoke County											
N	0.25	Far	0	15	11	0	0	7.5	0	0.0	33.5
Y	Far	0.50	0	5	0	0	25	0.0	3	0.0	33.0
N	0.50	Far	0	5	3	0	0	5.0	0	0.0	13.0
N	0.50	Far	0	5	0	0	0	5.0	0	0.0	10.0
N	Far	Far	0	5	1	0	0	0.0	0	0.0	6.0
N	Far	Far	0	5	0	0	0	0.0	0	0.0	5.0
N	Far	Far	0	5	0	0	0	0.0	0	0.0	5.0
N	Far	Far	0	5	0	0	0	0.0	0	0.0	5.0
Pulaski County											
Y	0.25	0.50	5.00	25.00	13	10	25.0	7.5	3	5.00	88.5
Y	0.5	0.50	4.00	25.00	15	10	25.0	5.0	3	2.50	85.5
Y	0.25	0.25	0.00	25.00	5	15	25.0	7.5	4	0.00	81.5



General Intersection Information				Guiding Factors of Intersection Selection (2018 - 2022 Crash Data)					
Intersection Name	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Pulaski County Continued									
S University Ave (NB & SB) and Shopping Center Dwys	Little Rock	Pulaski	Local Road	2	5	103	110	2	1
University Ave and W Markham St	Little Rock	Pulaski	Local Road	1	2	235	238	3	0
John Barrow Rd and Kanis Rd	Little Rock	Pulaski	Local Road	1	5	195	201	1	0
S Woodrow St and W 12th St	Little Rock	Pulaski	Local Road	1	4	64	69	4	0
Fair Park Blvd/Mabelvale Pike and Asher Ave (US 70)	Little Rock	Pulaski	Both	0	5	162	167	1	0
S University Ave (NB & SB) and Mabelvale Pike	Little Rock	Pulaski	Local Road	1	6	155	162	0	0
N Chicot Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	0	5	321	326	0	0
Barrow Rd and W 36th St	Little Rock	Pulaski	Local Road	2	4	110	116	1	0
Asher Ave (US 70) and W 29th St	Little Rock	Pulaski	Both	2	2	49	53	3	0
Geyer Springs Rd and Young Rd	Little Rock	Pulaski	Local Road	0	4	189	193	0	0
Geyer Springs Rd and I-30 W	Little Rock	Pulaski	Both	0	4	177	181	0	0
S Bryant St and Asher Ave (US 70)	Little Rock	Pulaski	Both	0	4	104	108	0	1
S University Ave (NB & SB) and Forbing Rd	Little Rock	Pulaski	Local Road	0	5	76	81	2	0
I-30 W (SB) and E 9th St	Little Rock	Pulaski	Both	1	2	148	151	1	0
Stanton Rd and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	1	4	80	85	1	0
S University Ave (NB & SB) and W 65th St (EB & WB)	Little Rock	Pulaski	Local Road	0	2	252	254	1	0
W 36th St and Asher Ave (US 70)	Little Rock	Pulaski	Both	1	2	138	141	0	0
S University Ave (NB & SB) and I-30 E	Little Rock	Pulaski	Local Road	0	4	130	134	0	0
I-30 E (NB) and Baseline Rd (SH 338)	Little Rock	Pulaski	State Route	1	3	114	118	0	1
Colonel Glenn Rd (US 70) and Shoppy Center Dwy	Little Rock	Pulaski	Both	0	2	106	108	1	0
W Daisy L Gatson Bates Dr and Dr Martin Luther King Dr	Little Rock	Pulaski	Local Road	0	2	24	26	2	0
Bass Pro Pkwy and Otter Creek Rd/Mabelvale West Rd	Little Rock	Pulaski	Local Road	0	4	112	116	0	0
Fair Park Blvd and W 12th St	Little Rock	Pulaski	Local Road	0	3	119	122	1	0
W Markham St and N Pine St	Little Rock	Pulaski	Local Road	0	2	44	46	1	0
W Markham St and N Cedar St	Little Rock	Pulaski	Local Road	0	2	55	57	1	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Pulaski County Continued											
Y	0.5	0.25	0.00	25.00	5	15	25.0	5.0	4	0.00	79.0
Y	0.5	0.25	2.00	10.00	13	15	25.0	5.0	4	2.50	74.5
Y	1	1.00	2.00	25.00	11	5	25.0	2.5	1	2.50	72.0
Y	0.5	0.25	0.00	20.00	3	15	25.0	5.0	4	0.00	72.0
Y	0.25	1.00	2.00	20.00	9	5	25.0	7.5	1	2.50	70.0
Y	0.25	0.50	0.00	25.00	9	0	25.0	7.5	3	0.00	69.5
Y	1	0.50	2.00	20.00	15	0	25.0	2.5	3	2.50	68.0
Y	1	0.50	2.00	25.00	5	5	25.0	2.5	3	2.50	68.0
Y	0.5	1.00	4.00	15.00	1	15	25.0	5.0	1	2.50	64.5
Y	0.5	0.50	2.00	15.00	11	0	25.0	5.0	3	2.50	61.5
Y	0.5	0.50	2.00	15.00	11	0	25.0	5.0	3	2.50	61.5
Y	0.5	0.25	2.00	15.00	5	5	25.0	5.0	4	2.50	61.5
Y	1	1.00	0.00	20.00	3	10	25.0	2.5	1	0.00	61.5
Y	0.25	0.25	0.00	10.00	9	5	25.0	7.5	4	0.00	60.5
Y	1	1.00	1.00	20.00	3	5	25.0	2.5	1	2.50	59.0
Y	0.5	0.25	0.00	5.00	15	5	25.0	5.0	4	0.00	59.0
Y	0.5	0.25	4.00	10.00	7	0	25.0	5.0	4	2.50	53.5
Y	1	0.25	0.00	15.00	7	0	25.0	2.5	4	0.00	53.5
Y	1	1.00	0.00	15.00	5	5	25.0	2.5	1	0.00	53.5
Y	0.5	0.25	2.00	5.00	5	5	25.0	5.0	4	2.50	51.5
Y	0.25	0.25	0.00	5.00	0	10	25.0	7.5	4	0.00	51.5
Y	1	1.00	1.00	15.00	5	0	25.0	2.5	1	2.50	51.0
Y	Far	0.25	0.00	10.00	7	5	25.0	0.0	4	0.00	51.0
Y	0.25	0.25	2.00	5.00	1	5	25.0	7.5	4	2.50	50.0
Y	0.25	0.25	1.00	5.00	1	5	25.0	7.5	4	2.50	50.0



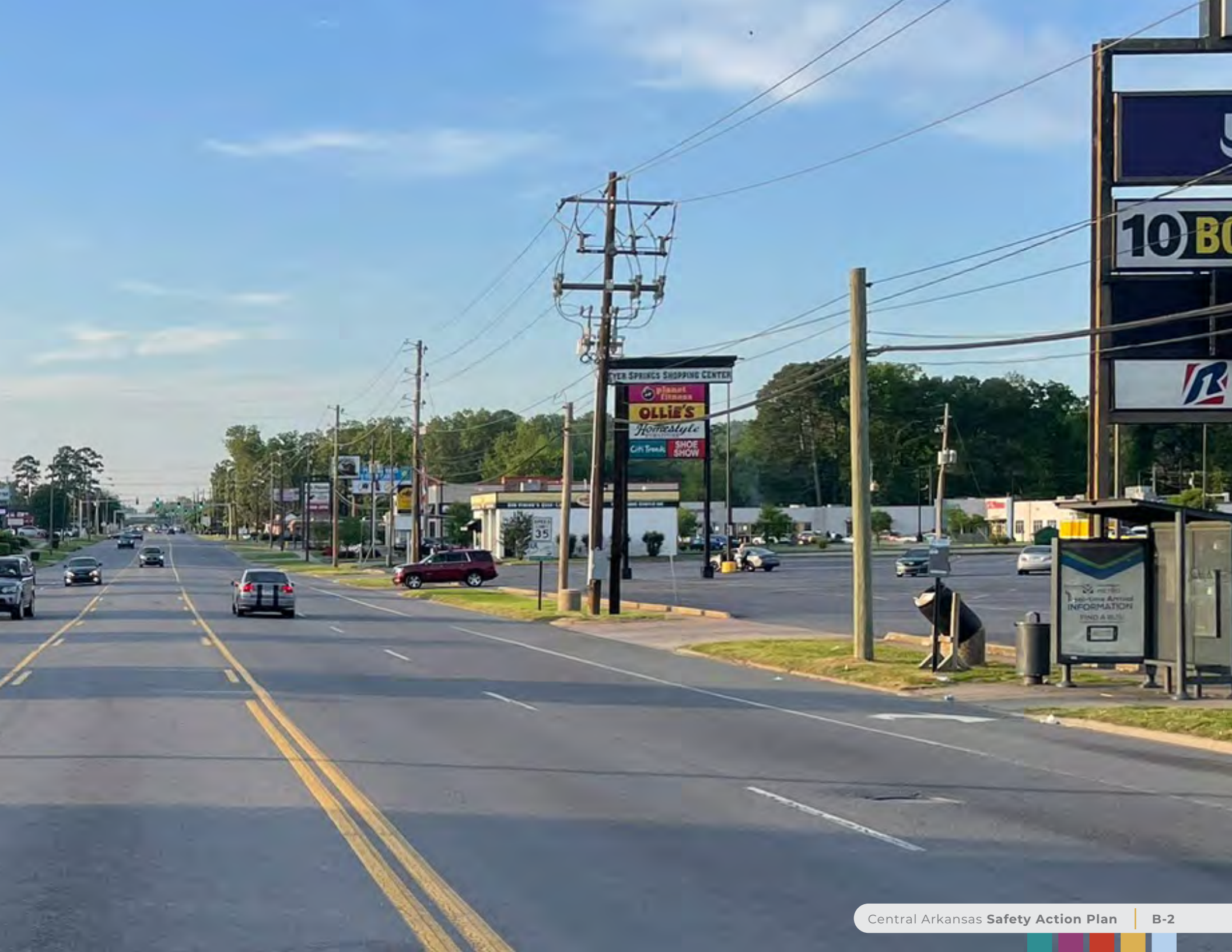
General Intersection Information				Guiding Factors of Intersection Selection (2018 - 2022 Crash Data)					
Intersection Name	City	County	State Route or Local Road	# of Fatal Crashes	# of Serious Injury Crashes	# of Other Crashes	Total # of Crashes within Segment	Pedestrian Fatal and Serious Injury Crashes	Bicyclist Fatal and Serious Injury Crashes
Pulaski County Continued									
Barrow Rd and Asher Ave (US 70)	Little Rock	Pulaski	Both	0	3	98	101	0	0
Mabelvale Cutt Off Rd and Chicot Rd	Little Rock	Pulaski	Local Road	0	2	83	85	1	0
S University Ave and W 28th St	Little Rock	Pulaski	Local Road	0	2	67	69	1	0
I-30 E (NB) and E 9th St (IH 30E)	Little Rock	Pulaski	Both	0	2	126	128	0	0
N James St and TP White Dr	Jacksonville	Pulaski	Local Road	2	2	72	76	0	0
Dalley Dr and Baseline Rd (SH 338)	Little Rock	Pulaski	Both	2	0	33	35	0	1
W 65th St and Lancaster Rd	Little Rock	Pulaski	Local Road	0	2	31	33	1	0
S University Ave and W 32nd St	Little Rock	Pulaski	Local Road	0	2	70	72	0	0
Shackleford Rd and I-630/Financial Pkwy (EB & WB)	Little Rock	Pulaski	Both	0	5	260	265	0	0
S University Ave and Lakeshore Dr	Little Rock	Pulaski	Local Road	0	2	70	72	0	0
N 1st St/Evans St and T.P. White Dr (SH 161)	Jacksonville	Pulaski	Both	0	2	110	112	0	0
N Smothers St and E Broadway St (US 70)	North Little Rock	Pulaski	Both	0	2	30	32	0	1
Saline County									
N Market St and W Carpenter St (SH 35)	Benton	Saline	Both	0	4	32	36	0	0
E Carpenter St/N East St (SH 35) and Military Rd (SH 88)	Benton	Saline	Both	0	2	120	122	0	0
N Market St and W Sevier St	Benton	Saline	Local Road	0	2	23	25	1	0
Military Rd and US Post Office Dwy	Benton	Saline	Local Road	1	2	50	53	0	0
Landers Dr and Military Rd	Benton	Saline	Local Road	1	1	62	64	0	0
Springhill Rd and SH 5	Bryant	Saline	Both	0	3	94	97	1	0
US 167 (NB & SB) and Woodson Lateral Rd		Saline	Both	0	3	24	27	0	0
US 67 and Pawnee Dr		Saline	Both	0	2	25	27	0	0
High Point Dr/Old 88 Rd and US 70		Saline	Both	1	1	2	4	0	0
Springlake Rd and US 167 (EB & WB)		Saline	Both	0	2	6	8	0	0

