### 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. 409 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.”
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Executive Summary

In accordance with 23 USC 148 and pursuant to 23 CFR 924, the Arkansas State Highway and Transportation Department (AHTD) has prepared a Highway Safety Improvement Program (HSIP) Annual Report for State Fiscal Year 2015 (July 1, 2014 through June 30, 2015). The format of this report is consistent with the reporting guidelines issued by the Federal Highway Administration on February 13, 2013.
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 MAP-21 Reporting Guidance dated February 13, 2013 and consists of four sections: program structure, progress in implementing HSIP projects, progress in achieving safety performance targets, and assessment of the effectiveness of the improvements.

Program Structure

Program Administration

How are Highway Safety Improvement Program funds allocated in a State?

- Central
- District
- Other

Describe how local roads are addressed as part of Highway Safety Improvement Program.

To address safety concerns on local roads, the AHTD continues to provide technical assistance and training programs on safety issues to local governments through its efforts by System Information and Research Division staff and the Technology Transfer Program. The AHTD continues to coordinate with the Arkansas State Police through the Traffic Records Coordinating Committee to implement eCrash and the Advance program that will allow law enforcement agencies and other State and local agencies to
have better access to crash data on all public roads, and run analytics and produce reports on numerous aspects of the crash data.

Furthermore, the AHTD continues to update our linear referencing system. This allowed the location of a crash that occurs on Federal-aid local roads to be identified by geographical location. A project to provide a linear referencing system for all public roads is currently underway. Approximately 35% of all public roads now have a linear referencing system in place. Based on this data, crash queries can be conducted to determine if there are locations with a high frequency of crashes. This data can be provided to a local government agency or a Metropolitan Planning Organization (MPO) upon request.

AHTD has provided a GIS and Aerial photograph driven tool, VISUAL-T, to the Arkansas State Police and various county and local law enforcement agencies to assist the agencies with providing an accurate crash location on the crash report. The AHTD technical staff provided continued support to the local law enforcement agencies in this reporting period. This tool has greatly enhanced both speed and accuracy in providing a crash location to the Crash Database.

Identify which internal partners are involved with Highway Safety Improvement Program planning.

- [X] Design
- [X] Planning
- [X] Maintenance
- [X] Operations
- [ ] Governors Highway Safety Office
- [ ] Other:

Briefly describe coordination with internal partners.

Coordination with internal partners, along with the HSO, occurs on different levels. Design, planning, maintenance, operations and the HSO are all on the SHSP committee. Coordination has also taken place when addressing work zone safety, roadway departure safety, and in the identification of infrastructure and non-infrastructure projects. Traffic Safety and Maintenance work together on daily basis to address
the spot treatments due to fatal crashes. Traffic Safety performs the preliminary scope of safety improvements on segment jobs according to the HSM guidelines to help with the design process.

**Identify which external partners are involved with Highway Safety Improvement Program planning.**

- Metropolitan Planning Organizations
- Governors Highway Safety Office
- Local Government Association
- Other:

**Identify any program administration practices used to implement the HSIP that have changed since the last reporting period.**

- Multi-disciplinary HSIP steering committee
- Other: Other-Performance measure coordination with the Arkansas State Police, Highway Safety Office had more thorough discussion in multiple meetings. Different methodologies and laws were discussed prior to setting targets.
- Other: Other-New countermeasures such as roundabouts were proposed for intersections with KA crashes. Locations for preliminary fatal crashes are immediately evaluated for possible safety improvements on daily basis.

**Describe any other aspects of Highway Safety Improvement Program Administration on which you would like to elaborate.**

The AHTD Traffic Safety Section (TSS), which manages the HSIP, continued to use the Highway Safety Manual on case by case basis. The TSS has also hired another civil engineering graduate effective May,
2015. TSS now has 4 Engineers working on the Safety Program. Prior to May 2011, TSS did not have an
Engineer. The TSS has marketed the SHSP (approved by FHWA in March 2013) with a focus on TZD
through the Arkansas Highways Magazine, idrivearkansas.com and tzdarkansas.org.

Also HSM Safety Performance Functions’ research is under progress along with continued improvements to data
analysis processes and tools used by the TSS. AHTD continued to be a member State in the Evaluation of Low-Cost
Safety Improvements Pooled Fund Study. AHTD is coordinating with the FHWA Division Office to conduct a HSIP
Peer Review during the 2016 Federal Fiscal Year. Information learned from this effort will be used to update the
HSIP Process document.

Program Methodology
Select the programs that are administered under the HSIP.

- Median Barrier
- Intersection
- Safe Corridor
- Horizontal Curve
- Bicycle Safety
- Rural State Highways
- Skid Hazard
- Crash Data
- Red Light Running Prevention
- Roadway Departure
- Low-Cost Spot Improvements
- Sign Replacement And Improvement
- Local Safety
- Pedestrian Safety
- Right Angle Crash
- Left Turn Crash
- Shoulder Improvement
- Segments
- Other:

Program: Median Barrier
Date of Program Methodology: 7/7/2011

What data types were used in the program methodology?

Crashes Exposure Roadway
What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPF
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
- Excess proportions of specific crash types
- Other-Systemic approach

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

- Yes
How are highway safety improvement projects advanced for implementation?

- Competitive application process
- Selection committee
- Other

Other-The process is consistent with the AHTD 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).

- Relative Weight in Scoring
- Rank of Priority Consideration

- Ranking based on B/C
- Available funding
- Incremental B/C
- Ranking based on net benefit
- Other

Based on systemic approach considering median width, ADT, etc.

Program: Intersection
Date of Program Methodology: 4/1/2015

What data types were used in the program methodology?

