

# Vulnerable Road User Initiatives

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# Strategic Plan

**FULL STEAM AHEAD** 2023-2028 STRATEGIC PLAN

**PURPOSE**

To deliver a modern transportation system to enhance safety and quality of life in Arkansas

**CORE VALUES**

- Safety**  
Committed to Arkansans' wellbeing
- Trust**  
Dependable public service
- Excellence**  
Quality in everything we do
- Accountability**  
Responsible and transparent
- Modern**  
Innovating for the future

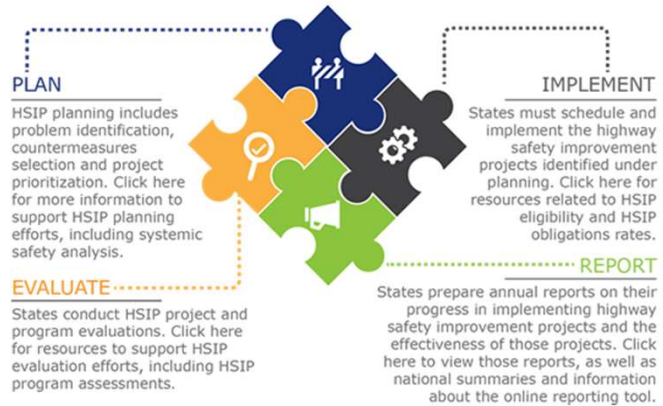
*Safety first, working as a TEAM*



Second iteration of Department's Strategic Plan. Safety is the cornerstone Core Value of the Department. It is considered first in everything we do.

# Highway Safety Improvement Program (HSIP)

- Core Federal-Aid Program
- Funding for Safety Improvements
  - Includes Infrastructure and Non-Infrastructure projects
- Around \$40M Annually for Arkansas



- Established in 2005 by SAFETEA-LU, carried on through MAP-21, FAST Act and IIJA
- Primary goal to reduce fatal and serious injuries on all public roads through data driven safety improvements
- Only specific improvements are eligible for HSIP funds
- Data-driven and strategic approach to improve highway safety with a focus on performance (justification through crash data and prioritization)

# Safe System Approach

## Principles of the Safe System Approach

- Deaths & Serious Injuries Are Unacceptable
- Humans Make Mistakes
- Humans Are Vulnerable
- Responsibility Is Shared
- Safety Is Proactive
- Redundancy Is Crucial

THE SAFE SYSTEM APPROACH



Source: 2022 Arkansas Strategic Highway Safety Plan, ARDOT.



**Death and Serious Injuries are Unacceptable:** Prioritizes the elimination of crashes that result in death and serious injuries.

**Humans Make Mistakes:** People will inevitably make mistakes and decisions that can lead or contribute to crashes, design system to accommodate certain types and levels of human mistakes

**Humans Are Vulnerable:** Human bodies have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design systems that accommodate physical human vulnerabilities.

**Responsibility is Shared:** [All stakeholders](#)—including government at all levels, industry, non-profit/advocacy, researchers, and the general public—are vital to preventing fatalities and serious injuries on our roadways.

**Safety is Proactive:** Proactive tools should be used to identify and address safety issues in the transportation system, rather than reacting afterwards.

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

5 objectives;

**Safer People:** Encourage safe, responsible driving and behavior and create conditions that prioritize their ability to reach their destination unharmed.

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

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

**Safer Speeds:** Promote safer speeds in all roadway environments through a combination of thoughtful, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.

**Post-Crash Care:** Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident

management practices.

## Strategic Highway Safety Plan (SHSP)

- Requirement of the HSIP
- Updated Every 5 Years
- Holistic Approach to Safety
- Guides Investment Strategies



- Required by federal law (23 U.S.C. 148)
- HSIP investment roadmap
- Analyzes & visualizes crash data/performance targets
- Multi-disciplinary and stakeholder collaboration, 4Es of Safety

# SHSP Emphasis and Focus Areas

- Address Critical Roadway Safety Challenges
- Data Driven
- Stakeholder Involvement
- Aligned with Towards Zero Deaths and Safe System Approach initiatives

2022–2027 ARKANSAS SHSP EMPHASIS AND FOCUS AREAS



Source: 2022-2027 Arkansas Strategic Highway Safety Plan, ARDOT.