Other Factors Considered				Selection Scoring							Total Score
Within a Disadvantaged Census Tract	Proximity to Schools	Proximity to Parks	# of Public Comments	Fatal and Serious Injury Crash Count (25 pts)	Total Crash Count Score (15 pts)	Vulnerable Road User Crash Score (15 pts)	Disadvantaged Census Tract Score (25 pts)	Proximity to Schools Score (10 pts)	Proximity to Parks Score (5 pts)	Public Input Score (5 pts)	
Pulaski County Continued											
Y	1	0.25	2.00	10.00	5	0	25.0	2.5	4	2.50	49.0
Y	0.5	0.50	3.00	5.00	3	5	25.0	5.0	3	2.50	48.5
Y	0.5	0.50	1.00	5.00	3	5	25.0	5.0	3	2.50	48.5
Y	0.25	0.25	0.00	5.00	7	0	25.0	7.5	4	0.00	48.5
Y	1	0.50	0.00	15.00	3	0	25.0	2.5	3	0.00	48.5
Y	0.5	0.25	2.00	5.00	1	5	25.0	5.0	4	2.50	47.5
Y	0.5	0.25	1.00	5.00	1	5	25.0	5.0	4	2.50	47.5
Y	0.25	0.25	2.00	5.00	3	0	25.0	7.5	4	2.50	47.0
N	0.5	0.25	2.00	20.00	15	0	0.0	5.0	4	2.50	46.5
Y	0.25	0.50	2.00	5.00	3	0	25.0	7.5	3	2.50	46.0
Y	0.25	0.50	0.00	5.00	5	0	25.0	7.5	3	0.00	45.5
Y	0.5	0.25	0.00	5.00	1	5	25.0	5.0	4	0.00	45.0
Saline County											
Y	1.00	0.25	2	15	1	0	25	2.5	4	2.5	50.0
Y	1.00	0.25	2	5	7	0	25	2.5	4	2.5	46.0
Y	0.50	0.25	0	5	0	5	25	5.0	4	0.0	44.0
Y	0.50	1.00	0	10	1	0	25	5.0	1	0.0	42.0
Y	0.50	Far	0	5	3	0	25	5.0	0	0.0	38.0
N	1.00	1.00	0	10	5	5	0	2.5	1	0.0	23.5
N	Far	1.00	1	10	0	0	0	0.0	1	2.5	13.5
N	Far	1.00	0	5	0	0	0	0.0	1	0.0	6.0
N	Far	Far	0	5	0	0	0	0.0	0	0.0	5.0
N	Far	Far	0	5	0	0	0	0.0	0	0.0	5.0

APPENDIX B

LOCATION-SPECIFIC RECOMMENDATION PROJECT SHEETS





Roadway Oak Street (US 64)

Segment: From Harkrider St to German Ln • Jurisdiction: City of Conway



Project Location Discussion

This two mile section of Oak St consists of two HIN segments and two High Injury Intersections, at Harkrider St and Elsinger Blvd, that scored in the top 20 segments and top 20 intersections for safety improvement needs in the Region. This section of Oak St has numerous access points to businesses and at intersecting minor streets. Most of the public comments along this section of Oak St were about congestion and difficulties with turning left onto and off of Oak St. Drivers find it hard to turn left at signalized

intersections and business driveways. Over 40 percent of the fatal and serious injury crashes along this section of Oak St were angle crashes and over 60 percent of all crashes were at intersections, both likely due to the high concentration of access points.

One of the two fatal crashes at this project location involved a pedestrian and of the 20 serious injury crashes, five involved a pedestrian or bicyclist, likely due to gaps in sidewalk at driveways and the lack of protected crossings and bike facilities. Nearly a quarter of all crashes involving a pedestrian

or bicyclist were reported between dusk and dawn. Field observations and public comments lead to the identification of insufficient lighting along this section of Oak St. The crash data for all crash types supported this, with over 40 percent of the fatal and serious injury crashes occurred between dusk and dawn.

Project Recommended Countermeasures

All of the countermeasures identified for the Oak St project are recommended to address crashes that occur in the dark or at intersections and commercial driveways, crashes involving pedestrians and bicyclists, and left-turn operations. Due to the high number of public comments, serious injury crashes, crashes involving vulnerable road users, and overall high total number of crashes between the intersections of Oak St at Amity Rd and Elsinger Blvd, a more detailed road safety audit (RSA) is recommended for these intersections to look more closely at the existing conditions to identify site specific countermeasures that may have a greater impact on improving safety and operations.

Oak Street Ahead! is the City of Conway's plan for improvements along Oak St, developed by studying the transportation, land use, and urban design conditions. This plan was adopted on March 28, 2023 and includes many of the countermeasures recommended along this corridor in this Central Arkansas Safety Action Plan, such as consolidating access points. Most of the businesses along Oak St between Harkrider St and Gum St can be accessed via Merriman St or Polk St.



The Central Arkansas Regional Greenway Plan proposes a greenway trail along Little Creek that could provide connectivity to the bike lanes and improved sidewalk recommended in this Oak St project. A planned grade separated crossing at this greenway connection has been funded and will allow pedestrians and bicyclists to safely cross Oak St where there is limited existing infrastructure for vulnerable road users. This may also help alleviate the heavy vehicle congestion near the intersections at Amity Rd and Elsinger Blvd by removing the need for a protected crossing phase for pedestrians.

Upcoming construction along German Ln will include the addition of sidewalk along both sides of German Ln between Oak St and Mockingbird Ln. To the north of Oak St, E. German Ln only has sidewalk along the east side, however a higher density of homes and apartments, and Simon Middle School exist on the west side with no way to safely cross to the sidewalk between the signals at



Oak St and Siebenmorgen Rd/Rumker Rd. Therefore, it is recommended that sidewalk be installed along the west side of E. German Ln north of Oak St to support pedestrian access to neighborhoods and Simon Middle School.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bikeway (Separated from Vehicular Traffic)	Entire Section
High Visibility Crosswalk Pavement Markings	9 Signalized Intersections
Add/Improve Sidewalk	German Ln
Sidewalk Buffer	Entire Section
Install Pedestrian Signal at Signalized Intersection	Central Landing Blvd
Grade Separated Crossing (Currently Planned and Funded)	Little Creek
Vehicular Countermeasures	
Retroreflective Backplates	4 Signalized Intersections
Access Management	Entire Section
Safety Lighting	Entire Section
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Oak St where there is a stop condition and sidewalk)	Entire Section
Traffic Signal	1st St
Intersection Geometry Adjustments	Central Landing Blvd Northbound Approach
Other Countermeasures	
Further Study Needed (RSA)	Intersections at Amity Rd and Elsinger Blvd

Roadway John Barrow Road

Segment: From Carti Way to 36th St • Jurisdiction: City of Little Rock



Project Location Discussion

This 1.5 mile section of John Barrow Rd consists of one HIN segment that scored in the top 20 HIN segments with safety improvement needs and connects two of the top 20 High Injury Intersections with safety improvement needs in the Region, at Kanis Rd and at 36th St.

Most of the public comments along this section of John Barrow Rd were about the lack of designated crossing locations near Rock Region Metro bus stops and for students walking to and from nearby schools. There are no signalized crossings within the 0.55 mile gap between the traffic signals Kanis Rd and Flanigan Ln or within

the 0.8 mile gap between the traffic signals at Flanigan Ln and 36th St. Rock Region Metro has at total of 26 bus stops along both sides of John Barrow Rd between Kanis Rd and 36th St that serve multiple schools and neighborhoods.

Although the access points are less dense along this section of John Barrow Rd than most of the other project locations, there are multiple driveways within the vicinity of the intersection at Kanis Rd and 36th St. This is likely a key contributor to the 60 percent of all crashes within this project's extents having occurred at an intersection, including two fatal and nine serious injury crashes. Over 38 percent were rear-end crashes and

almost 31 percent were angle crashes. Drivers may be speeding or following too close and are not prepared for a vehicle to pull into the intersection approach from a driveway or do not slow down in time when the vehicle in front of them unexpectedly turns into a driveway instead of continues to the intersection.

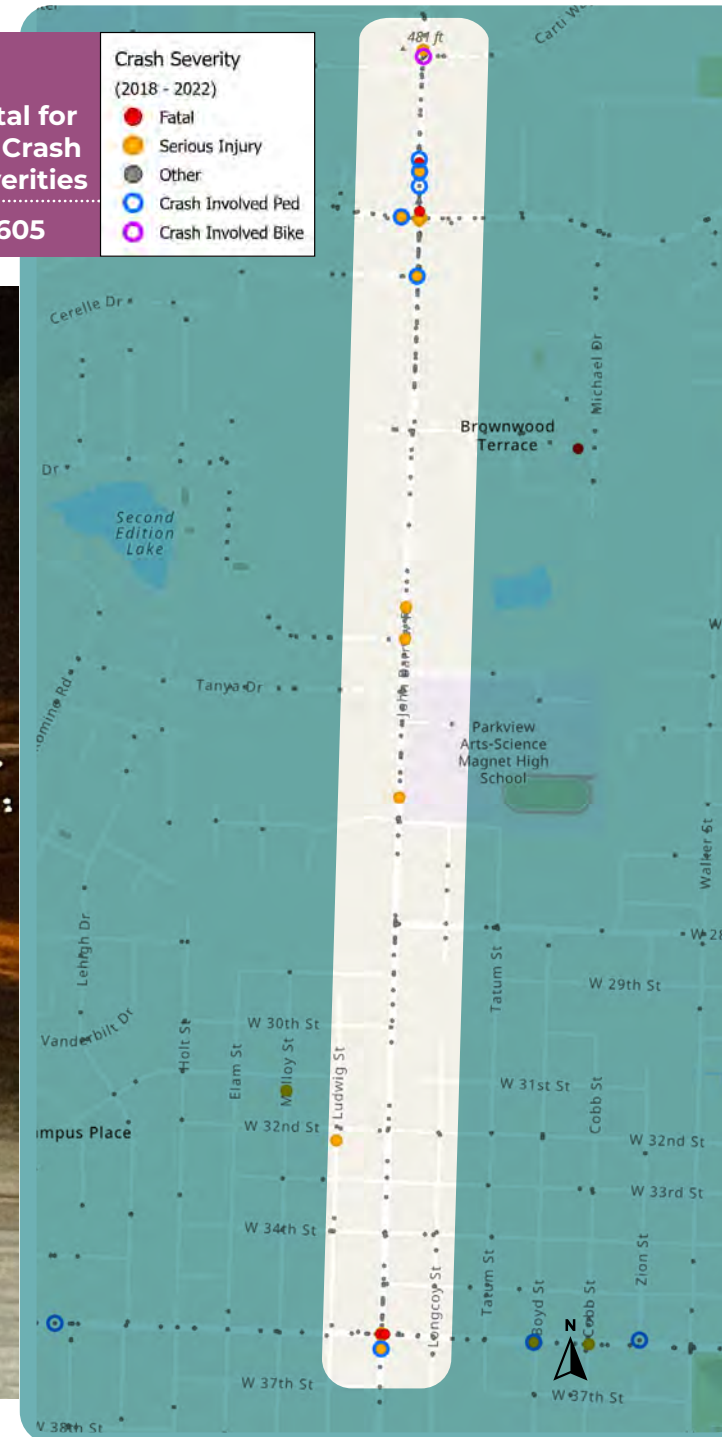
Project Recommended Countermeasures

All of the countermeasures identified for the John Barrow Rd project are recommended to address crashes that occur at intersections and along the bus route, crashes involving pedestrians and bicyclists, and crashes that occur at night.