**Crashes**
- [x] All crashes
- [ ] Fatal crashes only
- [x] Fatal and serious injury crashes only
- [ ] Other

**Exposure**
- [ ] Traffic
- [ ] Volume
- [ ] Population
- [ ] Lane miles
- [x] Other-Rural vs Urban

**Roadway**
- [ ] Median width
- [ ] Horizontal curvature
- [ ] Functional classification
- [ ] Roadside features
- [x] Other-ROW and utilities consideration

What project identification methodology was used for this program?

- [x] Crash frequency
- [ ] Expected crash frequency with EB adjustment
- [ ] Equivalent property damage only (EPDO Crash frequency)
- [ ] EPDO crash frequency with EB adjustment
- [ ] Relative severity index
- [ ] Crash rate
- [ ] Critical rate
- [ ] Level of service of safety (LOSS)
- [ ] Excess expected crash frequency using SPFs
- [ ] Excess expected crash frequency with the EB adjustment
- [ ] Excess expected crash frequency using method of moments
- [ ] Probability of specific crash types
- [ ] Excess proportions of specific crash types
Are local roads (non-state owned and operated) included or addressed in this program?

☐ Yes
☒ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☐ Selection committee
☐ Other
☒ Other-The process is consistent with the AHTD 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).

☐ Relative Weight in Scoring
☒ Rank of Priority Consideration

☐ Ranking based on B/C
☐ Available funding
☐ Incremental B/C
☐ Ranking based on net benefit
☒ Cost Effectiveness  2
☒ analyzed multiple locations statewide that were identified through various sources.  1
Program: Skid Hazard
Date of Program Methodology: 1/1/2013

What data types were used in the program methodology?

- **Crashes**
  - ✔ All crashes
  - ✔ Fatal and serious injury crashes only
  - ✔ Other - Wet pavement crashes
  - □ Fatal crashes only
  - □ Other

- **Exposure**
  - □ Traffic
  - □ Volume
  - □ Population
  - □ Lane miles
  - ✔ Other - Skid resistance consideration

- **Roadway**
  - □ Median width
  - □ Horizontal curvature
  - □ Functional classification
  - □ Roadside features

What project identification methodology was used for this program?

- ✔ Crash frequency
- □ Expected crash frequency with EB adjustment
- □ Equivalent property damage only (EPDO Crash frequency)
- □ EPDO crash frequency with EB adjustment
- □ Relative severity index
- ✔ Crash rate
- □ Critical rate
- □ Level of service of safety (LOSS)
Excess expected crash frequency using SPFs

Excess expected crash frequency with the EB adjustment

Excess expected crash frequency using method of moments

Probability of specific crash types

Excess proportions of specific crash types

Other

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

Yes

No

How are highway safety improvement projects advanced for implementation?

Competitive application process

selection committee

Other

Other-The process is consistent with the AHTD 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).

Relative Weight in Scoring

Rank of Priority Consideration

Ranking based on B/C

Available funding
**Program:** Crash Data

**Date of Program Methodology:** 1/1/2012

### What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>Traffic</td>
<td>Median width</td>
</tr>
<tr>
<td>Fatal crashes only</td>
<td>Volume</td>
<td>Horizontal curvature</td>
</tr>
<tr>
<td>Fatal and serious injury crashes only</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>Other</td>
<td>Lane miles</td>
<td>Roadside features</td>
</tr>
<tr>
<td>Other-Converting from TRACS to E-Crash with the add-on software of ADVANCE for querying data.</td>
<td>Other-All types of data exposure considered for improvements</td>
<td>Other-MIRE roadway data elements are the priority for improvements.</td>
</tr>
</tbody>
</table>

### What project identification methodology was used for this program?

- Incremental B/C
- Ranking based on net benefit
- Other
- Wet pavement crashes were considered statewide and further analyzed to select the locations based on a certain threshold.
Crash frequency

Expected crash frequency with EB adjustment

Equivalent property damage only (EPDO Crash frequency)

EPDO crash frequency with EB adjustment

Relative severity index

Crash rate

Critical rate

Level of service of safety (LOSS)

Excess expected crash frequency using SPF s

Excess expected crash frequency with the EB adjustment

Excess expected crash frequency using method of moments

Probability of specific crash types

Excess proportions of specific crash types

Other

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

Yes

No

If yes, are local road projects identified using the same methodology as state roads?

Yes

No

How are highway safety improvement projects advanced for implementation?

Competitive application process

Selection committee
Other

Other-The MIRE is connected with the eCrash which will improve the data quality for analysis.

Other-Other-The AHTD 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.

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).

Relative Weight in Scoring

Rank of Priority Consideration

- Ranking based on B/C
- Available funding
- Incremental B/C
- Ranking based on net benefit
- Other

Various state agencies are prioritizing and funding needed improvements through the TRCC.

Program: Roadway Departure

Date of Program Methodology: 1/1/2014

What data types were used in the program methodology?
Crashes

☑ All crashes
☑ Fatal crashes only
☑ Fatal and serious injury crashes only
☐ Other

Exposure

☑ Traffic
☐ Volume
☐ Population
☐ Lane miles
☐ Other

Roadway

☐ Median width
☐ Horizontal curvature
☐ Functional classification
☐ Roadside features
☑ Other-Minimum of 1 foot shoulder

What project identification methodology was used for this program?

☑ Crash frequency
☐ Expected crash frequency with EB adjustment
☐ Equivalent property damage only (EPDO Crash frequency)
☐ EPDO crash frequency with EB adjustment
☐ Relative severity index
☐ Crash rate
☐ Critical rate
☐ Level of service of safety (LOSS)
☐ Excess expected crash frequency using SPFbs
☐ Excess expected crash frequency with the EB adjustment
☐ Excess expected crash frequency using method of moments
☐ Probability of specific crash types
☐ Excess proportions of specific crash types
☐ Other

Are local roads (non-state owned and operated) included or addressed in this program?
How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☐ Selection committee
☐ Other
☐ Other—The process is consistent with the AHTD 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).

