ARKANSAS

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2024 ANNUAL REPORT

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Disclaimer

Protection of Data from Discovery Admission into Evidence

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], 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 identified or addressed in the reports, surveys, schedules, lists, or other data.”

23 U.S.C. 407 states “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.”

Executive Summary

In accordance with 23 USC 148 and pursuant to 23 CFR 924, the Arkansas Department of Transportation (ARDOT) has prepared a Highway Safety Improvement Program (HSIP) Annual Report for the **State Fiscal Year 2024 (July 1, 2023, through June 30, 2024).**The format of this report is consistent with the reporting guidelines issued by the Federal Highway Administration in 2016. The HSIP Programs and Planning activities completed or underway by the Traffic Safety Section (TSS) and its on-call consultants include the following:

Planning Efforts

• The first Vulnerable Road User (VRU) Safety Assessment document was approved in November 2023.

• An HSIP Implementation Plan was approved in August 2023.

• A new Rumble and Mumble Strips and Stripes policy was developed in 2024.

• A statewide wet pavement and pavement friction improvement study is ongoing.

• ARDOT is participating in an ongoing pooled fund study led by Virginia Tech Transportation Institute to collect and analyze continuous pavement friction data.

• On-call consultants are assisting with the following subprogram efforts:

· **Rural intersections** – In a data driven process, the rural unsignalized intersection study identified and ranked approximately 1300 medium to high-risk rural intersections across the State. The ranking process identified 300 intersections for low-cost improvements. Multiple construction plan sets are being developed with a goal of installing low-cost countermeasures at these intersections.

· **Higher-cost intersections** – A higher-cost intersection study will further evaluate and prioritize the intersections identified in the rural intersections study and add intersections if needed. After identifying countermeasures and prioritizing intersections, alternatives will be developed and evaluated, and projects will be developed for highest priority intersections.

· **Horizontal curves** – Several corridors with severe horizontal curves were identified in a data-driven process that ranked roadway departure crash risk. This study will prioritize those corridors based on risk and crash history, develop low-cost and high-cost countermeasures, and begin developing construction plans for some low-cost improvements.

· **Roadside hazard elimination** – The Consultant will screen the highway network to identify the top 600 locations for additional analysis. Of those, 300 half-mile segments will be prioritized for evaluating countermeasures. Up to 100 locations will be selected for low cost improvements, and up to 50 locations will have higher cost improvements.

· **Vulnerable road users** – Using the 30 highest-priority state highway corridors identified by the 2023 VRU Safety Assessment, with the ability to add five more locations, each corridor will be assessed and prioritized, and countermeasures identified. Conceptual plans addressing VRU needs will be developed, and preliminary design work may begin for high priority low-cost improvements.

• ARDOT's vendor completed a Roadway Safety Management System (RSMS), which was updated to include 2023 crashes and is beginning to be incorporated into daily operations and consultant studies.

Current and ongoing safety projects include:

• High Friction Surface Treatment (HFST) and Ultra-thin Bonded Wearing Course (UTBWC) locations were identified and approved for project development and construction as part of the ongoing Wet Pavement Program.

• A Statewide guardrail project is being implemented to upgrade substandard guardrails to meet the MASH standards on NHS routes is ongoing.

• Construction jobs to complete Cable Median Barrier (CMB) installation are approved or underway. The CMB jobs are intended to reduce or eliminate roadway departure fatal plus serious injury (KA) crashes on divided highways.

• Two wrong-way driver detection (WWDD) active warning systems were installed and evaluated by an ARDOT research project. A multi-District construction job to install several WWDD systems at exit ramps is under construction.

• Numerous locations identified in a systemic low-cost, Y-type intersection project are under construction. Other locations will be constructed by State and District Maintenance staff due to lack of bids and high bids received.

• ARDOT uses the pavement preservation program to accomplish shoulder widening and rumble strip installation along various routes where crash history showed such improvements would be effective.

ARDOT continues investment in educational and media campaign activities to promote public awareness of traffic safety-related behavioral topics. For example, ARDOT recently released two safety campaigns regarding speeding through work zone safety and use of handheld mobile phones. An education campaign for K-12 students is also under development.

Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP Reporting Guidance dated December 29, 2016 and consists of five sections: program structure, progress in implementing highway safety improvement projects, progress in achieving safety outcomes and performance targets, effectiveness of the improvements and compliance assessment.

Program Structure

Program Administration

Describe the general structure of the HSIP in the State.

The ARDOT HSIP process is structured to be consistent with the following requirements specified in 23 CFR 924 and the procedures outlined in the HSIP Manual i.e. Planning (23 CFR 924.9), Implementation (23 CFR 924.11), and Evaluation & Reporting (23 CFR 924.13 and 23 CFR 924.15). It should be noted that the State SHSP influences decisions made during each step of the HSIP process. The HSIP process is developed with the consideration of the relationships and interactions between the SHSP and HSIP according to the 1st edition of HSIP Manual published in January 2010. The Process was updated and approved by ARDOT Administration.

COUNTERMEASURE IDENTIFICATION

Identifying high-risk corridors, roadway segments, features, and intersections is a critical part of the road safety improvement analysis process. However, the analysis task is not complete until contributing factors are identified, and effective countermeasures are selected and prioritized.

Analyze Data

High risk locations identified through the problem identification process as well as requests from ARDOT officials, ARDOT Divisions and District Offices, public officials, and other interested parties provide a basis for conducting engineering studies and crash analyses. A network screening tool was developed to rank corridors and intersections based on total and KA crash rates. The ranking is used to prioritize a list of facilities according to respective safety conditions. These facilities are then further grouped based on functional and area classifications. This list will be updated as new crash data becomes available or on a yearly basis, whichever is more relevant. The network screening tool continues to be enhanced since the completion of the All Roads Network of Linear Referenced Data (ARNOLD) and will eventually include intersections on all public roads.

High risk highway segments and intersections identified by the network screening process are further analyzed by examining detailed crash data. After maps showing crash types and severities are created, the following factors are then considered for diagnosing the safety problems:

· Crash type

· Contributing crash factors

· Roadway factors

· Human factors

· Vehicle factors

· Environmental factors

· Crash pattern analysis

· Collision diagram for intersection analysis

Identify Potential Countermeasures

After crash data has been reviewed and assessed, some of the results will be forwarded to other safety partners who are involved in the Strategic Highway Safety Plan (SHSP) for consideration of behavioral countermeasures. Other results are considered for infrastructure improvements. Some of the countermeasures may include low-cost safety improvements such as signing, striping or rumble strips. In other cases, major improvements in a corridor or at a hotspot may be recommended for roadway realignment or widening based on the specific needs.

Countermeasures are recommended specifically for a location based on a corridor or intersection safety study. This type of study analyzes crash statistics, types, severities, etc. and identifies appropriate safety treatments for the study area. Additionally, systemic studies are conducted which are based on specific types of crashes and/or facilities. In contrast to the spot studies which manage risk at certain locations, systemic studies take a broader view and evaluate safety conditions across the entire system of highways. Examples of risk factors in a systemic study could be the skew angle of intersections or median types. A systemic study can also target a specific type of crash across the roadway system; for example, system-wide improvements such as installation of rumble strips, median cable barriers, curve delineators, etc., may be recommended to address roadway departure crashes.

Assess Site Conditions

After potential countermeasures have been identified, the Maintenance Division is contacted if necessary to conduct an on-site review of the identified treatments resulting from the crash analysis. After their recommendations are received, a more thorough site visit may be performed by a multidisciplinary team. The team may consist of participants from the Roadway Design, Planning and Research, Maintenance, Highway Police, and Construction Divisions. Environmental and Right-of-Way are also invited if their input is necessary for project development.

The on-site assessment is typically conducted during the time of day that reflects the safety problem under evaluation. Information such as roadway geometry, lane/shoulder width, access, sight distance, traffic composition and operations, traffic control devices, etc., is collected. The purpose of the on-site review is to:

· Confirm any previous analysis and proposed countermeasures based on preliminary review;

· Identify additional conditions which may have contributed to the crash; and

· Identify any other countermeasures that would address the existing safety risks.

Assess Countermeasure Effectiveness (Economic Appraisal)

Once a set of countermeasures or potential solutions are identified, the list must be prioritized based on the results of an economic appraisal (benefit-cost analysis, BCA) and paired to meet existing resources. To accomplish the prioritization of improvements, effectiveness of the countermeasures should be evaluated.

Costs of the proposed countermeasures are estimated using the Department's most current cost-per-mile sheet or unit-price sheets which are developed based on past projects and contracts. The Roadway Design Division may be contacted to provide a more accurate cost estimate for each countermeasure. Through coordination with Roadway Design, the costs of the recommended treatments are finalized and used in the BCA process.

This process includes estimating a monetary value for the potential benefits of implementing the countermeasures. The benefits of each countermeasure are estimated by using Crash Modification Factors (CMF) reported in various sources including but not limited to the CMF Clearinghouse website, the Highway Safety Manual (HSM), research studies, and in-house past projects evaluations. The change in the expected crash number associated with each countermeasure is then converted into monetary values based on national guidance. The comprehensive crash costs are the result of weighted average calculations and are grouped by KA, BC (minor and possible injuries), and O (property damage only) severities per the 2022 ARDOT HSIP Process update. These costs are further adjusted based on socio-economic factors such as the consumer price index (CPI) and Employee Cost Index (ECI) to account for the inflation and changes in economic fluctuations. The “KABCO” injury scale developed by the National Safety Council (NSC) has been frequently used by law enforcement for classifying injuries. The crash costs based on the KABCO scale can also be found from NSC or FHWA. ARDOT is also working with the Arkansas Department of Health on a project to further validate our injury severities with hospital ICD codes.

Where is HSIP staff located within the State DOT?

Planning

The Traffic Safety Section staff that prepares the HSIP are located within the Planning & Research Division, which also includes Performance Management, Statewide Planning, Research, and GIS/Mapping Sections.

How are HSIP funds allocated in a State?

- Central Office via Statewide Competitive Application Process
- SHSP Emphasis Area Data

According to the emphasis areas in the state SHSP, spot and systemic safety improvement projects are identified through network screening in the central office. These projects are ranked and programmed based on the availability of funds. Systemic projects are usually prioritized over spot projects. An analysis may also be initiated based on the requests received from the public or local agencies.

Describe how local and tribal roads are addressed as part of HSIP.

ARDOT addresses safety concerns on local roads and provides technical assistance and training programs on safety issues to local governments through its efforts by Local Programs Division staff and the Arkansas Local Technology Assistance Program (ARLTAP). ARDOT continues to coordinate with the Arkansas State Police through the Traffic Records Coordinating Committee (TRCC) and has implemented eCrash and the ADVANCE program that allows law enforcement agencies and other State and local agencies to have better access to crash data on all public roads, as well as to run analytics and produce reports on numerous aspects of the crash data.

ARDOT has completed ARNOLD to meet federal requirements. ARNOLD allows for crash locations to be recorded on all public roads within the state of Arkansas as opposed to the previous locations only within the federal aid system. Also, crashes can be queried on all public roads.