Drivers may be speeding or following too close and are not prepared for a vehicle to pull into the intersection approach from a driveway.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bikeway (Separated from Vehicular Traffic)	Entire Section
High Visibility Crosswalk Pavement Markings	2 Signalized Intersections
Rectangular Rapid Flashing Beacon (RRFB) with Pedestrian Refuge Medians/Islands	2 Midblock Crossings
Sidewalk Buffer	Where Possible
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Retroreflective Backplates	3 Signalized Intersections
Access Management	2 Intersections
Safety Lighting	Entire Section
Adjust Signal Timings (Add Leading Pedestrian Interval (LPI))	36th St
Transit Countermeasures	
Bus Stop Bulb-Outs	Entire Section

Crash Severity				Total for All Crash Severities
Count Within Project Area	4	15	50	605



Intersection Woodrow Street & 12th Street

Intersection: Woodrow St and 12th • Jurisdiction: City of Little Rock



Project Location Discussion

This intersection of Woodrow St and 12th St is the only High Injury Intersection that scored on the top 20 intersections in the Region for safety improvement needs that was not located along one of the HIN segments that scored in the top 20. This intersection provides access to local businesses and neighborhoods, contains bus stops for Rock Region Metro Route 3, and is near Little Rock Central High School.

Four of the five fatal and serious injury crashes at this intersection involved a pedestrian, likely due to inadequate pedestrian infrastructure at the intersection including worn crosswalk pavement markings and narrow, deteriorating sidewalks with many breaks for driveways.

About 70 percent of all crashes at this intersection were reported between dusk and dawn including four of the five pedestrian crashes. Based on field review the intersection has insufficient lighting, which is likely a key cause of the high frequency of nighttime crashes.

Project Recommended Countermeasures

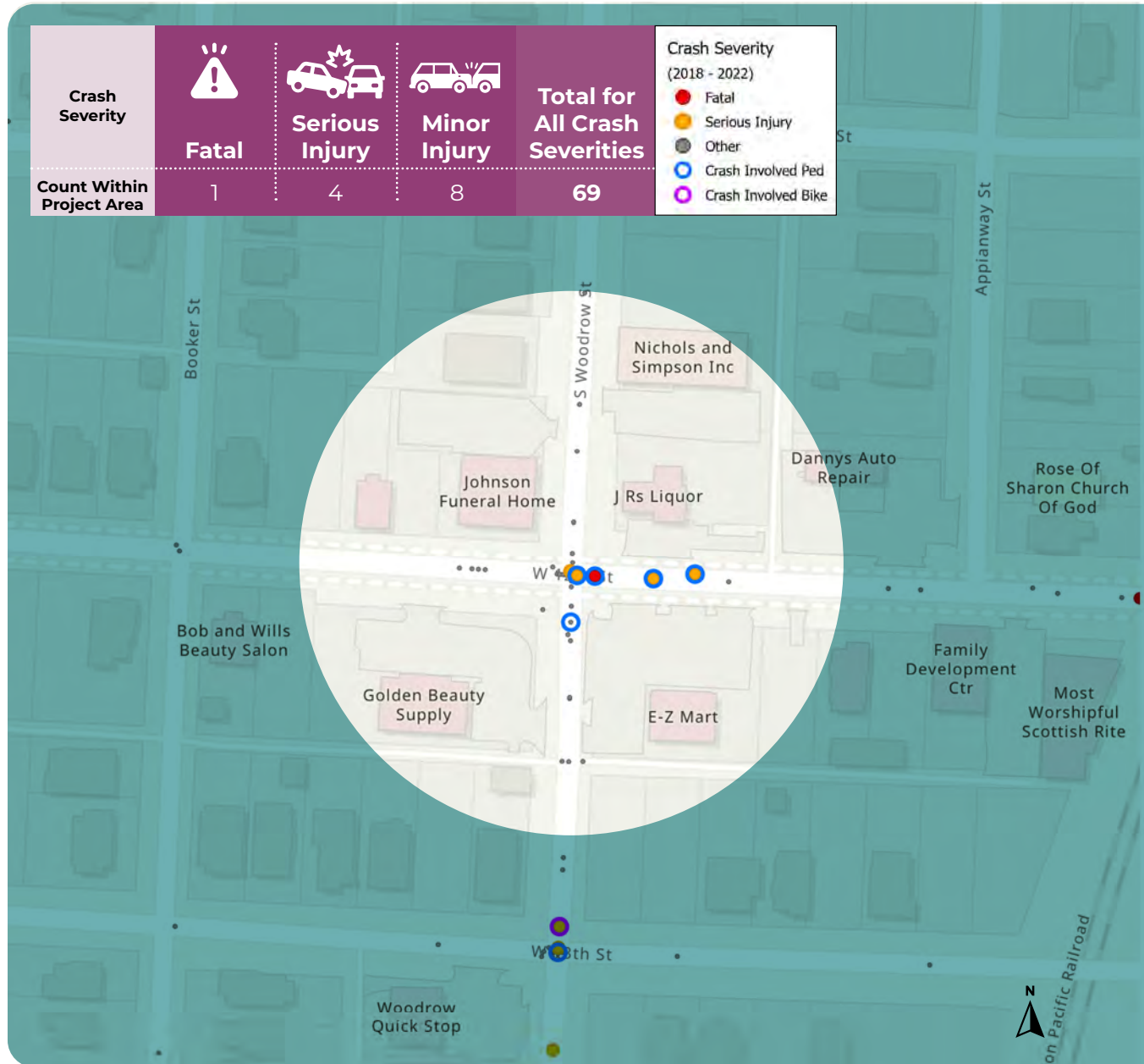
All of the countermeasures identified for this stand-alone intersection project are recommended to improve safety for vulnerable road users that pass through the intersection of Woodrow St and 12th St.

The Central Arkansas Regional Greenway Plan proposes the existing bike lanes along 12th St become part of the greenway and connect to future trails along the Union Pacific Railroad and Johnson St that are also proposed in the Greenway Plan.



About 70 percent of all crashes at this intersection were reported between dusk and dawn including four of the five pedestrian crashes.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bike Lanes	Along Woodrow St
High Visibility Crosswalk Pavement Markings	Entire Intersection
Add/Improve Sidewalk	Along Woodrow St and 12th St
Sidewalk Buffer	Where Possible
Convert Diagonal Ramps to Directional Ramps	Entire Intersection
Vehicular Countermeasures	
Retroreflective Backplates	Entire Intersection
Access Management	Relocate Driveways Away from Intersection
Safety Lighting	Entire Intersection
Add Advance Warning Signage	In Advance of Crossings and Bus Stop



Roadway University Avenue (North Section)

Segment: From Markham St to US 630 • Jurisdiction: City of Little Rock



Project Location Discussion

This half a mile section of University Ave is located north of US 630 and consists of one HIN segments that scored in the top 20 HIN segments and one of the top 20 high injury intersections with safety improvement needs in the Region, located at Markham St. The section has the Park Avenue shopping center along the west side, War Memorial Park along the east side, and medical facilities on both sides.

All four fatal and serious injury crashes that occurred within this project's extents involved a pedestrian, two of which occurred at night. Public comments along this segment noted that it lacks pedestrian infrastructure despite many people walking from the residential areas to the north of Markham St to get to the shops, restaurants, and a park along University Ave. The public also noted that patients, visitors, and doctors from the hospital on the east side tend to cross University Ave directly from the hospital entrance instead of going to either of the signals at Markham St or Midtown Ave.

The most common manner of collision along this section of University Ave was rear-ends, which made up over 44 percent of the crashes. Many of these may be linked to drivers suddenly braking for unexpected pedestrians crossing the roadway outside of a marked crossing. Drivers may also be suddenly braking for a vehicle unexpectedly turning into or out of one of the many shopping center driveways.

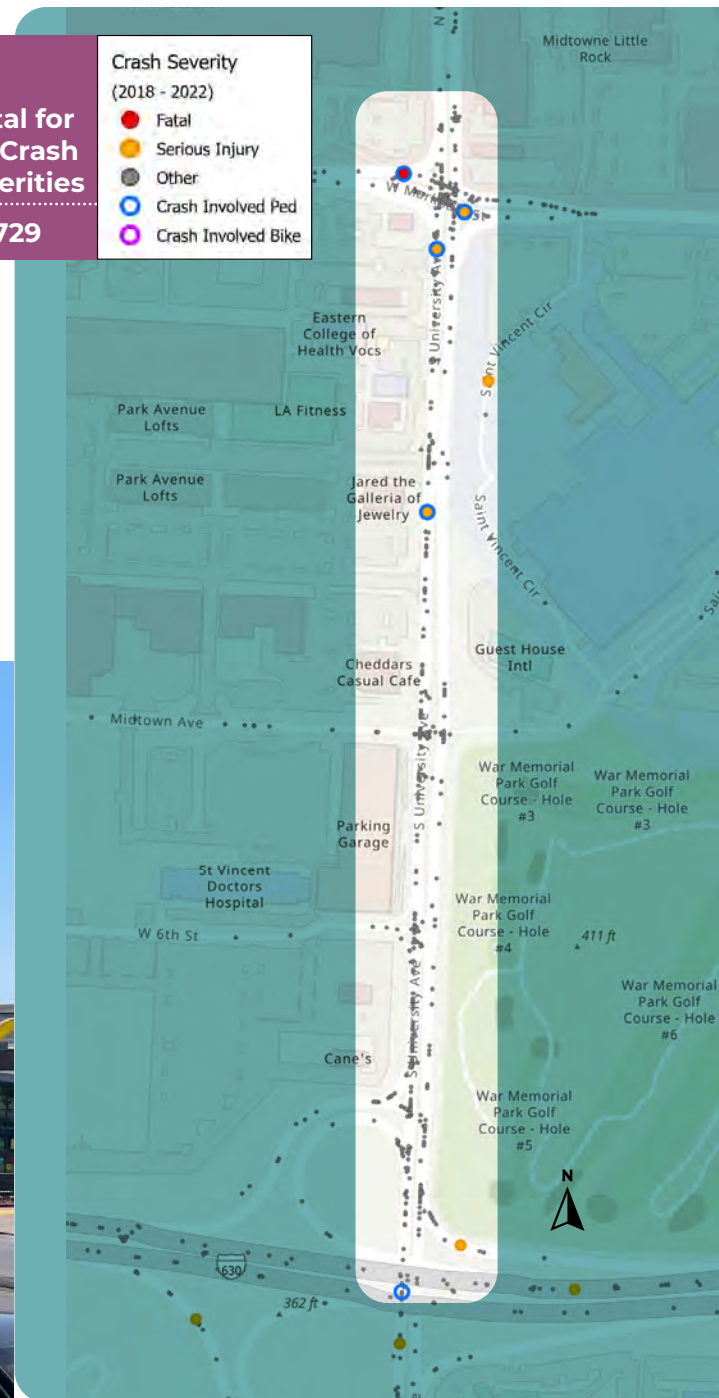
Project Recommended Countermeasures

All of the countermeasures identified for the project along this section of University Ave are recommended to address pedestrian infrastructure safety concerns as well as the high density of access points.



Crash Severity				Total for All Crash Severities
	Fatal	Serious Injury	Minor Injury	
Count Within Project Area	1	3	30	729

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
High Visibility Crosswalk Pavement Markings	2 Signalized Intersections
Vehicular Countermeasures	
Retroreflective Backplates	2 Signalized Intersections
Access Management	Entire Section, Particularly Around Markham St Intersection
Safety Lighting	Entire Section



Roadway University Avenue (UALR Section)

Segment: From Berkshire Dr to Colonel Glenn Rd/Asher Ave • Jurisdiction: City of Little Rock



Project Location Discussion

This one mile section of University Ave consists of one the top 20 HIN segments and the second highest scoring High Injury Intersection with safety improvement needs in the Region, which is located at the intersection with Colonel Glenn Rd/Asher Ave. The University of Arkansas at Little Rock (UALR) is located along the east side of this segment, therefore students contribute to a higher volume of pedestrian and bicycle

traffic in the area. Students must cross University Ave and Colonel Glenn Rd/Asher Ave to get to the shops, restaurants, and student housing that border the southwest corner of campus.