☐ Relative Weight in Scoring
☐ Rank of Priority Consideration

☐ Ranking based on B/C
☐ Available funding 2
☐ Incremental B/C
☐ Ranking based on net benefit
☐ Other
☐ The process was systemic based approach but due to available funding the systematic approach was also considered.
Program: Segments

Date of Program Methodology: 1/1/2013

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗ All crashes</td>
<td>❑ Traffic</td>
<td>❑ Median width</td>
</tr>
<tr>
<td>❑ Fatal crashes only</td>
<td>❑ Volume</td>
<td>❑ Horizontal curvature</td>
</tr>
<tr>
<td>✗ Fatal and serious injury</td>
<td>❑ Population</td>
<td>❑ Functional classification</td>
</tr>
<tr>
<td>crashes only</td>
<td></td>
<td>✗ Roadside features</td>
</tr>
<tr>
<td>❑ Other</td>
<td>❑ Lane miles</td>
<td>❗ Other-Clearzones and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>shoulder widths.</td>
</tr>
<tr>
<td></td>
<td>❑ Other</td>
<td></td>
</tr>
</tbody>
</table>

What project identification methodology was used for this program?

❑ Crash frequency

❑ Expected crash frequency with EB adjustment

❑ Equivalent property damage only (EPDO Crash frequency)

❑ EPDO crash frequency with EB adjustment

❑ Relative severity index

✗ Crash rate

❑ Critical rate

❑ Level of service of safety (LOSS)

❑ Excess expected crash frequency using SPF

❑ Excess expected crash frequency with the EB adjustment

❑ Excess expected crash frequency using method of moments

❑ Probability of specific crash types
Excess proportions of specific crash types

Other-Statewide average crash rates

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

Yes

No

How are highway safety improvement projects advanced for implementation?

Competitive application process

Selection committee

Other

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).

Relative Weight in Scoring

Rank of Priority Consideration

Ranking based on B/C 1

Available funding

Incremental B/C

Ranking based on net benefit

Other
What proportion of highway safety improvement program funds address systemic improvements?

42

Highway safety improvement program funds are used to address which of the following systemic improvements?

☑ Cable Median Barriers
☐ Traffic Control Device Rehabilitation
☐ Install/Improve Signing
☐ Upgrade Guard Rails
☐ Safety Edge
☐ Add/Upgrade/Modify/Remove Traffic Signal
☐ Rumble Strips
☐ Pavement/Shoulder Widening
☐ Install/Improve Pavement Marking and/or Delineation
☐ Clear Zone Improvements
☐ Install/Improve Lighting
☐ Other

What process is used to identify potential countermeasures?

☑ Engineering Study
☐ Road Safety Assessment
☐ Other:
Identify any program methodology practices used to implement the HSIP that have changed since the last reporting period.

- Highway Safety Manual
- Road Safety audits
- Systemic Approach
- Other:

Describe any other aspects of the Highway Safety Improvement Program methodology on which you would like to elaborate.

Systemic approaches to addressing roadway departure safety are underway. AHTD is already implementing cable median barrier projects through a systemic process. With guidance from the Roadway Departure Safety Implementation Plan, a systemic approach to install signs, markings, horizontal curves and rumble strips is also underway. For segmental projects, AHTD continues to use B/C analysis to target low and medium cost improvements to hot spots while also applying the other low cost improvements for the entire length of the project.
## Progress in Implementing Projects

### Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

- [ ] Calendar Year
- [x] State Fiscal Year
- [ ] Federal Fiscal Year

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

<table>
<thead>
<tr>
<th>Funding Category</th>
<th>Programmed*</th>
<th>Obligated</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSIP (Section 148)</td>
<td>36272300</td>
<td>20275856</td>
</tr>
<tr>
<td>HRRRP (SAFETEA-LU)</td>
<td>9197200</td>
<td>0</td>
</tr>
<tr>
<td>HRRR Special Rule</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Penalty Transfer - Section 154</td>
<td>10194950</td>
<td>10907331</td>
</tr>
<tr>
<td>Penalty Transfer – Section 164</td>
<td>10194950</td>
<td>10370311</td>
</tr>
<tr>
<td>Incentive Grants - Section 163</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Incentive Grants (Section 406)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other Federal-aid Funds (i.e. STP, NHPP)</td>
<td>165763100</td>
<td>26466251</td>
</tr>
<tr>
<td>State and Local Funds</td>
<td>34769500</td>
<td>8869436</td>
</tr>
</tbody>
</table>
How much funding is programmed to local (non-state owned and maintained) safety projects?
0 %

How much funding is obligated to local safety projects?
0 %

How much funding is programmed to non-infrastructure safety projects?
$1,500,000.00

How much funding is obligated to non-infrastructure safety projects?
$1,350,000.00

How much funding was transferred in to the HSIP from other core program areas during the reporting period?
$0.00
How much funding was transferred out of the HSIP to other core program areas during the reporting period?

$26,546,544.00

Discuss impediments to obligating Highway Safety Improvement Program funds and plans to overcome this in the future.

Developing processes and policies to systematically deploy the use of HSIP funds for the implementation of minor shoulder widening, horizontal curves, signs, etc. Better streamlining of the HSIP project development process (into the normal project development process) for corridor safety projects; implementing numerous low cost countermeasures.

Describe any other aspects of the general Highway Safety Improvement Program implementation progress on which you would like to elaborate.