- SHSP Emphasis Areas align with objectives from the Safe System Approach
- We put a lot of emphasis on Roadway Departure
- VRU falls under the Non-Motorists focus area
- Towards Zero Deaths = reduction of fatalities
- Safe System Approach = reduction of severity (which also supports a reduction of fatalities)

# SHSP Recommendations for Non-Motorists

## Non-Motorists SHSP Strategies

- Continue to Improve Statewide Infrastructure and Design
- Continue to Implement Countermeasures, Programs and Policies
- Focus Education Efforts on Safety and Awareness of Laws
- Improve Enforcement on Existing Laws and Corrective Behaviors

ARKANSAS STRATEGIC HIGHWAY SAFETY PLAN | 2022-2027  
**NON-MOTORISTS**  
 Safe Road Users Action Plan



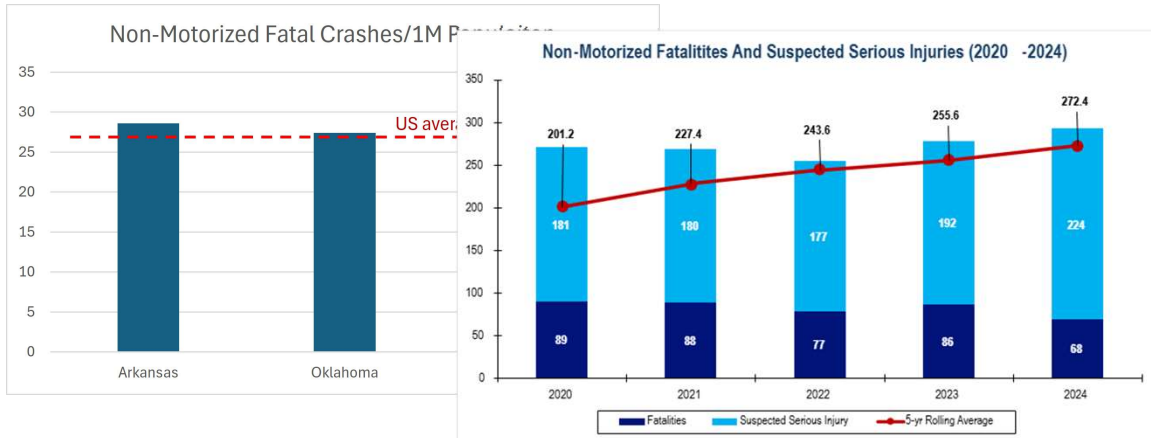
STRATEGY	ACTION	AGENCY	PERFORMANCE MEASURES	IMPLEMENTATION AREA	TIMEFRAME
Continue to improve statewide infrastructure and design to protect non-motorists.	Improve existing bicycle and pedestrian accommodation on state highways and local roads following the most current AASHTO guidance as appropriate and in accordance with FHWA guidance.	AiDOT Bike/Ped Coordinator and local agencies	<ul style="list-style-type: none"> <li>Number of existing accommodations upgraded (state)</li> <li>Number of participating jurisdictions</li> <li>Number of projects and highway miles where shoulders were widened on overlay projects</li> </ul>	Engineering/Infrastructure	Mid Term
	Consider non-motorists and ADA design accommodations in a proportional manner during the planning stages of future projects at the state, regional, and local jurisdiction levels in accordance with the current Arkansas Bicycle and Pedestrian Transportation Plan. Present the planned traffic flow for all modes of transportation within the given design (including non-motorists).	AiDOT Roadway Design and local agencies	<ul style="list-style-type: none"> <li>Report completed annually that tracks workflow within AiDOT to determine if non-motorists and ADA design accommodations are always considered during the project planning stage</li> <li>Report completed annually that tracks workflow to ensure planned traffic flow for all modes are presented in the design phase of future projects.</li> </ul>	Engineering/Infrastructure	Mid Term
	Continue to work with MPOs and jurisdictions to identify high risk locations for non-motorists on a regional/local/corridor level.	AiDOT Traffic Safety Section	<ul style="list-style-type: none"> <li>Number of collaborative projects</li> <li>Number of high risk locations identified</li> <li>Number of participating jurisdictions</li> </ul>	Data Collection/Analysis	Mid Term

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Snapshot of SHSP Action Plan, almost 30 listed actions in the SHSP VRU Study, Complete Streets Policy, K-12 Safety Education program in progress (more on that later!)