Half of all crashes and more than half of all the pedestrian crashes that occurred along this section of University Ave occurred within the intersection of University Ave and Colonel Glenn Rd/Asher Ave. This intersection is large and does not have pedestrian

infrastructure to allow for the safe crossing of vulnerable road users. Public comments stated that pedestrians or bicyclists often cut through parking lots to cross Colonel Glenn Rd and avoid the intersection, which can be seen by the high density of crashes involving pedestrians at the east leg of the intersection.

The nature of the large intersection and the unusual geometry of the eastbound and westbound approaches, as well as the northbound right-turn lane, may be difficult for drivers navigating through the area and be a factor in the many head-on and angle collisions that have occurred at the intersection. The westbound through lane aligns with the eastbound left-turn lane which could cause confusion, especially at night. Field observations found that the entire intersection is lit up with a single highmast light that is no longer functioning. Almost 80 percent of the fatal and serious injury crashes along this project area occurred between dusk and dawn, many of which were at the intersection of University Ave and Colonel Glenn Rd/Asher Ave.

Project Recommended Countermeasures

All of the countermeasures identified in the project along this section of University Ave are recommended to address crashes that occur at intersections, crashes involving pedestrians and bicyclists, and crashes that occur at night.

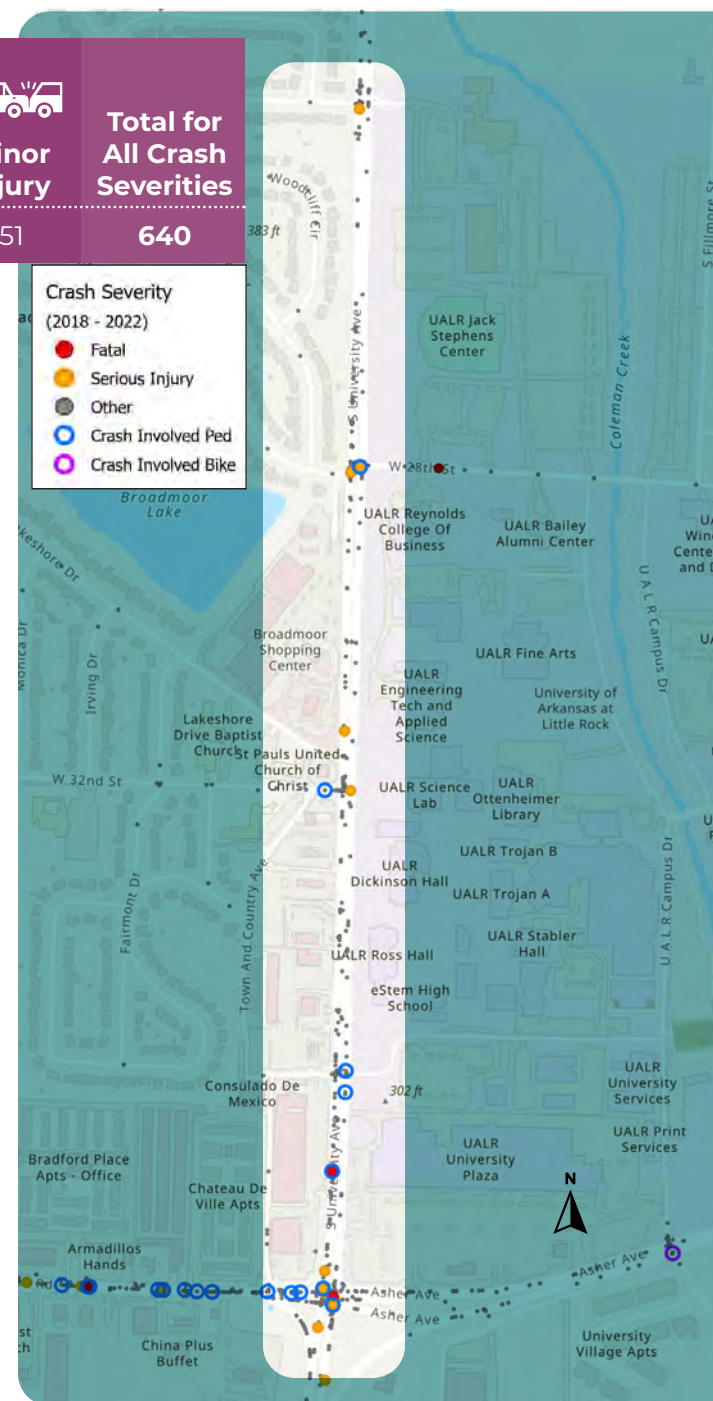
Multiple transportation operations and safety studies have been conducted along University Ave. Many of these studies have focused just on the intersection of University Ave and Colonel Glenn Rd/Asher Ave due



to the intersection being one of the busiest intersections in Arkansas, if not the busiest, and the high frequency of crashes. At the time the Central Arkansas Safety Action Plan was developed, ARDOT anticipated the let date for a pedestrian improvement project at this intersection to be June 2024. This project includes the construction of crosswalk and pedestrian refuge islands across the southbound and eastbound approaches to University Ave and Colonel Glenn Rd/Asher Ave.

Crash Severity	 Fatal	 Serious Injury	 Minor Injury	Total for All Crash Severities
Count Within Project Area	2	12	51	640

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bikeway (Separated from Vehicular Traffic)	Parallel to University Ave Along Campus Dr/Coleman Creek
High Visibility Crosswalk Pavement Markings	4 Signalized Intersections
Pedestrian Refuge Median/Island	Colonel Glenn Rd/ Asher Ave
Add/Improve Sidewalk	Entire Section
Sidewalk Buffer	Where Possible
Convert Existing Pedestrian Signal to Accessible Pedestrian Signal (APS)	3 Signalized Intersections
Install Pedestrian Signal at Signalized Intersection (With APS)	Colonel Glenn Rd/ Asher Ave
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Retroreflective Backplates	4 Signalized Intersections
Access Management	Entire Section
Safety Lighting	Entire Section
Add Advance Warning Signage	Entire Section
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to University Ave where there is a stop condition and sidewalk)	Entire Section
Intersection Reconfiguration	Asher Ave



Roadway **University Avenue (South Section)**

Segment: From Colonel Glenn Rd/Asher Ave to Forbing Rd • Jurisdiction: City of Little Rock



Project Location Discussion

This 2.7 mile section of University Ave consists of five HIN segments that scored in the top 20 HIN segments and six of the top 20 High Injury Intersections with safety improvement needs, including the second highest scoring intersection, located at University Ave and Colonel Glenn Rd/Asher Ave. Note that the discussion for the intersection at University Ave and Colonel Glenn Rd/Asher Ave is included in the project for University Ave

(UALR) and will not be repeated here. The University of Arkansas at Little Rock (UALR) is located to the north of this segment, therefore students contribute to a higher volume of pedestrian and bicycle traffic in the area. This section of University Ave is primarily lined with businesses, surrounded by residential area.

The presence of pedestrian and bicycle facilities along this section of University Ave is inconsistent and lacking. Pedestrians and

bicyclists are frequently observed utilizing the shoulders due to the lack of sidewalk and bike lanes, which has resulted in over a quarter of the fatal and serious injury crashes along this project area involving a pedestrian. More than 80 percent of the crashes involving pedestrians occurred at night, including all of the fatal and serious injury crashes. Six crashes involving pedestrians, four of which were fatal or serious injury crashes, occurred at the intersection of University Ave and W 53rd St. This unsignalized intersection, as well as the signalized intersections at Mabelvale Pike, 65th St, and Forbing Rd provide no infrastructure to support safe travel for vulnerable road users.

These four intersections have complex geometries with angled approaches, multiple channelization islands and medians with breaks for driveways, inconsistent pavement markings, and minimal lighting that may cause to driver confusion. The intersection at Mabelvale Pike experienced one fatal and six serious injury crashes, most of which occurred in daylight. These may have been a result of the unmarked right-turn only lanes and small islands for the signal poles that are within the intersection. Similar conditions exist at all of these intersections.

Project Recommended Countermeasures

All of the countermeasures identified in the project along this section of University Ave are recommended to address crashes that occur at intersections and commercial driveways, crashes involving pedestrians and bicyclists, and crashes that occur at night.

Multiple transportation operations and



safety studies have been conducted along University Ave. Many of these studies have focused just on the intersection of University Ave and Colonel Glenn Rd/Asher Ave due to the intersection being one of the busiest intersections in Arkansas, if not the busiest, and the high frequency of crashes. At the time the Central Arkansas Safety Action Plan was developed, ARDOT anticipated the let date for a pedestrian improvement project at this intersection to be June 2024. This project includes the construction of crosswalk and pedestrian refuge islands across the southbound and eastbound approaches to University Ave and Colonel Glenn Rd/Asher Ave.

The Central Arkansas Regional Greenway Plan proposes a trail along Coleman Creek on the south side of Asher Ave to connect to the existing Fourche Trail along Mabelvale Pike, which could improve pedestrian and bicycle access to student housing and a sports and recreation complex.

Crash Severity				Total for All Crash Severities
	Fatal	Serious Injury	Minor Injury	
Count Within Project Area	10	39	121	1,355

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bikeway (Separated from Vehicular Traffic)	Parallel to University Ave Along Mabelvale Pike
High Visibility Crosswalk Pavement Markings	6 Signalized Intersections
Pedestrian Refuge Medians/Islands	6 Signalized Intersections
Add/Improve Sidewalk	Entire Section
Sidewalk Buffer	Where Possible, Particularly Along Fourche Creek Bridge
Install Pedestrian Signal at Signalized Intersection (With APS)	6 Signalized Intersections
Vehicular Countermeasures	
Retroreflective Backplates	7 Signalized Intersections
Access Management	Entire Section
Safety Lighting	Entire Section
Add Advance Warning Signage	Mabelvale Pike Intersection
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to University Ave where there is a stop condition and sidewalk)	Entire Section and for Lanes at Mabelvale Pike Intersection Approaches
Traffic Signal	53rd St
Intersection Reconfiguration	Colonel Glenn Rd/ Asher Ave



Roadway Colonel Glenn Road / Asher Avenue / Roosevelt Road (US 70)

Segment: From Stannus St to Johnson St • Jurisdiction: City of Little Rock



Project Location Discussion

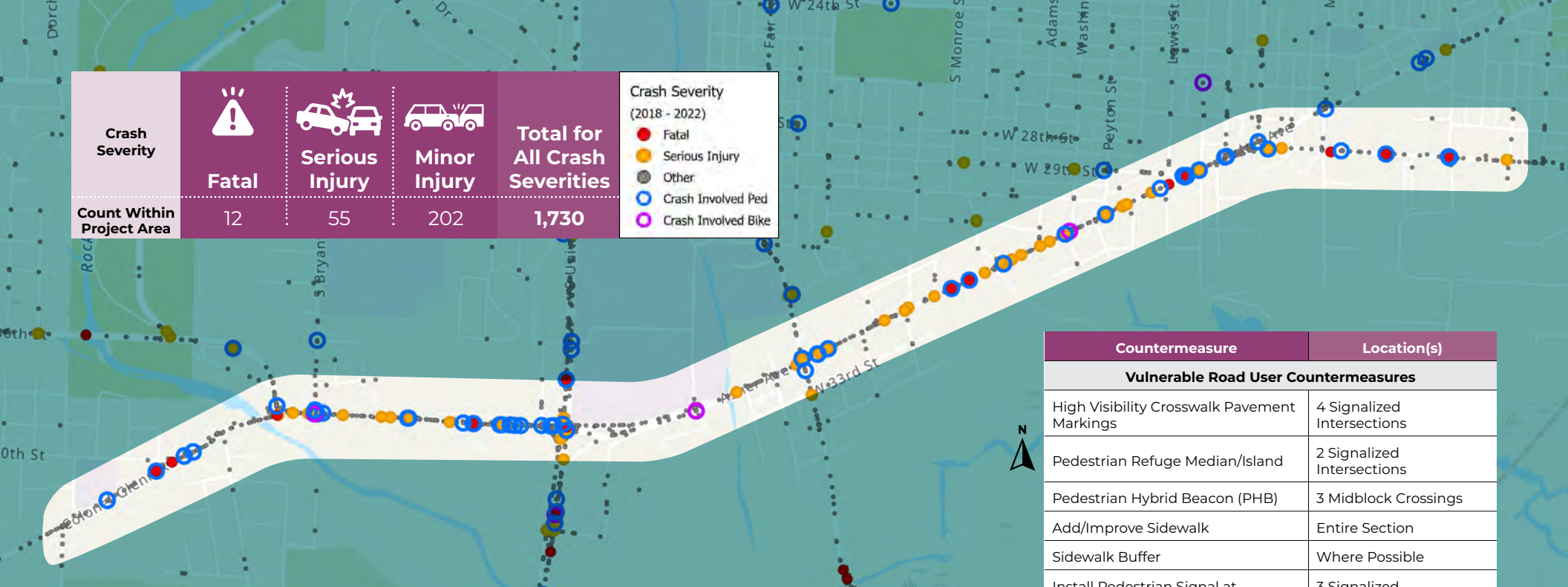
This 3.1 mile section of Colonel Glenn Rd/ Asher Ave/Roosevelt Rd (referred to as “Asher Ave” in this project discussion) is made up of four HIN segments and four High Injury Intersections that scored in the top 20 segments and top 20 intersections in the Region with a need for safety improvements, including the second highest scoring intersection, located at University Ave and Colonel Glenn Rd/Asher Ave. Note that the discussion for the intersection at University Ave and Colonel Glenn Rd/Asher Ave is included in the project for University Ave (UALR) and will not be repeated in detail here.

