OKLAHOMA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2017 ANNUAL REPORT

U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

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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. 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.”

Executive Summary

For FFY 2016, exclusive of rail projects, ODOT obligated $37.8 million in HSIP funds. The major project types were bridge repairs and ITS infrastructure.

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.

HSIP funding is not rigidly structured. Safety infrastructure programs using HSIP funds administered by Traffic Engineering Division constitute a minority of HSIP funds allocated.

Where is HSIP staff located within the State DOT?

Engineering

Enter additional comments here to clarify your response for this question or add supporting information.

How are HSIP funds allocated in a State?

Other-Central Office

Enter additional comments here to clarify your response for this question or add supporting information.

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

Local road projects do not currently use HSIP funds.

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

Traffic Engineering/Safety
Design
Districts/Regions

Enter additional comments here to clarify your response for this question or add supporting information.

Describe coordination with internal partners.

The majority of HSIP funds are not allocated to the Division (Traffic) which is responsible for preparing this report. This report applies primarily to those funds which are allocated to Traffic Division. Traffic Division is not able to report on the administrative practices relevant to the remainder of the HSIP spending.

Identify which external partners are involved with HSIP planning.

Other-None

Enter additional comments here to clarify your response for this question or add supporting information.

Describe coordination with external partners.

Coordination with external partners does not involve use of HSIP funds at this time.

Have any program administration practices used to implement the HSIP changed since the last reporting period?

No

Are there any other aspects of HSIP Administration on which the State would like to elaborate?

No

Program Methodology

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

No

Enter additional comments here to clarify your response for this question or add supporting information.

Select the programs that are administered under the HSIP.

Median Barrier
Intersection
Horizontal Curve
Roadway Departure
Sign Replacement And Improvement

2017 Oklahoma Highway Safety Improvement Program
Shoulder Improvement
Other-Shoulder Rumble Strip
Other-Centerline Rumble Strip
Other-Striping
Other-Guard Rail Improvement

Enter additional comments here to clarify your response for this question or add supporting information.

Program: Horizontal Curve

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-run off road injury/fatal	Traffic Lane miles	Horizontal curvature Roadside features Other-Shoulder Width Other-Speed Limit Other-Design Speed

What project identification methodology was used for this program? [Check all that apply]

Expected crash frequency with EB adjustment
Probability of specific crash types

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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

Enter additional comments here to clarify your response for this question or add supporting information.
Primarily delineation and advance warnings. HFST may be considered.

Program: Intersection

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-Angle Crashes		

What project identification methodology was used for this program? [Check all that apply]

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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-Crash Frequency : 1

Enter additional comments here to clarify your response for this question or add supporting information.
Intersection Signalization.

Program: Median Barrier

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-Crossover Crashes	Traffic Lane miles	Median width Other-Access Control

What project identification methodology was used for this program? [Check all that apply]

Expected crash frequency with EB adjustment
Other-Crash Severity Prediction Function

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

2017 Oklahoma Highway Safety Improvement Program
No

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

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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

Enter additional comments here to clarify your response for this question or add supporting information.
Cable Median Barrier

Program: Roadway Departure

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-run off road injury/fatal	Traffic Lane miles	Roadside features Other-terrain type

What project identification methodology was used for this program? [Check all that apply]

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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

Enter additional comments here to clarify your response for this question or add supporting information.
Clear Zone Mitigation

Program: Shoulder Improvement

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Competes with all projects

What data types were used in the program methodology? [Check all that apply]

Crashes **Exposure** **Roadway**

Other-run off road injury/fatal | Traffic Lane miles | Other-terrain type

What project identification methodology was used for this program? [Check all that apply]

Expected crash frequency with EB adjustment

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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

Enter additional comments here to clarify your response for this question or add supporting information.
Reference Tab 2B Collision Digest. Funding may not all be HSIP. These projects are from Roadway Engineering, not Traffic Engineering.

Program: Sign Replacement And Improvement

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Other-Safety Infrastructure

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes **Exposure** **Roadway**

Other-None

What project identification methodology was used for this program? [Check all that apply]

Other-District Selection

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

Other-District Selection

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).

Other-District Selection : 1

Enter additional comments here to clarify your response for this question or add supporting information.

Program: Other-Shoulder Rumble Strip

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

2017 Oklahoma Highway Safety Improvement Program
Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-run off road injury/fatal	Traffic Lane miles	Other-Shoulder Width

What project identification methodology was used for this program? [Check all that apply]

Expected crash frequency with EB adjustment

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

Other-District Selection

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

Enter additional comments here to clarify your response for this question or add supporting information.
Reference Tab 2C of Collision Digest, however this does not screen out sites with existing rumble strip.

Program: Other-Centerline Rumble Strip

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

2017 Oklahoma Highway Safety Improvement Program
Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-Left of Center	Volume Lane miles	Other-Shoulder Width

What project identification methodology was used for this program? [Check all that apply]

Expected crash frequency with EB adjustment

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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

Enter additional comments here to clarify your response for this question or add supporting information.