ARDOT currently uses ARNOLD to generate a point every 100 feet along the roadway centerlines and dual carriageways and carries the roadway attributes as well as the log mile and latitude and longitude attributes at the point location. These points are used within eCrash so that law enforcement can more easily identify a crash location and have the road attribute data needed for the crash report. ARDOT will be enhancing this system by providing Roadway Inventory Data for each of these points in the future.

ARDOT is still in the process of developing a local road safety program (LRSP) policy that will allow the Department to annually allocate a portion of HSIP funds for safety projects on local roads. Currently, the Center for Training Transportation Professionals (CTTP) offers classes assist LPAs in project development: Safety Countermeasures for Local Roadways and Guide for Traffic Signs, Marking, and Signals. Currently, ARDOT is developing the program administration structure to submit to ARDOT Administration for review and approval.

Identify which internal partners (e.g., State departments of transportation (DOTs) Bureaus, Divisions) are involved with HSIP planning.

- Design
- Districts/Regions
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety

The core HSIP planning activities are performed by the Traffic Safety Section (TSS) staff, however, extensive coordination with the other groups occurs during the study process.

Describe coordination with internal partners.

Coordination with internal partners occurs on different levels. ARDOT's Roadway Design, Planning & Research, TSMO, Maintenance, and Construction Divisions, are all on the SHSP Steering Committee. Coordination has also taken place when addressing other safety improvement programs such as work zone safety, roadway departure safety, and in the identification of infrastructure and non-infrastructure projects. The TSS and the Maintenance Division work together to address spot treatments in response to fatal and serious injury crashes.

Risk assessment and mitigation is done in coordination with the TSS, Maintenance Division and with the ten ARDOT Districts. The TSS identifies potential risk areas through use of data analysis. The areas are then turned over to the Maintenance Division for a field review to determine if low-cost safety measures could be implemented. Based on the Maintenance Division's recommended improvements, the Districts are then involved in implementation of the low-cost safety measures.

The TSS performs preliminary scoping of safety improvements on corridor jobs according to HSM guidelines to help with the design process. Scoping activities also incorporate comments from site visits that include representatives from the other Divisions and the Districts. When the study and job is approved by the Chief Engineer and the Highway Commission, respectively, the Roadway Design Division further evaluates design options. If a scope change is needed, the TSS is informed. Proposed changes are reviewed by the TSS and a BCA is performed to evaluate alternatives. The TSS responds back accordingly. Currently, ARDOT

administration reviews changes that are more than two million dollars, which also requires the Chief Engineer's approval. Based on the updated HSIP Process, the change amount will be based on a percentage of the total project cost, with different percentages requiring different levels of approval. The TSS also assists with the development of specifications for new countermeasures, which also requires input from the other Divisions and Districts, as necessary.

For major safety projects such as statewide subprograms, the Roadway Design, Maintenance, and Environmental Divisions, and the Districts, are involved to help finalize the scope of these projects in coordination with the TSS. Most of the project development is done by the TSS or their consultants.

Identify which external partners are involved with HSIP planning.

- Academia/University
- FHWA
- Governors Highway Safety Office
- Law Enforcement Agency
- Local Government Agency
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)

Describe coordination with external partners.

Coordination with external partners, such as FHWA, ASP, Highway Safety Office (HSO), and the eight Metropolitan Planning Organizations (MPO) across the State occurs on different levels. MPOs, the ASP, and the HSO are also on the SHSP Steering committee. Coordination has taken place when addressing other safety improvement programs such as work zone safety, roadway departure safety, target setting, and in the identification of infrastructure and non-infrastructure projects. The Maintenance Division and the TSS will often meet with local agencies and officials when conducting a field review to gather their input. The TSS partners with the HSO on numerous projects resulting from the TRCC. For example, an ongoing project provides eCrash training and necessary equipment to local law enforcement agencies. The TSS also coordinates with the Department's new TSMO Division regarding the effectiveness of technology improvements. Preliminary and final corridor and subprogram job scopes are developed in collaboration with FHWA.

Describe HSIP program administration practices that have changed since the last reporting period.

General Updates: The most recent HSIP Process document was approved in February 2023 and is being implemented. Significant modifications to the process are being phased in and include:

1. Network Screening: ARDOT is planning to transition from using the traditional KA Crash Rate method to the Critical KA Crash Rate method for initial network screening. The Critical KA Crash Rate method was found to minimize bias to routes with low Average Daily Traffic (ADT) or short segment length when compared to the KA Crash Rate method. The Critical KA Crash Rate method is essentially adjusting a specific segment's ranking up or down so that it is closer to the average crash rates for similar routes. Thus, reducing the inherent bias of the KA Crash Rate method which considers only one specific site, as it is prone to exaggeration due to the traditional formula.

2. Economic Appraisal: ARDOT has recently begun utilizing weighted average comprehensive crash costs that are grouped by KA, BC, and O severities. This will reduce the amount of emphasis that is placed on fatal crashes and increase the emphasis of Suspected Minor Injury Crashes, which will make projects more competitive during the project prioritization process. Other changes are also being studied to modernize the economic appraisal process.

Describe other aspects of HSIP Administration on which the State would like to elaborate.

The Traffic Safety Section manages the HSIP and includes two engineers and one staff engineer working on safety projects and programs. Arkansas recently updated the SHSP. The 2022 – 2027 Strategic Highway Safety Plan was the first to be developed for ARDOT by a consultant. The SHSP updates were done in coordination with a steering committee that encompassed many stakeholders from engineering, enforcement, education, and emergency medical services (the four E's), with representatives from various government agencies as well as private industries. Action plans were developed by subcommittees for each emphasis area. These action plans will be tracked in an ongoing fashion throughout the life of the plan.

Additionally, the TSS has marketed the SHSP (approved by FHWA in July 2022) with a focus on the safe system approach and toward zero deaths (TZD) through the Arkansas Highways Magazine, idrivearkansas.com and tzdarkansas.org.

ARDOT continues to be a member State in the Evaluation of Low-Cost Safety Improvements Pooled Fund Study. A vendor selection of a Road Safety Management System (RSMS) was approved by the Arkansas Highway Commission and development is underway. ARDOT updated the HSIP Process document based on the information learned from this effort and the latest HSIP guidelines.

Other consultants are coordinating with TSS staff to effectively complete large-scale subprogram studies.

Program Methodology

Does the State have an HSIP manual or similar that clearly describes HSIP planning, implementation and evaluation processes?

Yes

The HSIP Process underwent an update in 2022. Process changes are being implemented the RSMS is beginning to be integrated into the HSIP process. One round of software training occurred in 2023, and additional training opportunities are planned. The HSIP process will be updated again after the new methodology is well established. A new HSIP Implementation Plan was completed in 2023.

Select the programs that are administered under the HSIP.

- Intersection
- Low-Cost Spot Improvements
- Median Barrier
- Roadway Departure
- Rural State Highways
- Segments
- Shoulder Improvement
- Skid Hazard
- Vulnerable Road Users
- Wrong Way Driving
- Other-Crash Data
- Other-Guardrail

Program: Intersection

Date of Program Methodology:2/8/2023

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Fatal and serious injury crashes only • Other-Intersection related crashes	• Volume	• Functional classification • Other-Rural/Urban

What project identification methodology was used for this program?

- Crash frequency

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Based on study and approval by ARDOT Administration
- Other-Through the use of on-call consultants

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Cost Effectiveness:2

Program: Low-Cost Spot Improvements

Date of Program Methodology:1/25/2017

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-Systemic safety improvements

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes • Fatal and serious injury crashes only • Other-Based on the suggested treatments (roadway departure, wet pavement, and wrong-way crashes)	• Traffic	• Horizontal curvature • Functional classification

What project identification methodology was used for this program?

- Crash frequency

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Based on the study and analysis memo from TS in Planning Division

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Available funding:2
Cost Effectiveness:1

Program: Median Barrier

Date of Program Methodology:6/1/2019

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal and serious injury crashes only
- Other-Cross-Median Crashes

Exposure

- Traffic

Roadway

- Median width
- Functional classification

What project identification methodology was used for this program?

- Other-Systemic approach

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-The process is consistent with the ARDOT HSIP process adopted in 2023

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:2
Available funding:4
Cost Effectiveness:2
Other-Systemic-risk based:1

Program: Roadway Departure

Date of Program Methodology:1/1/2014

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal and serious injury crashes only
- Other-Roadway departure crashes

Exposure

- Traffic

Roadway

- Horizontal curvature
- Other-Minimum of 1 foot shoulder

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Systemic approach

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-The process is consistent with the ARDOT HSIP process adopted in 2011

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Cost Effectiveness:2
Other-The process is mainly systemic based approach but due to available funding the spot treatment approach is also considered:1

Program: Rural State Highways

Date of Program Methodology:6/6/2016

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-Based on HRRR safety program.

- Other-Roadway departure crashes.

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal and serious injury crashes only

Exposure

- Traffic
- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Includes only signing improvements on high risk rural highways using state maintenance funds

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Available funding:1
Cost Effectiveness:2

Program: Segments

Date of Program Methodology:1/1/2013

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-Addressing roadway departure crashes

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal and serious injury crashes only

Exposure

- Lane miles

Roadway

- Horizontal curvature
- Roadside features
- Other-Clearzone and shoulder widths

What project identification methodology was used for this program?

- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Each segment is analyzed for low cost countermeasures and improvements as well as realignment or turn lanes at select locations

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Cost Effectiveness:2

Program: Shoulder Improvement

Date of Program Methodology:1/1/2019

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-to be able to apply rumble strip/stripe on wider shoulders for addressing roadway departure crashes
- Other-Roadway departure crashes.

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes • Fatal and serious injury crashes only • Other-Roadway departure crashes.	• Traffic • Volume	• Other-State System • Other-Shoulder width

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Systemic approach

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-The process is consistent with the ARDOT HSIP process adopted in 2023.

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Available funding:1
Cost Effectiveness:2
Other-Sites were selected in conjunction with the pavement preservation Program:1

Program: Skid Hazard

Date of Program Methodology:1/1/2019

What is the justification for this program?

- Other-treating spots for wet pavement crashes

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal and serious injury crashes only
- Other-Wet pavement crashes

Exposure

- Traffic

Roadway

- Horizontal curvature
- Other-Skid resistance consideration
- Other-Intersection

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Systemic approach

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Safety analysis by TS in Planning
- Other-The process is consistent with the ARDOT HSIP process adopted in 2023.

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Available funding:4
Incremental B/C:2
Cost Effectiveness:2
Other-Wet pavement crashes were considered statewide and further analyzed to select the locations based on a certain threshold:1

Program: Vulnerable Road Users

Date of Program Methodology:1/1/2023

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-BIL Requirement

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Other-All Non-motorist crashes

Exposure

- Volume
- Other-Research
- Other-Demographic Equity

Roadway

- Other-Research

What project identification methodology was used for this program?

- Crash frequency
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

Yes

How are projects under this program advanced for implementation?

- Other-Research Results
- Other-VRU Assessment and consultant ranking and implementation results

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Cost Effectiveness:2

Program: Wrong Way Driving

Date of Program Methodology:1/1/2023

What is the justification for this program?