Asher Ave provides connectivity to these businesses, University of Arkansas Little Rock (UALR) and other schools of varying levels, residential neighborhoods, and recreation centers and parks. This section of Asher Ave is lined with businesses on both sides, except for between University Ave and Fair Park Blvd/Mabelvale Pike where it passes between the UALR on the north side and student housing to the south, which contributes to a higher volume of pedestrian and bicycle traffic in the area. Rock Region Metro Route 14 has many stops along this project location, which also contributes to the high volume of pedestrians and bicycles.

Along this section of Asher Ave, there are

no existing bike lanes and the sidewalks are inadequate, as they are very narrow, over grown, suddenly end, and have numerous breaks at commercial driveways and intersections. The public has expressed concerns regarding the lack of safe crossings for vulnerable road users along this section of Asher Ave, as there are large gaps between signalized intersections with crosswalks. A 0.6 mile gap between crossings extends on either side of the intersection at University Ave, and no crossings exist within the 1.5 mile span between the signal at Fair Park Blvd/Mabelvale Pike and the east end of the project boundary. Public comments stated that pedestrians or bicyclists often cut through parking lots to cross Colonel Glenn Rd and avoid the University Ave intersection, which has no pedestrian infrastructure. This behavior can be seen in the crash data by the high density of crashes involving pedestrians at the east leg of the intersection. These are just a few of the many factors identified in public comments, by field observations, and through crash data analysis that likely resulted in seven of the 12 fatal crashes on this section involving pedestrians.

Over half of all crashes along this section of Asher Ave occurred at intersections. About 37 percent of the fatal and serious injury crashes along this section of Asher Ave occurred at intersections between dusk and dawn, likely caused by the high density of access points, intersection geometries, and lack of lighting. Drivers may be speeding around the curve at the eastbound approach to Bryant St and are not prepared to stop at the traffic signals or for pedestrians in the road due to limited sight distance and poor lighting.



Public comments and field observations identified the intersection where Asher Ave and Roosevelt Rd meet as a challenging intersection for all road users to navigate due to minimal signage, lack of pedestrian and bicycle infrastructure, and abundance of access points and angled intersections.

Project Recommended Countermeasures

All of the countermeasures identified for the Colonel Glenn Rd/Asher Ave/Roosevelt Rd project are recommended to address crashes that occur in the dark or at intersections and commercial driveways, crashes involving pedestrians and bicyclists, and speeding.

Multiple transportation operations and safety studies have been conducted along University Ave. Many of these studies have focused just on the intersection of University Ave and Colonel Glenn Rd/Asher Ave due

to the intersection being one of the busiest intersections in Arkansas, if not the busiest, and the high frequency of crashes. At the time the Central Arkansas Safety Action Plan was developed, ARDOT anticipated the let date for a pedestrian improvement project at this intersection to be June 2024. This project includes the construction of crosswalk and pedestrian refuge islands across the southbound and eastbound approaches to University Ave and Colonel Glenn Rd/Asher Ave.

The Central Arkansas Regional Greenway Plan proposes a trail along Coleman Creek on the south side of Asher Ave to connect to the existing Fourche Trail along Mabelvale Pike, which could improve pedestrian and bicycle access to student housing and a sports and recreation complex.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
High Visibility Crosswalk Pavement Markings	4 Signalized Intersections
Pedestrian Refuge Median/Island	2 Signalized Intersections
Pedestrian Hybrid Beacon (PHB)	3 Midblock Crossings
Add/Improve Sidewalk	Entire Section
Sidewalk Buffer	Where Possible
Install Pedestrian Signal at Signalized Intersection	3 Signalized Intersections
Convert Diagonal Ramps to Directional Ramps	Entire Section
Grade Separated Crossing	Campus Dr/Coleman Creek
Vehicular Countermeasures	
Dynamic Speed Display/Feedback Signs and Other Enforcement	Entire Section
Retroreflective Backplates	6 Signalized Intersections
Access Management	Entire Section
Safety Lighting	Entire Section
Add Advance Warning Signage	36th St
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Colonel Glenn Rd/Asher Ave/Roosevelt Rd where there is a stop condition and sidewalk)	Entire Section
Intersection Reconfiguration	University Ave Intersection and Asher Ave/Roosevelt Rd Split

Roadway Chicot Road

Segment: From Azalea Dr - Mabelvale Cut Off Rd • Jurisdiction: City of Little Rock



Project Location Discussion

This section of Chicot Rd quickly shifts from commercial to residential as it gets further south of Baseline Rd. There is a high density of commercial driveway access points surrounding the intersection at Baseline. Although south of Fairfield Dr the access points along Chicot Rd are mostly local road intersections, most of these intersections

are offset, creating back to back 3-leg intersections that may lead to conflicting turning movements.

From 2018 through 2022, three fatal crashes and 14 serious injury crashes occurred along this section of Chicot Rd that is just over one mile long. Over 82 percent of these fatal and serious injury crashes occurred between dusk and dawn. Five of the serious injury

crashes occurred at the intersection of Chicot Rd and Baseline Rd, all of which occurred between dusk and dawn. Many of the crashes occurred when the pavement was wet, suggesting there may be some issues with drainage. Visual inspection revealed minimal curb inlet openings and many road grates. It is possible that these may become clogged with debris and create drainage issues. Based on public comments, speeding

Crash Severity	 Fatal	 Serious Injury	 Minor Injury	Total for All Crash Severities	Crash Severity (2018 - 2022) ● Fatal ● Serious Injury ● Other ○ Crash Involved Ped ○ Crash Involved Bike
Count Within Project Area	3	14	55	587	



From 2018 through 2022, three fatal crashes and 14 serious injury crashes occurred along this section of Chicot Rd that is just over one mile long.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
High Visibility Crosswalk Pavement Markings	2 Signalized Intersections
Pedestrian Hybrid Beacon (PHB)	2 Midblock Crossings
Improve Sidewalk and Curb	Entire Section
Sidewalk Buffer	Where Possible
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Speed Enforcement	Entire Section
Retroreflective Backplates	2 Signalized Intersections
Access Management	Entire Section, Particularly Near Baseline Rd Intersection
Safety Lighting	Entire Section
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Chicot Rd where there is a stop condition and sidewalk)	Entire Section
Drainage Improvements	Entire Section

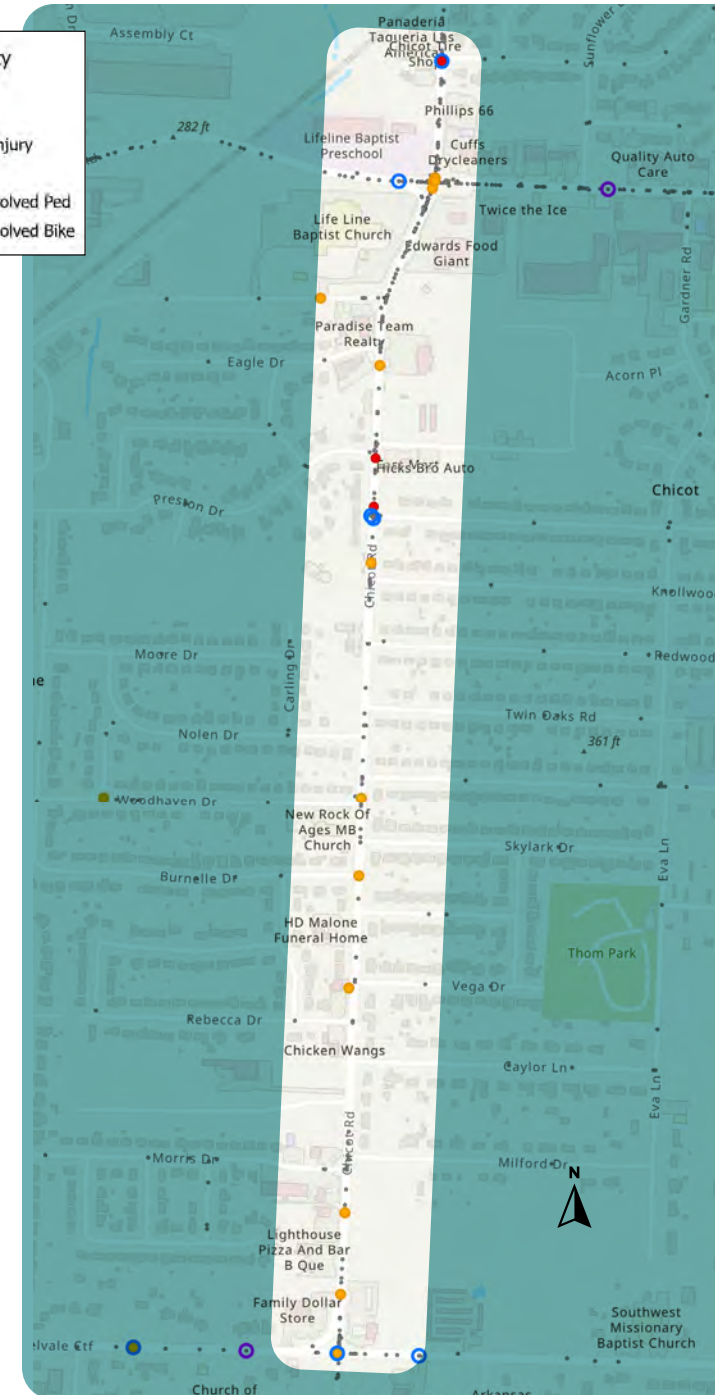
is also an issue at this intersection.

Public comments noted the need for improved pedestrian infrastructure along this section of Chicot Rd as there is inconsistent sidewalk which is in poor condition and no protected crossings in the one-mile gap between the signalized intersections at Mann Rd and Mabelvale Cut Off Rd. Rock Region Metro Route 22 has

multiple stops in this area to provide access to the neighborhoods, schools, parks, and businesses and requires riders to cross Chicot Rd within the gap between signals.

Project Recommended Countermeasures

Most of the countermeasures identified for this section of Chicot Rd are recommended to address crashes that occur at night and crashes involving pedestrians.



Roadway Geyer Springs Road

Segment: From Forbing Rd to Baseline Rd • Jurisdiction: City of Little Rock



Project Location Discussion

This one mile section of Geyer Springs Road consists of one of the top 20 HIN segments with safety improvement needs in the Region and three of the top 20 High Injury Intersections, including the highest scoring intersection in the Region, the intersection of Geyer Springs Rd and Baseline Rd.

This section of Geyer Springs Rd provides

connectivity to a wide range of businesses, residential areas, and a few schools to the north and south of I-30. Both sides of Geyer Springs Rd have a very high density of intersecting neighborhood roads and commercial driveways. Many of the businesses, shops, restaurants, and grocery stores have multiple access points and wider than normal driveways, making it difficult for drivers on Geyer Springs Rd to predict where

vehicles will be pulling into or out of parking lots. About 56 percent of all crashes and over 60 percent of the fatal and serious injury crashes within this project area occurred at intersections and commercial driveways. The high density of access points and a continuous two-way left-turn lane creates the risk for head-on, sideswipe in the opposite direction, and angle type crashes along the entire section.