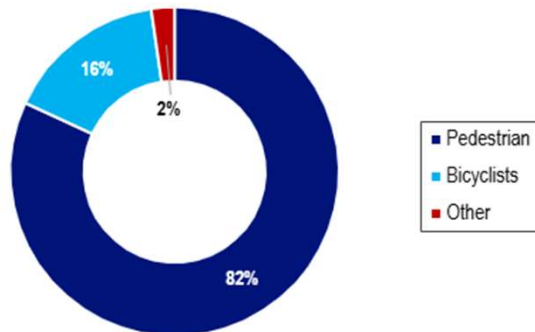
# Non-Motorist Crash Trends



- Crash Rate is based on 2018-2022 data from the Fatality Analysis Reporting System (FARS)
- Some of the increase in crashes could be attributed to improvements in crash reporting as more agencies have migrated to eCrash since 2015.
- More agencies on eCrash equates to more crashes being reported.

## Non-Motorist Crash Trends

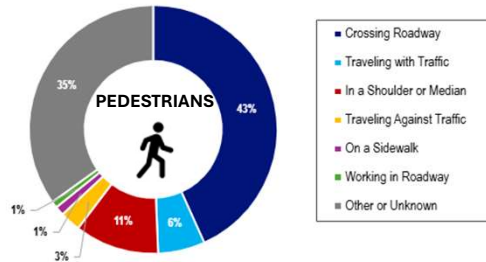
Types of Non-Motorized Fatalities And Suspected Serious Injuries (2020 -2024)



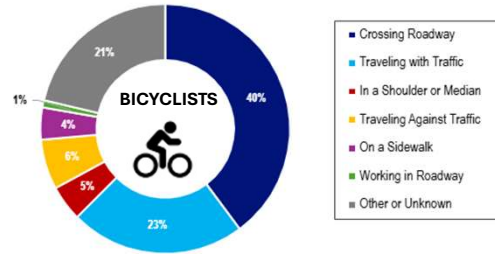
- Pedestrians account for nearly 4 of 5 non-motorist KA crashes
- Data after 2021 will be included in the next SHSP update

## Non-Motorist Crash Trends

Actions Prior to Crash For Non-Motorized Fatalities And Suspected Serious Injuries (2020 -2024)



Actions Prior to Crash For Non-Motorized Fatalities And Suspected Serious Injuries (2020 -2024)



- Data is based on crash reporting, which is subject to each reporting officer's discretion
- A non-motorist crossing the roadway accounts for the largest share of non-motorist crashes
- Bicyclists are more likely to be traveling in the road with vehicular traffic, hence the 24% vs 8%
- **Non-motorized users can be more vulnerable at night as poor visibility contributes to their risk. (Dark conditions account for about 2/3 of the non-motorized KA crashes)**
- Other/Unknown usually attributed to mis-categorization or lack of selecting the appropriate non-motorist type by officers; the persistent issue stemming from all crash field uniformity by officers

## Vulnerable Road Users (VRU)

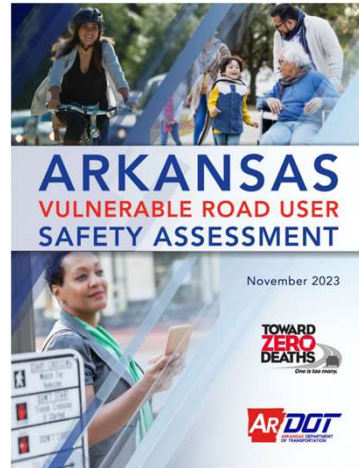
- A non-motorist such as:
  - Pedestrian,
  - Bicyclist or other cyclist,
  - Person on personal conveyance
- A vulnerable road user may include people walking, biking, standing, or rolling
- Includes workers **on foot** in construction zones
- The VRU definition does not include motorcyclists



Define, set stage for further discussion. Workers using machinery on a job site not considered VRU.

