







Batesville
SAFETY ACTION PLAN

BATESVILLE
SAFETY ACTION PLAN

DISCLAIMER

23 United States Code Section 407

Discovery and admission as evidence of certain reports and surveys

Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

Steering Committee Members

Jeff Owens — City of Batesville

Damon Johnson — City of Batesville

Amanda Roberts — Lyon College

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Resolution 2025-04-04-R

A RESOLUTION ADOPTING THE CITY OF BATESVILLE COMPREHENSIVE SAFETY ACTION PLAN

WHEREAS, there were 2,422 crashes reported within the city limits of Batesville from 2018 to 2022; and

WHEREAS, 7 people lost their lives in crash-related deaths on Batesville roadways in the five-year period; and

WHEREAS, there were 43 people with suspected serious injuries caused from crashes on Batesville roadways in the five-year period; and

WHEREAS, the City of Batesville is committed to the goal of significantly reducing and ultimately eliminating roadway fatalities and serious injuries on roadways within the City's police jurisdiction.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND THE CITY COUNCIL OF THE CITY OF BATESVILLE, ARKANSAS, that the City adopts a goal of reducing crash-related fatalities and serious injuries by FIFTY PERCENT OR MORE by the year 2035; and

BE IT FURTHER RESOLVED that the City adopts a goal of reducing crash-related fatalities and serious injuries to ZERO by the year 2045; and

BE IT FURTHER RESOLVED that the City adopts this Comprehensive Safety Action Plan, of the Safe Streets and Roads for All initiative, to serve as a guiding document for the City as they work toward achieving their safety performance goals.

This resolution shall become effective immediately upon its adoption as required by on this the 22nd day of April, 2025.

PASSED, APPROVED, AND ADOPTED this 22nd day of April, 2025.

Rick Elumbaugh, Mayor

ATTEST:

Jessica Davis, City Clerk

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1. Introduction

The Batesville Safety Action Plan provides a strategic framework for preventing roadway fatalities and serious injuries for all road users in the City of Batesville, Arkansas. The purpose of the plan is to identify road safety countermeasures and strategies that lead to effective implementation with an eventual goal of eliminating all fatal and serious injury crashes. To carry out its purpose, the City of Batesville commits to the following progression of goals:

- 50% reduction of fatal and serious injury crashes by 2035
- Zero fatal and serious injury crashes by 2045

1.1. Safe Streets and Roads for All (SS4A) Program

The Safe Streets and Roads for All (SS4A) Program was established by the Bipartisan Infrastructure Law (BIL) to fund planning and implementation projects for local and regional organizations with the overall goal of preventing roadway deaths and serious injuries. The program is guided by the U.S. Department of Transportation's (USDOT) *National Roadway Safety Strategy* and *Safe System Approach*. As a result, SS4A prioritizes all types of road users with an emphasis on redundant layers of protection to both prevent crashes and minimize the harmful outcomes of crashes.

Recipients of SS4A awards may use the funding for projects including planning, infrastructural, behavioral, and operational initiatives. The SS4A Notice of Funding Opportunity (NOFO) specifically describes eligible project types as the following:

- Develop a comprehensive safety action plan (Action Plan)
- Conduct supplemental safety planning to enhance an Action Plan
- Carry out demonstration activities to inform the development of, or an update to, an Action Plan
- Perform planning, design, and development activities for projects and strategies identified in an Action Plan
- Implement projects and strategies identified in an Action Plan that address roadway safety problems.

1.2. Safety Action Plan Components

To fulfill the purposes of the SS4A program, a Safety Action Plan includes the following components:

1. **Leadership Commitment and Goal Setting**
   The governing body should make a public commitment to an eventual goal of eliminating roadway fatalities and serious injuries. This goal can establish a target date for achieving zero roadway fatalities and serious injuries or establish a target date for an ambitious reduction with an eventual goal of achieving zero roadway fatalities and serious injuries.

2. **Planning Structure**
   A group of members committed to overseeing the development, implementation, and monitoring of the Action Plan.

3. **Safety Analysis**
   An analysis of historical crash data and existing conditions to identify trends related to fatal and serious injury crashes across the study area. This analysis considers contributing factors to crash events and detailed crash data elements, such as severity, sequence of events, road user type, and weather conditions. A location-specific and systemic crash analysis identifies specific safety needs by location and across the study area. The analysis results in a geospatial identification of a High Injury Network (HIN) that identifies locations with the highest fatalities and serious injuries.

4. **Engagement and Collaboration**
   Engagement with the public and relevant stakeholders across public and private sectors is conducted to collect representative community input. Collaboration between involved stakeholders and the governing body is conducted to ensure effective coordination with existing plans and processes. Information received during this process is included in the Action Plan.

5. **Equity Considerations**
   Underserved areas of the community are identified and considered throughout the project to ensure an inclusive and representative Action Plan development.

6. **Policy and Process Changes**
   Existing policies and processes are assessed to identify potential improvements that would better prioritize roadway safety. New or revised policies or processes are proposed for implementation.

7. **Strategy and Project Selections**
   A list of strategies and projects are identified by the preceding Action Plan Components. The strategies and projects are consistent with the USDOT's Safe System Approach and prioritize multidisciplinary efforts to improve roadway safety. Prioritization of strategies and projects is conducted to provide strategic implementation timeframes.

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





Figure 1: Intersection of St. Louis Street at College Avenue

1.3. Batesville Safety Action Plan Development Process

The City of Batesville initiated their commitment to road safety for all road users through their successful application for an SS4A Fiscal Year 2022 Planning Grant award. Work began on the project in January of 2024. The Batesville Safety Action Plan provides a strategic framework for preventing roadway fatalities and serious injuries for all road users with an eventual goal of eliminating all fatal and serious injury crashes in Batesville, AR.

The Batesville Safety Action Plan was developed in line with the SS4A program's components of a Safety Action Plan. The plan included all the SS4A components of a Safety Action Plan, which includes leadership commitment and goal setting, planning structure, safety analysis, engagement and collaboration, equity considerations, policy and process changes, strategy and project selections, and progress and transparency.

Project Team

A Project Team was established and tasked with overseeing development, implementation, and monitoring of the Batesville Safety Action Plan. The Project Team represents a variety of organizations and agencies across all modes of roadway safety and represent the "four E's of safety": education, enforcement, engineering, and emergency services. Members of the Project Team represent Arkansas Department of Transportation (ARDOT), Lyon College, Vital Link, White River Planning and Development District, Inc. (WRPDD), and City of Batesville Departments such as Parks and Recreation, Engineering, Police, and Fire.

2. Safety & Equity Analysis

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

2.1. Safety Analysis

The safety analysis aims to assess existing conditions and historical trends that describe the baseline roadway safety conditions in Batesville. All types of road users, including drivers and non-motorists, were considered throughout the analysis. The safety analysis considers all crash severities; however, fatal and suspected serious injury crashes were analyzed in more detail to align with the plan's goal of eliminating all fatal and serious injury crashes in the City of Batesville.

The safety analysis includes the following components:

- Data Collection
- Historical crash data analysis to identify crash trends over time
- Systemic analysis of crashes to identify safety needs across the study area
- Targeted analysis of crashes to identify specific safety needs by location
- Geospatial identification of a High Injury Network that identifies locations with the highest fatal and serious injury crashes as compared with other locations across the study area

Data Collection

Crash data was obtained from ARDOT for all crashes occurring in the City of Batesville from January 1, 2018 through December 31, 2022. This five-year crash dataset was reviewed to identify any data reporting issues related to crash locations and other significant crash report elements. It is important to note that the accuracy, uniformity, and completeness of crash reports greatly affects the potential of the crash dataset to provide effective safety decisions.

One of the most crucial elements of the crash dataset is crash severity, for it identifies whether a crash event is life-threatening. Originally developed by the National Safety Council (NSC), the KABCO Injury Classification Scale is a common system used to categorize injury severity resulting from vehicular crash events. The state of Arkansas utilizes the following KABCO injury classification scale with definitions provided by FHWA:

- **(K) Fatal Injury**
  Any injury that directly results in the death of a living person within 30 days of a motor vehicle crash.

- **(A) Suspected Serious Injury**
  Incapacitating Injury: Any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.
  Inclusions: Severe lacerations, broken or distorted limbs, skull or chest injuries, abdominal injuries, unconsciousness at or when taken from the scene, unable to leave the scene without assistance, and others.
  Exclusions: Momentary unconsciousness, and others.
- **(B) Suspected Minor Injury**
  Non-Incapacitating Injury: Any injury other than a fatal injury or an incapacitating injury, which is evident to observers at the scene.
  Inclusions: Lump on head, abrasions, bruises, minor lacerations, and others.
  Exclusions: Limping (the injury cannot be seen, and others.)
- **(C) Possible Injury**
  Possible Injury: Any injury reported or claimed which is not a fatal injury, incapacitating injury or non-incapacitating evident injury.
  Inclusions: Momentary unconsciousness, claim of injuries not evident, complaint of pain, limping, nausea, hysteria, and others.
- **(O) No Apparent Injury**
  Property Damage Only (PDO), or Non-Injury: No personal injury.
  Inclusions: Harm to wild animals, or birds, which have monetary value and others.
  Exclusions: Mechanical failure during normal operation, such as tire blowout, broken fan belt or axle.

Historical Crash Data Analysis

The historical crash data analysis focuses on trends in crash data over time. These trends help to realize baseline crash occurrences and identify realistic goals for improving safety in the future. The five-year data set shows an average of approximately 482 total crashes per year, including an average of ten fatal and/or serious injury crashes per year. The complete crash data set is summarized by severity and year in **Table 1**. The fatal and serious injury crashes are provided by year in **Figure 2**.

Table 1: Severity of Crashes by Year

Crash Severity	Year					Total
	2018	2019	2020	2021	2022	
Fatal (K)	1	1	1	1	3	**7**
Suspected Serious Injury (A)	5	7	9	15	7	**43**
Suspected Minor Injury (B)	18	25	16	26	26	**111**
Possible Injury (C)	34	53	56	60	37	**240**
No Apparent Injury (O)	412	443	333	428	405	**2021**
Total	**470**	**529**	**415**	**530**	**478**	**2422**

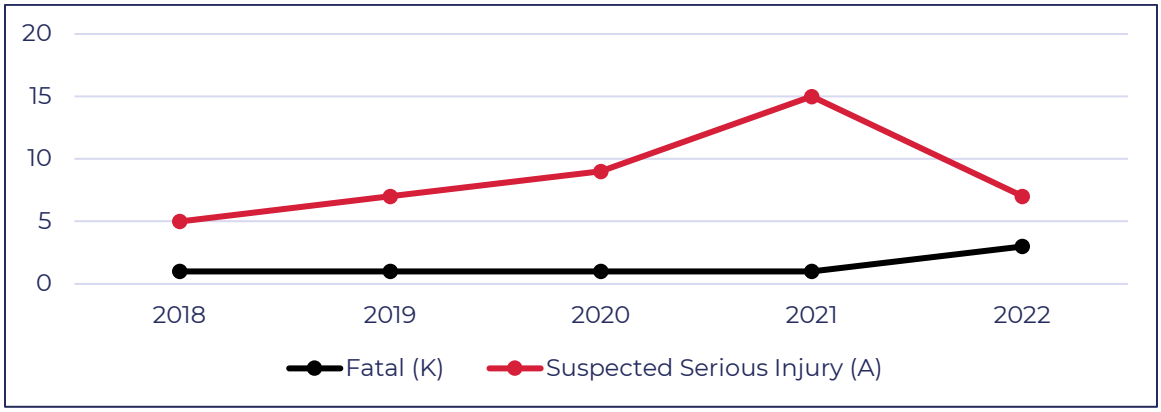


Figure 2: Fatal and Serious Injury Crashes (2018-2022)

Systemic Crash Analysis

The systemic crash analysis analyzes types of crashes and contributing factors across all crashes in the system. It helps identify safety issues related to focus areas identified in the *2022–2027 Arkansas Strategic Highway Safety Plan (SHSP), which* is a data-driven comprehensive plan that establishes the state's strategies for achieving its goal of zero roadway fatalities. Led by ARDOT, the *Arkansas SHSP* identifies fourteen focus areas that are representative of the state's most critical roadway safety challenges. These safety focus areas are defined as follows:

- **Occupant Protection (Unrestrained)**
  This addresses crashes where an occupant was not using a seatbelt.
- **Older Drivers**
  This addresses crashes where a driver is over the age of 65 years old.
- **Younger Drivers**
  This addresses crashes where a driver is under the age of 25 years old.
- **Impaired Driving**
  This addresses crashes where a driver is physically impaired, under the influence of medication/drugs, or under the influence of alcohol.
- **Distracted Driving**
  This addresses crashes where a driver takes their eyes off the road (visual), hands off the wheel (manual), or mind off driving (cognitive). This includes drowsy driving and phone usage when driving.
- **Non-Motorists**
  This addresses crashes involving a non-motorist or otherwise, vulnerable road user, including pedestrians and bicyclists.
- **Large Commercial Motor Vehicles (CMV)**
  This addresses crashes involving a commercial motor vehicle (CMV), which is defined as having a gross combination weight rating of more than 26,000 pounds.

- **Motorcycles**
  This addresses crashes involving a motorcycle.
- **Connected and Automated Vehicles**
  This addresses crashes involving a connected vehicle (CV) or automated vehicle (AV). Connected vehicles (CV) talk to each other and the infrastructure around them. Automated Vehicles (AV) use technology for some or all aspects of vehicle control with limited driver input.
- **Roadway Departure**
  This addresses crashes where a vehicle crosses an edge line or a center line, including running into an adjacent travel lane or running off the roadway all together.
- **Intersections**
  This addresses crashes occurring at or near a junction where roadways intersect other roadways or a railroad.
- **Speeding and Aggressive Driving (Speeding Relation)**
  This addresses crashes involving a driver who is racing, exceeding the speed limit, driving too fast for conditions, failing to yield, failing to obey traffic control devices, changing lanes in an unsafe manner, or following a vehicle too closely.
- **Emergency Services and Incident Management (Secondary Crashes)**
  This addresses the need for rapid and efficient emergency services and incident management, which includes emergency response time, clearing a crash scene to minimize secondary crashes, and trauma system communications.
- **Traffic Records and Data Analysis**
  This addresses the need for reliable, accurate, uniform, and complete traffic records so that data analysis can effectively inform safety decisions.

The crash dataset provided the opportunity to accurately assess twelve of the *Arkansas SHSP* focus areas, which included all focus areas except for Connected and Automated Vehicles and Traffic Records and Data Analysis.

The systemic analysis identified roadway departure and intersection crashes as the most prevalent focus areas by count of total crashes and fatal or serious injury crashes in Batesville. Non-motorist and motorcycle crashes show the highest fatal or serious injury rate per total crashes, proving these types of crashes as particularly vulnerable. The crash data set filtered by the twelve *Arkansas SHSP* focus areas is shown in **Table 2**, **Figure 3**, and **Figure 5**.