Based on public comments, field observations, and crash data analysis, the existing pedestrian infrastructure is inadequate to safely support the high volume of pedestrians that walk along Geyer Springs Rd from nearby neighborhoods, between businesses, from schools, and from Rock Region Metro Route 22 bus stops along the corridor. Many sections of the sidewalk are narrow and deteriorating, and the abundance of commercial driveways and intersections results in an abundance of gaps in the sidewalk. Twelve crashes involving pedestrians and bicyclists occurred between Forbing Rd and Nova Ln/Dreher Ln where there are no crosswalks for pedestrians to safely cross Geyer Springs Rd or the side streets, including the intersections at the I-30 frontage roads.

Over 60 percent of the fatal and serious injury crashes occurred at night, 50 percent of which involved pedestrians. Drivers find it difficult to anticipate which driveways and intersections vehicles ahead are turning in or out of during the day and find it nearly impossible to do so in poorly lit nighttime conditions. Pedestrians are also much harder to see at night if there is insufficient lighting

or if they cross outside of the street light's range. Rock Region bus drivers noted that it is often difficult to see riders waiting at stops at night.

Project Recommended Countermeasures

All of the countermeasures identified for the project on this section of Geyer Springs Rd are general countermeasures recommended to address crashes that occur at intersections, at commercial driveways, and along the bus route, crashes involving pedestrians and bicyclists, and crashes that occur at night. Aside from the recommendation for improved access management, most of the recommendations are low-cost, low-effort countermeasures that are not anticipated to significantly reduce the fatal and serious injury crashes and overall total number of crashes along Geyer Springs Rd. Therefore, a more detailed road safety audit (RSA) is recommended for this corridor to look more closely at the existing conditions to identify site specific countermeasures that may have a higher impact on reducing crashes.

Crash Severity				Total for All Crash Severities
Count Within Project Area	2	21	93	1,038

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
High Visibility Crosswalk Pavement Markings	7 Signalized Intersections
Pedestrian Refuge Median/Island	Baseline Rd
Improve Sidewalk	Entire Section
Sidewalk Buffer	Where Possible
Install Pedestrian Signal at Signalized Intersection	4 Signalized Intersections
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Retroreflective Backplates	7 Signalized Intersections
Access Management (Accompanied by removal of or conversion of TWLTL to dedicated left-turn lane)	Entire Section
Safety Lighting	Entire Section
Add Advance Warning Signage	Crossings Along Entire Section
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Geyer Springs Rd where there is a stop condition and sidewalk)	Entire Section
Adjust Signal Timings (Add Leading Pedestrian Interval (LPI))	Baseline Rd
Transit Countermeasures	
Add Bus Stop Bulb-Out	Entire Section
Other Countermeasures	
Further Study Needed (RSA)	Entire Section



Roadway Baseline Road (SH 338)

Segment: From Winston Dr to Abandoned Railroad • Jurisdiction: City of Little Rock



Project Location Discussion

This 4.5 mile segment of Baseline Rd consists of four segments that scored in the top 20 HIN segments with safety improvement needs in the Region and three top 20 High Injury Intersections in the Region. This section of Baseline Rd provides connectivity to a wide range of businesses, residential and recreation areas, a few schools, and the Southwest Community Center.

The very high density of intersecting neighborhood roads and commercial driveways for various businesses, shops, restaurants, and grocery stores, many of which have multiple access points and wider

than normal driveways, make it difficult for drivers on Baseline Rd to predict where vehicles will be pulling into or out of parking lots. About 58 percent of all crashes and about 66 percent of the fatal and serious injury crashes within this project area occurred at intersections and commercial driveways. The high density of access points and a continuous two-way left-turn lane creates the risk for head-on, sideswipe in the opposite direction, and angle type crashes along the entire section.

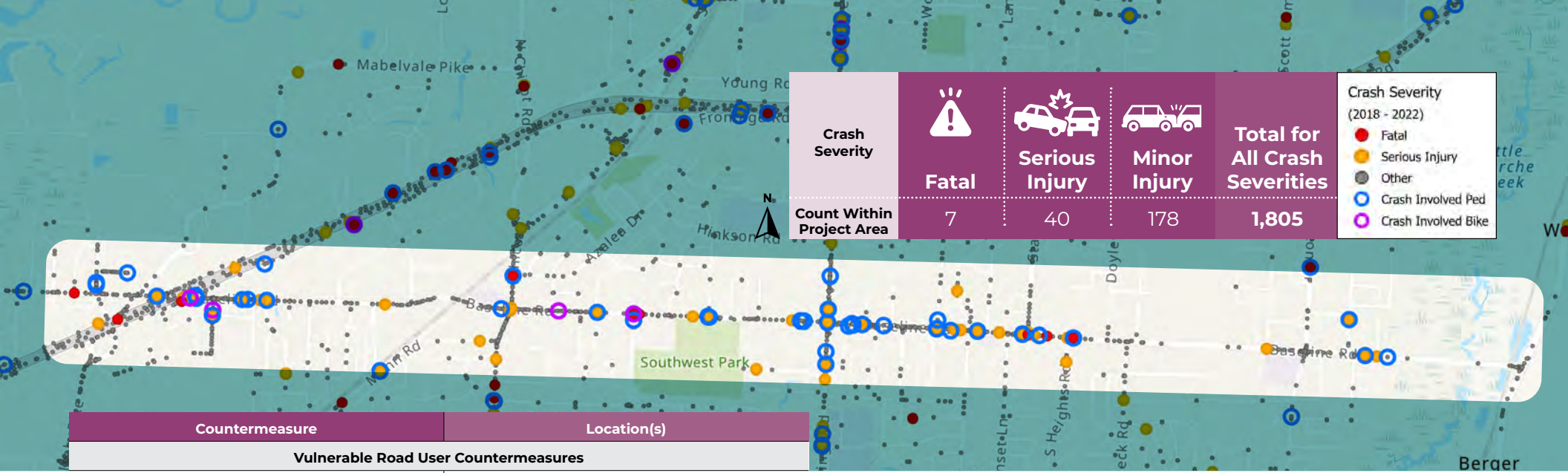
Based on public comments, field observations, and crash data analysis, the existing pedestrian infrastructure is inadequate to safely support the high

volume of pedestrians that walk along Baseline Rd from nearby neighborhoods, between businesses, from schools, from the Southwest Community Center, and from Rock Region Metro Route 22 and Route 23 bus stops along the corridor. Many sections of the sidewalk are narrow, overgrown, and deteriorating, and the abundance of commercial driveways and intersections results in an abundance of gaps in the sidewalk. There are also many large gaps between traffic signals where pedestrians can cross safely, such as the 1.5 mile gap between the signal at Geyer Springs Rd and Scott Hamilton Dr/Hilaro Springs Rd. Six of the 13 fatal and serious injury crashes involving pedestrians occurred along Baseline Rd within this gap between signals.

About 64 percent of the fatal and serious injury crashes along this section of Baseline Rd occurred at night. Drivers find it difficult to anticipate which driveways and intersections vehicles ahead are turning in or out of during the day and find it nearly impossible to do so in poorly lit nighttime conditions. Pedestrians are also much harder to see at night if there is insufficient lighting or if they cross outside of the street light's range. Rock Region bus drivers noted that it is often difficult to see riders waiting at stops at night.

Project Recommended Countermeasures

All of the countermeasures included in the Baseline Rd project are recommended to address crashes that occur in the dark, at intersections and commercial driveways, and along bus routes, and crashes involving pedestrians and bicyclists.



Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bikeway (Separated from Vehicular Traffic)	Entire Section
High Visibility Crosswalk Pavement Markings	8 Signalized Intersections
Pedestrian Refuge Median/Island	Geyer Springs Rd
Pedestrian Hybrid Beacon (PHB)	4 Midblock Crossings
Sidewalk Buffer	Where Possible
Sidewalk Railing	Railing Along Sidewalk on South Side of Baseline Rd Near St Theresa's Catholic School
Install Pedestrian Signal at Signalized Intersection	I-30 Southbound Frontage Road
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Speed Enforcement	Entire Section
Retroreflective Backplates	8 Signalized Intersections
Access Management (Accompanied by removal of or conversion of TWLTL to dedicated left-turn lane)	Entire Section, Particularly Near Geyer Springs Rd Intersection
Safety Lighting	Entire Section
Add Advance Warning Signage	3 Crossings
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Baseline Rd where there is a stop condition and sidewalk)	Entire Section and for Lanes at I-30 Northbound Frontage Rd Intersection
Traffic Signal Adjustments	Replace Red Balls with Red Through Arrows for all EB lanes at I-30 Southbound Frontage Rd Intersection
Adjust Signal Timings (Add Leading Pedestrian Interval (LPI))	Geyer Springs Rd



Roadway Carpenter Street / East Street (SH 35)

Segment: From Kenwood Rd to North St • Jurisdiction: City of Benton



Project Location Discussion

This project along Carpenter St/East St (SH 35) is made up of two HIN segments that scored in the top 5 HIN state route segments within Saline County with safety improvement needs and connects two of the top 10 High Injury Intersections with safety improvement needs in Saline County, at Market St and at Military Rd.

Half of the serious injury crashes within

this project's extents occurred along the curve at the eastbound approach to Market St. Vehicles exiting the interstate may be traveling faster than appropriate and are not prepared to stop at the traffic signal at Market St or are not expecting other vehicles turning onto or off of side streets within the curve. The speed limit sign posted after the interstate exit ramp may not be seen if drivers are looking to the left, towards the upcoming curve, or if drivers are looking to

change into the left lane because the right lane becomes a right-turn only lane where the curve begins. Similar factors may lead to drivers not seeing the advance warning sign for the upcoming traffic signal and may be distracted by the curve, changing lanes, or avoiding turning vehicles.

About 42 percent of the crashes along this section of Carpenter St/East St (SH 35) were rear-end crashes and about 30 percent were angle crashes, a majority of which occurred at the intersections with Main St, Military Rd, Narrowway St, Carpenter St, and East St. The geometry of the intersections where any two or three of these roads meets is angled, immediately adjacent to another intersection, and contains commercial driveway access points. The sharp angles, road name changes, misaligned approaches, and triangular islands likely overwhelms and confuses drivers. Despite most of these roads having sidewalks, the driveways create breaks in the sidewalk and there are no clear protected crossings, making the area difficult for pedestrians to navigate as well.

Project Recommended Countermeasures

Most of the countermeasures identified for the project on this section of Carpenter St/East St (SH 35) are recommended to address crashes that occur along the curved approach to Market St and intersection geometry challenges. Due to the complexity of the intersection geometries and high density of access points around the intersections involving Main St, Military Rd, Narrowway St, Carpenter St, and East St, and not clear crash patterns within them, further study is recommended in this area.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bikeway (Separated from Vehicular Traffic)	Entire Section
High Visibility Crosswalk Pavement Markings	3 Signalized Intersections
Pedestrian Refuge Median/Island	Military Rd
Add/Improve Sidewalk	Entire Section
Sidewalk Buffer	Where Possible
Install Pedestrian Signal at Signalized Intersection	2 Signalized Intersections
Convert Diagonal Ramps to Directional Remaps	Entire Section
Vehicular Countermeasures	
Transverse Rumble Strips	At Speed Limit Sign at SB Approach to Short St Intersection
Retroreflective Backplates	2 Signalized Intersections
Access Management	Entire Section
Add Advance Warning Signage	I-30 Northbound Frontage Rd
Add Advance Warning Signage (With Flashing Beacon)	Southbound Approach to Market St Intersection or "Be Prepared to Stop" Supplemental Plaque
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Hwy 35/ Carpenter St/East St where there is a stop condition and sidewalk)	Entire Section
Other Countermeasures	
Further Study Needed (RSA)	Around Carpenter St, East St, Military Rd, Narrowway St, and Main St Intersections



Roadway Pine Street (SH 89)

Segment: From Rockwood Dr to Bill Foster Memorial Hwy • Jurisdiction: City of Cabot



Project Location Discussion

This 4.1 mile section of Hwy 89/Pine St consists of four HIN segments that scored in the top 20 HIN segments with safety improvement needs in the Region. This section of Hwy 89/Pine St connects Hwy 67 to the downtown area of the City of Cabot, providing access to various businesses, neighborhoods, and multiple schools.