- Addresses SHSP priority or emphasis area

- Other-Address Wrong Way Crashes

What is the funding approach for this program?

Other- Dual-Funding

What data types were used in the program methodology?

Crashes

- Other-Wrong Way Crashes

Exposure

- Traffic
- Volume

Roadway

- Other-Exit Ramp on fully controlled access

What project identification methodology was used for this program?

- Crash frequency
- Other-Wrong Way Crashes

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Research
- Other-Systematic
- Other-Wrong Way Crash Studies

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Cost Effectiveness:2

Program: Other-Crash Data

Date of Program Methodology:1/1/2012

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-Meeting federal regulations and better data quality

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes	• Other-All types of data exposure considered for improvements	• Other-MIRE roadway data elements are the priority for improvements

What project identification methodology was used for this program?

- Other-Provided funding for local agencies to purchase computer equipment to implement eCrash.

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

Yes

How are projects under this program advanced for implementation?

- Other-The ARDOT continues to coordinate with the Arkansas State Police through the TRCC to implement eCrash and the Advance program that will allow law enforcement agencies and other State and local agencies to have timely access to the crash data.
- Other-The MIRE is connected with the eCrash which will improve the data quality for analysis

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Other-Various state agencies are prioritizing and funding needed improvements through the TRCC :1

Program: Other-Guardrail

Date of Program Methodology:1/1/2020

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Other-Roadway departure crashes	• Traffic	• Functional classification • Other-NHS Routes

What project identification methodology was used for this program?

- Other-Systemic Approach

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-The process is consistent with the AHTD HSIP process adopted in 2023.
- Other-The process is consistent with the ARDOT HSIP process adopted in 2023.

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Other-Standard of guardrail:2
Other-On NHS:1

What percentage of HSIP funds address systemic improvements?

64

HSIP funds are used to address which of the following systemic improvements?

- Cable Median Barriers
- Clear Zone Improvements
- High friction surface treatment
- Horizontal curve signs
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Pavement/Shoulder Widening
- Rumble Strips

- Upgrade Guard Rails
- Wrong way driving treatments

What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- SHSP/Local road safety plan
- Stakeholder input

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

Describe how the State HSIP considers connected vehicles and ITS technologies.

ARDOT is looking into modern Intelligent Transportation System (ITS) technologies including Automated and Connected Vehicles and crowd-sourced data uses. Currently, the HSIP processes and analyses consider these technologies for specific programs. The Transportation Systems, Management, and Operations Division deploys ITS technologies such as traffic cameras, changeable message signs, speed display monitors, and wrong-way driver detection devices. Also, the 2022 update of the SHSP includes connected vehicles as an emphasis area. Automated Work Zone Information (AWIS) is being used for queue management in work zones. ARDOT is beginning to deploy ITS technology including advanced wrong-way detection devices at exit ramps between Little Rock and West Memphis (Job 012410). Research study TRC2301 is evaluating the feasibility of expanding work zone ITS to include more than queue warning systems.

Does the State use the Highway Safety Manual to support HSIP efforts?

Yes

Please describe how the State uses the HSM to support HSIP efforts.

As part of the HSIP process in Arkansas, the six steps of the safety management process described in the HSM are followed. These steps, including the details from the initial network screening to the evaluation of safety treatments, are considered in our HSIP process. Also, the CMFs presented in the HSM are used in our analysis for the economic appraisal. When a project is completed, it is evaluated for its safety effectiveness.

Describe program methodology practices that have changed since the last reporting period.

The current HSIP Process document was approved in February 2022 and the HSIP Implementation Plan was approved in August 2023. Program methodological changes are being implemented. On-call consultants are assisting with development of the following safety subprograms:

High-Cost Intersections

Horizontal Curves

Vulnerable Road Users

Roadside Hazard Mitigation

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

Enter the programmed and obligated funding for each applicable funding category.

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$40,622,000	$23,457,685	57.75%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$0	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$215,860,000	$33,979,720	15.74%
State and Local Funds	$53,438,000	$41,066,620	76.85%
Totals	$309,920,000	$98,504,025	31.78%

How much funding is programmed to local (non-state owned and operated) or tribal safety projects?

0%

How much funding is obligated to local or tribal safety projects?

0%

How much funding is programmed to non-infrastructure safety projects?

$0

How much funding is obligated to non-infrastructure safety projects?

$315,000

Funds were used for traffic safety planning activities.

How much funding was transferred in to the HSIP from other core program areas during the reporting period under 23 U.S.C. 126?

0%

How much funding was transferred out of the HSIP to other core program areas during the reporting period under 23 U.S.C. 126?

0%

Discuss impediments to obligating HSIP funds and plans to overcome this challenge in the future.

Some of the impediments to obligating HSIP funds at ARDOT include:

- Relatively high staff turnover in the Traffic Safety Section.
- Lack of resources and employees needed to accomplish the safety tasks and studies. We currently have four analysts, three engineers, and an administrative assistant.
- Due to new personnel and short staffing, it takes longer to get studies and jobs completed.
- Issues with the crash data being reported and collected.
- Cost escalation and lack of competitive bids have hindered letting jobs to contract. Direction has been given to use the Department's Maintenance forces for implementing some projects, as their staffing and time allows.

The challenges described above are being addressed by adding staff and by using consultants to assist with developing traffic safety subprograms. Specific actions to overcome the above challenges are listed below:

· Develop policies to systemically and systematically deploy the use of HSIP funds for the implementation of horizontal curves, intersections, signing/striping, rumble strips, etc.

· Streamline the HSIP project development process.

· Implement low-cost countermeasures with ARDOT Maintenance staff.

· Train staff and on call consultants to use the new Safety Management System tool.

· Streamline the "Change Order" approval process.

Describe any other aspects of the State’s progress in implementing HSIP projects on which the State would like to elaborate.

- Low-cost wrong-way crash countermeasures have been completed statewide by the ten ARDOT District and Maintenance forces. More advanced countermeasures are currently under construction.
- A statewide guardrail project is underway to identify locations on NHS routes where upgraded guardrail is needed to meet MASH standards.
- The installation of cable median barriers on Interstates and divided highways continues.
- Wet pavement crashes are being addressed through ongoing efforts.
- Funding is provided to the Arkansas State Police (ASP) Highway Safety Office (HSO) to allow local agencies to update/purchase equipment to implement eCrash, the electronic crash reporting system used by ASP.
- A statewide low-cost Y-intersection improvement program is being implemented.

- Research study TRC2302 will assist with identifying traffic counting methods and developing performance measures for VRU safety analyses.
- A statewide rumble strip database is in the final stages of development for use in future statewide rumble strip projects.
- On-call consultants have developed construction documents for installation of low-cost countermeasures at rural unsignalized intersections.
- On-call consultants are assisting with developing subprograms that will identify and prioritize projects for VRUs, horizontal curves, elimination of roadside hazards, and developing higher-cost countermeasures for rural intersections.

General Listing of Projects

List the projects obligated using HSIP funds for the reporting period.

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Job 012208, Traffic Safety Planning Activities (HSIP)	Miscellaneous	Transportation safety planning	1	Years - Planning	$315000	$320000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	All SHSP/HSIP Planning Activites	HSIP Traffic Safety Planning Activities	HSIP Planning
Job A60038, Hwy 89, Cabot-Hwy 107	Roadway	Pavement surface – high friction surface	6.13	Miles	$404918	$449909	HSIP (23 U.S.C. 148)	Multiple/Varies	Minor Arterial	10,000	45-55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 012410, I-40, Central AR - West Memphis ITS Impvts. Ph. 1 (S)	Advanced technology and ITS	Advanced technology and ITS - other	145	Ramps	$13477598	$14530644	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	52,500	75	State Highway Agency	Systemic	Prevent wrong-way entry onto Interstate	Prevent or mitigate wrong-way driving
Job 090602, Hwy 7, Harrison - Lead Hill (S)	Roadway	Pavement surface – high friction surface	15.4	Miles	$9000	$479324	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,000	55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 012372, I-40, Alma - Hwy 164 (S)	Roadway	Pavement surface – high friction surface	28.8	Miles	$2501	$2779	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	28,000	75	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job A50018, Hwy 9, Brandenburg - Hwy 69 (S)	Roadway	Pavement surface – high friction surface	11.24	Miles	$1222394	$1237466	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	350	55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 080495, Highway 27, Hwy. 10 - Hwy. 7 (Safety Impvts.) (Sel. Secs.) (S)	Roadway	Roadway - other	15.03	Miles	$109321	$113730	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,000	30-55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 061411, Hwy 5, Hwy. 128 - Benton (Safety Impvts.)	Roadway	Roadway - other	20.93	Miles	$61887	$68764	HSIP (23 U.S.C. 148)	Multiple/Varies	Minor Arterial	4,000	45-55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 012274, Hwy 35, Hwy. 167 - Big	Roadway	Roadway - other	35.52	Miles	$2239	$2488	HSIP (23 U.S.C. 148)	Multiple/Varies	Major Collector	1,500	30-55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Creek (Sel. Secs.) (S)															
Job 101076, I-55, Hwy. 181 - Hwy. 158 (S)	Roadway	Roadway - other	7.85	Miles	$78386	$87096	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	23,000	75	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 040826, I-540, Hwy. 22 - I-40 (Sel. Secs.) (S)	Roadway	Roadway - other	7.18	Miles	$89165	$99072	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	51,000	65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 101174, Hwy 226, Hwy. 226 Cable Median Barrier Impvts. (S)	Roadside	Barrier – cable	11.6	Miles	$61457	$68286	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	7,000	65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 050313, Hwy 25, Hwy. 230 - Hwy. 167 (Safety Impvts.) (S)	Roadway	Rumble strips – other	6.13	Miles	$50100	$55666	HSIP (23 U.S.C. 148)	Multiple/Varies	Minor Arterial	5,900	45-55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 070537, Hwy 114, Hwy. 35 - Hwy. 63 (S)	Roadway	Pavement surface – high friction surface	8.33	Miles	$2748654	$3299481	HSIP (23 U.S.C. 148)	Rural	Major Collector	740	55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 012480, Hwy. 412 Cable Median Barrier Impvts. (S)	Roadside	Barrier – cable	17.01	Miles	$61457	$68286	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	12,000	55-65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 020781, Hwy. 65 Cable Barrier Impvts. (S)	Roadside	Barrier – cable	30.45	Miles	$65957	$73286	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	7,000	45-65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 061309, Hwy 7, Mitzi Pkwy. - Hwy. 290 (Safety Impvts.) (Sel. Secs.) (S)	Roadway	Roadway widening - add lane(s) along segment	3.91	Miles	$1008	$1120	HSIP (23 U.S.C. 148)	Multiple/Varies	Minor Arterial	6,300	45	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 061439, Hwy 5, Hwy. 7 - Deerpark	Shoulder treatments	Widen shoulder – paved or other	1.29	Miles	$6679908	$6977121	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,500	45-55	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure

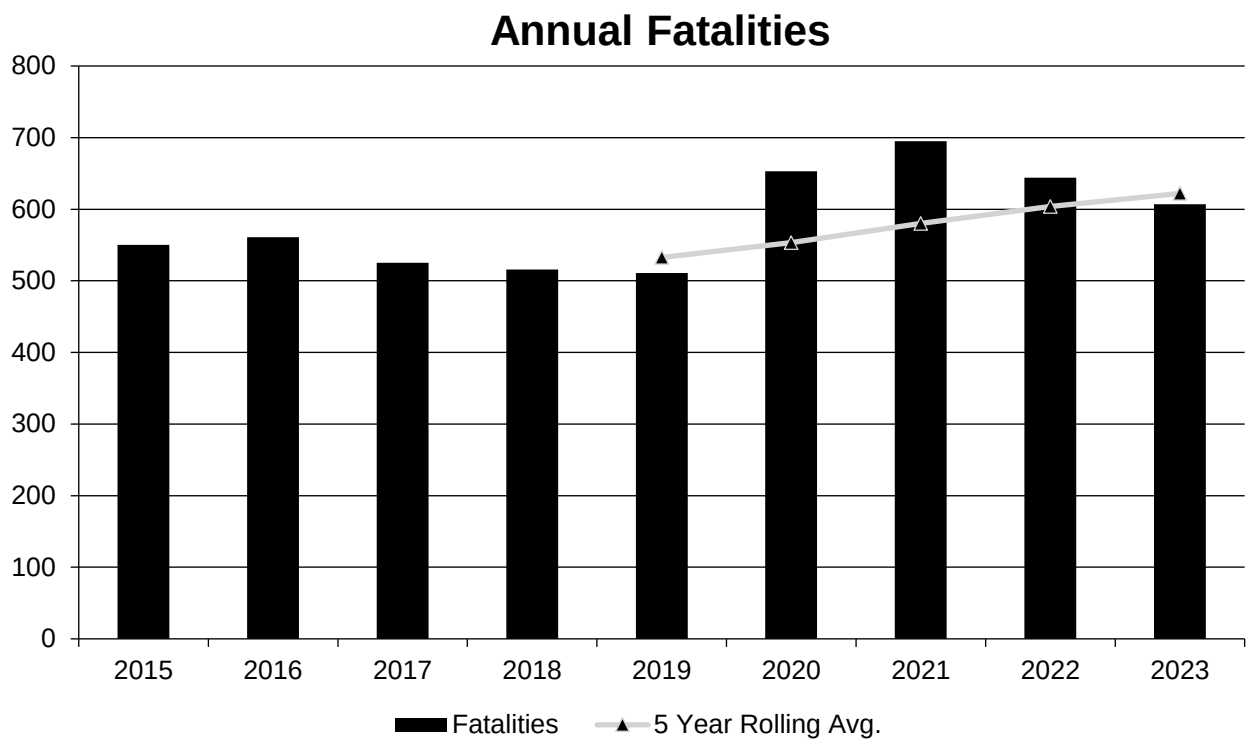
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Rd. (Safety Impvts.) (S)		(includes add shoulder)													
Job 070591, Hwy. 7 Cable Median Barrier Impvts. (S)	Roadside	Barrier – cable	13.54	Miles	$75720	$84133	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	7,500	55-65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 012479, Hwys. 100 & 167 Cable Median Barrier Impvts. (S)	Roadside	Barrier – cable	31.56	Miles	$88777	$98641	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Other	0	55-65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 020802, Hwys. 15/31 Y-Inters. Safety Impvts. (S)	Intersection geometry	Intersection realignment	1	Intersections	$22500	$73700	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	900	35-45	State Highway Agency	Systemic	Intersections	Mitigate consequences of intersection crashes
Job 110826, Hwys. 17/70 Y-Inters. Safety Impvts. (Monroe Co.) (S)	Intersection geometry	Intersection realignment	1	Intersections	$542804	$603115	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,500	45-55	State Highway Agency	Systemic	Intersections	Mitigate consequences of intersection crashes
Job 020804, Hwys. 65 &425 Cable Median Barrier Impvts. (S)	Roadside	Barrier – cable	24.67	Miles	$61457	$68286	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0	45-65	State Highway Agency	Systemic	Roadway Departure	Prevent Roadway Departure
Job 070592, Hwys. 9/128 Y-Inters. Safety Impvts. (Dallas Co.) (S)	Intersection geometry	Intersection realignment	1	Intersections	$38926	$43251	HSIP (23 U.S.C. 148)	Rural	Major Collector	800	35-45	State Highway Agency	Systemic	Intersections	Mitigate consequences of intersection crashes
Job 050279, Hwy 16, Pangburn - Fourmile Hill (Safety Impvts.) (Sel.Secs.) (S)	Roadway	Roadway - other	2.95	Miles	$83255	$92505	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,300	45-55	State Highway Agency	Spot	Roadway Departure	Prevent Roadway Departure