Significant progress has been made towards the installation of cable median barriers to reduce or eliminate KA crashes on interstates and other high speed routes. Statewide shoulder rumble strip/stripes are to be installed on 4,000 plus miles of the State Highway System by the end of next State Fiscal Year of 2016. Statewide HFST are to be installed at 40 plus locations of the State Highway System by the end of this calendar year.
### General Listing of Projects

List each highway safety improvement project obligated during the reporting period.

<table>
<thead>
<tr>
<th>Project</th>
<th>Improvement Category</th>
<th>Output</th>
<th>HSIP Cost</th>
<th>Total Cost</th>
<th>Funding Category</th>
<th>Functional Classification</th>
<th>AADT</th>
<th>Speed</th>
<th>Roadway Ownership</th>
<th>Relationship to SHSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>012195</td>
<td>Roadside Barrier - cable</td>
<td>37.28  Miles</td>
<td>853867</td>
<td>939254</td>
<td>HSIP (Section 148)</td>
<td>Rural Principal Arterial - Other Freeways and Expressways</td>
<td>4100</td>
<td>70</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
</tr>
<tr>
<td>012208</td>
<td>Non-infrastructure Non-infrastructure - other</td>
<td>0 Miles</td>
<td>1350000 0</td>
<td>1500000 0</td>
<td>Penalty Transfer - Section 154</td>
<td>Creating more effective processes and safety management system</td>
<td>0</td>
<td>0</td>
<td>State Highway Agency</td>
<td>Creating more effective processes and safety management system</td>
</tr>
<tr>
<td>012229</td>
<td>Roadway Rumble strips - edge or shoulder</td>
<td>1300 Miles</td>
<td>396444 4</td>
<td>396444 4</td>
<td>Penalty Transfer - Section 154</td>
<td>Various locations and Functional Classifications</td>
<td>0</td>
<td>0</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
</tr>
<tr>
<td>01223</td>
<td>Roadway</td>
<td>21</td>
<td>352476</td>
<td>352476</td>
<td>Penalty</td>
<td>Various</td>
<td>0</td>
<td>0</td>
<td>State</td>
<td>Roadway</td>
</tr>
<tr>
<td></td>
<td>Pavement surface - high friction surface</td>
<td>Miles</td>
<td>8</td>
<td>8</td>
<td>Transfer - Section 154</td>
<td>Locations and various Functional Classifications</td>
<td>Highway Agency</td>
<td>Departure</td>
<td>safety measures particularly curves, high friction pavements.</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------</td>
<td>-----------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3.7 Miles</td>
<td>394236</td>
<td>2</td>
<td>394236</td>
<td>Penalty Transfer - Section 164</td>
<td>Various Locations and Various Functional Classifications</td>
<td>0</td>
<td>0</td>
<td>State Highway Agency</td>
<td></td>
</tr>
<tr>
<td>012239</td>
<td>Roadway Pavement surface - high friction surface</td>
<td>4.12 Miles</td>
<td>51509</td>
<td>56660</td>
<td>HSIP (Section 148)</td>
<td>Rural Principal Arterial - Interstate</td>
<td>21500</td>
<td>70</td>
<td>State Highway Agency</td>
<td></td>
</tr>
<tr>
<td>040646</td>
<td>Roadside Barrier - cable</td>
<td>8.75 Miles</td>
<td>48191</td>
<td>48191</td>
<td>Penalty Transfer - Section 164</td>
<td>Rural Major Collector</td>
<td>34000</td>
<td>55</td>
<td>State Highway Agency</td>
<td></td>
</tr>
<tr>
<td>050280</td>
<td>Intersection geometry Auxiliary lanes - add two-way left-turn lane</td>
<td>6.51 Miles</td>
<td>185601</td>
<td>185601</td>
<td>Penalty Transfer</td>
<td>Rural Minor</td>
<td>5000</td>
<td>55</td>
<td>State Highway Agency</td>
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<tr>
<td>05031</td>
<td>Intersection geometry</td>
<td>6.51</td>
<td>185601</td>
<td>185601</td>
<td>Penalty Transfer</td>
<td>Rural Minor</td>
<td>5000</td>
<td>55</td>
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<tr>
<td><strong>06119</strong>&lt;br&gt;4</td>
<td>Roadway Widening - add lane(s) along segment</td>
<td>0.7 Miles</td>
<td>1999584</td>
<td>1999584</td>
<td>HSIP (Section 148)</td>
<td>Urban Principal Arterial - Other</td>
<td>33000</td>
<td>35</td>
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<tr>
<td><strong>06142</strong>&lt;br&gt;8</td>
<td>Roadway Pavement surface - high friction surface</td>
<td>17.99 Miles</td>
<td>98952</td>
<td>108847</td>
<td>HSIP (Section 148)</td>
<td>Rural Minor Arterial</td>
<td>3200</td>
<td>55</td>
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</table>

- Install continuous, two way left turn lanes as appropriate.