Table 2: Fatal and Serious Injury Crashes by Arkansas SHSP Focus Areas

Arkansas SHSP Focus Areas	Year					Fatal Crashes	Serious Injury Crashes	Fatal & Serious Injury Crashes
	2018	2019	2020	2021	2022			
Unrestrained	1	2	2	0	1	1	5	**6**
Older Drivers	1	0	0	2	4	1	6	**7**
Younger Drivers	2	3	2	2	1	1	9	**10**
Impaired Driving	1	0	0	2	0	0	3	**3**
Distracted Driving	0	1	0	0	0	0	1	**1**
Non-Motorist	0	1	1	2	1	2	3	**5**
CMV	0	0	0	0	0	0	0	**0**
Motorcycles	1	1	1	2	1	1	5	**6**
Roadway Departures	4	6	3	9	3	4	21	**25**
Intersections	0	0	6	9	3	3	15	**18**
Aggressive Driving	2	0	1	2	0	0	5	**5**
Secondary Crashes	0	0	0	0	0	0	0	**0**

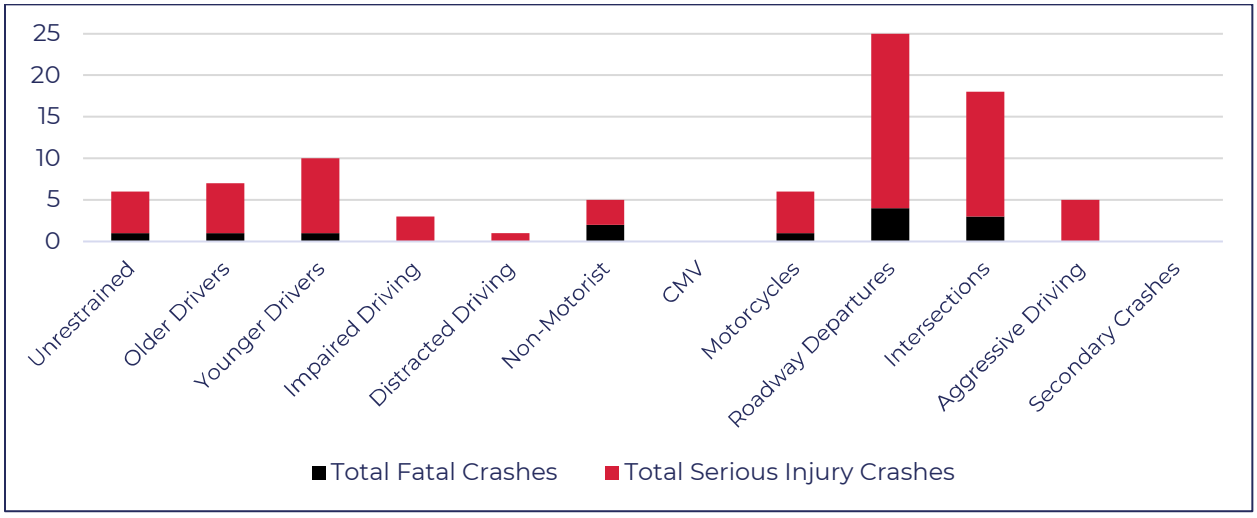


Figure 3: Fatal and Serious Injury Crashes (2018-2022) by Arkansas SHSP Focus Areas

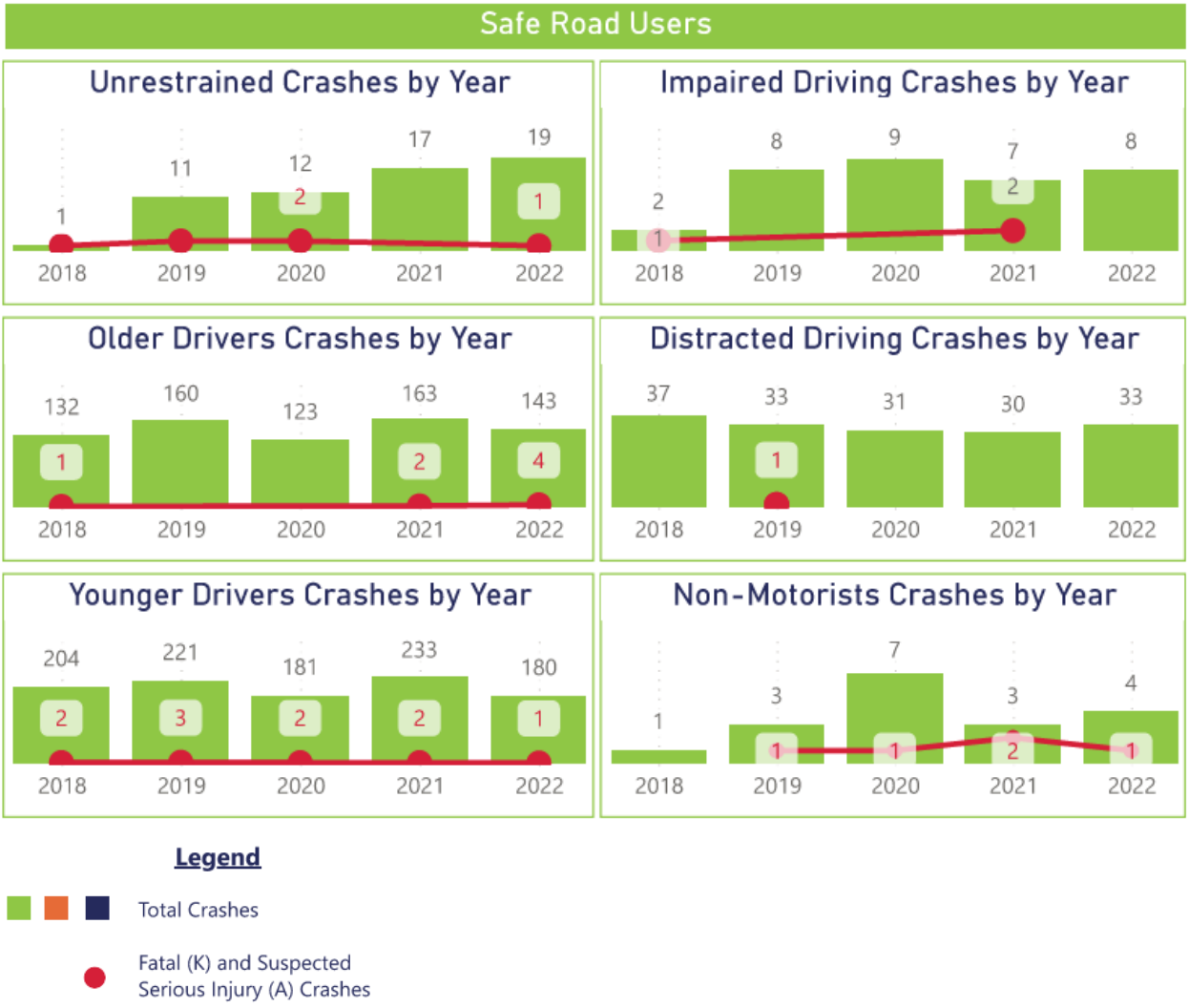


Figure 4: Batesville Crashes by Arkansas SHSP Focus Areas



Figure 5: Batesville Crashes by Arkansas SHSP Focus Areas

Targeted Crash Analysis

The targeted crash analysis analyzes the geospatial location of crashes within Batesville. Hot spots, defined by a higher concentration of data points relative to the rest of the study area, help to identify locations with the highest frequency of crashes.

A heat map helps to identify the density of crashes based on frequency and geospatial location. Data including all severities of crashes in Batesville from 2018 to 2022 shows the highest density of crashes along Harrison Street and St. Louis Street, especially at intersections. These hot spots are shown in the crash heat map in **Figure 6**.

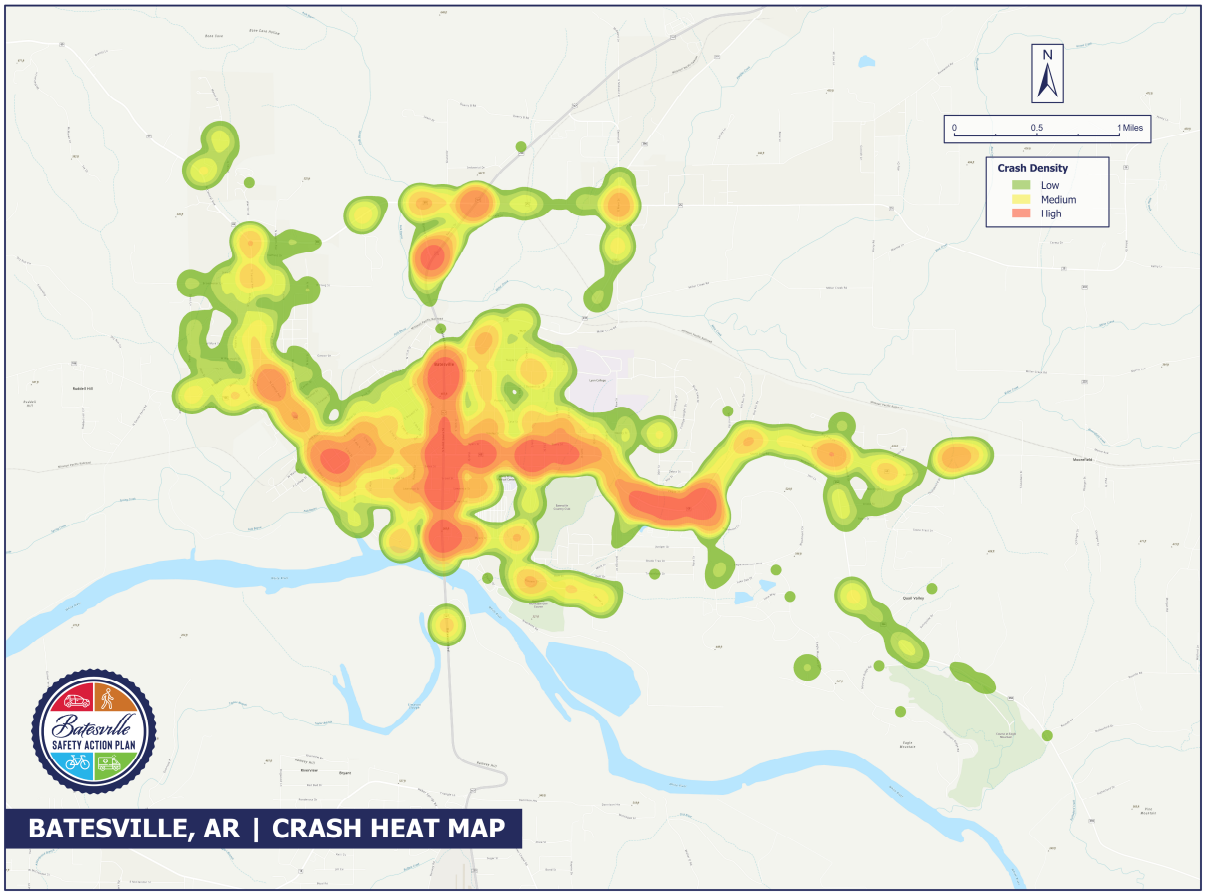


Figure 6: Crash Heat Map (2018-2022)

Fatal and serious injury crash locations are prioritized to align with the plan's goal of eventually eliminating crashes of this severity. Geospatial locations of fatal and serious injury crashes in Batesville from 2018 to 2022 show the highest number of these crashes along Harrison Street and St. Louis Street, especially at intersections. A map displaying the locations of fatal and serious injury crash locations in Batesville from 2018 to 2022 is shown in **Figure 7**.

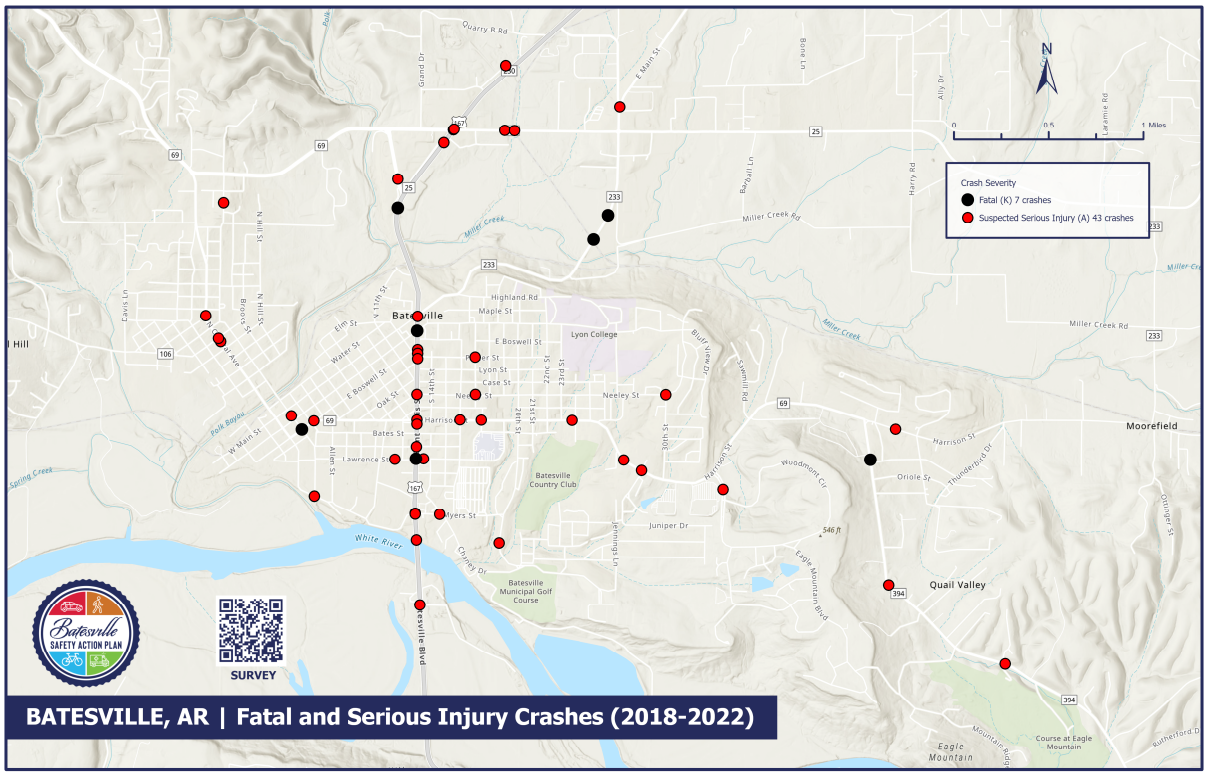


Figure 7: Fatal and Serious Injury Crashes (2018-2022)

Since non-motorist crashes generally tend to have a higher rate of fatal and serious injury severity, these types of crashes are important to consider with the plan's goals of reducing life-threatening crashes. A map displaying the non-motorist crash locations in Batesville from 2018 to 2022 is shown in **Figure 8**.

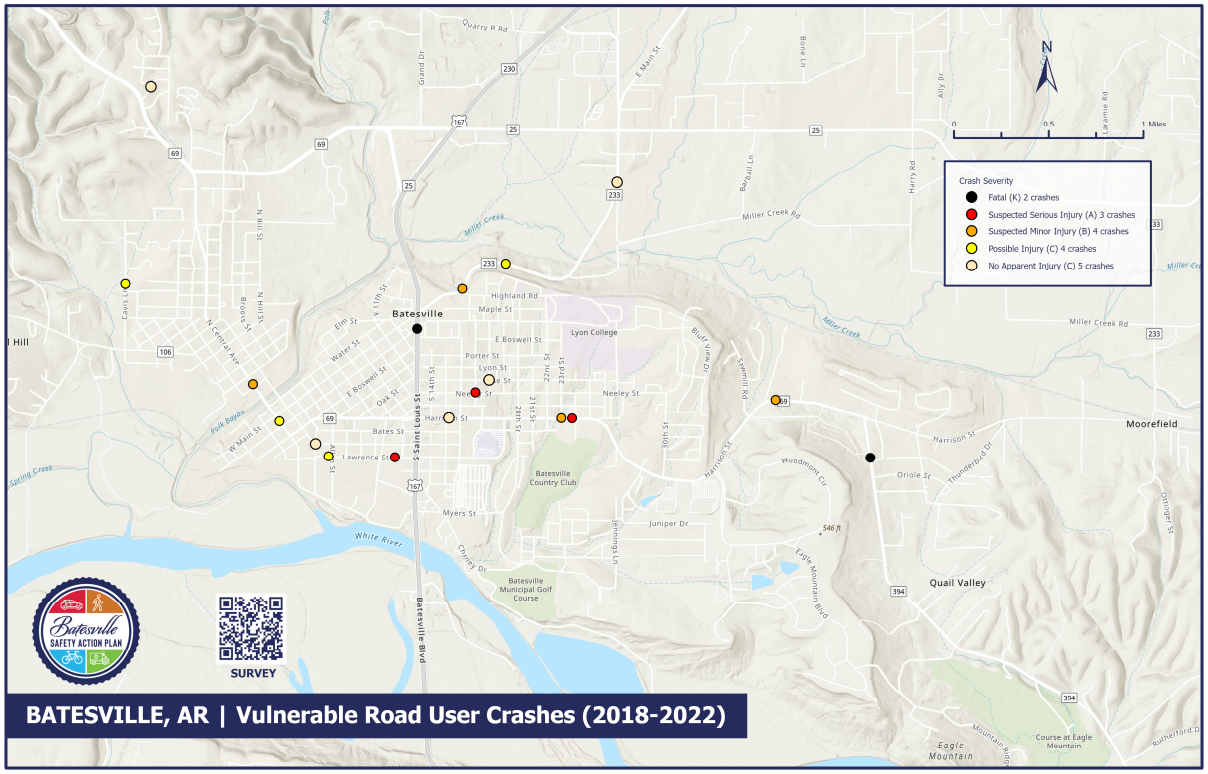


Figure 8: Non-Motorist Crashes (2018-2022)

Other factors should be considered along with the frequency and geospatial location of crashes. Crash rates help to normalize crash data by considering traffic volume data and roadway segment length. This helps to determine relative safety of locations compared with other similar roadways or intersections. The following section includes crash rate considerations as a part of the development of a High Injury Network.