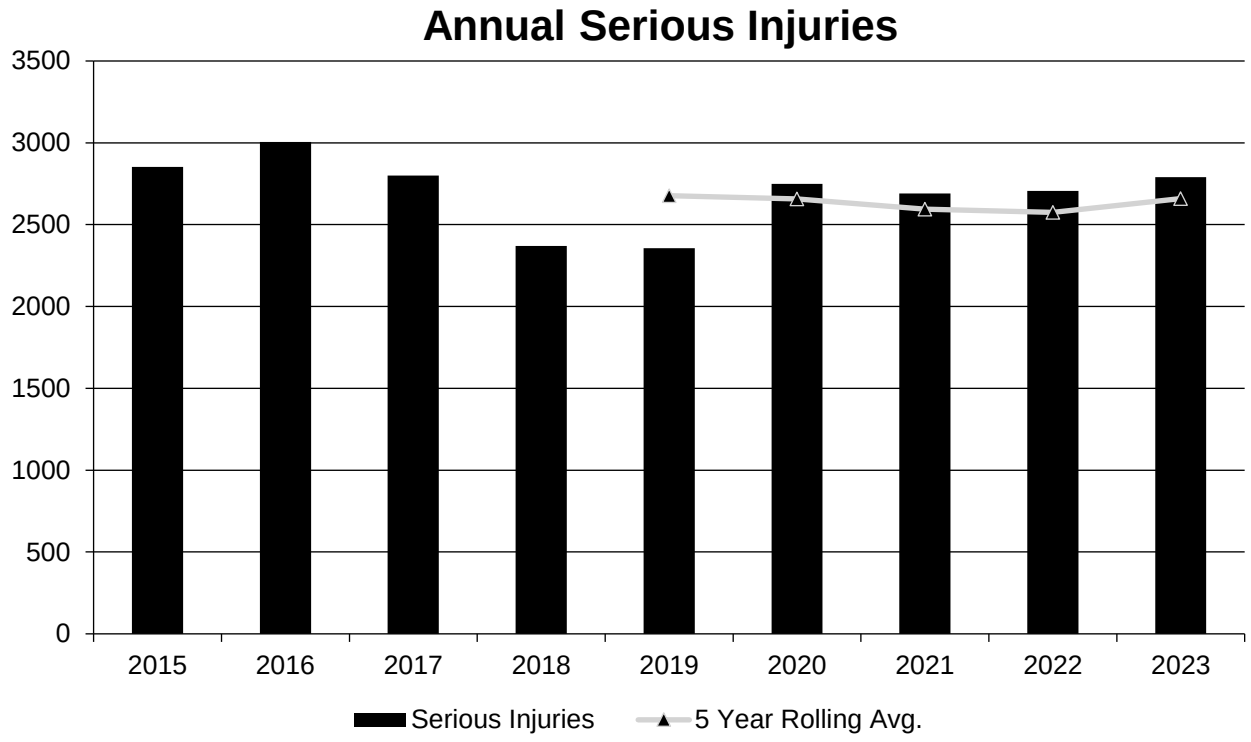
Safety Performance

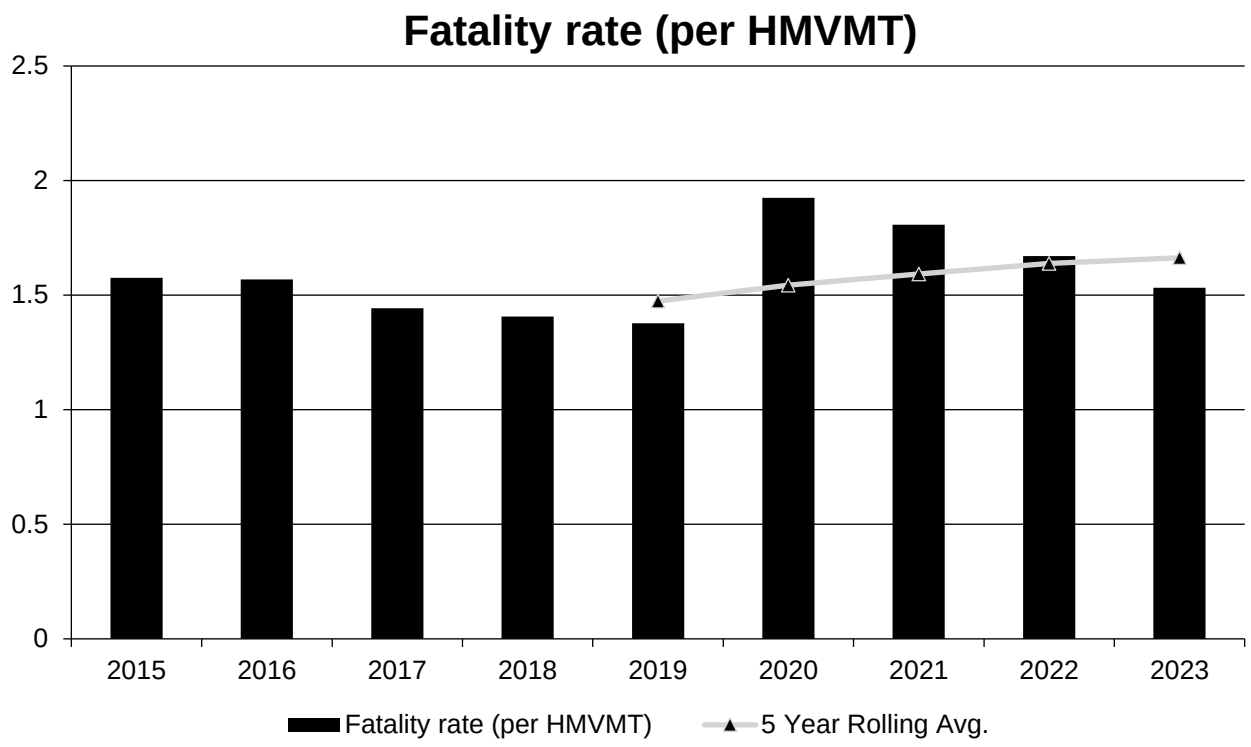
General Highway Safety Trends

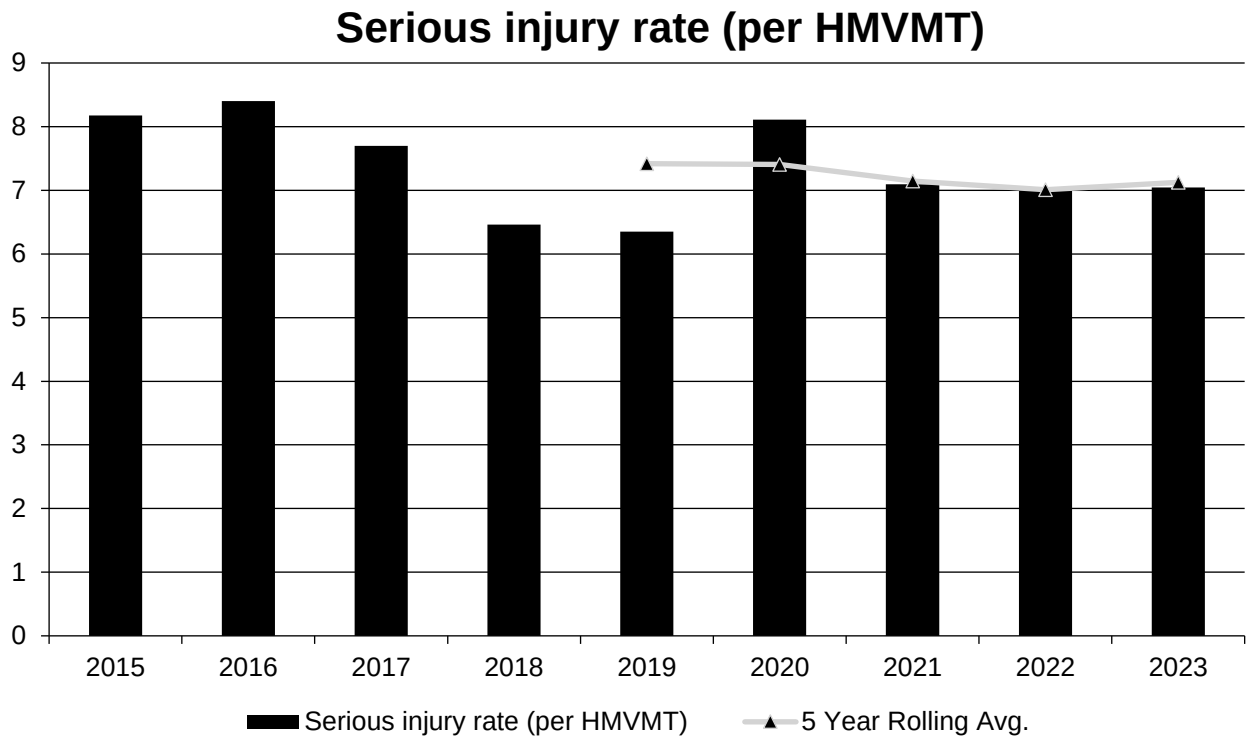
Present data showing the general highway safety trends in the State for the past five years.

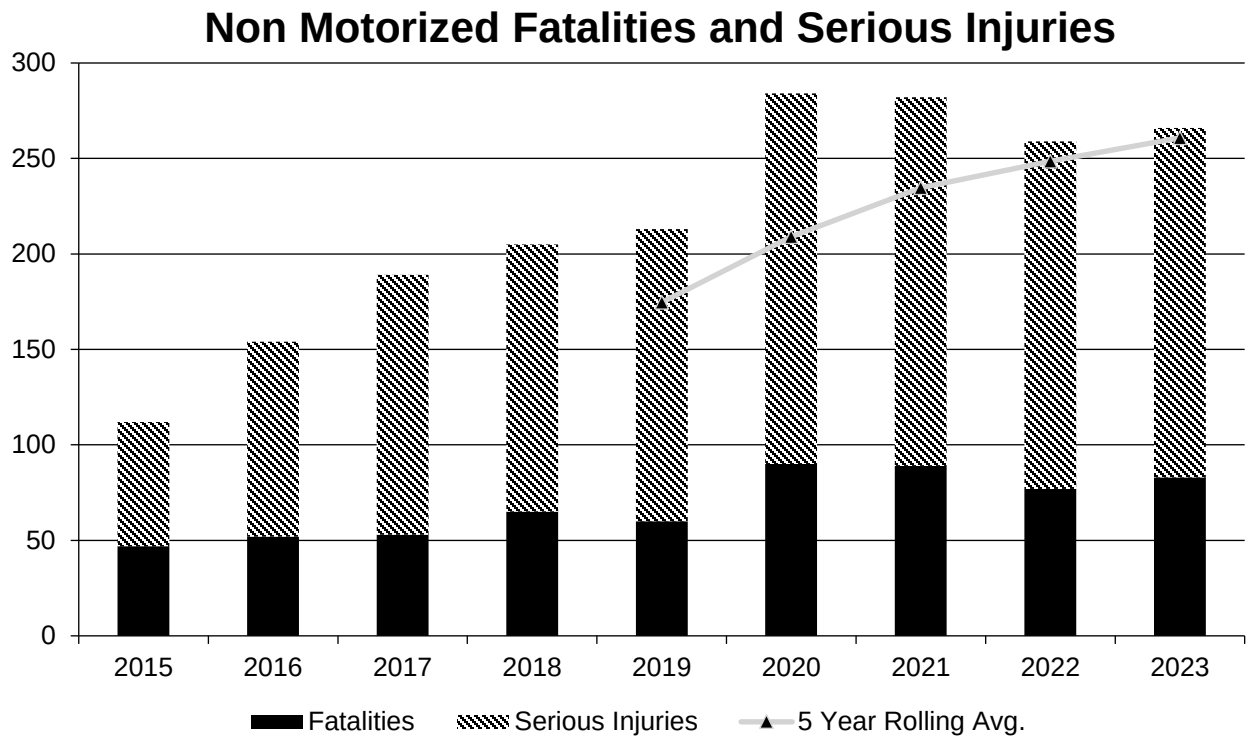
PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fatalities	550	561	525	516	511	653	695	644	607
Serious Injuries	2,852	3,005	2,801	2,370	2,357	2,750	2,691	2,707	2,791
Fatality rate (per HMVMT)	1.576	1.569	1.443	1.407	1.377	1.925	1.808	1.671	1.532
Serious injury rate (per HMVMT)	8.173	8.404	7.697	6.462	6.353	8.108	7.096	7.026	7.042
Number non-motorized fatalities	47	52	53	65	60	90	89	77	83
Number of non-motorized serious injuries	65	102	136	140	153	194	193	182	183
Number of non-motorized fatalities and serious inj	112	154	189	205	213	284	282	259	266

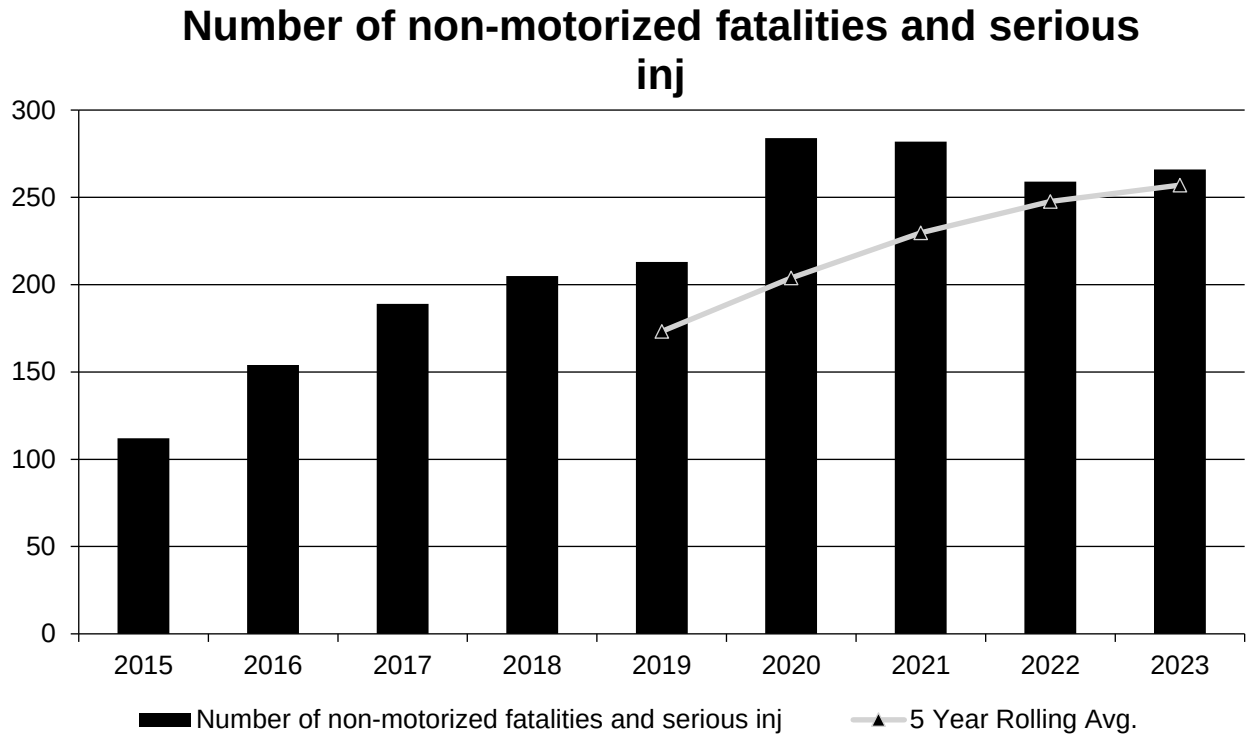

Annual Fatalities
800
700
600
500
400
300
200
100
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
3500
3000
2500
2000
1500
1000
500
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
2.5
2
1.5
1
0.5
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
9
8
7
6
5
4
3
2
1
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Serious injury rate (per HMVMT)
5 Year Rolling Avg.





Describe fatality data source.

Other

If Other Please describe

National Safety Council, FARS, FARS ARF, and ARDOT

The number of fatalities and fatality rate are based on the best available data, including ARDOT crash data, the Fatality Analysis Reporting System (FARS), the FARS Annual Report File (ARF), and the National Safety Council (NSC) for 2023. The value for suspected serious injuries, suspected serious injury rate, and non-motorized suspected serious injuries for 2019-2023 the use ARDOT crash data. The number of non-motorized fatalities for 2023 is derived from the ARDOT crash data. The Annual Vehicle Miles Traveled (VMT) for 2019-2023 comes from the FHWA VM-2 table. The 2023 Annual VMT comes from the ARDOT Highway Performance Monitoring System (HPMS) submittal.

To the maximum extent possible, present this data by functional classification and ownership.