Lincoln St intersects Pine St near the bend in the corridor and provides access to four closely located public schools that range from elementary to high school. Public comments identified the need to improve operations in the vicinity of the schools, particularly for emergency vehicles that are unable to respond to incidents quickly when there is school traffic. Field observations identified the need for improvements to the pedestrian and bicycle infrastructure along the corridor, particularly in the vicinity of schools. Sidewalks exist in short sections along one side or the other of Pine St south of Lincoln St, resulting in pedestrians crossing back and forth across Pine St. The sidewalk does not extend all the way to Bill Foster

Memorial Hwy, where there two more large public schools are located.

Although this section of Hwy 89/Pine St does not have an access point density as high as other project locations, there are still many businesses with multiple driveways and driveways within intersections. This likely contributed to the 60 percent of crashes having occurred at intersections. Almost half of the crashes within the project's extents were rear-end crashes. Drivers may be following too close and are not prepared for a vehicle to pull into the intersection approach from a driveway or do not slow down in time when the vehicle in front of them unexpectedly turns into a driveway instead of continues to the intersection. A serious injury rear-end crash occurred at the offset T-intersections of Panther Trl and Bradley Dr, likely due to a following vehicle accelerating after the Panther Trl signal and hitting the vehicle ahead as it turned onto Bradley Dr. This intersection layout also risks head-on and angle crashes as northbound vehicles accelerate after the signal and hit opposing vehicles turning left onto Bradley Dr. The abundance of access points and

a continuous two-way left-turn lane also creates the risk for head-on, sideswipe in the opposite direction, and angle type crashes.

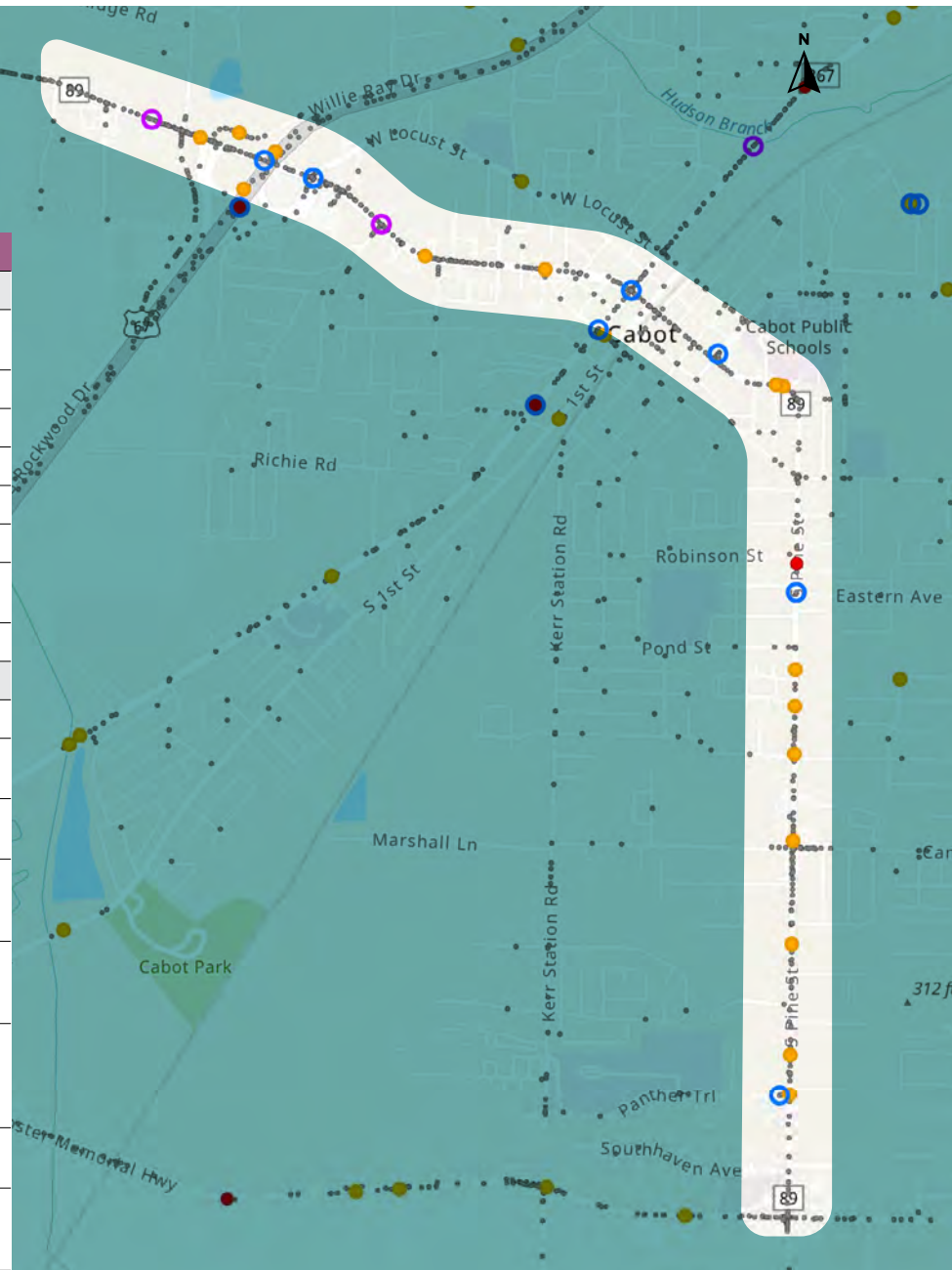
Project Recommended Countermeasures

Hwy 89/Pine St is currently a state route but is anticipated to become the City of Cabot's responsibility in the near future. ARDOT is currently reconstructing the Hwy 67 and Hwy 89 Interchange, as well as converting the intersection of Rockwood Dr and Hwy 89 to a roundabout. This ARDOT project will also include pedestrian infrastructure to improve safety and connectivity between the residential areas, shopping centers, and other businesses on either side of Hwy 67.

Most of the countermeasures identified for the Hwy 89/Pine St project are recommended to address crashes that occur at intersections and at night and crashes involving pedestrians and bicyclists. While the access management recommendation for this location is similar to the recommendation in other projects, referring to the consolidation and relocation of access points where possible, this project's access management includes an additional aspect of managing access. This project recommends the consideration of additional roadway and trail connections to the various schools along Lincoln St to disperse vehicles and encourage the use of alternate modes of transportation.

The Central Arkansas Regional Greenway Plan proposes a greenway loop connecting the schools along Lincoln St to nearby neighborhoods, as well as a trails along Pine St and an alternate route to Pine St to the south of Main St that connect two more schools and neighborhoods near Bill Foster Memorial Hwy.

Crash Severity				Total for All Crash Severities	Crash Severity (2018 - 2022) Fatal Serious Injury Other Crash Involved Ped Crash Involved Bike
	Fatal	Serious Injury	Minor Injury		
Count Within Project Area	1	12	48	977	
Countermeasure			Location(s)		
Vulnerable Road User Countermeasures					
Bikeway (Separated from Vehicular Traffic)			Along Pine St, Main St, Adams St, Locust St, Panther Trl, and Bill Foster Memorial Hwy		
High Visibility Crosswalk Pavement Markings			9 Signalized Intersections		
Pedestrian Refuge Median/Island			Bill Foster Memorial Hwy		
Rectangular Rapid Flashing Beacon (RRFB)			Near Pine St and Main St Intersection		
Add/Improve Sidewalk			East of 2nd Street		
Sidewalk Buffer			East of 2nd Street		
Install Pedestrian Signal at Signalized Intersection (With Accessible Pedestrian Signal (APS))			6 Signalized Intersections		
Convert Diagonal Ramps to Directional Ramps			Entire Section		
Install Pedestrian Signal at Signalized Intersection					
Retroreflective Backplates			11 Signalized Intersections		
Access Management (Accompanied by review of medians and turn lanes)			Entire Section, Particularly Near Lincoln St and Bill Foster Memorial Hwy Intersections		
Access Management			Develop Alternate Routes for School Traffic on Lincoln St, Consider Widening Bellamy St		
Add Advance Warning Signage			Offset T-Intersections at Panther Trl and at Bradley Dr, and RRFB Proposed Near Pine St and Main St Intersection and Crossing at Lincoln St		
Add Pavement Markings			Yield for Hwy 67 Off-Ramp Northbound Right-Turn Movement and 'Puppy Tracks' for Dual Left-Turns at 2nd St Northbound Approach		
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Pine St where there is a stop condition and sidewalk)			Entire Section		
Add Pavement Markings			Add 'Puppy Tracks' for Westbound Approach at 2nd St to Guide Through Vehicles		
Add Pavement Markings			Lane Designation Arrow Pavement Markings for Large Queues at Bill Foster Memorial Hwy Intersection Approaches		
Intersection Reconfiguration			Align Offset T-Intersections, such as Panther Trl and Bradley Dr		
Traffic Siganl Adjustments			Make Left-Turn Indication Consistent Along Entire Section		



Roadway Donaghey Avenue

Segment: From Bruce St to Moix Blvd • Jurisdiction: City of Conway



Project Location Discussion

This almost 1 mile long project along Donaghey Ave is made up of one HIN segment that scored in the top 5 HIN local road segments with safety improvement needs within Faulkner County. This section of Donaghey Ave passes between the east edge of the University of Central Arkansas campus and student housing and provides access to restaurants along Dave Ward Dr, therefore students contribute to a higher volume of pedestrian and bicycle traffic in the area. Bike

lanes with green paint and crossings with rectangular rapid flashing beacons (RRFBs) and pedestrian refuge islands were recently constructed along this section to improve safety for these vulnerable road users.

However, these improvements end at the Dave Ward Dr intersection despite there being four crashes involving pedestrians and bicyclists on Donaghey Ave between Dave Ward Dr and Moix Blvd. The southbound bike lane suddenly ends approximately 400 feet before Dave Ward Dr and the pedestrian

crossing distances are very long across each leg of the intersection. Public comments also identified the need to slow vehicles along the corridor because drivers often must decelerate quickly to stop in time for a pedestrian using an RRFB, likely contributing to over 65 percent of the crashes along the corridor being rear-ends.

Most of the public comments along this corridor identified the need to improve left-turn treatments. Some of these concerns were related to the inconsistent signal

indications for protected vs permissive left-turns, as well as signal timing conflict between the protected left-turn phase and the walk phase for pedestrians, particularly at the intersection at Bruce St. Many rear-end crashes have occurred within this intersection, possibly a result of drivers beginning to make a left-turn then suddenly stopping in the middle of the intersection when they realize there is a pedestrian in the crosswalk. Other concerns were related to confusion caused by the striping of a two-way left-turn lane at the approaches to intersections where there is no left-turn, such as at Robins St.