2.2. High Injury Network

The geospatial identification of a High Injury Network (HIN) is a crucial part of the Batesville Safety Action Plan. It utilizes a data-driven approach to identify locations with the highest fatal and serious injury crashes as compared with other locations across the study area. The HIN is made up of a set of High Injury Segments and High Injury Intersections.

High Injury Network Methodology

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

1. **Spatial Join**
   Base roadway lines provided by ARDOT were geospatially mapped in a geographic information systems (GIS) database. Properties such as roadway functional classification and ADT were joined to the roadway lines. A nationwide transportation model dataset based off crowdsourced location data was used to estimate ADT where no traffic volumes were publicly available. The crash dataset was overlayed with the roadway lines by geospatial mapping according to each crash event's reported latitude and longitude.

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

   To provide context of high injury locations at intersections, each fatal and serious injury crash located within 250 feet of an intersection was spatially joined to the closest intersection by proximity.

   These spatial join processes produced two data sets:
   - Roadway lines with corresponding fatal and serious injury crash information
   - Intersection points with corresponding fatal and serious injury crash information

2. **Roadway Segmentation**
   All roadway lines associated with at least one fatal or serious injury crash were broken into roadway segments. This segmentation process was determined by roadway attributes such as ADT, posted speed limits, changes in elevation, intersections with other roadways, roadway section profile, presence of sidewalks, and land use. Where appropriate, gaps were filled between segments located closely to each other so that continuous and logical segments make up the HIN. Each of the resulting roadway segments represent a traveled way defined by unique road attributes that road users would experience while traveling on the segment. The resulting roadway segments have an average length of 0.35 miles.

3. **Ranking by Frequency of Fatal and Serious Injury Crashes**
   Once roadway segmentation was completed, the segments were ranked by total number of fatal and serious injury crashes. There were no more than three fatal and serious injury crashes per segment. Intersections with the highest number of fatal and suspected serious injury crashes were considered separately to determine the highest crash locations by intersection.

4. **Crash Rate Consideration**

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

5. **Selection of High Injury Segments and High Injury Intersections**

   The resulting segments were included in the HIN. The HIN includes 41 of the 50 total fatal and serious injury crashes in Batesville. All fatal and suspected serious injury crashes involving a non-motorist are included in the HIN. The HIN map is shown in **Figure 9**. Each of the roadway segments included in the HIN are shown in **Table 3**.



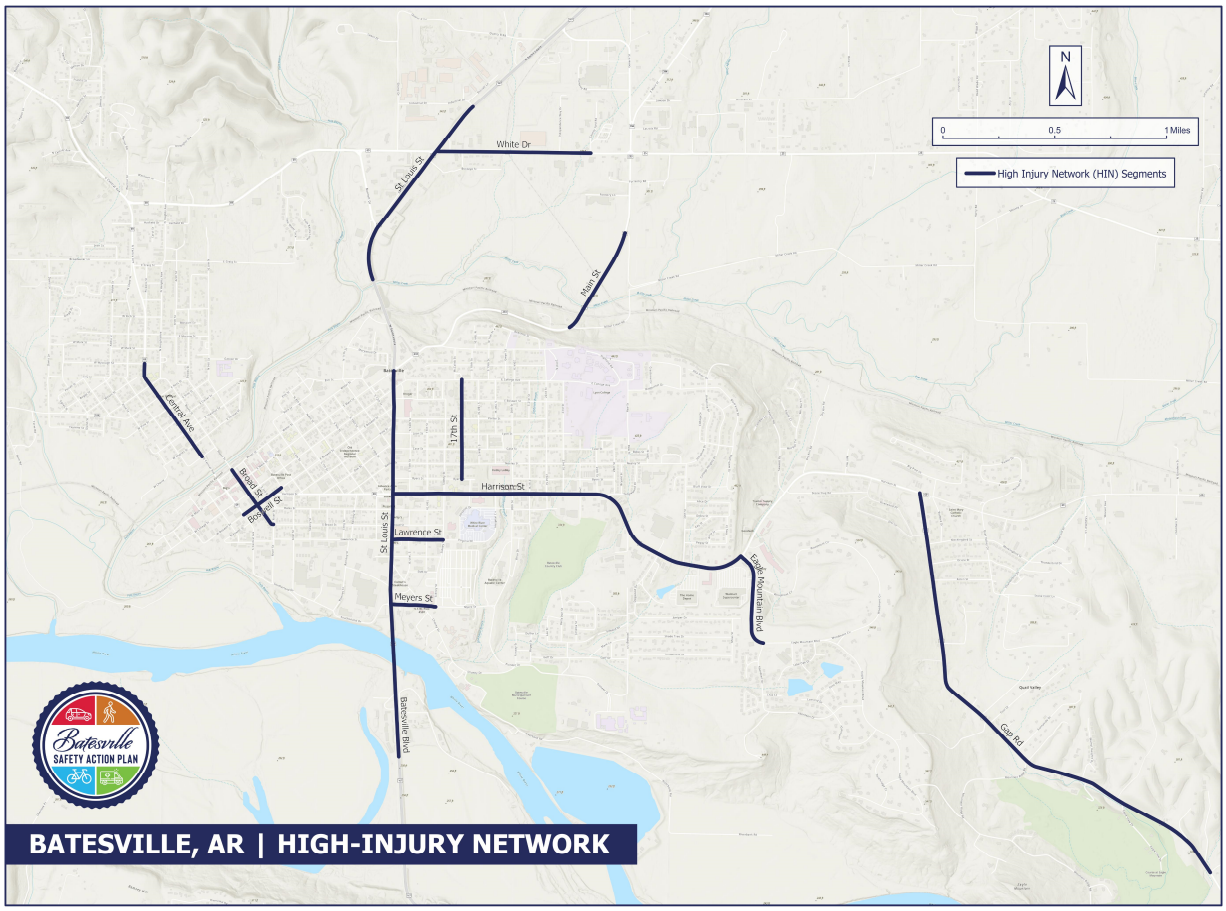


Figure 9: High Injury Network

Table 3: HIN Segments

Road	Boundaries	Fatal Crashes	Serious Injury Crashes	Fatal & Serious Injury Crashes
St Louis St	Lawrence St - Harrison St	1	2	3
St Louis St	Barnett Dr - Industrial Dr	0	3	3
Main St	Between Miller Creek Rd	2	0	2
Boswell St	Central Ave - 4th St	1	1	2
St Louis St	College Ave - Main St	1	1	2
Central Ave	Cherry St - Pine St	0	2	2
St Louis St	Kennedy Park - Myers St	0	2	2
White Dr	St. Louis St - Country Yard Rd	0	2	2
St Louis St	Porter St - College Ave	0	2	2
St Louis St	Harrison St - Case St	0	2	2
17th St	Byers St - College Ave	0	2	2
Gap Rd	Liberty Ln - Harrison St	1	0	1
St Louis St	Miller Creek - Barnett Dr	1	0	1
Myers St	St. Louis St - Sidney St	0	1	1
Harrison St	25th St - Dogwood Dr	0	1	1
Gap Rd	Mountain Ridge Rd - Liberty Ln	0	1	1
Broad St	River St - Water St	0	1	1
Harrison St	20th St - 25th St	0	1	1
Lawrence St	St. Louis St - Sidney St	0	1	1
Harrison St	Dogwood Dr - Eagle Mountain Blvd	0	1	1
St Louis St	Case St - Porter St	0	1	1
Harrison St	St. Louis St - Sidney St	0	1	1
Gap Rd	Rounds Rd - Mountain Ridge Rd	0	1	1
Central Ave	Baker St - Wycough St	0	1	1
Eagle Mountain Blvd	Aberdeen Dr - Harrison St	0	1	1
Batesville Blvd	City Limit - Kennedy Park	0	1	1
Harrison St	Sidney St - 20th St	0	1	1
St Louis St	Myers St - Lawrence St	0	1	1

2.3. Equity Analysis

Equity is an important part of the Batesville Safety Action Plan since it provides context to the needs and burdens experienced by the community. The USDOT Equitable Transportation Communities (ETC) national census tract data was used to help identify areas experiencing disadvantage due to historical underinvestment in transportation. It utilizes 2020 Census Tract information to analyze the following five components: Transportation Insecurity, Environmental Burden, Health Vulnerability, Social Vulnerability, and Climate and Disaster Risk Burden. Transportation Insecurity was considered as the most important component of the equity analysis since the goals of the Safety Action Plan seek to improve transportation safety.

Census tract information for the five census tracts located in the City of Batesville was downloaded from the USDOT ETC tool and carefully reviewed for accuracy. Although USDOT does not consider any of the census tracts in Batesville to be disadvantaged when compared to national and state level data, the data was carefully analyzed to determine areas experiencing the most disadvantage when compared to city level data. US Census Tract 4906 was determined to be experiencing the highest level of disadvantage with an estimated 30% of its population below the poverty level and an estimated 11% of its households without a vehicle. ETC Final Index Scores for US Census Tracts located in Batesville are shown in **Table 4** and **Figure 10**.

A weighted equity score ranging from 0 to 20 was assigned to each census tract based upon the final index score from the state results. This weighted equity score was applied to each segment ranking in an effort to ensure an equitable distribution of investment throughout the community.

Table 4: ETC Final Index Scores in Batesville

US Census Tract	National Results		State Results		Weighted Equity Score
	Final Index Score	Percentile	Final Index Score	Percentile	
4902	2.42	13.95%	2.67	30.42%	11
4903	2.81	38.29%	2.94	46.59%	16
4905	2.21	5.77%	2.09	9.73%	0
4906	3.08	56.58%	3.18	59.00%	20
4907*	2.68	29.61%	2.50	22.87%	8

*Census tracts 4907.01 and 4907.02 represented a small fraction of the City of Batesville and had very similar final index scores. For this reason, these two census tracts were averaged and are represented in the table above as Census Tract 4907.

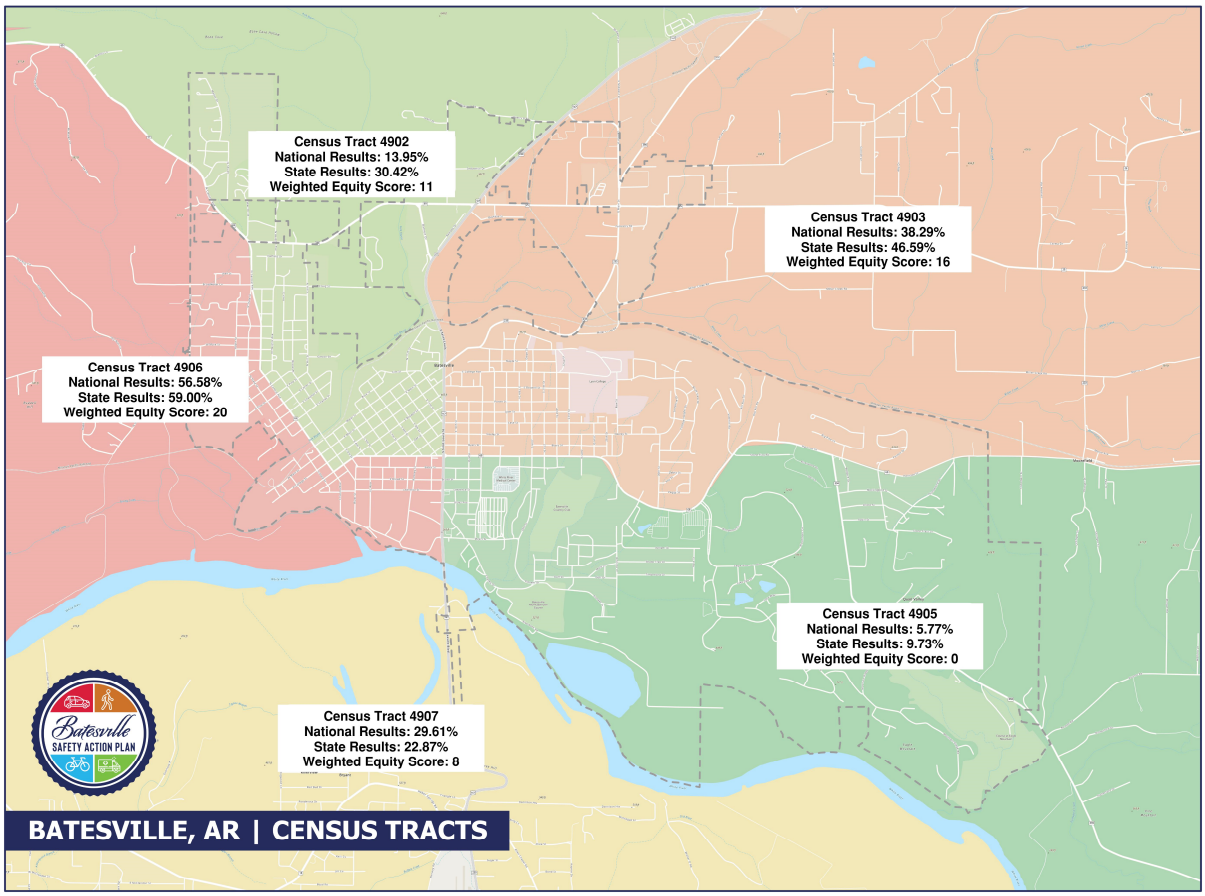


Figure 10: Census Tracts Map

3. Community Engagement and Collaboration

Community engagement and collaboration is a critical part of the Batesville Safety Action Plan since it includes local knowledge and experience related to roadway safety. Relevant stakeholders and the public were strategically engaged throughout the development of the plan to gather a representative collection of community input.

Collaboration between involved stakeholders and the City of Batesville is also a crucial part of the plan development since it encourages effective coordination with existing plans, processes, and policies.

3.1. Means of Engagement

In-Person Community Engagement

The in-person events were held at various indoor and outdoor locations spread geographically across Batesville with the intentions of reaching all types of communities.

In-person public engagement events included the following:

- Lyon College (Edwards Commons) on April 4, 2024 from 12:00 – 2:00 pm
- Batesville Community Center on April 4, 2024 from 6:00 – 7:30 pm
- City Maintenance Shop on May 2, 2024 from 2:00 – 3:00 pm
- West Magnet School (Library) on May 2, 2024 from 6:00 – 7:00 pm
- Levitt Amp Batesville Concert Series & Bike Batesville Event on June 6, 2024

Photos from in-person events are shown in **Figure 11** and **Figure 12**.



Figure 11: Batesville Community Center Public Engagement Event



Figure 12: Bike Batesville Event

Each in-person event consisted of large maps with crash data to provide context to crash occurrence locations. Members of the community were asked to share their own experiences related to road safety in Batesville and their input was noted. Participants were also encouraged to access the online survey with the provided personal computers at the events. Over the course of the in-person events, hundreds of project cards were handed out to point people to access the website. Digital advertisements were posted on the City's social media pages and printed flyers were posted around the city at public locations. The printed public engagement cards (front and back) utilized as advertisements for public participation and education are shown below in **Figure 13**.



Figure 13: Public Engagement Card

Stakeholder engagement was conducted through in-person and online events to both educate and garner input from relevant stakeholders in Batesville throughout the entirety of the project.

Several online stakeholder engagement meetings were held at key milestones throughout the development of the plan. This provided the opportunity for presenting project updates and collecting input from the Project Team. In-person stakeholder engagement events provided opportunities for hands-on engagement in the plan. These in-person events included the following:

- Project Kick Off Meeting on January 8, 2024
- Walk Audits along Harrison Street and Central Avenue on June 6, 2024
- Project Development Workshop on August 13, 2024



Figure 14: Project Development Workshop

A walk audit is an exercise where key stakeholders partake in a walking experience along a particular roadway or specific location within the community. The goal of the walk audit is to educate participants on roadway safety that specifically affect a non-motorist's experience. These walk audits discussed elements such as sidewalk conditions, pedestrian signal equipment, accessibility, and behaviors of all road users. Ideas for local road safety projects were also discussed during the walk audit to identify potential countermeasures for improving safety issues. The Batesville Safety Action Plan held walk audits on Harrison Street from 20th Street to St. Louis Street and Central Avenue from E Main Street to Ross Street.