Year 2023

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	39.2	105.8	0.9	2.43
Rural Principal Arterial (RPA) - Other Freeways and Expressways	3	6.2	0.94	1.92
Rural Principal Arterial (RPA) - Other	90.6	274	2.43	7.34
Rural Minor Arterial	84.4	277.6	3.03	9.96
Rural Minor Collector	17.8	74.2	2.47	10.33
Rural Major Collector	92.2	382.4	2.53	10.51
Rural Local Road or Street	33.6	163.4	1.42	5.45
Urban Principal Arterial (UPA) - Interstate	50.6	149.8	0.85	2.23
Urban Principal Arterial (UPA) - Other Freeways and Expressways	13.8	35.8	1.39	3.62
Urban Principal Arterial (UPA) - Other	62	364.8	1.73	10.15
Urban Minor Arterial	70.2	437.6	1.55	9.63
Urban Minor Collector	1.4	8.4	1.83	10.64
Urban Major Collector	30.6	191.6	1.56	9.74

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Urban Local Road or Street	30	238	1.31	10.43

Year 2023

Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	466.6	1,758.8	1.7	6.41
County Highway Agency	65.8	283.2	1.67	7.16
Town or Township Highway Agency				
City or Municipal Highway Agency	68.6	496.6	1.05	7.62
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

Provide additional discussion related to general highway safety trends.

In July 2015, Arkansas began conversion from a paper-based crash reporting system to eCrash, a product of the University of Alabama's Center for Advanced Public Safety. This process has greatly increased the number of crashes being entered into the crash database and has standardized the data. The Arkansas eCrash reported 60,947 crashes in 2014 and it has increased to 79,325 crashes in 2022. During this process we discovered that 29 out of 75 County Sheriffs' Offices were not submitting any crash reports. ARDOT granted $2.4 million to the Arkansas State Police to assist 39 local agencies to utilize eCrash. There are now 298 law enforcement agencies out of approximately 359 agencies using the eCrash system. Due to efforts to get accurate and more complete data, crash numbers are increasing because many were previously not reported to the owner agency of crash database. Trend analyses at this point remain skewed because of the factors previously mentioned.

Other factors to consider when evaluating highway safety trends include: The annual VMT in Arkansas has seen a steady increase of around three percent per year since 2015. Arkansas legalized medical marijuana and began selling it in May 2019. A speed limit increase on interstates and other highways was approved by the legislature and took effect in the summer of 2020. Increases in Non-Motorist KA crashes were recently observed. It is unclear if this trend is due to an increase in actual crashes or if it is because more crash data is being collected and reported for these types of crashes. There has also been an increase in high risk driving behaviors such as distracted driving and speeding. These trends continue to be monitored.

The Department's 2023-2028 Strategic Plan speaks to the core values of Safety, Trust, Excellence, Accountability, and Modern (STEAM) in building and maintaining Arkansas's transportation system. The Traffic Safety Section is implementing these values and has made notable progress toward statewide traffic safety improvements. Some notable accomplishments and plans are as follows:

- Safety Projects
    - Another statewide wet pavement and pavement friction improvement study is underway and is using Continuous Pavement Friction Measurement.
    - A Statewide guardrail project continues, with an aim to upgrade substandard guardrails on National Highway System (NHS) routes to meet the MASH standards.
    - A new round of Cable Median Barrier (CMB) installation has been approved with an aim to reduce and ultimately eliminate KA crashes due to vehicle roadway departures.
    - In 2023, ARDOT completed a Vulnerable Road User (VRU) Safety Assessment that evaluated pedestrian, bicyclist, and other non-motorist road user needs and crash statistics. The VRU safety assessment was amended into the 2022-2027 SHSP in November 2023.
    - Research into wrong-way driver (WWD) deterrence on Interstates and freeways is wrapping up, and a construction job is installing WWD detection devices with an ITS component that alerts the Traffic Management Center and law enforcement agencies if a WWD is detected.
    - Systemic low-cost intersection projects are ongoing, with construction beginning at a few locations.
    - ARDOT uses the pavement preservation program to accomplish shoulder widening and rumble strip installation along various routes where crash history showed such improvements would be effective.
    - ARDOT approved a new policy that defines when to use rumble or mumble strips or stripes; systemic installation continues.
    - ARDOT continues to work with a consultant to use their data to analyze horizontal curve roadway elements. The horizontal curve data will inform a consultant-led low-cost horizontal curve Study.
    - On-call consultants are completing large scale systemic studies for horizontal curves, high-risk VRU corridors, roadside hazard mitigation, and preliminary designs for intersections warranting higher-cost countermeasures. Construction documents are being prepared for the installation of low-cost countermeasures for rural intersections.
    - Locations have been approved for another round of High Friction Surface Treatment (HFST) and Ultra-thin Bonded Wearing Course (UTBQC) treatments as a part of the sub-annual Wet Pavement Program.
    - The Arkansas Crash Analytics Tool (ACAT) is an online GIS dashboard available to the public which allows queries for a variety of crash statistics.
    - Online data query tools and dashboards have been developed for public use; one specific tool that has already been developed is the Arkansas Crash Analytics Tool (ACAT) which is a GIS online dashboard available to the public.
- Future activities planned:
    - A Local road safety program is in development for the Highway Commission’s approval. It will help the local agencies to improve safety on local roads using HSIP funds.
    - The AR SHSP was updated in 2022. Included was a SHSP Marketing and Communications Plan.

- ARDOT is now included in a pooled fund study for continuous pavement friction data led by Virginia Tech Transportation Institute.
- On-Call consultants are planned to be utilized in the coming year for safety studies and project development.
- ARDOT is working with a consultant to examine the possibilities of using their data for analyzing horizontal curves roadway elements. The purpose of collecting this data is to develop a low-cost Horizontal Curve Study and incorporate the collected data.
- Several safety analysis tools were examined for possible use at ARDOT. This spurred participation in the FHWA Roadway Safety Management System technical assistance program. A vendor has been selected and the product is under development.
- ARDOT has approved and created a job number for educational and media campaigns to help bring awareness to the public of safety related topics. For an example ARDOT recently released two safety campaigns regarding work zone safety and centerline rumble strips. ARDOT is also initiating an education campaign for K-12 students.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2025 Targets *

Number of Fatalities:694.0

Describe the basis for established target, including how it supports SHSP goals.

Factors considered in setting the **Number of Fatalities** target that contribute to an increase in fatalities include the following: 1) in 2020, speed limits on Interstate highways were increased; 2) an increase in impaired driving behavior; 3) an increase in reckless driving behavior; 4) staff shortages in law enforcement; 5) an increase of traffic volumes; and, 6) more fatal crashes are being reported than in previous years, and reported more accurately, due to local agencies converting from paper reports or other electronic systems to the eCrash system.

The following favorable factors are assumed to decrease the number of fatalities, and are consistent with the goals and objectives established in the SHSP: 1) systemic improvements are being implemented across Arkansas to mitigate specific crash types, such as crashes occurring during wet pavement conditions; 2) safer vehicles with enhanced safety features are replacing older vehicle fleets; 3) motorcycle training is being offered; 4) Selective Traffic Enforcement Program (STEP) and mini-STEP targeted enforcement grants offer overtime pay for law enforcement to focus on reducing negative driving behaviors.

The **Number of Fatalities** target is consistent with the SHSP and considers the positive and negative impacts discussed above.

Number of Serious Injuries:2816.6

Describe the basis for established target, including how it supports SHSP goals.

The **Number of Serious Injuries** target was established when considering negative external factors including: 1) more training is needed for officers filing crash reports in eCrash and eCite to help with consistency and accuracy; and, 2) speeding and aggressive driving were frequently reported as factors contributing to increases in fatal and suspected serious injury crashes. The number of high speeding citations issued in 2019 also increased, and the following years have surpassed the prior years.

Positive impacts include the following: 1) a new law makes street racing a felony. This law supports the SHSP goals by potentially reducing the amount of speeding vehicles on Arkansas roadways since there will be increased penalties; and, 2) a new law allows cameras to record speeding drivers in active work zones so that law enforcement may issue a citation to the offending driver in a safe area outside of the work zone.

The **Number of Serious Injuries** target considers these factors discussed above.

Fatality Rate:1.854

Describe the basis for established target, including how it supports SHSP goals.

Factors considered in setting the **Fatality Rate** target include the following negative impacts: 1) in 2020, speed limits on Interstate highways were increased; 2) an increase in impaired driving behavior; 3) an increase in reckless driving behavior; 4) staff shortages in law enforcement; and, 5) more fatal crashes are being reported than in previous years, and reported more accurately, due to local agencies converting from paper reports or other electronic systems to the eCrash system.

The following favorable factors are assumed to decrease the fatality rate, and are consistent with the goals and objectives established in the SHSP: 1) systemic improvements are being implemented across Arkansas to mitigate specific crash types, such as crashes occurring during wet pavement conditions; 2) safer vehicles with enhanced safety features are replacing older vehicle fleets; 3) motorcycle training is being offered; 4) Selective Traffic Enforcement Program (STEP) and mini-STEP targeted enforcement grants offer overtime pay for law enforcement to focus on reducing negative driving behaviors.

The positive impacts are directly related to the SHSP goals. By increasing highway safety improvements, Arkansas intends to lower the Fatality Rate. The established target reflects these impacts. The **Fatality Rate** target is consistent with the SHSP and considers the positive and negative impacts discussed above.

Serious Injury Rate:7.686

Describe the basis for established target, including how it supports SHSP goals.

The **Serious Injury Rate** target was established when considering negative external factors including: 1) more training is needed for officers filing crash reports in eCrash and eCite to help with consistency and accuracy; and, 2) speeding and aggressive driving were frequently reported as factors contributing to increases in fatal and suspected serious injury crashes. The number of high speeding citations issued in 2019 also increased, and the following years have surpassed the subsequent years.

Positive impacts include the following: 1) a new law makes street racing a felony. This law supports the SHSP goals by potentially reducing the amount of speeding vehicles on Arkansas roadways since there will be increased penalties; and, 2) a new law allows cameras to record speeding drivers in active work zones so that law enforcement may issue a citation to the offending driver in a safe area outside of the work zone.

The **Serious Injury Rate** target is consistent with SHSP goals and considers the factors discussed above.

Total Number of Non-Motorized Fatalities and Serious Injuries:277.8

Describe the basis for established target, including how it supports SHSP goals.

The **Non-Motorized Fatalities and Serious Injuries** target considers the following negative impacts: 1) the number of reporting agencies using eCrash has increased; and 2) while modern vehicles are safer from

vehicle-to-vehicle collisions, non-motorist crashes appear to be more dangerous due to vehicle design. Research by the Insurance Institute for Highway Safety (IIHS) has indicated modern vehicle designs pose greater risk in collisions with non-motorists. Hood height, hood slope angles, and overall larger private vehicles cause more blunt-trauma to non-motorists compared to older designs that allowing them to roll off the hood from impact.

Description of Methodology

The target-setting method, like previous years, is generally described below:

1) calculate moving averages for the last five years. A moving average “smooths” the variation from year to year. For this target setting, the moving average was calculated for the last five years that crash data is available (2015-2019, 2016-2020, 2017-2021, 2018-2022, and 2019-2023);

2) Calculate the average of these five data points.

3) Consider external factors to account for uncertainties. Past safety performance alone is not necessarily the best indicator of future performance, given numerous external factors outside of ARDOT's control. For instance, to account for the increase in the number of agencies turning in crash reports from 2015 to 2023, w
factor may be considered to account for the uncertainty of what the final numbers will be, rather than attempting to predict exact numbers.