Program: Other-Striping

2017 Oklahoma Highway Safety Improvement Program

Date of Program Methodology: 1/1/2017

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes **Exposure** **Roadway**

What project identification methodology was used for this program? [Check all that apply]

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

Other-option of field districts

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).

Enter additional comments here to clarify your response for this question or add supporting information.
Restriping and replacing existing 4" stripe with 6" stripe in some cases.

Program: Other-Guard Rail Improvement

Date of Program Methodology: 1/1/2017

2017 Oklahoma Highway Safety Improvement Program

What is the justification for this program? [Check all that apply]

Addresses SHSP priority or emphasis area

What is the funding approach for this program? [Check one]

Funding set-aside

What data types were used in the program methodology? [Check all that apply]

Crashes	Exposure	Roadway
Other-run off road injury/fatal	Traffic	

What project identification methodology was used for this program? [Check all that apply]

Crash frequency
Other-Average crash frequency for facility type and ADT

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?

Describe the methodology used to identify local road projects as part of this program.

How are projects under this program advanced for implementation?

selection committee

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-Risk of guard rail being hit : 1

Enter additional comments here to clarify your response for this question or add supporting information.
Upgrading existing guardrail to current standard.

What percentage of HSIP funds address systemic improvements?

28

HSIP funds are used to address which of the following systemic improvements? Please check all that apply.

Cable Median Barriers
Rumble Strips
Pavement/Shoulder Widening
Install/Improve Signing
Install/Improve Pavement Marking and/or Delineation
Upgrade Guard Rails
Clear Zone Improvements
Add/Upgrade/Modify/Remove Traffic Signal
Horizontal curve signs
High friction surface treatment
Other-backplate upgrades
Other-centerline rumble strip

Enter additional comments here to clarify your response for this question or add supporting information.

What process is used to identify potential countermeasures? [Check all that apply]

Engineering Study
Road Safety Assessment
Crash data analysis
Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
Stakeholder input

Enter additional comments here to clarify your response for this question or add supporting information.

Does the State HSIP consider connected vehicles and ITS technologies?

No

Enter additional comments here to clarify your response for this question or add supporting information.

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.

HSM predictive method is used to evaluate potential benefits of projects.

Have any program methodology practices used to implement the HSIP changed since the last reporting period?

No

Are there any other aspects of the HSIP methodology on which the State would like to elaborate?

Yes

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

Most HSIP projects created by Traffic Division are systemic. Predictive methods are used to prioritize locations for treatment where practicable, otherwise crash frequency is used. Predictive methods have been used in one case (median cable barrier) as a way of indirectly prioritizing one program in comparison to others. Predictive methods are also used to help identify hot spot locations and (outside of Traffic Division) to prioritize locations for shoulder widening. The core metric for prioritization is benefit/cost ratio, either explicitly or through some metric that is an approximate surrogate.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

Federal Fiscal Year

Enter additional comments here to clarify your response for this question or add supporting information.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$37,801,068	$37,801,068	100%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$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)	$0	$0	0%
State and Local Funds	$0	$0	0%
Totals	$37,801,068	$37,801,068	100%

Enter additional comments here to clarify your response for this question or add supporting information.

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%

Enter additional comments here to clarify your response for this question or add supporting information.

Local government safety projects are funded through STP funds.

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

2017 Oklahoma Highway Safety Improvement Program
$8,837,526

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

$8,837,526

Enter additional comments here to clarify your response for this question or add supporting information.

All non-infrastructure funding is for ITS.

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%

Enter additional comments here to clarify your response for this question or add supporting information.

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

N/A

Does the State want to elaborate on any other aspects of it's progress in implementing HSIP projects?