Figure 15: Walk Audit Along Harrison Street



Figure 16: Walk Audit at Intersection of Harrison Street and St. Louis Street

Online and Virtual Community Engagement

Online engagement was conducted using an online website located at *www.BatesvilleSAP.com*. The online website provided members of the community with public access to information explaining the SS4A program, progress on the Batesville Safety Action Plan, a crash data analytics dashboard, survey, and public comment map for targeted location input. Some of the pages included on the Batesville Safety Action Plan website are shown below.



Figure 17: Home Page of the Website

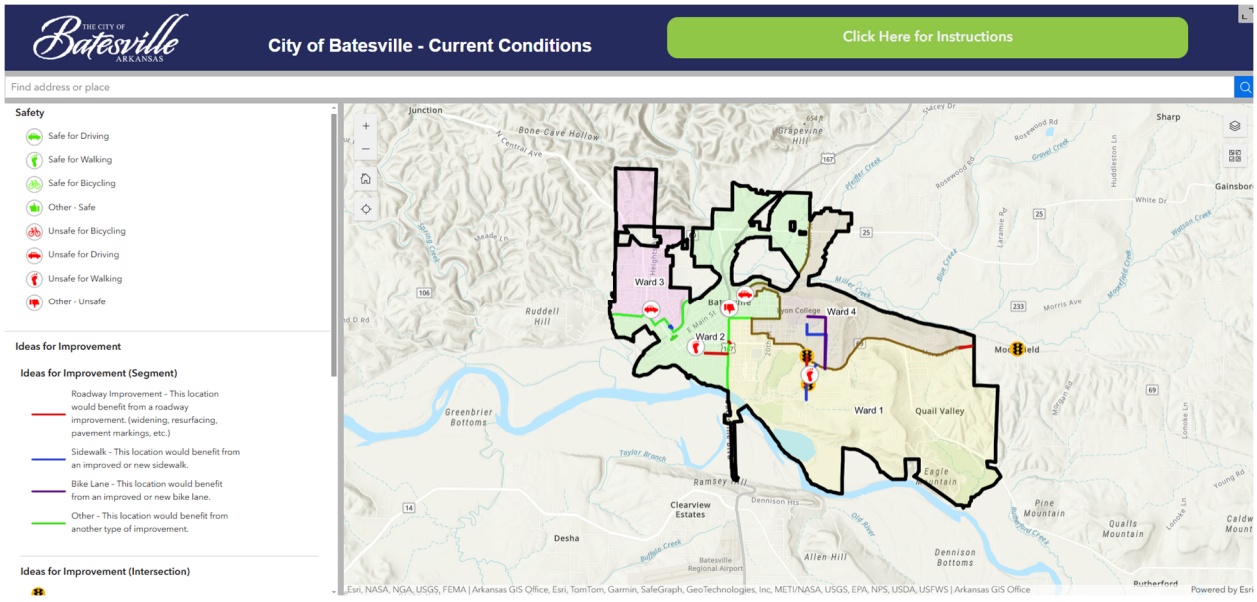


Figure 18: Online Public Comment Map

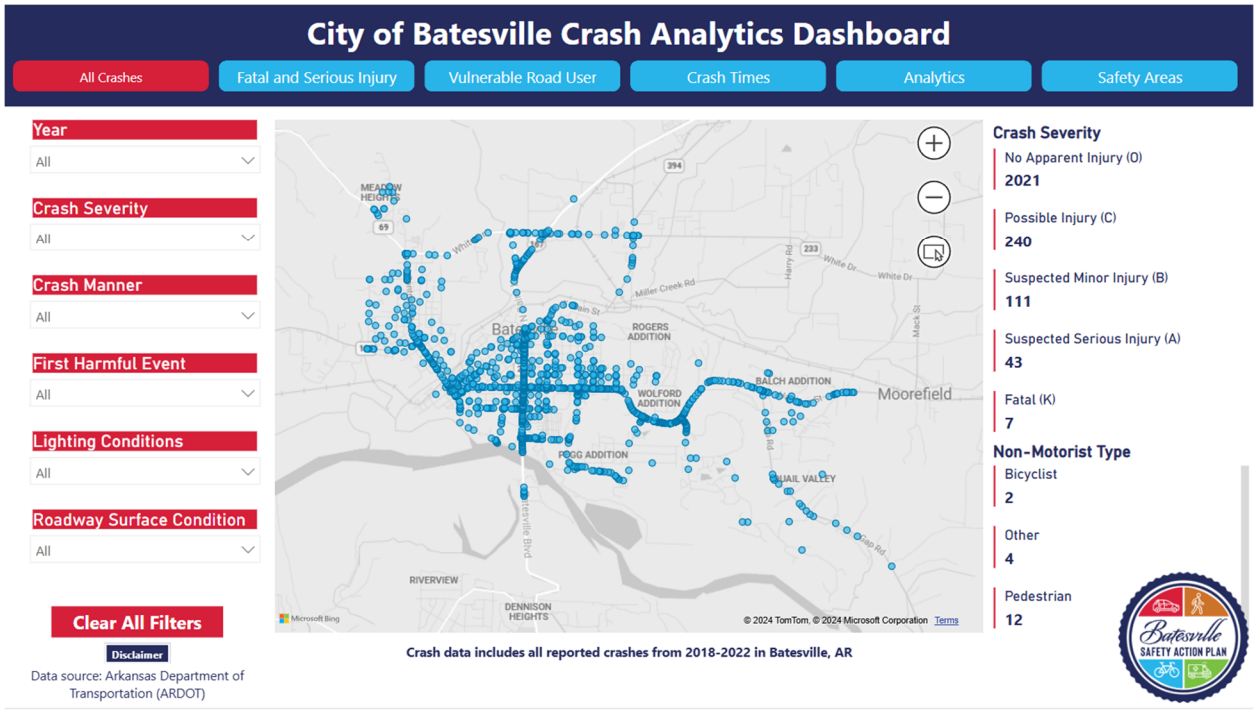


Figure 19: Online Crash Analytics Dashboard

3.2. Outcomes

During the project's engagement period, the project website had 276 total unique users and 809 total page views. The online survey received 74 total responses, and the online public comment map received 17 total comments.

The following intersections were most commonly mentioned across all means of engagement:

- College Avenue at St Louis Street
- Harrison Street at St Louis Street
- Myers Street at 20th Street
- Main Street at Highland Road

The following roadway segments were most commonly mentioned across all means of engagement:

- Jennings Lane
- 30th Street
- College Avenue
- Allen Street

The following systemic topics were most commonly mentioned across all means of engagement:

- Speeding
- Sidewalks
- Distracted driving
- Education

4. Prioritization

The prioritization process helps to identify locations that exhibit significant safety needs as compared to other locations across Batesville taking into account all factors contributing to roadway safety in the City. Crash data, census data, proximity to public services, proximity to proposed transportation projects, and public input were all considered in prioritizing locations. The outcome is a list of locations that require strategic investment of resources for future safety improvements, which directly aligns with the plan's goal of eliminating fatal and serious crashes in Batesville.

The original prioritization process was completed in 2024 and is outlined in this report. Since then, federal requirements have changed, and the equity component is no longer needed to be considered in the prioritization. The updated 2025 prioritization, not including equity, is shown in **Table 8** and **Table 9**.

4.1. Process

The prioritization process assigns scores to each High Injury Segment and High Injury Intersection so that locations can be ranked against each other based on similar criteria. The scoring criteria includes components related to crash data, census data, proximity to public services, proximity to proposed transportation projects, and public input. The prioritization scoring criteria and corresponding maximum point values are shown in **Table 5**.

Table 5: Scoring Criteria

Score Criteria	Scoring Components	Points
Crash Data	A - Number of Fatal and Serious Injury Crashes	**25**
	B - Number of Non-Motorist Crashes	**15**
	C - Total Number of Crashes	**15**
Census Data	USDOT Equitable Transportation Community (ETC) Disadvantage Component Scores	**20**
Location	A - Proximity to Public Services (Schools, Parks, Libraries, Grocery Stores, and Hospitals)	**10**
	B - Proximity to Proposed Transportation Projects	**5**
Public Input	Number of comments	**10**
	Total Points:	**100**

The crash data component makes up the largest portion of the score with a maximum of 55 points. This is consistent with the primary goal of the plan and focus of the SS4A program related to the reduction and elimination of fatal and serious injury crashes. Census data makes up the next largest portion of the score so that the needs and burdens experienced by the community are considered in the prioritization process. The proximity to public services and proposed transportation projects is considered in the prioritization so that existing amenities/destinations and future projects are considered. Lastly, public input collected through community engagement is considered so that local knowledge and experience is utilized during decision making processes. Each location can receive a maximum of 100 points.

4.2. Results

Each HIN Segment and High Injury intersection was scored based on the scoring criteria listed above. The resulting prioritization scores for all HIN segments and HIN intersections, ranked from highest to lowest total scores, are shown in **Table 7**, **Table 8**, and **Table 9**.

Table 6: All HIN Segments Prioritization Scores

Road	Boundaries	Total Score
Central Ave	Cherry St - Baker St	76
St Louis St	Lawrence St - Harrison St	75
St Louis St	College Ave - Main St	74
Harrison St	20th St - 25th St	68
Harrison St	St. Louis St - Sidney St	68
St Louis St	Harrison St - Case St	64
St Louis St	Porter St - College Ave	64
St Louis St	Barnett Dr - Industrial Dr	59
Broad St	River St - Water St	56
Main St	Between Miller Creek Rd	56
St Louis St	Myers St - Lawrence St	55
St Louis St	Kennedy Park - Myers St	54
Harrison St	Sidney St - 20th St	53
Harrison St	Dogwood Dr - Eagle Mountain Blvd	53
17th St	Byers St - College Ave	51
Boswell St	Central Ave - 4th St	46
Central Ave	Baker St - Wycough St	46
St Louis St	Case St - Porter St	44
Harrison St	25th St - Dogwood Dr	43
White Dr	St. Louis St - Country Yard Rd	41
Eagle Mountain Blvd	Aberdeen Dr - Harrison St	35
Myers St	St. Louis St - Sidney St	35
St Louis St	Miller Creek - Barnett Dr	34
Gap Rd	Liberty Ln - Harrison St	25
Lawrence St	St. Louis St - Sidney St	20
Batesville Blvd	City Limit - Kennedy Park	18
Gap Rd	Mountain Ridge Rd - Liberty Ln	10
Gap Rd	Rounds Rd - Mountain Ridge Rd	10

Table 7: All HIN Intersections Prioritization Scores

Intersection	Total Score
Harrison St at St Louis St	77
College Ave at St Louis St	74
Myers St at St Louis St	65
12th St at St Louis St	59
White Dr at St Louis St	54
Ross St at Central Ave	51
Boswell St at Broad St	46
Lawrence St at St Louis St	45
Mockingbird Dr at Gap Rd	25

Table 8: All HIN Segments Prioritization Scores without Equity

Road	Boundaries	Total Score
St Louis St	Lawrence St - Harrison St	65
Central Ave	Cherry St - Baker St	60
St Louis St	College Ave - Main St	60
Harrison St	20th St - 25th St	60
Harrison St	St. Louis St - Sidney St	60
St Louis St	Harrison St - Case St	50
St Louis St	Porter St - College Ave	50
St Louis St	Barnett Dr - Industrial Dr	45
St Louis St	Myers St - Lawrence St	45
St Louis St	Kennedy Park - Myers St	45
Harrison St	Sidney St - 20th St	45
Harrison St	Dogwood Dr - Eagle Mountain Blvd	45
Broad St	River St - Water St	40
Main St	Between Miller Creek Rd	40
17th St	Byers St - College Ave	35
Harrison St	25th St - Dogwood Dr	35
Eagle Mountain Blvd	Aberdeen Dr - Harrison St	35
Myers St	St. Louis St - Sidney St	35
Boswell St	Central Ave - 4th St	30
Central Ave	Baker St - Wycough St	30
St Louis St	Case St - Porter St	30
White Dr	St. Louis St - Country Yard Rd	25
Gap Rd	Liberty Ln - Harrison St	25
St Louis St	Miller Creek - Barnett Dr	20
Lawrence St	St. Louis St - Sidney St	20
Batesville Blvd	City Limit - Kennedy Park	10
Gap Rd	Mountain Ridge Rd - Liberty Ln	10
Gap Rd	Rounds Rd - Mountain Ridge Rd	10

Table 9: All HIN Intersections Prioritization Scores without Equity

Intersection	Total Score
Harrison St at St Louis St	65
College Ave at St Louis St	60
Myers St at St Louis St	55
12th St at St Louis St	45
White Dr at St Louis St	40
Ross St at Central Ave	35
Lawrence St at St Louis St	35
Boswell St at Broad St	30
Mockingbird Dr at Gap Rd	25

The resulting prioritization scores were carefully reviewed to determine which segments should be considered as prioritized locations for future improvements. Where appropriate, roadway segments located closely to each other were combined to make continuous and logical segments. Each of the resulting roadway segments represent a traveled way defined by unique road attributes that could benefit from a proposed project.

Seven roadways were selected as prioritized locations. The results revealed that all the prioritized intersections are located along the prioritized roadway segments. As a result, the seven prioritized roadway segments contain the prioritized intersections.



Figure 20: Central Avenue near Ross Street



Figure 21: St. Louis Street at Harrison Street



Figure 22: 17th Street at Neeley Street

Crash data from 2023 was made available by ARDOT during the development of the plan. Therefore, 2023 crash data located within the City of Batesville was obtained and reviewed to verify that no new high injury segments or locations needed to be reconsidered prior to developing recommendations. The additional year of crash data confirmed general trends related to frequency and location of fatal and serious injury crashes. However, one additional high injury intersection location was identified within the 2023 crash data analysis. The intersection of St. Louis Street at Barnett Drive experienced one fatal and one serious injury crash during 2023. As a result, the intersection of St. Louis Street at Barnett Drive was identified as an additional prioritized location along with the seven previously prioritized roadway segments. The eight prioritized locations, ranked by priority, are shown in **Table 10** and overlaid with the remaining High Injury Network segments in **Figure 23**.

Table 10: Prioritized Locations

Priority	Road	Boundaries
1	St Louis St	Myers St - Harrison St
2	Central Ave	Cherry St - Wycough St
3	Harrison St	St. Louis St - 25th St
4	St Louis St	Harrison St - Main St
5	Broad St	River St - Water St
6	17th St	Byers St - College Ave
7	Main St	Between Miller Creek Rd
Priority	**Intersection**	
8	St Louis St at Barnett Dr	

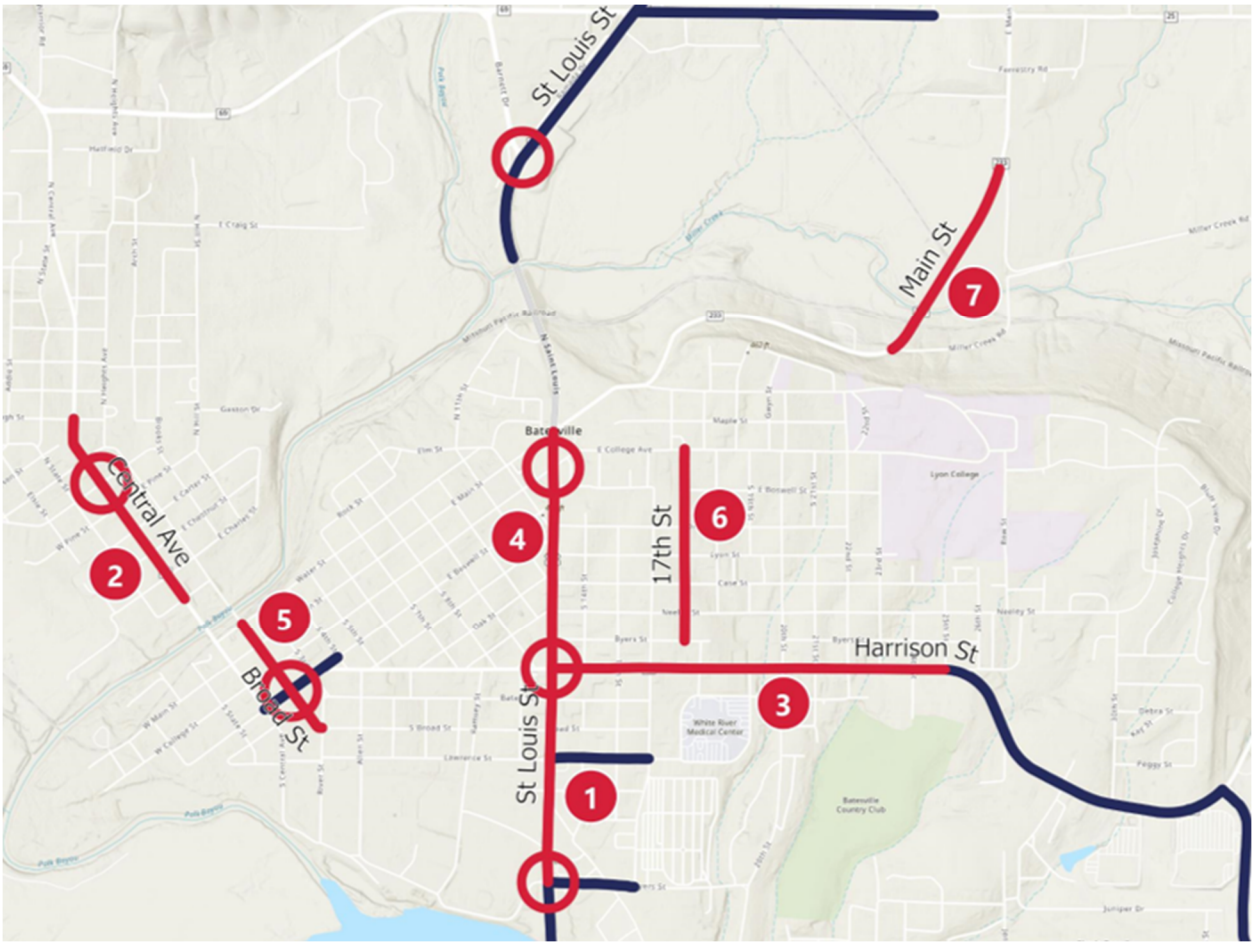


Figure 23: Prioritized Locations Map

5. Countermeasures and Strategies

Strategic selection of safety countermeasures and strategies can help to implement the *Safe System Approach* so that redundant layers of protection are built into the road network to prevent crashes and minimize their severity. A safety countermeasure is defined as a specific action designed to mitigate existing or predicted safety issues. Countermeasures oftentimes include physical materials targeting a specific location or type of crash. A strategy is defined as a high-level plan intended to guide efforts towards mitigating existing or predicted safety issues. Strategies oftentimes include plans or policies encouraging stakeholders and road users to mitigate life-threatening crashes.