## SHSP Vulnerable Road User Assessment

- Requirement Included in the **Infrastructure Investment and Jobs Act (IIJA)**
- Evaluate Safety Needs of VRUs
- Amended into the 2022-2027 Arkansas SHSP



Required with every SHSP update (every 5 years), Aligns with Strategies and Actions identified in the SHSP

Key takeaways:

» From 2015 to 2021, non-motorized fatalities and suspected serious injuries increased 150 percent from 112 to 280.

» Approximately 68 percent of non-motorized fatality and suspected serious injury crashes occur in urban environments in Arkansas. Central Arkansas has the most non-motorist fatalities and suspected serious injuries and accounts for about a third of the entire State.

» Identified high-risk corridors, most are located within MPO boundaries, with many located in downtown areas. The identification of these corridors helps determine common factors among high-risk areas for VRUs.

» Additional analysis was needed to identify systemic corridor characteristics that represent high risks for VRU fatalities and suspected serious injuries beyond the corridors identified in this assessment.

Identifying factors that can address risks for VRUs across the State may aid Arkansas and its safety partners as safety improvements are prioritized and implemented.

## Statewide VRU Study

- Identify Hot Spot Corridors
- Develop Countermeasures
- Coordination with Local Agencies



The VRU study was undertaken to implement the findings of the VRU assessment

Using the method established by the VRU assessment, 30 corridors with high VRU risks were identified. We are currently developing countermeasures to improve VRU safety on these routes.

This work requires significant coordination both with local partners and across disciplines within the Department (Planning, Design, Maintenance, etc.) as many of the countermeasures have not been typically used by Traffic Safety staff or Department in general.

## ARDOT Countermeasure Toolbox

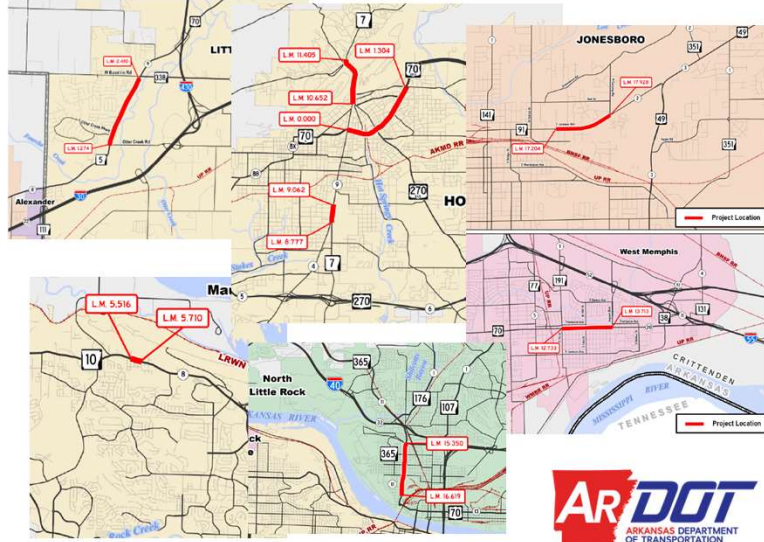
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|---|---|
| • Sidewalks                                 | • Passive Detections                        |
| • Increase Buffer Between Curb and Sidewalk | • Reduced Speed Limits                      |
| • Shared Use Paths                          | • Leading Pedestrian Interval               |
| • Bicycle Lanes                             | • Improved/Additional Intersection Lighting |
| • Crosswalks                                | • Removal of Site Obstructions              |
| • Enhanced Signage                          | • Intersection Curb Modifications           |
| • RRFB                                      | • Exclusive Pedestrian Phase                |
| • PHB                                       | • New Lighting                              |
| • Median Refuge Islands                     | • Lane Reallocation/Rightsizing             |
| • Curb Modifications                        | • Raised Intersections                      |



- This is not a comprehensive list of countermeasures that we have at our disposal for VRU related projects
- These are countermeasures that mostly unique to vulnerable road users
- This list was discussed internally by a multi-Division team to guide recommendation decisions that will be made during the study process.