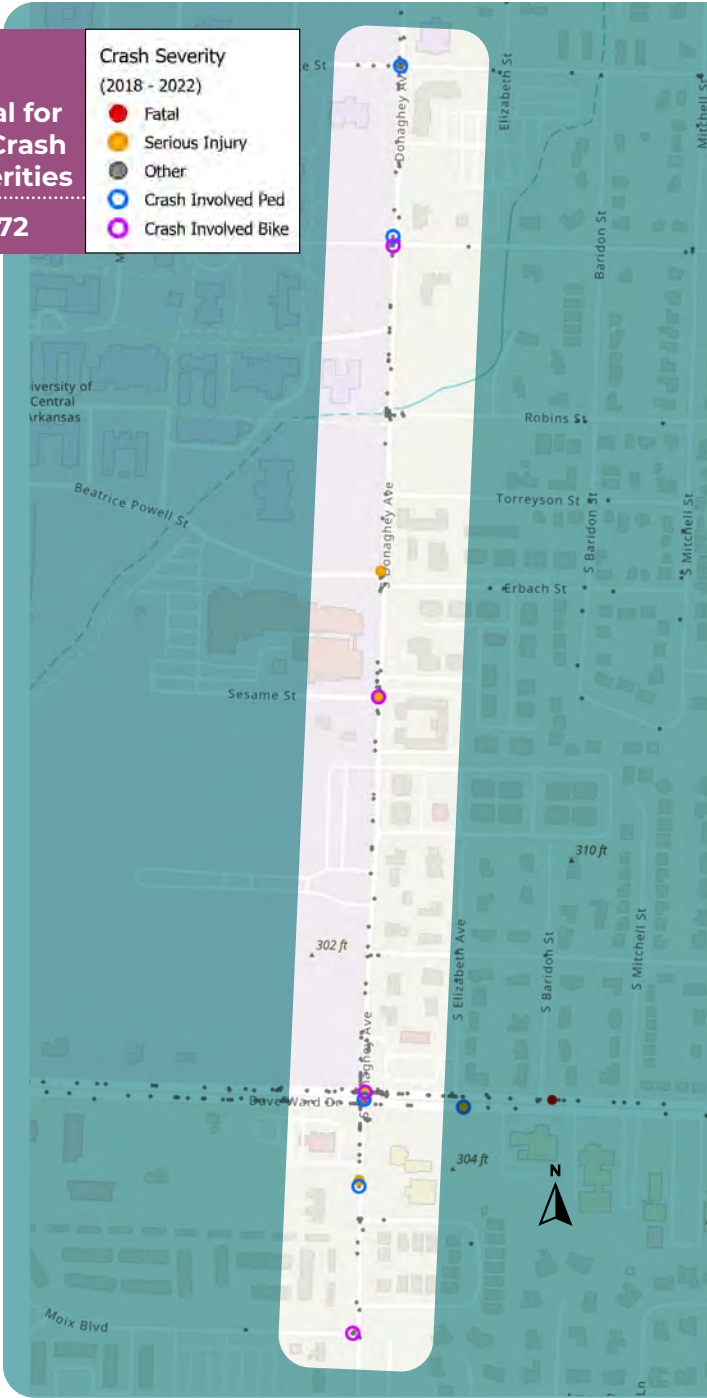
Project Recommended Countermeasures

All of the countermeasures identified for the Donaghey Ave project are recommended to address crashes that occur at intersections, particularly those related to left-turns, and crashes involving pedestrians and bicyclists.



Crash Severity				Total for All Crash Severities
Count Within Project Area	0	3	23	272

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Bike Lanes	Extend Bike Lanes Through Dave Ward Dr
High Visibility Crosswalk Pavement Markings	3 Signalized Intersections
Sidewalk Buffer	Where Possible
Convert Existing Pedestrian Signal to Accessible Pedestrian Signal (APS)	Where Not Already Implemented
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Retroreflective Backplates	2 Signalized Intersections
Access Management	Entire Section
Safety Lighting	Entire Section
Add Advance Warning Signage (With Flashing Beacon)	RRFBs
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Donaghey Ave where there is a stop condition and sidewalk)	Entire Section
Adjust Traffic Signal Timings	Avoid Conflict Between Left-Turns and Pedestrians at Bruce St



Roadway Military Road

Segment: From Old Congo Rd to Alcoa Blvd • Jurisdiction: City of Benton



Project Location Discussion

This 0.8 mile project on Military Rd consists of one HIN segment that scored in the top 5 HIN local road segments with safety improvement needs within Saline County and connects two of the top 10 High Injury Intersections with safety improvement needs in Saline County, at Landers Dr and the US Post Office driveway.

This section of Military Rd runs parallel to I-30 and is lined with a wide range of businesses, shops, restaurants, and grocery stores on

both sides. The high density of access points along the north and south sides of Military Rd and a continuous two-way left-turn lane creates the risk for head-on, sideswipe in the opposite direction, and angle type crashes along the entire section.

Residential area borders the businesses on the south side of the road, leading to many pedestrians walking to the businesses and needing to cross Military Rd to get to the large grocery stores on the north side. However, there are large gaps between

traffic signals where pedestrians can cross more safely which has lead to a serious injury crash involving a pedestrian. The abundance of commercial driveways and intersections also results in an abundance of gaps in the sidewalk.

Project Recommended Countermeasures

Most of the countermeasures identified for the Military Rd project are recommended to address crashes that occur at intersections and commercial driveways and crashes involving pedestrians and bicyclists.

Crash Severity				Total for All Crash Severities
Count Within Project Area	2	5	29	342

Crash Severity (2018 - 2022)
 Fatal
 Serious Injury
 Other
 Crash Involved Ped
 Crash Involved Bike

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
High Visibility Crosswalk Pavement Markings	3 Signalized Intersections
Pedestrian Hybrid Beacon (PHB)	Midblock Crossing Near Subway
Improve Sidewalk	Entire Section
Sidewalk Buffer	Where Possible
Install Pedestrian Signal at Signalized Intersection	2 Signalized Intersections
Convert Diagonal Ramps to Directional Ramps	Entire Section
Vehicular Countermeasures	
Review Lanes and Pavement Markings and Possibly Reconfigure to Reduce Speeds	Entire Section
Retroreflective Backplates	3 Signalized Intersections
Access Management (Accompanied by removal of or conversion of TWLTL to dedicated left-turn lane)	Entire Section
Add/Improve Pavement Markings (Add stop bar and crosswalk pavement markings across all minor street approaches to Military Rd where there is a stop condition and sidewalk)	Entire Section



Roadway Kerr Road (SH 5)

Segment: From Wayne Ln to Carson Bridge Rd • Jurisdiction: Lonoke County



Project Location Discussion

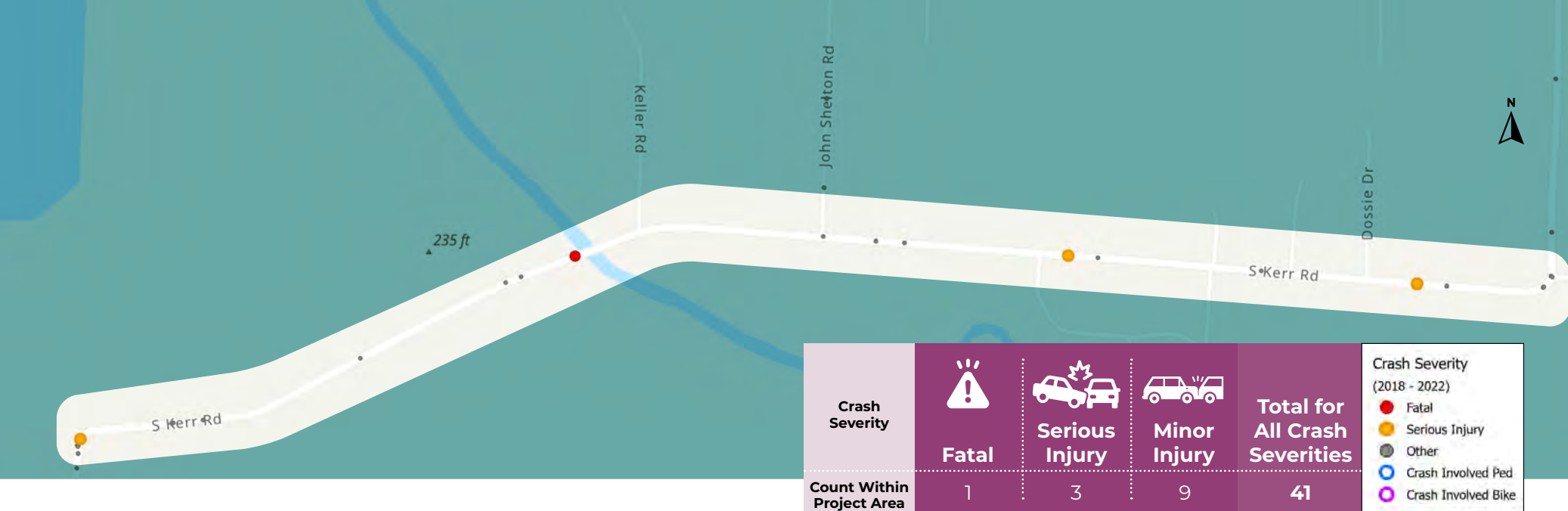
This two mile section of Kerr Rd consists of two HIN segments that ranked in the top 5 local road HIN segments within Lonoke County needing safety improvements. The project location is contained between two 90-degree curves that do not have chevrons or sufficient warning signage at either approach. An advance curve warning sign with a speed limit 20 MPH sign is present

at the westbound approach to the west curve, but appears to have been hit as it is angled away from the road, below eye level, and is blocked by overgrown vegetation. An advance curve warning sign is also present at the southbound approach to the east curve and is similarly in poor condition and not very visible.

This two-lane road has very narrow lanes with no shoulder and a ditch along a large

portion of the corridor. The centerline and edgeline pavement markings have faded and no edgeline exists around the east curve to indicate that Kerr Rd curves at Carson Bridge Rd to direct drivers from continuing straight onto Carson Bridge Rd. There is also no stop bar at the stop sign for the westbound approach of Carson Bridge Rd at the east curve.

About two thirds of the crashes within this



project's extents occurred between dusk and dawn, including three of the four fatal and serious injury crashes. There is no lighting provided along this section of Kerr Rd for visibility at night. Dense vegetation and tall trees along both sides of some portions of the road may cast shadows during the day, making it difficult for drivers to see during the day as well.

Project Recommended Countermeasures

All of the countermeasures identified for the Kerr Rd project are recommended to address crashes that occur at the 90-degree curves at either end of the project extents and run off the road crashes. Although most of the crashes were at night, corridor lighting is not included in this project due to the feasibility challenges at this rural location. Longitudinal rumble strips, pavement markings, and increased signage are alternate countermeasures anticipated to improve safety along the corridor, including at night.

About two thirds of the crashes within this project's extents occurred between dusk and dawn, including three of the four fatal and serious injury crashes.

Countermeasure	Location(s)
Vulnerable Road User Countermeasures	
Enhanced Curve Delineation	2 90-Degree Curves
Longitudinal Rumble Strips	Centerline and Edgeline of Entire Section (Or Raised Reflective Pavement Markers)
Add Advance Warning Signage	In Advance of 2 90-Degree Curves with Supplemental Reduced Speed Plaque
Add/Improve Pavement Markings	Centerline and Edgeline Along Entire Section (Add Solid White Edgeline Stripe Through Curve at Carson Bridge Intersection and Stop Bar at Carson Bridge Westbound Approach Stop Sign)
Guardrail	At Approaches to Bridge

APPENDIX C

UNIT COSTS



Countermeasure	Unit Cost Estimate	Unit	Notes
Vulnerable Road User Infrastructure			
Add Side Path	\$1,400,000	Per Mile (one side)	Assumes urban area with driveway crossings.
Add High Visibility Crosswalk Pavement Markings	\$3,000	Per Crossing	
Add Pedestrian Refuge Medium/Island	\$20,000	Per Crossing	
Add Pedestrian Hybrid Beacon (PHB)	\$150,000	Per Crossing	
Add Rectangular Rapid Flashing Beacon (RRFB)	\$30,000	Per Crossing	Assumes three assemblies.
Add Sidewalk	\$700,000	Per Mile (one side)	Assumes reconstruction of existing driveways. Does not include right-of-way, utility relocation, and site modifications.
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.
Add Pedestrian Signal at Signalized Intersection	\$10,000	Per Crossing	Assumes one signal on each side of crossing.
Convert Diagonal Ramps to Directional Ramps	\$30,000	Per Corner	Assumes changing one single ramp to two directional ramps.
Create Grade Separated Crossing	\$4,000,000	Per Crossing	Assumes pedestrian bridge over road.
Vehicular Infrastructure			
Enhance Curve Delineation	\$750	Per 100' of Curve	
Add Longitudinal Rumble Strips	\$15,000	Per Approach	Assumes three lane approach.
Add Retroreflective Backplates	\$300	Per Backplate	
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.
Add Lighting	\$375,000	Per Mile	Assumes new poles at 200 feet spacing.
Add Advance Warning Signage	\$20,000	Per Approach	Assumes two static signs with a flashing beacon on each.
Add/Improve Pavement Markings	\$2,000	Per Approach	
Add Traffic Signal	\$400,000	Per Intersection	Assumes four-legged intersection.
Update Left-Turn Signal to Flashing Yellow Arrow	\$10,000	Per Approach	
Intersection Reconfiguration	\$4,750,000	Per Intersection	
Transit Infrastructure			
Add Bus Stop Bulb-Out	\$45,000	Per Bulb-Out	





SAFETY ACTION PLAN



Our Goal:

**40% reduction in fatal and
serious injury crashes by 2040**