4) Apply any adjustment factors as needed based on Step 3 to the averages calculated in Step 2 to determine targets.

Describe efforts to coordinate with other stakeholders (e.g. MPOs, SHSO) to establish safety performance targets.

Several meetings were held involving ARDOT, FHWA and the Arkansas Highway Safety Office to establish a methodology and preliminary targets. The method and preliminary targets were then presented to the SHSP Steering Committee which includes all MPOs, other stakeholder agencies, and private industry and organizations. The Committee's comments were considered. Some of the topics that created the most discussion evolved around adjustments to targets for internal and external factors as shown in the performance targets section of this report. The same coordination structure has been followed for every cycle since 2017.

Does the State want to report additional optional targets?

No

Arkansas does not have targets in addition to the five HSIP performance measures.

Describe progress toward meeting the State’s 2023 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	704.9	622.0
Number of Serious Injuries	2790.1	2659.2

Fatality Rate	1.895	1.663
Serious Injury Rate	7.815	7.125
Non-Motorized Fatalities and Serious Injuries	274.4	260.8

Fatal and serious injury crashes spiked in 2020 and 2021, and at the same time, more enforcement agencies began consistently reporting data using eCrash. The HSIP targets were adjusted accordingly. As fatal and serious injury crash trends decline and systemic crash analysis and countermeasure applications become routine, the 2023 predicted targets are aligning more favorably with the actual data being reported. As implementation of the SHSP continues and ARDOT updates the HSIP processes, it is expected that these positive trends can be maintained.

Applicability of Special Rules

Does the HRRR special rule apply to the State for this reporting period?

No

Does the VRU Safety Special Rule apply to the State for this reporting period?

No

Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.

PERFORMANCE MEASURES	2017	2018	2019	2020	2021	2022	2023
Number of Older Driver and Pedestrian Fatalities	80	74	86	92	97	85	96
Number of Older Driver and Pedestrian Serious Injuries	263	212	221	224	214	271	257

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Change in fatalities and serious injuries

A new HSIP Process document was approved in February 2022. Methods to develop targeted countermeasures and subprograms were undertaken in the past year, and will continue into State Fiscal Year 2025. As part of this new process, the economic effectiveness and benefit cost ratio are being used to develop and evaluate performance measures.

Based on the measures of effectiveness selected previously, describe the results of the State's program level evaluations.

Many safety projects initiated in recent years are either in design or under construction and do not have crash data available for a multi-year evaluation. However, many HSIP projects implemented since 2008 used a simple before-after analysis that helped determine the effectiveness of certain countermeasures. The High-Risk Rural Road (HRRR) program was evaluated on an annual basis, and it was found effective. However, project implementation crashes were often found to migrate. To address this issue, logical termini points are now considered instead of crash hot spots.

The cable median barrier (CMB) statewide program effectively addresses roadway departure crashes and continues. HFST and UTBWC pavements have been systemically applied and have proven to be effective in preventing wet-pavement crashes.

ARDOT has updated the rumble strip policy to include mumble stripe design for low noise and its safety effectiveness compared to rumble stripes. Shoulder rumble strips/stripes have been installed on thousands of miles highways and have proven effective in preventing roadway departure crashes especially on curves located in rural areas. Similarly, Centerline Rumble Stripes (CLRS) have been installed in passing lane segments and another round of CLRS on two-lane rural routes is under construction. The mumble stripes are being installed where noise is an issue. ARDOT will continue to evaluate these projects as data and resources become available. The newly approved HSIP Process includes a method to evaluate the overall effectiveness of sub-programs. Additionally, ARDOT is training staff and consultants in the recently purchased Roadway Safety Management System (RSMS).

What other indicators of success does the State use to demonstrate effectiveness and success of the Highway Safety Improvement Program?

- HSIP Obligations
- Increased awareness of safety and data-driven process
- More systemic programs
- Organizational change
- Policy change

As the shift is made to low-cost systemic projects, the number of miles or locations improved will serve as good

indicator of progress. However, new programs such as horizontal curve improvements are still under development.

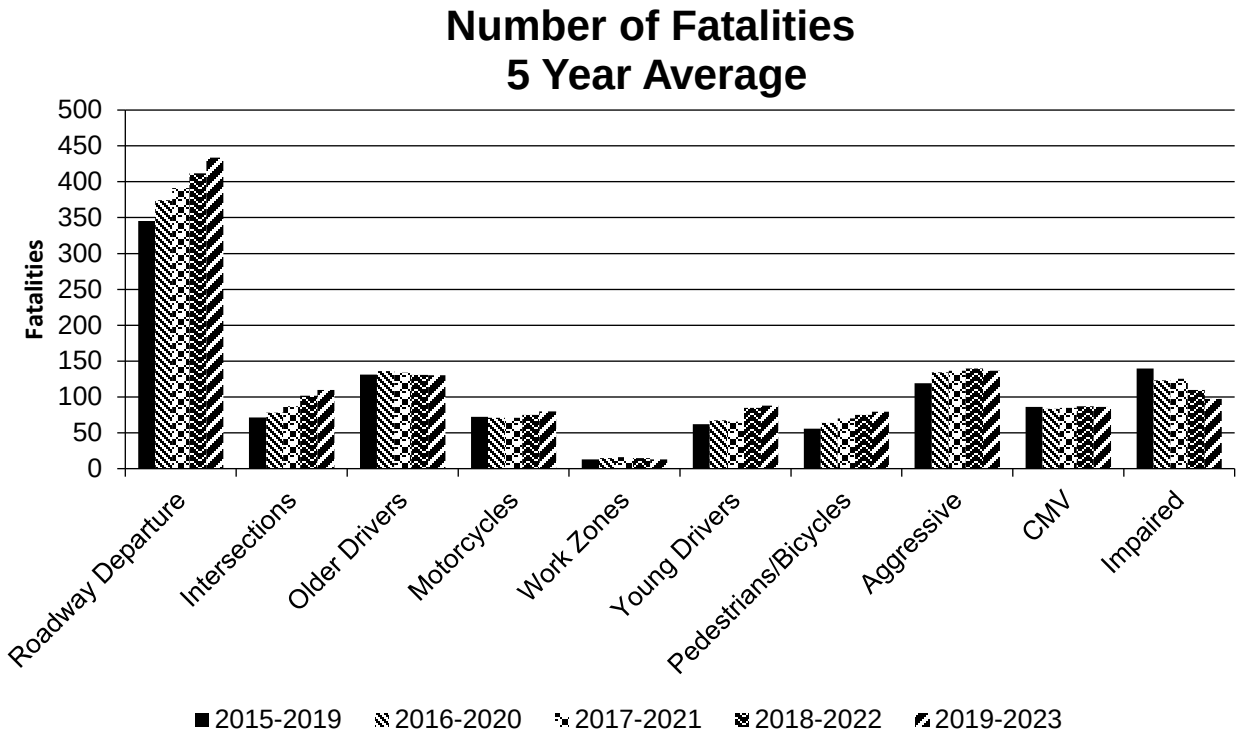
The amount of HSIP funds obligated each year serves as an indicator of safety improvements being deployed throughout the State. The scopes of safety projects are based on a data driven process where the BCA is used to identify cost effective countermeasures. In addition, a more proactive approach is being taken toward systemic programs that address crash risks rather than historical crash occurrences. These are undertaken by making changes to the HSIP process organization and policies toward data-driven approaches, especially where the KA crashes are of main importance when examining for safety concerns.

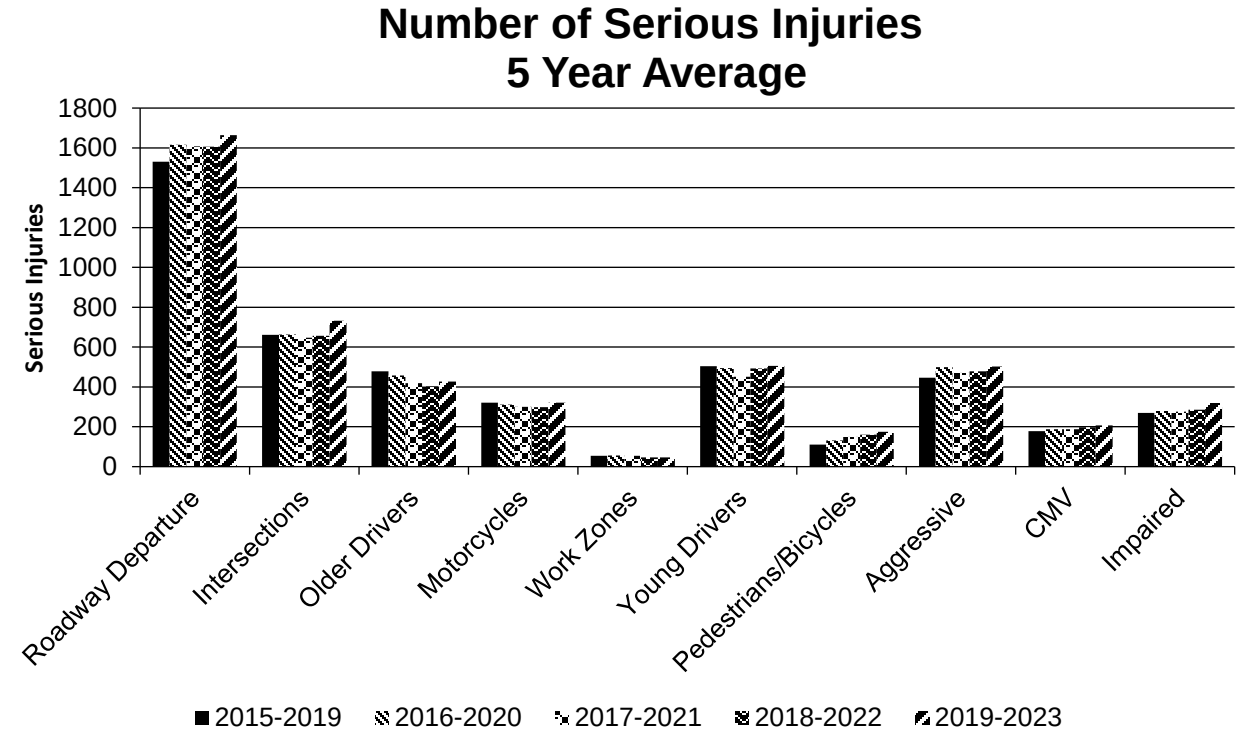
Effectiveness of Groupings or Similar Types of Improvements