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

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

This section provides a variety of specific countermeasures and strategies that can be utilized at targeted locations and systemically across the entire road network to help reduce fatal and serious injury crashes in Batesville. While these 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 sections below are a comprehensive list of countermeasures that can be applied in Batesville. The following are the countermeasures that came up most often during engagement efforts and reviews with City staff when discussing roadway safety in Batesville:

- Appropriate Speed Limits
- Corridor Access Management
- Roundabouts
- Crosswalk Visibility Enhancements
- Walkways
- Lighting

5.1. FHWA's Proven Safety Countermeasures

The Federal Highway Administration's (FHWA) Proven Safety Countermeasures (PSC) provide twenty-eight countermeasures and strategies that can offer significant and measurable improvements to safety affecting all road users. Each countermeasure addresses at least one of the USDOT's safety focus areas, which include speed management, intersections, roadway departures, and pedestrians/bicyclists. Some of the PSC's are considered crosscutting, which identifies countermeasures that address more than one safety focus area at a time.

The twenty-eight PSC's, broken up by safety focus area, are as follows:

Speed Management

- **Speed Safety Cameras (Short-term)**
  This technology can detect speeding vehicles and store the data for use in a ticket, ultimately encouraging drivers to slow down to acceptable speeds. Arkansas state law currently requires an officer to be present and limits the use of speed safety cameras to school zones, railroad crossings, and highway work zones.
- **Variable Speed Limits (Mid-term)**
  This technology allows for a real-time change of the posted speed limit to accommodate varying driving conditions such as congestion, crashes, and weather. Variable speed limits can mitigate unexpected safety issues by providing safer driving conditions.
- **Appropriate Speed Limits for All Road Users (Immediate)**
  This strategy utilizes an engineering study conducted in accordance with the *Manual on Uniform Traffic Control Devices* (MUTCD) along with engineering judgement to determine the appropriate speed limit for road users. This speed limit determination should also consider non-motorist activity, crash history, nearby land use, and observed speeds.

Roadway Departure

- **Wider Edge Lines (Immediate)**
  This countermeasure increases driver awareness of the edge of the travel lane, effectively reducing likelihood of roadway departure crashes. The installation of wider edge lines provides a high benefit cost ratio with the significant safety improvements and low cost of materials and labor.
- **Enhanced Delineation for Horizontal Curves (Immediate)**
  This strategy includes a variety of countermeasures aimed at increasing driver awareness of curves. Pavement markings, retroreflective strips on sign posts, delineators, chevron signs, and dynamic curve warning signs can be used to enhance delineation for horizontal curves.
- **Longitudinal Rumble Strips and Stripes on Two-Lane Roads (Short-term)**
  These countermeasures provide textured pavement strips and pavement markings to increase driver awareness of the edge of the travel lane, effectively reducing the likelihood of roadway departure crashes. This countermeasure provides a high benefit cost ratio with its generally low cost of implementation and significant safety benefits.
- **SafetyEdge^{SM} (Short-term)**
  This technology provides a thirty-degree slope on a roadways edge of pavement. This reduces the pavement edge's vertical drop off and provides vehicles with an opportunity to regain control during a potential roadway departure crash event.
- **Roadside Design Improvements at Curves (Short-term)**
  This strategy includes a variety of countermeasures aimed at improving safety at roadside areas along the outside of horizontal curves. Widened shoulders, flattened

side slopes, widened clear zones, barriers, and guardrails can be used to improve roadside design at curves.

- **Median Barriers (Mid-term)**
  This countermeasure aims to redirect vehicles departing the roadway into a median. These barriers can be made of cable, concrete, or metal-beam guardrail.



Figure 24: North Main Street

Intersections

- **Backplates with Retroreflective Borders (Immediate)**
  This countermeasure utilizes a retroreflective yellow border to improve signal head visibility during both daytime and nighttime.
- **Corridor Access Management (Long-term)**
  This strategy aims to reduce potential conflicts between road users through the strategic control of entry and exit points along a corridor. Reducing driveway density, managing space between intersections, restricting specific movements, raised medians, and roundabouts can be used individually or in combination to improve corridor access management.
- **Dedicated Left- and Right-Turn Lanes at Intersections (Mid-term)**
  This countermeasure utilizes auxiliary turn lanes to provide physical separation for turning vehicles to decelerate or stop in a queue of vehicles prior to a turn.
- **Reduced Left-Turn Conflict Intersections (Mid-term)**
  This countermeasure adjusts the design of a left turn to reduce the likelihood of dangerous crashes. Restricted crossing U-turns and median U-turns are two effective designs that reduce left-turn conflicts at intersections.

- **Roundabouts (Mid-term)**
  This countermeasure is designed to reduce vehicle speeds and potential conflict points by utilizing channelized approaches and circulating traffic flow. When installed at the appropriate locations, roundabouts can reduce delay and queueing when compared to other intersection alternatives.
- **Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections (Immediate)**
  This strategy includes a variety of countermeasures aimed at improving signing and marking across many stop-controlled intersections. Doubled-up oversized advance intersection warning signs, retroreflective sheeting on sign posts, enhance pavement marking that delineate through lane edge lines, properly placed stop bar, removal of vegetation, and double arrow warning sign at the stem of T-intersections are low-cost countermeasures effective in improving safety at stop-controlled intersections.
- **Yellow Change Intervals (Immediate)**
  This countermeasure evaluates signal timing based on the MUTCD's requirements and recommendations concerning yellow change interval timing. An appropriately timed yellow signal indication can reduce red light running or rear-end crashes at signalized intersections.



Figure 25: Intersection of St. Louis Street at College Avenue

Pedestrians/Bicyclists

- **Crosswalk Visibility Enhancements (Immediate)**
  This strategy includes various countermeasures to improve the visibility of crosswalks and their users to drivers. High-visibility crosswalks, improved lighting, and enhanced signing and pavement markings are countermeasures used to effectively enhance crosswalk visibility. An example of a midblock crosswalk without these visible enhancements is shown in **Figure 26**.
- **Bicycle Lanes (Mid-term)**
  This countermeasure provides a dedicated lane for bicyclists to travel in a different lane than motorized vehicles. It decreases potential conflicts with vehicles and provides a more attractive and comfortable environment for bicyclists. Separated bicycle lanes, which use vertical elements—such as flexible delineator posts, curbs, or vegetation—between the bicycle lane and motorized traffic lanes provide additional safety benefits. For a marked bike lane without vertical elements, a lateral offset with marked buffer can help to further separate bicyclists from vehicle traffic.
- **Rectangular Rapid Flashing Beacons (RRFB) (Short-term)**
  This device utilizes rectangular-shaped, flashing lights to increase awareness of pedestrians crossing a roadway. RRFB's supplement marked crosswalks and accompany a pedestrian warning sign. An engineering study should be conducted in accordance with the MUTCD to determine the appropriate application of an RRFB. An RRFB are typically mounted on the side of the road but can incorporated with signs overhead for increased visibility and effectiveness.
- **Leading Pedestrian Interval (LPI) (Immediate)**
  This countermeasure modifies signal timing so that pedestrians can enter the intersection approximately three to seven seconds before vehicles receive a green light. LPI's can reduce potential conflicts and increase the visibility of pedestrians crossing a roadway, especially for vehicles making turning movements. An engineering study should be conducted in accordance with the MUTCD to determine the appropriate application of an LPI at a signalized intersection.
- **Median and Pedestrian Refuge Islands in Urban and Suburban Areas (Long-term)**
  A median creates physical separation between opposing traffic by use of pavement markings, raised medians, or islands. A pedestrian refuge is a specific type of median that provides a protected area for pedestrians crossing a roadway. Medians and pedestrian refuges can improve safety by effectively reducing vehicle speeds and decreasing crossing distance for non-motorists.
- **Pedestrian Hybrid Beacons (PHB) (Mid-term)**
  This device utilizes a signal to stop vehicles and provide the right-of-way to pedestrians crossing a roadway. PHB's are generally installed at uncontrolled intersections or midblock locations and are mounted overhead like traditional traffic signals. An engineering study should be conducted in accordance with the MUTCD to determine the appropriate application of a PHB.
- **Road Diets (Roadway Reconfiguration) (Long-term)**

This countermeasure reduces the amount of travel lanes and oftentimes the lane widths so that allocation of space can be utilized for alternative uses. Roadway reconfigurations can reduce vehicle speeds, reduce potential conflict points, and allocate dedicated space for non-motorists.

- **Walkways (Mid-term)**
  This countermeasure provides a dedicated sidewalk for pedestrians. It decreases potential conflicts with vehicles and provides a more attractive and comfortable environment for pedestrians.



Figure 26: Harrison Street near 23rd Street

Crosscutting

- **Pavement Friction Management (Short-term)**
  This countermeasure utilizes textured pavement to enhance friction and skid resistance for vehicles. Pavement friction management can reduce roadway departure, rear-end, and non-motorist crashes, especially at curves, steep grades, and intersections that require road users to come to sudden stops.
- **Lighting (Mid-term)**
  This countermeasure provides improved visibility for all road users through adequate light sources. Lighting is especially important for improving safety of non-motorists at intersections and pedestrian crossings.
- **Local Road Safety Plans (LRSP) (Short-term)**
  This strategy mimics a Safety Action Plan in that it provides a strategic framework for preventing roadway fatalities and serious injuries for all road users. LRSP's focus on

safety improvements for local roads, while aligning with any overlapping state SHSP or regional Safety Action Plan.

- **Road Safety Audit (RSA) (Short-term)**
  This strategy utilizes a multidisciplinary team to identify safety issues along a particular roadway and identify potential solutions for safety improvements. RSA's should be conducted as early as possible in a project's development process so that safety issues can be mitigated and solved before construction is completed.

More information on PSC's and data supporting their effectiveness can be found in FHWA's *Making Our Roads Safer | One Countermeasure at a Time* technical report.

5.2. National Highway Traffic Safety Administration's Countermeasures That Work

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

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

Speeding and Speed Management

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

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

Motorcycle Safety

As compared to drivers of other motorized vehicles, motorcyclists are more vulnerable due to their lack of protective structure, smaller size, and poor visibility. As a result, the rate of life-threatening crashes for motorcycles is significantly higher compared with other motorized vehicles. Considering the vulnerability of motorcyclists in roadway design and implementing

strategies to encourage safe motorcycle use can be used together in improving motorcycle safety. Some effective motorcycle safety strategies include:

- Universal motorcycle helmet use laws (Short-term)
- GDL for motorcyclists (Short-term)
- Motorcycle rider training (Short-term)

Pedestrian Safety

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

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

Seat Belt and Child Restraint

Research shows that the appropriate use of seat belts and child restraints is the most effective way to reduce fatalities and serious injuries. It is paramount for all people traveling in motorized vehicles to wear their restraint device correctly. Some effective seat belt and child restraint strategies include:

- Primary enforcement seat belt use laws (Immediate)
- Strong child passenger safety laws (Short-term)
- Increased fines for seat belt law violations (Short-term)
- Short-term, high-visibility seat belt law enforcement (Immediate)
- Short-term, high-visibility child passenger safety law enforcement (Immediate)
- Nighttime, high-visibility seat belt law enforcement (Immediate)

Young Drivers

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

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

Older Drivers

The normal aging process can affect older drivers' physical and cognitive abilities related to driving behaviors. These conditions present an anticipated, yet complex, safety issue affecting all road users. Some effective older driver countermeasures and strategies include:

- License screening and testing (Short-term)
- Licensing agency referrals (Immediate)
- License restrictions (Immediate)
- Formal courses for older drivers (Short-term)

More information on effective safety countermeasures and strategies considering human behavior for all road users can be found in NHTSA's *Countermeasures That Work* technical report.

5.3. Other Relevant Countermeasures

Intersection Reconfiguration (Long-term)

This countermeasure modifies or redesigns an intersection to improve safety by targeting existing or predicted safety issues. Reconfiguring an intersection could include the realignment of intersection approaches, reduction of travel lanes, addition of turning lanes, or reallocation of roadway space for various road users. An intersection reconfiguration requires in-depth analysis, design, and collaboration between key stakeholders to successfully balance effects on safety and mobility.

ADA-Compliant Curb Ramp (Short-term)

This countermeasure provides safe transitions between sidewalks and crossings located on paved roadway surfaces. Curb ramps are designed for non-motorists and meet specific requirements outlined in the Americans with Disabilities Act (ADA) to provide safer transportation for users with physical disabilities. Refer to the Public Right-of-Way Accessibility Guidelines (PROWAG) for more information on curb ramps. See **Figure 27**.

Accessible Pedestrian Signals (APS) Push Buttons (Short-term)

This countermeasure communicates critical crossing information to pedestrians using visual, audible, and vibrational queues where pedestrian facilities meet signalized intersections. Refer to the Public Right-of-Way Accessibility Guidelines (PROWAG) for more information on APS push buttons.

Pavement Markings and Signage (Immediate)

These countermeasures provide road users with consistent guidance for safer and more navigable roadways. Pavement markings and signage should comply with the MUTCD and align with any applicable local standards.

Decrease Lane Width (Short-term)

This countermeasure decreases the width of a lane or all lanes along a specified section of roadway. Decreasing lane width can encourage slower speeds, increase effective shoulder widths, and increase buffer between vehicles and non-motorists.

Emergency Vehicle Preemption (EVP) Signal Equipment (Short-term)

This countermeasure utilizes signal equipment to detect emergency vehicles during an emergency response and provide green lights when approaching a signalized intersection, which can reduce potential conflicts and overall emergency response time.

Traffic Signal Coordination Along Corridor (Mid-term)

This countermeasure utilizes signal equipment and real-time communication to provide smoother progression of traffic along a corridor. Traffic signal coordination can reduce the number of abrupt stops caused by signalized intersections and create more predictable gaps in traffic flow for turning vehicles. An engineering study should be conducted to determine the appropriate implementation of equipment and signal timing for a specified corridor.

Automatic Gates at Railroad Crossing (Long-term)

This countermeasure detects approaching trains and notifies road users of the train at grade crossings. Automatic gates at railroad crossings can include automatic gate systems, flashing-light signals, and traffic control signals. The physical barrier and visual warning could prevent collisions between road users and trains.