- Low cost safety measures particularly curves, high friction pavements.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Miles</th>
<th>Code</th>
<th>Description</th>
<th>Miles</th>
<th>Agency</th>
<th>Code</th>
<th>Description</th>
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<tr>
<td>06143</td>
<td>Intersection geometry Auxiliary lanes - add two-way left-turn lane</td>
<td>6.3</td>
<td>165113</td>
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<td>Rural Principal Arterial - Other</td>
<td>8300</td>
<td>State Highway Agency</td>
<td>Intersection s</td>
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<tr>
<td>06143</td>
<td>Intersection geometry Auxiliary lanes - add two-way left-turn lane</td>
<td>6.53</td>
<td>218811</td>
<td>Penalty Transfer – Section 164</td>
<td>Rural Minor Arterial</td>
<td>8600</td>
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<td>06140</td>
<td>Shoulder treatments Widen shoulder - paved or other</td>
<td>17.34</td>
<td>123367</td>
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<td>Rural Minor Arterial</td>
<td>5000</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
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<tr>
<td>07039</td>
<td>Roadside Barrier - cable</td>
<td>5.59</td>
<td>29052</td>
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<td>Urban Principal Arterial - Other Freeways and Expressways</td>
<td>3700</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
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<tr>
<td>Task</td>
<td>Description</td>
<td>Miles</td>
<td>Starts</td>
<td>Ends</td>
<td>Project Code</td>
<td>Agency</td>
<td>MILEPOST</td>
<td>Type</td>
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<tr>
<td>080309</td>
<td>Shoulder treatments</td>
<td>2.52</td>
<td>19021</td>
<td>20923</td>
<td>HSIP (Section 148)</td>
<td>Rural Principal Arterial - Other</td>
<td>3700</td>
<td>55</td>
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<tr>
<td>080494</td>
<td>Alignment Horizontal curve realignment</td>
<td>6.83 Miles</td>
<td>55000</td>
<td>55000</td>
<td>Penalty Transfer – Section 164</td>
<td>Rural Minor Arterial</td>
<td>5300</td>
<td>55</td>
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<tr>
<td>080495</td>
<td>Intersection geometry Auxiliary lanes - add left-turn lane</td>
<td>6.83 Miles</td>
<td>157948</td>
<td>157948</td>
<td>Penalty Transfer – Section 164</td>
<td>Rural Minor Arterial</td>
<td>5300</td>
<td>55</td>
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<tr>
<td>090221</td>
<td>Shoulder treatments</td>
<td>0.63 Miles</td>
<td>10697</td>
<td>11767</td>
<td>HSIP (Section 148)</td>
<td>Rural Minor Arterial</td>
<td>2400</td>
<td>55</td>
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<td>090379</td>
<td>Roadside Barrier - cable</td>
<td>15.15 Miles</td>
<td>158012</td>
<td>158012</td>
<td>Penalty Transfer – Section</td>
<td>Rural Principal Arterial - Other</td>
<td>10000</td>
<td>65</td>
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<td>Project</td>
<td>Description</td>
<td>Length</td>
<td>Cost</td>
<td>Improvement</td>
<td>Agency</td>
<td>Measure</td>
<td>Notes</td>
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<td>-----------------------------------------------------------------------</td>
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<tr>
<td>090406</td>
<td>Railroad grade crossings Grade separation</td>
<td>0.47</td>
<td>27999</td>
<td>HSIP (Section 148)</td>
<td>Rural Minor Arterial</td>
<td>10500 55 State Highway Agency</td>
<td>Reducing vehicle-train crashes. Improve safety at existing at-grade railroad crossings by grade separation method.</td>
<td></td>
</tr>
<tr>
<td>090423</td>
<td>Shoulder treatments Widen shoulder - paved or other</td>
<td>15.63</td>
<td>20000</td>
<td>Penalty Transfer - Section 154</td>
<td>Rural Minor Arterial</td>
<td>2700 55 State Highway Agency</td>
<td>Roadway Departure</td>
<td>Provide minor shoulder widening</td>
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<tr>
<td>090424</td>
<td>Alignment Horizontal curve realignment</td>
<td>10.16</td>
<td>20000</td>
<td>Penalty Transfer - Section 154</td>
<td>Rural Minor Arterial</td>
<td>2800 55 State Highway Agency</td>
<td>Roadway Departure</td>
<td>Curve realignment</td>
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<tr>
<td>090429</td>
<td>Roadway Pavement surface - high friction surface</td>
<td>3.4</td>
<td>20000</td>
<td>Penalty Transfer - Section 154</td>
<td>Various Locations and Functional Classifications</td>
<td>0 0 State Highway Agency</td>
<td>Roadway Departure</td>
<td>Low cost safety measure particularly curves. High friction surface</td>
</tr>
<tr>
<td>Work Order</td>
<td>Utility</td>
<td>Description</td>
<td>Miles</td>
<td>New Location</td>
<td>Penalty Transfer - Section 154</td>
<td>Roadway Departure</td>
<td>State Highway Agency</td>
<td>Continue installation of cable median barriers.</td>
</tr>
<tr>
<td>------------</td>
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<td>--------------</td>
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<tr>
<td>BB0107</td>
<td>BB0109</td>
<td>Roadside Barrier - cable</td>
<td>12.9 Miles</td>
<td>1614730</td>
<td>1614730</td>
<td>Rural Principal Arterial - Interstate</td>
<td>29000</td>
<td>70</td>
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<tr>
<td>BB0201</td>
<td>BB0203</td>
<td>Roadside Barrier - cable</td>
<td>6.11 Miles</td>
<td>1326920</td>
<td>1326920</td>
<td>Urban Principal Arterial - Interstate</td>
<td>19000</td>
<td>70</td>
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<tr>
<td>BB0303</td>
<td>BB0307</td>
<td>Roadside Barrier - cable</td>
<td>2.02 Miles</td>
<td>75896</td>
<td>75896</td>
<td>Rural Principal Arterial - Interstate</td>
<td>23000</td>
<td>70</td>
</tr>
<tr>
<td>BB0407</td>
<td>BB0409</td>
<td>Roadside Barrier - cable</td>
<td>7.46 Miles</td>
<td>45398</td>
<td>49938</td>
<td>HSIP (Section 148)</td>
<td>47000</td>
<td>70</td>
</tr>
<tr>
<td>BB060</td>
<td>Roadside Barrier - cable</td>
<td>2.9 Miles</td>
<td>300803</td>
<td>300803</td>
<td>Penalty Transfer - Section 164</td>
<td>Rural Principal Arterial - Interstate</td>
<td>30000</td>
<td>70</td>
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<tr>
<td>BB080</td>
<td>Roadside Barrier - cable</td>
<td>13.1 Miles</td>
<td>46127</td>
<td>46127</td>
<td>Penalty Transfer - Section 154</td>
<td>Rural Principal Arterial - Interstate</td>
<td>21000</td>
<td>70</td>
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<td>CA090</td>
<td>Roadside Barrier - cable</td>
<td>4.49 Miles</td>
<td>9363</td>
<td>10299</td>
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<td>Urban Principal Arterial - Other</td>
<td>17000</td>
<td>60</td>
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<tr>
<td>06132</td>
<td>Roadside Barrier - cable</td>
<td>7.31 Miles</td>
<td>12342</td>
<td>13576</td>
<td>HSIP (Section 148)</td>
<td>Urban Principal Arterial - Interstate</td>
<td>64000</td>
<td>65</td>
</tr>
</tbody>
</table>
Progress in Achieving Safety Performance Targets