## Statewide VRU Study Phase One

- Comply with VRU Penalty
- Within Existing Right-of-Way
- Project Development Underway



Per the United States Code if the total annual fatalities for VRUs represent more than 15% of the total annual crash fatalities, the State must obligate no less than 15% of their HSIP funds the following year to address VRU safety.

Arkansas did not meet this rule (by only about 0.1%!) and thus is required to obligate funds to meet this Special Rule.

Fortunately, we had already begun this VRU Study when this determination was made. In order to have projects ready for obligation by the end of FFY26, we have programmed 6 projects and project development for these will ramp up soon. In the past month we met internally to discuss the most appropriate countermeasures before meeting once more with the cities to discuss our final recommendations. We hope to see our first batch of these projects start to get underway by this time next year.

# Street Smart Program

- Between 2016 and 2020, 13% of All Traffic Fatalities Involved a Younger Drivers (24 years or younger)
- SHSP Focus Area
- Developing Education Program in Coordination with Department of Education
- Implemented for 6<sup>th</sup> - 8<sup>th</sup> Grade this School Year
- Discussions Have Begun for Phase Two; 9<sup>th</sup> – 12<sup>th</sup> Grade



## LESSON 6.5 PEDESTRIAN SAFETY SKITS

**DIRECTIONS:** Work in a small group to create and perform a short skit that shows how distractions can make walking near roads hazardous, and how you can stay safe by making smart choices.

### YOUR SKIT SHOULD INCLUDE:

- A student (or students) walking near a road.
- A clear example of a distraction.
- A potential consequence of that distraction.
- A second version of the situation showing the correct, safe behavior.

### GROUP GUIDELINES:

- Everyone must have a role in the skit. However, everyone doesn't have to speak.
- Skits should be no more than three minutes long.
- Keep it school-appropriate, safe and clear.

### TIPS FOR A GREAT SKIT:

- Speak clearly and loud enough for others to hear.
- Keep your movements big and your message simple.
- Have fun – but help your audience learn something too!
- Rehearse before you perform your skit for the class!



ARKANSAS  
DEPARTMENT OF EDUCATION



K-12 Safety Education program (Street Smart) hitting schools this fall. Coordination with the Department of Education.

First iteration of this program will focus on Grades 6-8. Program will last for approximately 2 weeks. Program will expand to additional grades in subsequent school years.

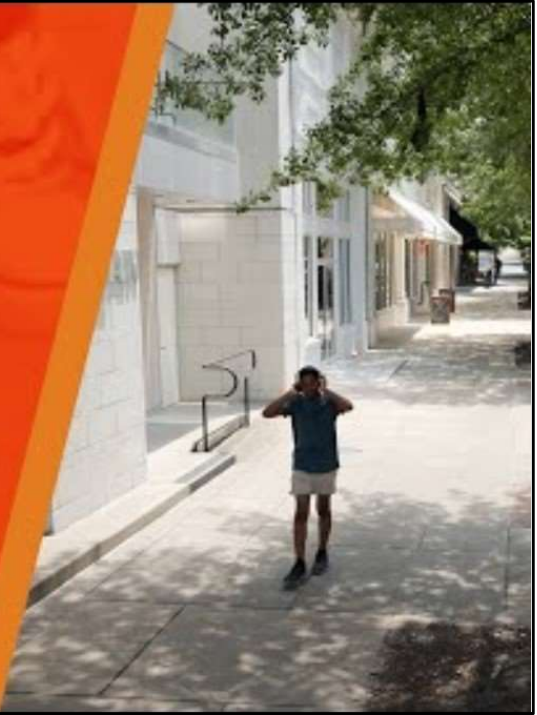
Goal of the program is to instill good driving and pedestrian habits before starting to operate a motor vehicle. These skills will then be reinforced through their early driving years.

Program will range from more traditional lesson plans incorporated into curriculum to educational videos available in the classroom and on the internet to interactive games that demonstrate the importance of good driving habits.



# HEY PEDESTRIANS, HEADS UP!

Pedestrian Safety Basics





# QUESTIONS?



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