Figure 27: Driveways Along St. Louis Street

5.4. Other Relevant Strategies

Arkansas SHSP

The *Arkansas SHSP* identifies strategies that target the state's most critical roadway safety challenges. Some of the strategies found in the plan that are particularly applicable to safety issues in Batesville consist of the following:

- Increase enforcement of distracted driving laws (Immediate)
- Increase enforcement of impaired driving laws (Immediate)
- Continue to implement countermeasures, programs, and policies to protect non-motorists (Immediate)
- Focus education efforts aimed at safety and awareness of laws regarding non-motorist (Immediate)
- Increase high visibility enforcement to reduce crashes associated with aggressive driving (Immediate)
- Update the speed limit setting process (Immediate)

Towards Zero Deaths (TZD)

The *Towards Zero Deaths (TZD): A National Strategy on Highway Safety* identifies strategies that target the nation's most critical roadway safety challenges. Some of the strategies found in the plan that are particularly applicable to safety issues in Batesville include the following:

- Implement technologies to prohibit or limit cell phones and electronic equipment while vehicle is in motion (Long-term)
- Develop .08 equivalent for marijuana impairment (Mid-term)
- Consider implementation of roundabouts where appropriate (Mid-term)
- Implement pedestrian awareness programs targeting pedestrian visibility and impaired walking (Short-term)
- Implement education programs for school-age pedestrians aimed at eliminating pedestrian fatalities (Short-term)

6. Recommendations

The plan's data-driven analysis, considered along with stakeholder and public input, helped to identify transportation safety issues across the City of Batesville. Effective countermeasures and strategies were carefully reviewed and selected as recommendations to best fit the needs and goals of the Batesville Safety Action Plan. Both targeted and systemic recommendations were identified to reduce fatal and serious injury crashes at specific locations and across the entire road network in Batesville.

6.1. Targeted

Targeted recommendations are identified for each of the eight prioritized locations determined through the plan's prioritization process. These recommendations include

countermeasures and strategies targeting locations where fatal and serious injury crashes have occurred in recent years.

Targeted recommendations are provided for each of the following eight prioritized locations:

1. St. Louis Street (US 167) between Myers Street and Harrison Street
2. Central Avenue (AR-69) between Cherry Street and Wycough Street
3. Harrison Street (AR-69) between St. Louis Street and 25th Street
4. St. Louis Street (US 167) between Harrison Street and Main Street
5. Broad Street between River Street and Water Street
6. 17th Street between Byers Street and College Avenue
7. Main Street (AR-233) between Miller Creek Road
8. St. Louis Street at Barnett Drive

Each of the eight prioritized locations include one sheet summarizing the location and one sheet providing recommendations. Information related to historical crash data, census data, roadway characteristics, existing conditions, and public input are included in the location's first sheet. Each location's second sheet includes recommendations for safety improvements. Additional information pertaining to each recommendation is indicated by the following icons:

- The yellow and black star symbol represents a countermeasure that specifically targets the crash types of the fatal and/or serious injury crashes located in the prioritized location. Since the goal of the plan is to reduce these types of crashes, countermeasures directly related to this reduction are notated with a star.
- The blue check mark symbol represents a countermeasure identified as a Proven Safety Countermeasure by the Federal Highway Administration (FHWA).
- The green check mark represents a countermeasure directly related to non-motorists.
- The orange check mark represents a countermeasure supported by a quality Crash Modification Factor according to the Crash Modification Factors Clearinghouse.

1 St. Louis Street (US 167)

Between Myers Street and Harrison Street

☑ **Includes High Injury Network Segment(s)**
☑ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Other Principal Arterial
Speed Limit: 35 mph
Number of Lanes: 4
Roadway Section: Two-way, not divided, with a continuous left turn lane
Roadway Grade: Crest
Roadway Alignment: Straight
Presence of Sidewalks: Varies
Average Daily Traffic: Approximately 23,000 vehicles per day

Census Data

Census Tract 4905 (5.77%) & Census Tract 4906 (56.58%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Existing Conditions

Access Management: High density of intersections and access driveways.
Sight Distance: Steep vertical grades provide limited stopping sight distances.
Sidewalks: Sidewalk presence is inconsistent. Some sections provide no pedestrian path.
Pedestrian Signals: Limited pedestrian signal crossings along segment.

Public Input

Intersection Improvement: Slip lanes at intersection of Harrison St & St. Louis St cause crashes.
Unsafe for Driving: The intersection of Harrison St & St. Louis St is dangerous
Traffic Congestion: Eastbound left turn from Southerland Dr onto St. Louis St is difficult due to traffic congestion.

Crash Data (2018-2022)

Crash Severity

No Apparent Injury (O)
405

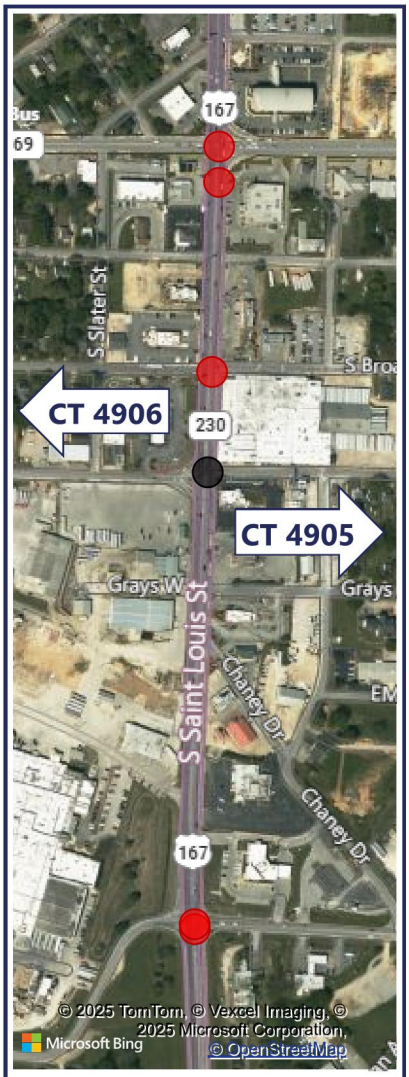
Possible Injury (C)
29

Suspected Minor Injury (B)
20

Suspected Serious Injury (A)
5

Fatal (K)
1

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Severity

Fatal (K)
Suspected Serious Injury (A)

Crash Data Source: Arkansas Department of Transportation (ARDOT)

1 St. Louis Street (US 167)

Between Meyers Street and Harrison Street

Countermeasures Summary

The countermeasures identified for St. Louis Street (US 167) between Meyers Street and Harrison Street are intended to to address the recent fatal and serious injury crashes along this segment, which include majority angle crashes with one rear end crash. All of these crashes are located at or near an intersection.

An Access Management Plan should be conducted to identify possible modifications of intersections with minor roads or driveways so that conflict points are reduced along the corridor. An intersection reconfiguration should be considered at St. Louis Street's skewed intersection at Chaney Drive. It is recommended to implement appropriate traffic signal timing and coordination along this corridor to manage abrupt stops, potential rear-end crashes, and speeding. Pavement markings, sidewalks, curb ramps, and lighting should be upgraded along the corridor as needed to improve driver awareness and accessibility for all road users.

Countermeasures Locations



Along Entire Segment: 1 8 11

As Needed Along Segment: 6 7 10

	ID	Countermeasure Name	Source Matrix
★	1	Improve Lighting	✓ ✓
★	2	Intersection Reconfiguration (Requires Additional Study)	✓
	3	Install Yellow Retroreflective Signal Backplates	✓ ✓
★	4	Implement Signal Coordination Along Corridor	
	5	Install APS Push Buttons	✓
	6	Install ADA-Compliant Curb Ramp(s)	✓
	7	Install Sidewalk	✓ ✓ ✓
★	8	Evaluate Speed Limit & Implement Various Speed Reducing Countermeasures	✓
	9	Install Emergency Vehicle Preemption (EVP)	
	10	Repair/Replace Striping & Markings to Conform to MUTCD	
★	11	Access Management Plan (Supplemental Planning Study)	✓
	12	Install Pedestrian Refuge Island	✓ ✓ ✓

2 Central Avenue (AR-69)

Between Cherry Street and Wycough Street

Batesville SAFETY ACTION PLAN

☑ **Includes High Injury Network Segment(s)**
☑ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Minor Arterial
Speed Limit: 35 mph
Number of Lanes: 2
Roadway Section: Two- way, not divided
Roadway Grade: Level
Roadway Alignment: Straight & Curve
Presence of Sidewalks: 5 ft wide sidewalks offset from roadway
Average Daily Traffic: 5,000-10,000 vehicles per day

Crash Data (2018-2022)

Crash Severity

No Apparent Injury (O)
43

Possible Injury (C)
12

Suspected Minor Injury (B)
7

Suspected Serious Injury (A)
3

Non-Motorist Type

Pedestrian
1

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Severity ● Suspected Serious Injury (A)

Public Input

Traffic Congestion: The intersection of Central Avenue & Ross Street / AR-106 experiences traffic congestion during peak hours.
Unsafe for Driving: The intersection of Central Avenue & Ross Street / AR-106 is dangerous and provides too tight of a turning radius for large trucks.

Census Data

Census Tract 4902 (13.95%) & Census Tract 4906 (56.58%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Summary from Project Team Walk Audit:

- Sidewalks deteriorating in most sections and missing some sections all together
- Existing curb ramps are not ADA compliant and most crossings are missing crosswalk markings
- Intersection of Central Avenue & Ross Street / AR-106 presents dangerous conditions during peak hours, particularly with Dollar General driveway located close to intersection

Crash Data Source: Arkansas Department of Transportation (ARDOT)

2 Central Avenue (AR-69)

Between Cherry Street and Wycough Street

Countermeasures Summary

The countermeasures identified for Central Avenue (AR-69) between Cherry Street and Wycough Street are intended to to address the recent serious injury crashes along this segment, which include one angle, one head on, and one rear-end crash. Two of these serious injury crashes occurred at the intersection of Central Avenue (AR-69) at Ross Street (AR-106). One crash along this segment involved a non-motorist and resulted in a minor injury.

The intersection of Central Avenue (AR-69) at Ross Street (AR-106) is prioritized with several potential countermeasures aiming to reduce conflict points, slow down traffic, and improve overall traffic operations. Each of this intersection's potential countermeasures are to be evaluated in detail before selection and implementation by the City. It is also recommended to improve pedestrian safety and accessibility by installing or repairing sidewalks, high visibility crosswalks, and ADA-compliant curb ramps as needed along the segment.

Countermeasures Locations



Along Entire Segment: 8 9 10 11

As Needed Along Segment: 6

ID	Countermeasure Name	Source Matrix
1	Install Rectangular Rapid Flashing Beacon (RRFB) - (Requires Additional Study)*	✓ ✓ ✓
★ 2	Install Left-Turn Lane(s)*	✓
3	Replace Standard Stop Sign with Flashing LED Stop Sign	✓
4	Implement Signing and Marking Improvements (Stop Controlled)	✓
5	Install Bicycle Lane(s)	✓ ✓ ✓
6	Improve Lighting	✓ ✓
★ 7	Convert Intersection to Roundabout (Requires Additional Study)*	✓ ✓
8	Install ADA-Compliant Curb Ramp(s)	✓
9	Repair Sidewalk	✓ ✓ ✓
10	Install and Enhance High-Visibility Crosswalk(s)	✓ ✓ ✓
11	Improve Lighting	✓ ✓

***Central Avenue at Ross Street** - The recommended countermeasures for this intersection are not all intended to be installed together. The applicable countermeasure(s) for this intersection should be dependent on appropriate engineering studies and the City's decision on implementation.

3 Harrison Street (AR-69)

Between St. Louis Street and 25th Street

☑ **Includes High Injury Network Segment(s)**
☑ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Principal Arterial
Speed Limit: 40 mph
Number of Lanes: 4
Roadway Section: Two- way, not divided, with a continuous left turn lane
Roadway Grade: Sag and Crest
Roadway Alignment: Straight
Presence of Sidewalks: 6 ft wide sidewalks along both face of curbs
Average Daily Traffic: Approximately 19,000 vehicles per day

Public Input

Sight Issues: Poor sight distance for vehicles on side streets (especially at 16th St and 23rd St)
Traffic Congestion: Along Harrison St (especially at St. Louis St and 20th St) during peak hours
Roadway Improvement: Slip lanes at intersection of Harrison St & St. Louis St cause crashes
Unsafe for Driving: Intersection of Harrison St & St. Louis St is dangerous

Crash Data (2018-2022)

Crash Severity

No Apparent Injury (O)
421

Possible Injury (C)
43

Suspected Minor Injury (B)
25

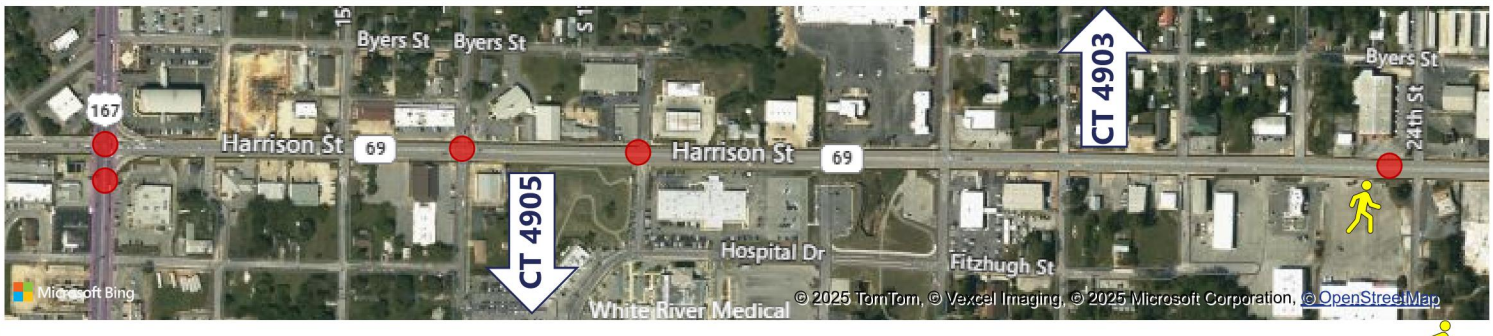
Suspected Serious Injury (A)
5

Non-Motorist Type

Other
1

Pedestrian
2

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Severity ● Suspected Serious Injury (A)

Pedestrian Related

Census Data

Census Tract 4905 (5.77%) & Census Tract 4903 (38.29%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Crash Data Source: Arkansas Department of Transportation (ARDOT)

3 Harrison Street (AR-69)

Between St. Louis Street and 25th Street

Countermeasures Summary

The countermeasures identified for Harrison Street (AR-69) between St. Louis Street and 25th Street are intended to to address the recent serious injury crashes along this segment, which include an angle, head-on, rear-end, and two single vehicle crashes. Three crashes along this segment involved a non-motorist with one of them resulting in a serious injury.

An Access Management Plan should be conducted to identify possible modifications of intersections with minor roads or driveways so that conflict points are reduced along the corridor. It is recommended to implement traffic signal coordination along this corridor to manage abrupt stops, potential rear-end crashes, and speeding. A Pedestrian Hybrid Beacon (PHB) and Rectangular Rapid Flashing Beacon (RRFB) are recommended to provide strategic and safe crossings for pedestrians. Further study is required to determine appropriate device and location for pedestrian crossings prior to implementation. Pavement markings, curb ramps, and lighting should be upgraded along the corridor as needed to improve driver awareness and accessibility for all road users.

Countermeasures Locations



Along Entire Segment: 4 5 7 9 11 12

As Needed Along Segment: 2 8

	ID	Countermeasure Name	Source Matrix
★	1	Install Pedestrian Hybrid Beacon (PHB) - (Requires Additional Study)	✓ ✓ ✓
★	2	Enhance High-Visibility Crosswalk(s)	✓ ✓ ✓
★	3	Increase Length of Signal Phases to Allow Pedestrians More Crossing Time	✓ ✓
★	4	Improve Lighting	✓ ✓
	5	Decrease Lane Width from 11 Feet to 10 Feet	✓
	6	Install Yellow Retroreflective Signal Backplates	✓ ✓
	7	Reduce Driveway Density (10-24 to less than 10 per mile)	✓ ✓
	8	Install ADA-Compliant Curb Ramp(s)	✓
★	9	Evaluate Speed Limit & Implement Various Speed Reducing Countermeasures	✓
	10	Install Emergency Vehicle Preemption (EVP)	
★	11	Access Management Plan (Supplemental Planning Study)	✓
★	12	Implement Signal Coordination Along Corridor	✓
	13	Install Rectangular Rapid Flashing Beacon (RRFB) - (Requires Additional Study)	✓ ✓ ✓

4 St. Louis Street (US 167)

Between Harrison Street and Main Street

☑ **Includes High Injury Network Segment(s)**
☑ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Other Principal Arterial
Speed Limit: 35 mph
Number of Lanes: 4
Roadway Section: Two-way, not divided, with a continuous left turn lane
Roadway Grade: Sag and Crest
Roadway Alignment: Straight
Presence of Sidewalks: Varies
Average Daily Traffic: Approximately 23,000 vehicles per day

Existing Conditions

Access Management: High density of intersections and access driveways.
Sight Distance: Steep vertical grades provide limited stopping sight distances.
Sidewalks: Sidewalk presence is inconsistent with some sections providing no pedestrian path.
Pedestrian Signals: Only three intersections provide pedestrian signal phasing. No intersection provide pedestrian signal phasing for all four directions.