Overview of General Safety Trends
Present data showing the general highway safety trends in the state for the past five years.

<table>
<thead>
<tr>
<th>Performance Measures*</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fatalities</td>
<td>632.2</td>
<td>615.6</td>
<td>592.8</td>
<td>574.8</td>
<td>552.2</td>
</tr>
<tr>
<td>Number of serious injuries</td>
<td>3151.2</td>
<td>3205.6</td>
<td>3361.2</td>
<td>3392</td>
<td>3310.8</td>
</tr>
<tr>
<td>Fatality rate (per HMVMT)</td>
<td>1.97</td>
<td>1.89</td>
<td>1.81</td>
<td>1.74</td>
<td>1.66</td>
</tr>
<tr>
<td>Serious injury rate (per HMVMT)</td>
<td>9.76</td>
<td>9.78</td>
<td>10.21</td>
<td>10.25</td>
<td>9.93</td>
</tr>
</tbody>
</table>

*Performance measure data is presented using a five-year rolling average.
Number of Fatalities and Serious Injuries for the Last Five Years

![Graph showing the number of fatalities and serious injuries from 2009 to 2013.](image)

- **Fatalities**
  - 2009: 622.2
  - 2010: 592.8
  - 2011: 574.8
  - 2012: 552.2
  - 2013: 540.0

- **Serious Injuries**
  - 2009: 615.6
  - 2010: 592.8
  - 2011: 574.8
  - 2012: 552.2
  - 2013: 540.0


---

33
Rate of Fatalities and Serious injuries for the Last Five Years

<table>
<thead>
<tr>
<th>Years</th>
<th>Fatalities Rate (per HMVMT)</th>
<th>Serious Injuries Rate (per HMVMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1.97</td>
<td>10</td>
</tr>
<tr>
<td>2010</td>
<td>1.85</td>
<td>10</td>
</tr>
<tr>
<td>2011</td>
<td>1.61</td>
<td>10</td>
</tr>
<tr>
<td>2012</td>
<td>1.74</td>
<td>10</td>
</tr>
<tr>
<td>2013</td>
<td>1.66</td>
<td>10</td>
</tr>
</tbody>
</table>

Fatality Rate (per HMVMT)  Serious Injuries Rate (per HMVMT)
To the maximum extent possible, present performance measure* data by functional classification and ownership.

**Year - 2013**

<table>
<thead>
<tr>
<th>Function Classification</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - INTERSTATE</td>
<td>27</td>
<td>192</td>
<td>0.32</td>
<td>2.24</td>
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<tr>
<td>RURAL PRINCIPAL ARTERIAL - OTHER FREeways and EXPRESSWAYS</td>
<td>7</td>
<td>24</td>
<td>0.46</td>
<td>1.58</td>
</tr>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - OTHER</td>
<td>66</td>
<td>368</td>
<td>0.92</td>
<td>5.1</td>
</tr>
<tr>
<td>RURAL MINOR ARTERIAL</td>
<td>56</td>
<td>345</td>
<td>1.31</td>
<td>8.14</td>
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<tr>
<td>RURAL MINOR COLLECTOR</td>
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<td>7</td>
<td>1.87</td>
<td>13.14</td>
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<td>RURAL MAJOR COLLECTOR</td>
<td>68</td>
<td>450</td>
<td>2.05</td>
<td>13.56</td>
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<td>RURAL LOCAL ROAD OR STREET</td>
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<td>0</td>
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<td>URBAN PRINCIPAL</td>
<td>28</td>
<td>238</td>
<td>0.33</td>
<td>2.78</td>
</tr>
<tr>
<td>ARTERIAL - INTERSTATE</td>
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<tr>
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<td>-----------------</td>
<td>-----------------</td>
<td>---------</td>
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</tr>
<tr>
<td>URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS</td>
<td>2</td>
<td>48</td>
<td>0.13</td>
<td>3.17</td>
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<td>URBAN MINOR ARTERIAL</td>
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<tr>
<td>URBAN MAJOR COLLECTOR</td>
<td>23</td>
<td>102</td>
<td>0.69</td>
<td>3.07</td>
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</table>
# Fatalities by Roadway Functional Classification

![Diagram showing fatalities by roadway functional classification for the years 2009 to 2013.](image-url)
# Serious Injuries by Roadway Functional Classification

![Chart showing the number of serious injuries by roadway functional classification for the years 2009 to 2013. The x-axis represents different types of roadways, and the y-axis represents the number of serious injuries.](chart-url)
Fatality Rate by Roadway Functional Classification

Roadway Functional Classification

- 2009
- 2010
- 2011
- 2012
- 2013
Serious Injury Rate by Roadway Functional Classification
### Year - 2013