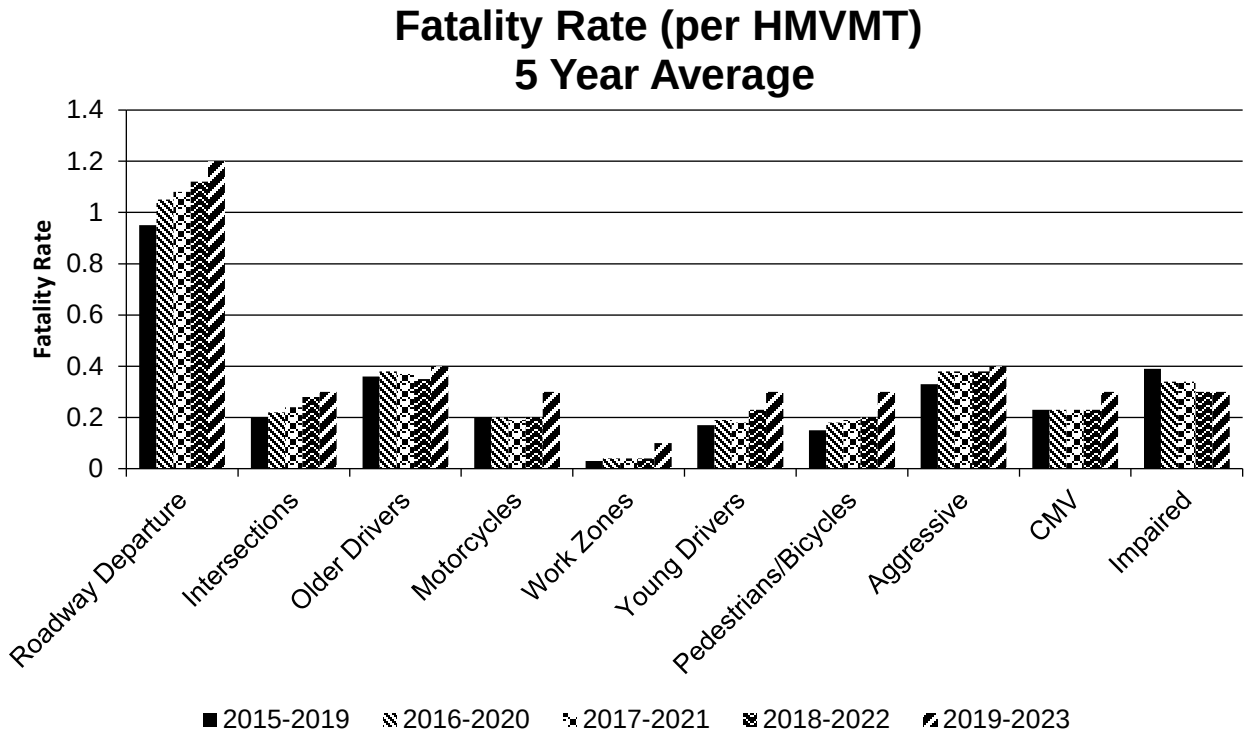
Present and describe trends in SHSP emphasis area performance measures.

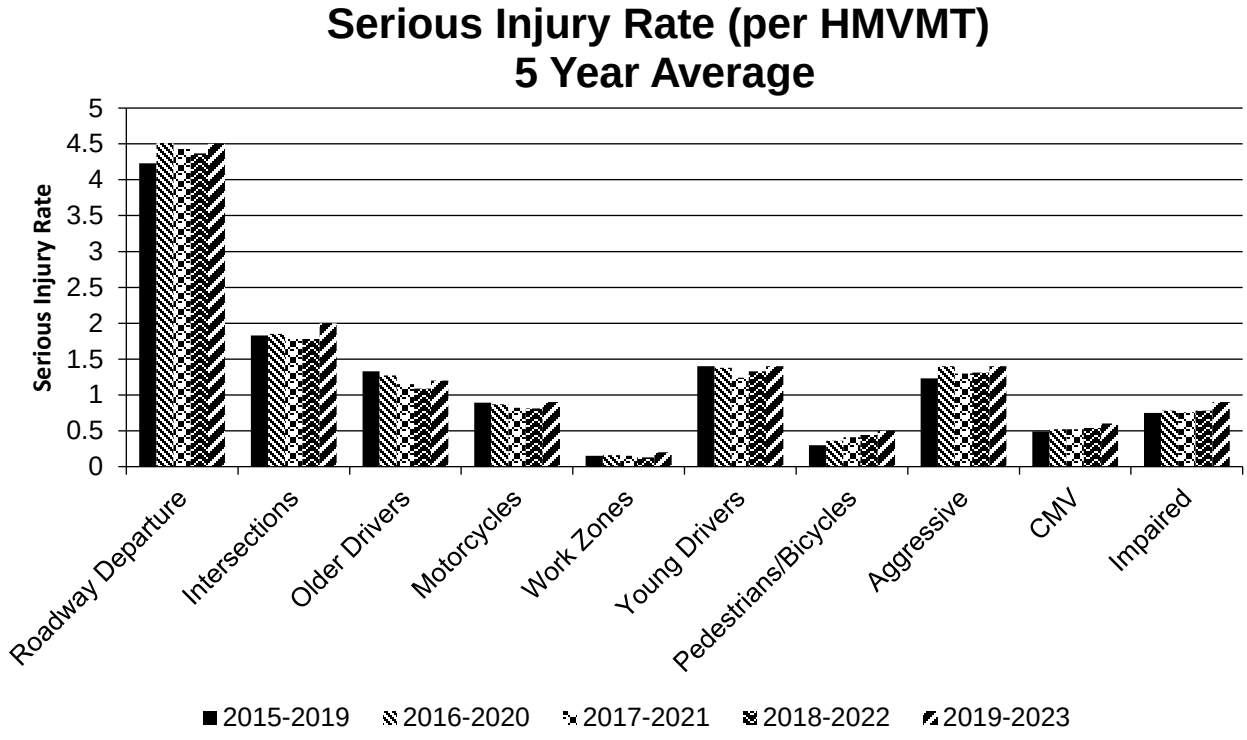
Year 2023

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Roadway Departure	Run-off-road	433.8	1,663.8	1.2	4.5
Intersections	Intersections	109.6	732.2	0.3	2
Older Drivers	All	130.2	426.6	0.4	1.2
Motorcycles	All	79.6	320.6	0.3	0.9
Work Zones	All	12.8	46.2	0.1	0.2
Young Drivers	All	87.8	506.4	0.3	1.4
Pedestrians/Bicycles	All	79.2	174.6	0.3	0.5
Aggressive	All	136.6	503	0.4	1.4
CMV	All	86.2	207	0.3	0.6
Impaired	All	97.4	318.8	0.3	0.9


Number of Fatalities
5 Year Average
Fatalities
500
450
400
350
300
250
200
150
100
50
0
Roadway Departure
Intersections
Older Drivers
Motorcycles
Work Zones
Young Drivers
Pedestrians/Bicycles
Aggressive
CMV
Impaired
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Number of Serious Injuries
5 Year Average
Serious Injuries
1800
1600
1400
1200
1000
800
600
400
200
0
Roadway Departure
Intersections
Older Drivers
Motorcycles
Work Zones
Young Drivers
Pedestrians/Bicycles
Aggressive
CMV
Impaired
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Fatality Rate (per HMVMT)
5 Year Average
Fatality Rate
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Roadway Departure
Intersections
Older Drivers
Motorcycles
Work Zones
Young Drivers
Pedestrians/Bicycles
Aggressive
CMV
Impaired
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Serious Injury Rate (per HMVMT)
5 Year Average
Serious Injury Rate
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Roadway Departure
Intersections
Older Drivers
Motorcycles
Work Zones
Young Drivers
Pedestrians/Bicycles
Aggressive
CMV
Impaired
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023

Project Effectiveness

Provide the following information for previously implemented projects that the State evaluated this reporting period.

Evaluations using the RSMS software were not completed in this reporting period.

Compliance Assessment

What date was the State's current SHSP approved by the Governor or designated State representative?

06/14/2022

What are the years being covered by the current SHSP?

From: 2022 To: 2027

When does the State anticipate completing its next SHSP update?

2027

The 2022 SHSP was approved on June 14, 2022, by the Commission and Director.

Provide the current status (percent complete) of MIRE fundamental data elements collection efforts using the table below.

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100	100	100
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100					100	100		
	Begin Point Segment Descriptor (10) [10]	100	100					100	100	100	100
	End Point Segment Descriptor (11) [11]	100	100					100	100	100	100
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]										
	Functional Class (19) [19]	100	100					100	100	100	100

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Median Type (54) [55]	100	100								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	100					100	30		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			100	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			100	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			100	100						
	Intersection/Junction Geometry (126) [116]			100	95						
	Intersection/Junction Traffic Control (131) [131]			100	95						
	AADT for Each Intersecting Road (79) [81]			100	20						
	AADT Year (80) [82]			100	20						
	Unique Approach Identifier (139) [129]			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					100	80				
	Location Identifier for Roadway at					100	100				

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Beginning of Ramp Terminal (197) [187]										
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]					100	100				
	Ramp AADT (191) [181]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		**94.44**	**94.44**	**100.00**	**78.75**	**100.00**	**98.18**	**100.00**	**92.22**	**100.00**	**100.00**

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

Describe actions the State will take moving forward to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.

SEGMENTS

· ARDOT is currently working on the methodology to determine compass direction to meet the direction of inventory MIRE requirement for state routes. We know that federal routes must state the signed direction of travel. The current method would be to report compass direction by total route/section rather than each individual segment of the route.

· ARDOT will be utilizing aerial imagery and street view to determine number of through lanes and surface type on the local paved system. Additionally, some local governments have that information in their road inventory that could also be utilized.

· ARDOT has a new Traffic Data Management System in place. Part of that system will be utilized to estimate paved local road traffic for the MIRE FDE requirement.

· ARDOT already has a robust road inventory database in place that already meets many of the MIRE FDE requirements.

INTERSECTIONS

· ARDOT purchased RIZING Geospatial's Intersection Manager software in the Fall of 2017. This software utilizes all public road LRS or ARNOLD to generate intersections. It provides the unique identifier, identifies the crossing routes, calculates the approach segments/angle, and allows for us to enter the junction geometry and traffic control present.

INTERCHANGES

· ARDOT has developed an Interchange/Complex Intersection dataset that will serve as a parent/child relationship with intersections.

· The geometry for these areas is a polygon that encompasses all intersections and approach segments.

· We are currently using ArcGIS Enterprise tool in place to draw polygons through ArcGIS Portal web application that writes features and attributes back to SQL.

Below are the tools that are being utilized to collect/report the needed MIRE FDEs currently:

· Video Log: Can be used for collecting certain roadside elements.

· RIZING Intersection Manager

· ESRI - ArcMap/ArcGIS Online/ArcGIS Field Maps/ArcGIS Enterprise

Optional Attachments

Program Structure:

ARDOT Official HSIP Process Signed 2-8-2023.pdf
Project Implementation:

Q29ProjectListingTemplate.xlsm
Safety Performance:

Evaluation:

Compliance Assessment:

Glossary

5 year rolling average: means the average of five individuals, consecutive annual points of data (e.g. annual fatality rate).

Emphasis area: means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.

Highway safety improvement project: means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.

HMVMT: means hundred million vehicle miles traveled.

Non-infrastructure projects: are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.

Older driver special rule: applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.

Performance measure: means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.

Programmed funds: mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.

Roadway Functional Classification: means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

Strategic Highway Safety Plan (SHSP): means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.

Systematic: refers to an approach where an agency deploys countermeasures at all locations across a system.

Systemic safety improvement: means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.

Transfer: means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.