Crash Data (2018-2022)

Crash Severity

No Apparent Injury (O)
332

Possible Injury (C)
33

Suspected Minor Injury (B)
15

Suspected Serious Injury (A)
7

Fatal (K)
1

Non-Motorist Type

Pedestrian
1

Public Input

Sight Issues: Poor sight distance for vehicles on side streets (Boswell St)
Intersection Improvement: Northbound right movement at intersection of Porter St & St. Louis St is tight. Westbound right movement at intersection of College Ave and St. Louis St is difficult.
Unsafe for Driving: The intersections of Harrison St & St. Louis St and College Ave & St. Louis St are dangerous
Other: Southbound traffic travels at high speeds. Many drivers run red lights.

Census Data

Census Tract 4902 (13.95%) & Census Tract 4903 (38.29%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Data Source: Arkansas Department of Transportation (ARDOT)

4 St. Louis Street (US 167)

Between Harrison Street and Main Street

Countermeasures Summary

The countermeasures identified for St. Louis Street (US 167) between Harrison Street and Main Street are intended to address the recent fatal and serious injury crashes, which include three angle, three single vehicle, one head-on, and one rear-end crashes. One of the fatal crashes located at the intersection of St. Louis Street (US 167) and College Avenue involved a non-motorist.

An Access Management Plan should be conducted to identify possible modifications of intersections with minor roads or driveways so that conflict points are reduced along the corridor. Safe vertical and horizontal sight distances should be achieved to provide adequate time for driver reactions. It is recommended to implement appropriate traffic signal timing and coordination along this corridor to manage abrupt stops, potential rear-end crashes, and speeding. Pavement friction, sidewalks, curb ramps, and lighting should be upgraded along the corridor as needed to improve driver awareness and accessibility for all road users.

Countermeasures Locations



Along Entire Segment: 2 6 9

As Needed Along Segment: 1 4 5 10

	ID	Countermeasure Name	Source Matrix
	1	Increase Skid Resistance	✓ ✓
★	2	Improve Lighting	✓ ✓
	3	Install APS Push Buttons	✓
	4	Install ADA-Compliant Curb Ramp(s)	✓
	5	Install Sidewalk	✓
★	6	Evaluate Speed Limit & Implement Various Speed Reducing Countermeasures	✓
	7	Install Emergency Vehicle Preemption (EVP)	✓ ✓ ✓
	8	Implement Signal Coordination Along Corridor	
★	9	Access Management Plan (Supplemental Planning Study)	✓
	10	Install Pedestrian Refuge Island	✓ ✓ ✓
★	11	Intersection Reconfiguration (Requires Additional Study)	

***St Louis St at College Ave** - The recommended countermeasures for this intersection are not all intended to be installed together. The applicable countermeasure(s) for this intersection should be dependent on appropriate engineering studies and the City's decision on implementation.

5 Broad Street

Between River Street and Water Street

☑ **Includes High Injury Network Segment(s)**
☑ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Major Collector
Speed Limit: 35 mph
Number of Lanes: 2
Roadway Section: Two- way, not divided
Roadway Grade: Level
Roadway Alignment: Straight
Presence of Sidewalks: 5 feet wide (varies by location)
Average Daily Traffic: Approximately 2,000 vehicles per day

Crash Data (2018-2022)

Crash Severity

No Apparent Injury (O)
31

Possible Injury (C)
7

Fatal (K)
1

Suspected Minor Injury (B)
1

Suspected Serious Injury (A)
1

Non-Motorist Type

Bicyclist
1

Public Input

Roadway Improvement: Road needs to be repaved.

Existing Conditions

Sidewalk: Sidewalk exists along entirety of segment along one or both sides of Broad St
Intersections: Broad St & Boswell St is currently a two-way stop-controlled intersection; however, it was a signalized intersection before 2019. Main St and College Ave are one-way crossing streets.
Other: On-street parking along both sides of road north of Boswell St.

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Severity

Fatal (K)
Suspected Serious Injury (A)

Census Data

Census Tract 4902 (13.95%) & Census Tract 4906 (56.58%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Crash Data Source: Arkansas Department of Transportation (ARDOT)

5 Broad Street
Between River Street and Water Street

Countermeasures Summary

The countermeasures identified for Broad Street between River Street and Water Street are intended to to address the recent fatal and serious injury crashes along this segment, which include two angle crashes. One non-motorist crash occurred along this segment.

The intersection of Broad Street at Boswell Street is prioritized with several potential countermeasures aiming to reduce potential conflict points, slow down traffic, and improve overall traffic operations. Each of this intersection's potential countermeasures are to be evaluated in detail before selection and implementation by the City. It is also recommended to upgrade signage and markings for compliance with MUTCD as needed along the segment to improve safety and awareness for all road users.

Countermeasures Locations



As Needed Along Segment: 1 2 4 5

ID	Countermeasure Name	Source Matrix
1	Install/Replace Stripings, Markings, and Signs to Conform to MUTCD	✓
2	Install ADA-Compliant Curb Ramp(s)	✓
★ 3	Convert Intersection to Roundabout (Requires Additional Study)	✓ ✓
4	Provide "Stop Ahead" pavement markings	✓
5	Repair Sidewalk	✓ ✓ ✓

6 17th Street

Between Byers Street and College Avenue

☑ **Includes High Injury Network Segment(s)**
☐ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Local
Speed Limit: Assumed 25 mph
Number of Lanes: 2
Roadway Section: Two-way, not divided
Roadway Grade: Crest and level
Roadway Alignment: Straight
Presence of Sidewalks: None
Average Daily Traffic: Approximately 200 vehicles per day

Existing Conditions

Sight Distance: Steep vertical grades provide limited stopping sight distances.
Sidewalks: No pedestrian paths exist along 17th street.
Roadway: Roadway travel lanes are approximately 10 feet wide with no shoulder.

Crash Data (2018-2022)

Crash Severity

No Apparent Injury (O)
7

Possible Injury (C)
1

Suspected Serious Injury (A)
2

Non-Motorist Type

Bicyclist
1

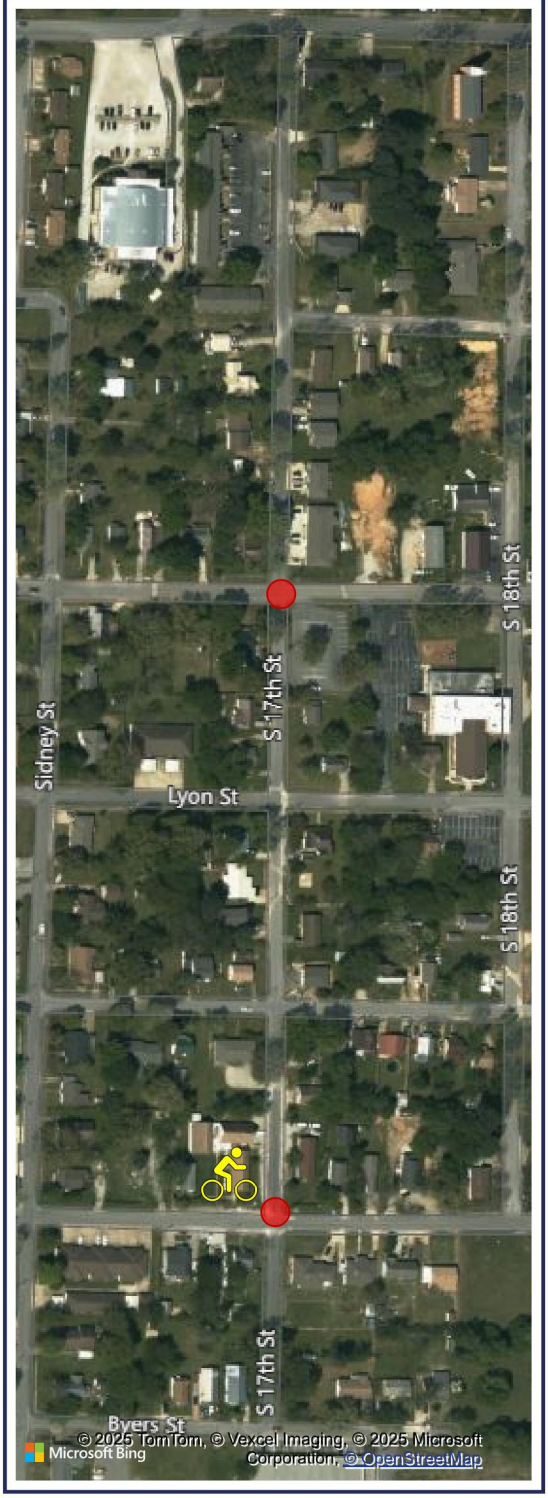
Crash Severity
Fatal (K)
Suspected Serious Injury (A)
Bicycle Related

Census Data

Census Tract 4903 (38.29%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Data Source: Arkansas Department of Transportation (ARDOT)

6 17th Street

Between Byers Street and College Avenue

Countermeasures Summary

The countermeasures identified for 17th Street between Byers Street and College Avenue are intended to address the recent serious injury crashes along this segment, which include an angle and single vehicle crash. One of these serious injury crashes located at the intersection of 17th Street and Neeley Street involved a non-motorist.

The stop controlled intersections along 17th Street are to be prioritized with recommendations including improvements to pavement markings, signage, and lighting to increase awareness at traffic crossings. It is also recommended to install speed feedback signs along 17th Street to emphasize the lower speed in a residential area.

Countermeasures Locations



Along Entire Segment: 1

As Needed Along Segment: 5

ID	Countermeasure Name	Source Matrix	
1	Provide Intersection Illumination	✓	✓
★ 2	Implement Signing and Marking Improvements (Stop Controlled)	✓	✓
3	Install supplemental intersection shaped pavement markings		✓
4	Replace standard stop sign with flashing LED stop sign		✓
5	Install Speed Feedback Sign(s)	✓	✓

7 Main Street (AR-233)
Between Miller Creek Road

☑ **Includes High Injury Network Segment(s)**
☐ **Includes High Injury Intersection(s)**

Roadway Characteristics

Functional Class: Minor Arterial
Speed Limit: 55 mph
Number of Lanes: 2
Roadway Section: Two- way, not divided
Roadway Grade: Level & Crest
Roadway Alignment: Straight & Curve
Presence of Sidewalks: None
Average Daily Traffic: Approximately 4,700 vehicles per day

Crash Data (2018-2022)

Crash Severity

Fatal (K)
2

No Apparent Injury (O)
1

Census Data

Census Tract 4903 (38.29%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Fatal and Suspected Serious Injury Crash Map (2018-2022)



Crash Severity ● Fatal (K)

Existing Conditions:

- Steep grade on north side of segment.
- Two railroad crossings along this segment. One at-grade crossing and one above grade crossing.
- No lighting.
- Advance signage exists for at-grade railroad crossing.
- Longitudinal rumble strips exist on edge lines.

Public Input

Unsafe for Driving: Dangerous drop off with no guardrail near curves between Main St and soccer complex.

Crash Data Source: Arkansas Department of Transportation (ARDOT)

7 Main Street (AR-233)

Between Miller Creek Road

Countermeasures Summary

The countermeasures identified for Main Street (AR-233) between Miller Creek Road are intended to address the recent fatal injury crashes along this segment, which include a head-on and single vehicle crash.

It is recommended to prioritize countermeasures that decrease potential roadway departure crashes. Improved pavement markings and rumble strips would aim to increase driver awareness. Pavement skid resistance, widened shoulders, and guardrail are recommended to act as physical barriers to roadway departure crashes.

Countermeasures Locations



Along Entire Segment: 1

As Needed Along Segment: 2 3 5 6 7 8 9 10

	ID	Countermeasure Name	Source Matrix	
★	1	Install Centerline and Shoulder Rumble Strips		✓
★	2	Widen Shoulder		✓
	3	Install Lighting	✓	✓
★	4	Install Automatic Gates at Railroad Crossing		✓
★	5	Install Raised Pavement Markers		✓
★	6	Install Transverse Rumble Strips on Approach to Horizontal Curve(s)		✓
	7	Install Speed Feedback Sign(s)	✓	✓
	8	Increase Skid Resistance	✓	✓
★	9	Install Guardrail Along Embankment		✓

8 St. Louis Street at Barnett Drive
Signalized Intersection

☑ **Includes High Injury Network Segment(s)**
☑ **Includes High Injury Intersection(s)**

Intersection Characteristics

Intersection Type: T intersection
Control Type: Signalized
Speed Limit: 45 mph along St. Louis St and 55 mph along Barnett Dr
Number of Lanes: 4 lanes along St. Louis St and 2 lanes along Barnett Dr
Roadway Section: Two-way, not divided, with a continuous left turn lane along St. Louis St and two-way, not divided along Barnett Dr
Roadway Grade: Level
Roadway Alignment: Curve to the south and straight to north
Average Total Entering Volume: Approximately 19,000 vehicles per day

Existing Conditions

Sight Distance: Horizontal curves limit sight distance on eastbound and northbound approaches of intersection
Sidewalks: Approximately 5 ft wide sidewalks offset several feet from curb of St. Louis St
Pavement Markings: South and west legs provide crosswalk markings, including slip lane on west leg
Signal Phasing: Traffic signal provides protected/permissive phasing to northbound left movement
Pedestrian Signal Equipment: South and west legs of intersection provide push buttons and displays for pedestrian crossings.
Lighting: Luminaire lighting exists at intersection

Crash Data (2018-2023)

Crash Severity

No Apparent Injury (O)
61

Possible Injury (C)
7

Suspected Minor Injury (B)
3

Fatal (K)
1

Suspected Serious Injury (A)
1

Fatal and Suspected Serious Injury Crash Map (2018-2023)



Crash Severity

Fatal (K)
Suspected Serious Injury (A)

Public Input

Unsafe for Driving: The tire mart, car wash, and gas station turning movements create unsafe driving conditions.

Note

This location was not originally considered as a prioritized intersection. The addition of 2023 crash data showed a fatal and serious injury crash, which made this location a prioritized intersection.

Census Data

Census Tract 4902 (13.95%) &
Census Tract 4903 (38.29%)

(USDOT considers a Census Tract with >65% as a Disadvantaged Community)

Crash Data Source: Arkansas Department of Transportation (ARDOT)

8 St. Louis Street at Barnett Drive

Signalized Intersection

Countermeasures Summary

The countermeasures identified for St. Louis Street at Barnett Drive are intended to address the recent fatal and serious injury crashes at this intersection, which include an angle and rear end crash.

It is recommended to prioritize countermeasures that provide safer traffic operations at the signalized intersection. An engineering study could determine if providing a separated turn lane, consolidating driveways, or adjusting clearance intervals would improve safety.

Countermeasures Locations



At Intersection: 2 3

	ID	Countermeasure Name	Source Matrix	
★	1	Consolidate Driveways into Fourth Leg of Intersection (Requires Additional Study)*	✓	✓
	2	Install Yellow Retroreflective Signal Backplates	✓	✓
	3	Optimize Signal Timing/Phasing & Adjust Yellow Clearance Intervals		✓
★	4	Provide Right-Turn Lane	✓	✓
	5	Restrict Left-Turn Movement at Driveway(s) - (Requires Additional Study)		

* The recommended countermeasures for this intersection are not all intended to be installed together. The applicable countermeasure(s) for this intersection should be dependent on appropriate engineering studies and the City's decision on implementation.

6.2. Systemic

Systemic recommendations are identified to mitigate common safety issues across the entire road network. These recommendations include countermeasures and strategies that can be widely implemented in Batesville to improve redundancy of safety layers across many roadways.