<table>
<thead>
<tr>
<th>Roadway Ownership</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
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</thead>
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<tr>
<td>STATE HIGHWAY AGENCY</td>
<td>415</td>
<td>2576</td>
<td>1.64</td>
<td>10.18</td>
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<td>COUNTY HIGHWAY AGENCY</td>
<td>63.5</td>
<td>227</td>
<td>2.03</td>
<td>7.26</td>
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<td>TOWN OR TOWNSHIP HIGHWAY AGENCY</td>
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<tr>
<td>CITY OF MUNICIPAL HIGHWAY AGENCY</td>
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<td>343</td>
<td>0.96</td>
<td>6.47</td>
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<td>STATE PARK, FOREST, OR RESERVATION AGENCY</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>LOCAL PARK, FOREST OR RESERVATION AGENCY</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>OTHER STATE AGENCY</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>OTHER LOCAL AGENCY</td>
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<td>0</td>
<td>0</td>
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<tr>
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<td>0</td>
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<tr>
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<td>0</td>
<td>0</td>
</tr>
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<td>STATE TOLL AUTHORITY</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>LOCAL TOLL AUTHORITY</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Number of Fatalities by Roadway Ownership

Roadway Functional Classification

# of Fatalities

- State
- County
- Town
- City
- State Park
- Other State
- Other Local
- Private
- Railroad
- State Toll
- Local Toll
- Other

Years:
- 2009
- 2010
- 2011
- 2012
- 2013
Number of Serious Injuries by Roadway Ownership

2009 2010 2011 2012 2013

# of Serious Injuries

Roadway Functional Classification

State  County  Town  City  State Park  Other State  Other Local  Private  Railroad  State Toll  Local Toll  Other
Fatality Rate by Roadway Ownership

- 2009
- 2010
- 2011
- 2012
- 2013

Roadway Functional Classification

Fatality Rate (per HMVT)
Serious Injury Rate by Roadway Ownership

Roadway Functional Classification

- State
- County
- Town
- City
- Local Park
- Other State
- Other Local
- Private
- Railroad
- State Toll
- Local Toll
- Other

Serious Injury Rate (per HMVT)

- 2009
- 2010
- 2011
- 2012
- 2013
Describe any other aspects of the general highway safety trends on which you would like to elaborate.

The definition for reporting incapacitating injuries (which we use for reporting serious injuries) was updated in 2007 by Arkansas State Police. The trend for incapacitating injuries has followed fatalities except for the jump in 2008 and 2009. We think this can be partly explained by the updated definition used by law enforcement officers from 2007. The fatality data from the ASP shows a continued drop in 2013 and 2014.

- 2009 – 596
- 2010 – 571
- 2011 – 551
- 2012 – 560
- 2013 – 483 (499 per the AHTD crash database)
- 2014 – 466

Source NHTSA FARS

**Application of Special Rules**

Present the rate of traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65.

<table>
<thead>
<tr>
<th>Older Driver Performance Measures</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
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<tbody>
<tr>
<td>Fatality rate (per capita)</td>
<td>0.284</td>
<td>0.372</td>
<td>0.466</td>
<td>0.474</td>
<td>0.468</td>
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<tr>
<td>Serious injury rate (per capita)</td>
<td>0.882</td>
<td>1.174</td>
<td>1.514</td>
<td>1.594</td>
<td>1.662</td>
</tr>
<tr>
<td>Fatality and serious injury rate (per capita)</td>
<td>1.164</td>
<td>1.544</td>
<td>1.976</td>
<td>2.064</td>
<td>2.112</td>
</tr>
</tbody>
</table>

*Performance measure data is presented using a five-year rolling average.

\[
2013 = \frac{(333/153)+(321/150)+(316/146)+(274/144)+(321/143)}{5} = 2.13 \text{ or } 2.1
\]

\[
2011 = \frac{(316/146)+(274/144)+(321/143)+(267/142)+(238/140)}{5} = 1.98 \text{ or } 2.0
\]
Does the older driver special rule apply to your state?

Yes

If yes, describe the approach to include respective strategies to address the increase in those rates in the State SHSP.

<p>Current strategies listed in the SHSP to address older drivers will be considered. These strategies include:</p>
Improved roadway visibility features;
Implementation of the FHWA Highway Design Handbook for Older Drivers;
Education of older drivers on the safety risks resulting from reduced driving task performance;
Education of older drivers on alternative transportation modes;
Increase frequency of vision assessments for older drivers; and
Promote the use of restricted drivers’ licenses for older drivers.

SHSP steering committee will review these strategies in the near future and determine if any changes are needed. This may also include an establishment of an older driver action plan and SHSP subcommittee.
Assessment of the Effectiveness of the Improvements (Program Evaluation)

What indicators of success can you use to demonstrate effectiveness and success in the Highway Safety Improvement Program?

- None
- Benefit/cost
- Policy change
- Other: Other-AHTD moving toward a systemic and risk-based approach to address safety.

What significant programmatic changes have occurred since the last reporting period?

- Shift Focus to Fatalities and Serious Injuries
- Include Local Roads in Highway Safety Improvement Program
- Organizational Changes
- None
- Other: Other-Continued focus to fatalities and serious injuries by initiated using economic appraisals.
- Other: Other-Other: More systemic programs included in HSIP

Briefly describe significant program changes that have occurred since the last reporting period.
More systemic projects have been programmed. Specifically, continued system-wide implementation of cable median barriers and commencement of a system-wide implementation of shoulder rumble strips/stripes to address fatal and serious injuries.
**SHSP Emphasis Areas**

For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

**Year - 2013**

<table>
<thead>
<tr>
<th>HSIP-related SHSP Emphasis Areas</th>
<th>Target Crash Type</th>
<th>Number of Fatalities</th>
<th>Number of Serious Injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Departure</td>
<td></td>
<td>368</td>
<td>2023.4</td>
<td>1.1</td>
<td>6.42</td>
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<td>0</td>
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<tr>
<td>Intersections</td>
<td></td>
<td>98</td>
<td>962.6</td>
<td>0.29</td>
<td>3.06</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Work Zones</td>
<td></td>
<td>15.8</td>
<td>114.4</td>
<td>0.05</td>
<td>0.36</td>
<td>0</td>
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<td>0</td>
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</tbody>
</table>
Number of Fatalities by SHSP Emphasis Area

Year 2009 to Year 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Roadway Departure</th>
<th>Intersections</th>
<th>Work Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SHSP Emphasis Area

# of Fatalities

500 400 300 200 100 0

Roadway Departure  Intersections  Work Zones
Number of Serious Injuries by SHSP Emphasis Area

Year 2009 to Year 2013

- 2009
- 2010
- 2011
- 2012
- 2013

# of Serious Injuries

- Roadway Departure
- Intersections
- Work Zones

SHSP Emphasis Area
Fatality Rate by SHSP Emphasis Area

Year 2009 to Year 2013

SHSP Emphasis Area
Serious Injury Rate by SHSP Emphasis Area

Year 2009 to Year 2013

Rate of Serious Injury

SHSP Emphasis Area

Roadway Departure

Intersections

Work Zones

2009

2010

2011

2012

2013
Groups of similar project types
Present the overall effectiveness of groups of similar types of projects.

<table>
<thead>
<tr>
<th>HSIP Sub-program Types</th>
<th>Target Crash Type</th>
<th>Number of Fatalities</th>
<th>Number of Serious Injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
</table>
# Fatalities by Target Crash Type for Groups of Similar Projects

Year 2010 to Year 2014

- 2010
- 2011
- 2012
- 2013
- 2014
# Serious Injuries by Target Crash Type for Groups of Similar Projects

Year 2010 to Year 2014

- 2010
- 2011
- 2012
- 2013
- 2014

Target Crash Type

# of Serious Injuries

0 0.2 0.4 0.6 0.8 1 1.2
Fatality Rate by Target Crash Type for Groups of Similar Projects

Year 2010 to Year 2014

Rate of Fatalities

Target Crash Type
SERIOUS INJURY RATE BY TARGET CRASH TYPE FOR GROUPS OF SIMILAR PROJECTS

YEAR 2010 TO YEAR 2014

TARGET CRASH TYPE

RATE OF SERIOUS INJURIES

2010 2011 2012 2013 2014
Systemic Treatments

Present the overall effectiveness of systemic treatments.

Year - 2013

<table>
<thead>
<tr>
<th>Systemic improvement</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable Median Barriers</td>
<td></td>
<td>7.6</td>
<td>12.4</td>
<td>0.08</td>
<td>0.13</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
# Fatalities by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Target Crash Type

- All
- Angle
- Cross median
- Fixed object
- Sideswipe
- Head-on
- Left-turn
- Right-turn
- Night-time
- Intersections
- Non-intersection
- Rear-end
- Run-off-road
- Speed-related
- Truck-related
- Vehicle/animal
- Vehicle/bicycle
- Pedestrian
- Cyclist
- Other

# of Fatalities

-0.6
-0.4
-0.2
0
0.2
0.4
0.6

2009 2010 2011 2012 2013
# Serious Injuries by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Target Crash Type
Fatality Rate by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Rate of Fatalities

Target Crash Type
Serious Injury Rate by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Target Crash Type

Rate of Serious Injury
Describe any other aspects of the overall Highway Safety Improvement Program effectiveness on which you would like to elaborate.

Previous implementation of cable median barrier and rumble strip projects has shown a clear reduction in fatal and serious injury crashes. Rumble strip analysis recently presented to the Highway Commission helped justify additional system-wide rumble strips projects, which are in the construction phase.

The following 2016 Targets were submitted in the 2016 Highway Safety Plan by the Arkansas State Police Highway Safety Office and were developed in coordination between ASP and AHTD. Target setting process is based on 5-year rolling average. Those targets are listed as follows: Total fatalities: 495 Total serious injuries: 3,271 Fatality rate (per 100 MVMT): 1.46 Serious injury rate (per 100 MVMT): 10.36
### Project Evaluation

Provide project evaluation data for completed projects (optional).

<table>
<thead>
<tr>
<th>Location</th>
<th>Functional Class</th>
<th>Improvement Category</th>
<th>Improvement Type</th>
<th>Before-Fatal</th>
<th>Before-Serious Injury</th>
<th>Before-All Injuries</th>
<th>Before-PDO</th>
<th>After-Fatal</th>
<th>After-Serious Injury</th>
<th>After-All Injuries</th>
<th>After-PDO</th>
<th>Evaluation Results (Benefit/Cost Ratio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate 55, Section 11, Log Mile 8.75 to Log Mile 12.62</td>
<td>Urban Principal Arterial - Interstate</td>
<td>Roadside</td>
<td>Barrier - cable</td>
<td>2</td>
<td>7</td>
<td>40</td>
<td>28</td>
<td>77</td>
<td>0</td>
<td>2</td>
<td>19</td>
<td>73</td>
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<tr>
<td>Interstate 55, Section 11, Log Mile 12.75 to Log mile 23.43</td>
<td>Urban Principal Arterial - Interstate</td>
<td>Roadside</td>
<td>Barrier - cable</td>
<td>1</td>
<td>7</td>
<td>37</td>
<td>57</td>
<td>102</td>
<td>0</td>
<td>7</td>
<td>22</td>
<td>81</td>
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</tbody>
</table>
## Optional Attachments

<table>
<thead>
<tr>
<th>Sections</th>
<th>Files Attached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress in Implementing Projects: General Listing of Projects</td>
<td>HSIP 2015_General Listing of Projects Table.docx</td>
</tr>
</tbody>
</table>
5 year rolling average means the average of five individual, 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.

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.