Countermeasures Toolbox

A Countermeasures Toolbox was developed to provide a matrix showing effectiveness of countermeasures when targeting specific crash types or safety emphasis areas. FHWA Proven Safety Countermeasures were compared separately against crash types targeted and Arkansas SHSP Emphasis Areas. The City of Batesville can utilize the Countermeasures Toolbox in future years to help identify appropriate countermeasures in response to ongoing crash events.

Countermeasures Toolbox

FHWA Proven Safety Countermeasures and Crash Types Targeted

FHWA Focus Area	FHWA Proven Safety Countermeasure	Crash Types Targeted													
		Angle	Fixed Object	Head On	Left-Turn	Nighttime	Pedestrian/ Bicyclist	Rear End	Right-Turn	Rollover	Run-Off-Road/ Single Vehicle	Sideswipe, opposite direction	Sideswipe, same direction	Speed-related	Wet
Speed Management	Appropriate Speed Limits for All Road Users	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Speed Safety Cameras	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Variable Speed Limits	-	-	-	-	-	-	Yes	-	-	-	-	Yes	Yes	Yes
Pedestrian/Bicyclist	Bicycle Lanes	-	-	-	-	-	Yes	-	-	-	-	-	-	-	-
	Crosswalk Visibility Enhancements	-	-	-	-	Yes	Yes	-	-	-	-	-	-	-	-
	Leading Pedestrian Interval	-	-	-	-	-	Yes	-	-	-	-	-	-	-	-
	Medians and Pedestrian Refuge Islands in Urban and Suburban Areas	-	-	-	-	-	Yes	-	-	-	-	-	-	-	-
	Pedestrian Hybrid Beacons	-	-	-	-	-	Yes	-	-	-	-	-	-	-	-
	Rectangular Rapid Flashing Beacons (RRFB)	-	-	-	-	Yes	Yes	-	-	-	-	-	-	-	-
	Road Diets (Roadway Reconfiguration)	Yes	-	Yes	Yes	-	Yes	Yes	-	-	-	Yes	Yes	Yes	-
	Walkways	-	-	-	-	-	Yes	-	-	-	-	-	-	-	-
Roadway Departure	Enhanced Delineation for Horizontal Curves	-	Yes	Yes	-	Yes	-	-	-	Yes	Yes	Yes	-	Yes	Yes
	Longitudinal Rumble Strips and Stripes on Two-Lane Roads	-	Yes	Yes	-	-	-	-	-	-	Yes	-	Yes	-	Yes
	Median Barriers	-	Yes	Yes	-	-	-	-	-	Yes	Yes	Yes	-	-	-
	Roadside Design Improvements at Curves	-	Yes	-	-	-	-	-	-	Yes	Yes	-	-	Yes	-
	SafetyEdge℠	-	Yes	Yes	-	-	-	-	-	Yes	Yes	Yes	-	-	-
	Wider Edge Lines	-	Yes	-	-	Yes	-	-	-	Yes	Yes	-	-	-	Yes
Intersections	Backplates with Retroreflective Borders	Yes	-	-	Yes	Yes	-	Yes	Yes	-	-	-	-	-	Yes
	Corridor Access Management	Yes	-	-	Yes	-	Yes	Yes	Yes	-	-	-	Yes	-	-
	Dedicated Left- and Right-Turn Lanes at Intersections	Yes	-	-	Yes	-	-	Yes	Yes	-	-	Yes	Yes	-	-
	Reduced Left-Turn Conflict Intersections	Yes	-	-	Yes	-	-	-	-	-	-	-	-	-	-
	Roundabouts	Yes	-	Yes	Yes	-	Yes	-	-	-	-	Yes	-	Yes	-
	Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections	Yes	-	-	Yes	Yes	-	Yes	Yes	-	-	-	-	Yes	Yes
	Yellow Change Intervals	Yes	-	Yes	Yes	-	-	Yes	-	-	-	Yes	Yes	Yes	-
Crosscutting	Lighting	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	Yes
	Local Road Safety Plans	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Pavement Friction Management	Yes	-	-	-	Yes	Yes	Yes	-	-	Yes	-	-	Yes	Yes
	Road Safety Audit	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Countermeasures Toolbox
FHWA Proven Safety Countermeasures and Arkansas Strategic Highway Safety Plan Emphasis Areas

		Arkansas SHSP Emphasis and Focus Areas											
		Safe Road Users						Safe Vehicles		Safe Roads and Safe Speeds			
FHWA Focus Area	FHWA Proven Safety Countermeasure	Occupant Protection	Older Drivers	Younger Drivers	Impaired Driving	Distracted Driving	Non-Motorists	Large CMVs	Motorcycles	Speeding and Aggressive Driving	Roadway Departures	Intersections
Speed Management	Appropriate Speed Limits for All Road Users	-	-	Yes	-	-	-	-	-	Yes	-	-
	Speed Safety Cameras	-	-	Yes	-	-	-	-	-	Yes	-	-
	Variable Speed Limits	-	-	-	-	-	-	-	-	-	-	-
Pedestrian/Bicyclist	Bicycle Lanes	-	-	-	-	-	Yes	-	-	-	-	-
	Crosswalk Visibility Enhancements	-	-	-	-	-	Yes	-	-	-	-	-
	Leading Pedestrian Interval	-	-	-	-	-	Yes	-	-	-	-	-
	Medians and Pedestrian Refuge Islands in Urban and Suburban Areas	-	-	-	-	-	Yes	-	-	-	-	-
	Pedestrian Hybrid Beacons	-	-	-	-	-	Yes	-	-	-	-	-
	Rectangular Rapid Flashing Beacons (RRFB)	-	-	-	-	-	Yes	-	-	-	-	-
	Road Diets (Roadway Reconfiguration)	-	-	-	-	-	Yes	-	-	Yes	-	-
	Walkways	-	-	-	-	-	Yes	-	-	-	-	-
Roadway Departure	Enhanced Delineation for Horizontal Curves	-	Yes	Yes	Yes	Yes	-	-	-	-	Yes	-
	Longitudinal Rumble Strips and Stripes on Two-Lane Roads	-	Yes	Yes	Yes	Yes	-	-	-	-	Yes	-
	Median Barriers	-	-	-	-	-	-	-	-	-	Yes	-
	Roadside Design Improvements at Curves	-	-	-	-	-	-	-	-	-	Yes	-
	SafetyEdge℠	-	Yes	Yes	Yes	Yes	-	-	-	-	Yes	-
	Wider Edge Lines	-	-	-	-	-	-	-	-	-	Yes	-
Intersections	Backplates with Retroreflective Borders	-	Yes	Yes	Yes	Yes	-	-	-	-	-	Yes
	Corridor Access Management	-	-	-	-	-	-	-	-	-	-	Yes
	Dedicated Left- and Right-Turn Lanes at Intersections	-	-	-	-	-	-	-	-	-	-	Yes
	Reduced Left-Turn Conflict Intersections	-	-	-	-	-	-	-	-	-	-	Yes
	Roundabouts	-	-	-	-	-	-	-	-	Yes	-	Yes
	Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections	-	Yes	Yes	Yes	Yes	-	-	-	Yes	-	Yes
	Yellow Change Intervals	-	Yes	Yes	Yes	Yes	-	-	-	Yes	-	Yes
Crosscutting	Lighting	-	-	-	-	-	-	-	-	-	-	-
	Local Road Safety Plans	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes	-	-
	Pavement Friction Management	-	Yes	Yes	Yes	Yes	-	-	-	Yes	-	-
	Road Safety Audit	-	Yes	Yes	Yes	Yes	Yes	-	-	Yes	-	-

Policy Recommendations

Construction Traffic Control

Some stakeholders expressed concern regarding excavation within the right of way. Problems often arise if outside utility contractors improperly close existing roads or sidewalks to make utility repairs and/or do not responsibly clean up and/or restore the infrastructure to its previous condition. City Ordinance 2021-07-01 could potentially be modified to place ultimate liability on the utility owner, which may improve compliance. Additionally, the ordinance could require the permittee to provide a maintenance of traffic plan (or temporary traffic control plan) prior to approval in non-emergency situations. This would likely improve work zone safety.

Corridor Access Management

Access management, or the control of entry and exit points along a roadway, can improve safety for all modes of transportation by reducing the number of conflict points encountered by drivers, pedestrians, and cyclists. The City's subdivision ordinance currently supports access management in residential areas by restricting driveway access to arterial streets and discouraging driveway access to collector streets. Driveways for commercial/office or Planned Community Development (PCD) subdivisions on arterial streets are required to be located at least 300 feet apart and no closer than 100 feet to the right-of-way of any intersecting street.

Additional language may increase enforceability in specific situations, such as development or redevelopment of small parcels, by outlining specific exceptions, when necessary, with more detail. These changes could further improve safety by imposing appropriate minimum distances between access points on collector and local streets as well. Additionally, cross-access easements could be required via the zoning ordinance, encouraging or requiring shared driveways where appropriate.

As is commonly the case, many of Batesville's corridors most in need of access management are also state highways. Unfortunately, the Arkansas Department of Transportation (ARDOT) does not, in general, regulate access management. However, ARDOT does support municipalities in the adoption of corridor-specific access management plans.

Complete Streets

Batesville's Street Master Plan is a comprehensive document that effectively plans bicycle and pedestrian infrastructure for every street in the city. While the document is only 5 years old, there have been several advancements regarding bicycle and pedestrian infrastructure in that time. The most notable of these is the release of the 5th edition of the AASHTO Guide for the Development of Bicycle Facilities, the document's first update in over a decade, and the 11th edition of the MUTCD. Updated guidance regarding separated bike lanes, sharrows, etc. may warrant minor updates to Batesville's existing document.

Batesville's current Street Master Plan is a great first step toward becoming a recognized as a Bicycle Friendly Community (BFC), or a Walk Friendly Community (WFC). While these certifications, in and of themselves, don't make a community safer, the process of achieving

these recognitions requires a community to focus significant effort on pedestrian and bicycle safety. The City of Batesville also created and adopted the Batesville Pedestrian and Bicycle Master Plan in 2017.

Traffic Calming

Speed Safety cameras are one of the most effective methods of enforcing safe speeds. However, Arkansas law significantly limits the use of these devices to the following locations.

- A school zone
- At a railroad crossing
- In a highway work zone

Despite this restriction, there are several locations within the City of Batesville where the application of speed safety cameras may improve speed limit compliance. Additionally, there are other speed reduction techniques that may decrease vehicle speeds. These include, but are not limited to radar feedback signs, speed humps, roundabouts, variable speed limits, raised intersections, road diets, on-street parking, chokers, and medians. Resident involvement is often high regarding the installation of traffic calming measures. For this reason, it may be beneficial for the City to consider implementation of a traffic calming policy or ordinance. Such a policy could define which measures are appropriate to specific road classifications and what thresholds warrant installation. Additionally, steps allowing residents to request traffic calming measures could be specified.

7. Next Steps

This plan provides a strategic framework for preventing roadway fatalities and serious injuries for all road users in Batesville. To carry out its commitment of 50% reduction of fatal and serious injury crashes by 2035 and zero fatal and serious injury crashes by 2045, it is imperative that next steps are established for the City of Batesville and all involved parties. Progress and transparency have been important to the development of the plan and will be critical as safety improvements are implemented across Batesville.

7.1. Progress and Transparency

Continuous reporting and communication regarding the goals of the Batesville Safety Action Plan is necessary to maintain support from the public and relevant stakeholders. Ongoing transparency and measurement of progress will be conducted using a crash analytics dashboard.

The crash analytics dashboard was originally created to identify and analyze trends in crash data throughout the development of the plan. This same type of dashboard will be used to track the outcome of safety countermeasures and strategies on crashes in Batesville. Comparing past trends to real-time trends will help to identify measurable progress towards the plan's goals. This dashboard will remain online so that the public can track progress and learn about the plan for improved roadway safety in Batesville. **Figure 28** shows the online dashboard to be used for progress and transparency.

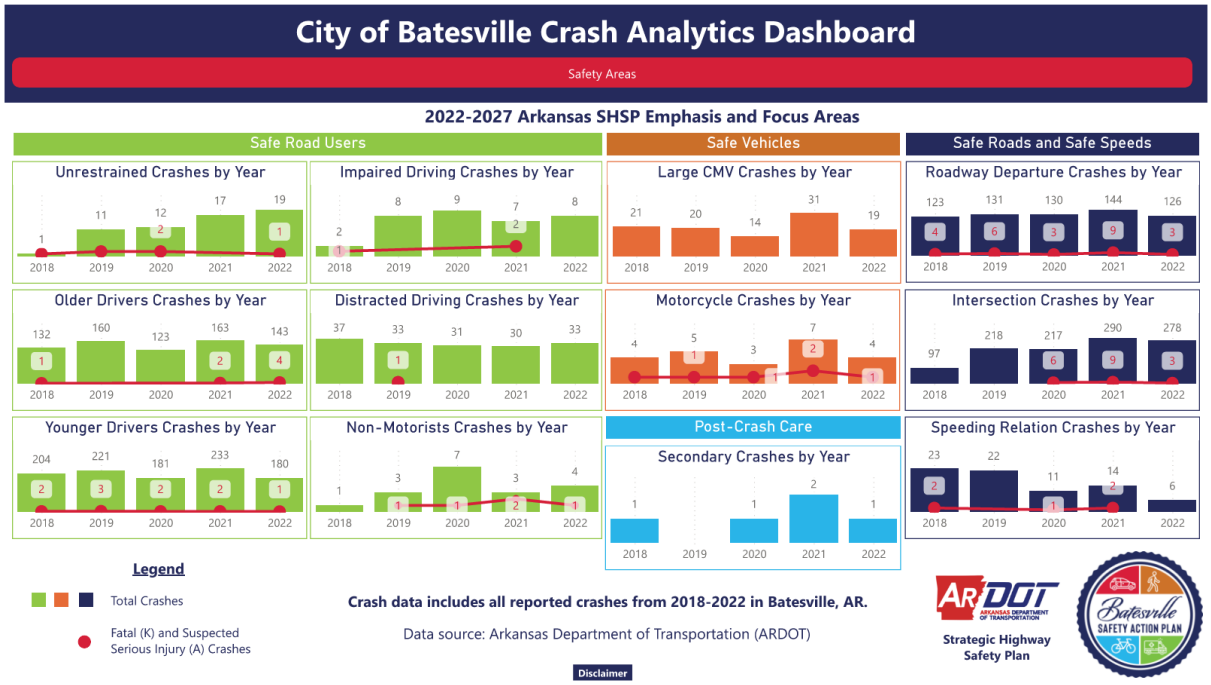


Figure 28: Online Dashboard for Progress and Transparency

Progress monitoring should focus on safety focus areas that most significantly affect crash data in Batesville. For instance, recent trends show that reducing life-threatening crash events involving non-motorists, motorcycles, roadway departures, and intersections would significantly improve roadway safety in Batesville. The most recent three years of crash data for these key safety focus areas are shown below in **Table 11**.

Table 11: Crashes in Key Safety Focus Areas (2021-2023)

Safety Focus Area	2021			2022			2023		
	Total	K	A	Total	K	A	Total	K	A
Non-Motorist	3	1	1	4	0	1	2	0	1
Motorcycles	7	0	2	4	1	0	8	1	1
Roadway Departures	144	1	8	126	0	3	243	0	7
Intersections	290	1	8	278	2	1	378	0	12

7.2. Implementation

Effective implementation of this plan is crucial for achieving the goals identified by the City of Batesville. The City of Batesville's commitment to safety should be matched with support from City leaders, relevant stakeholders, and the public.

Appropriate funding sources should be utilized for the implementation of safety countermeasures and strategies. Design, construction, and maintenance of physical improvements require upfront and continuous payments. Enacting strategies require payments for necessary staffing, events, and other resources. USDOT's SS4A program provides a promising opportunity for funding to support these activities. In fact, the City of Batesville has already secured funds for demonstration projects to support this plan and future implementation project.

The City of Batesville was awarded additional funds through the USDOT's SS4A program. According to its application, "this award will be used to study the safety and efficiency benefits of pedestrian blinker sign deployments with automatic thermal sensors at three locations; GPS/C-V2X emergency vehicle preemption equipment at three high-response locations; traffic signal synchronization on two high accident corridors; C-V2X enabled pedestrian/bicycle/vehicle sensor detection equipment at two traffic signals; and a bike/ped demonstration using quick-build materials."

The recommendations provided in this plan serve as specific projects that can be referenced for future SS4A Implementation Project applications as well as other future federal and state grant programs.