No

General Listing of Projects

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

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
ACSTP-144C001	Roadway	Roadway - other	2.1	Miles	$4471365	$36616973	HSIP (23 U.S.C. 148)	Rural Major Collector	6,600	65	State Highway Agency	Spot	N/A	Bridge Projects
HSIPIG-3500013	Roadway	Roadway - other	7	Locations	$1420137	$1420137	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Data	ITS Infrastructure
HSIPG-272C122	Roadway	Roadway - other	23	Locations	$2892502	$2892502	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Data	ITS Infrastructure
HSIPG-255F180	Roadway	Roadway - other	7	Locations	$3998018	$3998018	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Data	ITS Infrastructure
HSIPG-272F084	Roadway signs and traffic control	Roadway signs and traffic control - other	69	Intersections	$702572	$615383	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Systemic	Intersections	Backplate Program
HSIPG-255F342	Roadway signs and traffic control	Roadway signs and traffic control - other	125	Intersections	$1030532	$898671	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Systemic	Intersections	Backplate Program
HSIP-210N029	Roadway signs and traffic control	Roadway signs and traffic control - other	1	Intersections	$188755.43	$270889	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Intersections	Traffic Signals
HSIPIG-3500014	Roadway	Roadway - other	1	Locations	$526869	$526869	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Data	ITS Infrastructure
HSIP-224C021	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Locations	$23211.84	$29680	HSIP (23 U.S.C. 148)	Rural Major Collector	1,300	35	State Highway Agency	Spot	Pedestrians	None
HSIP-251C049	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Locations	$16687.06	$20882	HSIP (23 U.S.C. 148)	Rural Major Collector	1,300	65	State Highway Agency	Spot	Pedestrians	None
HSIPIG-255H366	Roadway	Roadway - other	12	Locations	$273747.29	$327969.29	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Roadway Departure	None
HSIP-214C065	Roadway signs and traffic control	Roadway signs and traffic control - other	1	Intersections	$174292	$212156	HSIP (23 U.S.C. 148)	Rural Major Collector	27,700	60	State Highway Agency	Spot	Intersections	Traffic Signals
HISP-209N039	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Locations	$64513	$64513	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	6,200	55	State Highway Agency	Spot	Pedestrians	None
HSIPG-224F039	Roadway delineation	Longitudinal pavement markings - remarking	2.96	Miles	$445000	$1335000	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Lane Departure	Striping Program
HSIPG-226C042	Roadway delineation	Longitudinal pavement markings - remarking	9	Miles	$202000	$1010000	HSIP (23 U.S.C. 148)	Rural Major Collector	12,000	55	State Highway Agency	Spot	Lane Departure	Striping Program
HSIPG-259N031	Roadway	Roadway - other	2.35	Miles	$2651081	$4097522	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	9,700	75	State Highway Agency	Spot	Roadway Departure	Guardrail Program

													RELATIONSHIP TO SHSP	
PROJECT NAME	**IMPROVEMENT CATEGORY**	**SUBCATEGORY**	**OUTPUTS**	**OUTPUT TYPE**	**HSIP PROJECT COST($)**	**TOTAL PROJECT COST($)**	**FUNDING CATEGORY**	**FUNCTIONAL CLASSIFICATION**	**AADT**	**SPEED**	**OWNERSHIP**	**METHOD FOR SITE SELECTION**	**EMPHASIS AREA**	**STRATEGY**
HSIPG-276F021	Roadway delineation	Longitudinal pavement markings - remarking	0.24	Miles	$349000	$1396000	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Lane Departure	Striping Program
ACSTP-141C232	Roadway	Roadway - other	1	Intersections	$3944578	$3944578	HSIP (23 U.S.C. 148)	Rural Major Collector	2,900	65	State Highway Agency	Spot	N/A	Bridge Projects
ACSTP-214C044	Roadway	Roadway - other	1	Locations	$3547155	$2280126	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	6,300	65	State Highway Agency	Spot	N/A	Bridge Projects
ACSTP-202C029	Roadway	Roadway - other	1	Locations	$2729379	$1577761	HSIP (23 U.S.C. 148)	Rural Major Collector	1,500	65	State Highway Agency	Spot	N/A	Bridge Projects
ACSTP-161C226	Roadway	Roadway - other	1	Locations	$843976	$576312	HSIP (23 U.S.C. 148)	Rural Major Collector	2,100	55	State Highway Agency	Spot	N/A	Bridge Projects
ACSTP-270C022	Roadway	Roadway - other	1	Locations	$1969921	$1203598	HSIP (23 U.S.C. 148)	Rural Major Collector	600	65	State Highway Agency	Spot	N/A	Bridge Projects
ACSTP-258C023	Roadway	Roadway - other	1	Locations	$3418031	$2350318	HSIP (23 U.S.C. 148)	Rural Major Collector	3,800	65	State Highway Agency	Spot	N/A	Bridge Projects
HSIP-226N035	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Locations	$21192	$26490	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	3,600	45	State Highway Agency	Spot	Pedestrians	None
HSIPG-244F053	Roadway delineation	Longitudinal pavement markings - remarking	5.77	Miles	$63292.87	$65000	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Lane Departure	Striping Program
HSIPG-251F066	Roadway delineation	Longitudinal pavement markings - remarking	4.1	Miles	$59842	$59842	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Spot	Lane Departure	Striping Program
HSIPG-263N037	Roadway signs and traffic control	Roadway signs and traffic control - other	2	Intersections	$107527	$107527	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	16,100	65	State Highway Agency	Spot	Intersections	Hot Spot Improvements
HSIPG-245F046	Roadway delineation	Longitudinal pavement markings - remarking	0.42	Miles	$250000	$250000	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Lane Departure	Striping Program
HSIPG-272F198	Roadway delineation	Longitudinal pavement markings - remarking	0.1	Miles	$364900	$364900	HSIP (23 U.S.C. 148)	Multiple	0	0	State Highway Agency	Spot	Lane Departure	Striping Program
HSIPY-255E371	Roadway	Roadway - other	1	Locations	$786095	$786095		Multiple	0	0	State Highway Agency	Spot	Data	ITS Infrastructure
HSIPG-213N018	Roadway	Rumble strips - center	18	Miles	$264897	$264897	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	0	0	State Highway Agency	Spot	Lane Departure	CLRS Program

Enter additional comments here to clarify your response for this question or add supporting information.

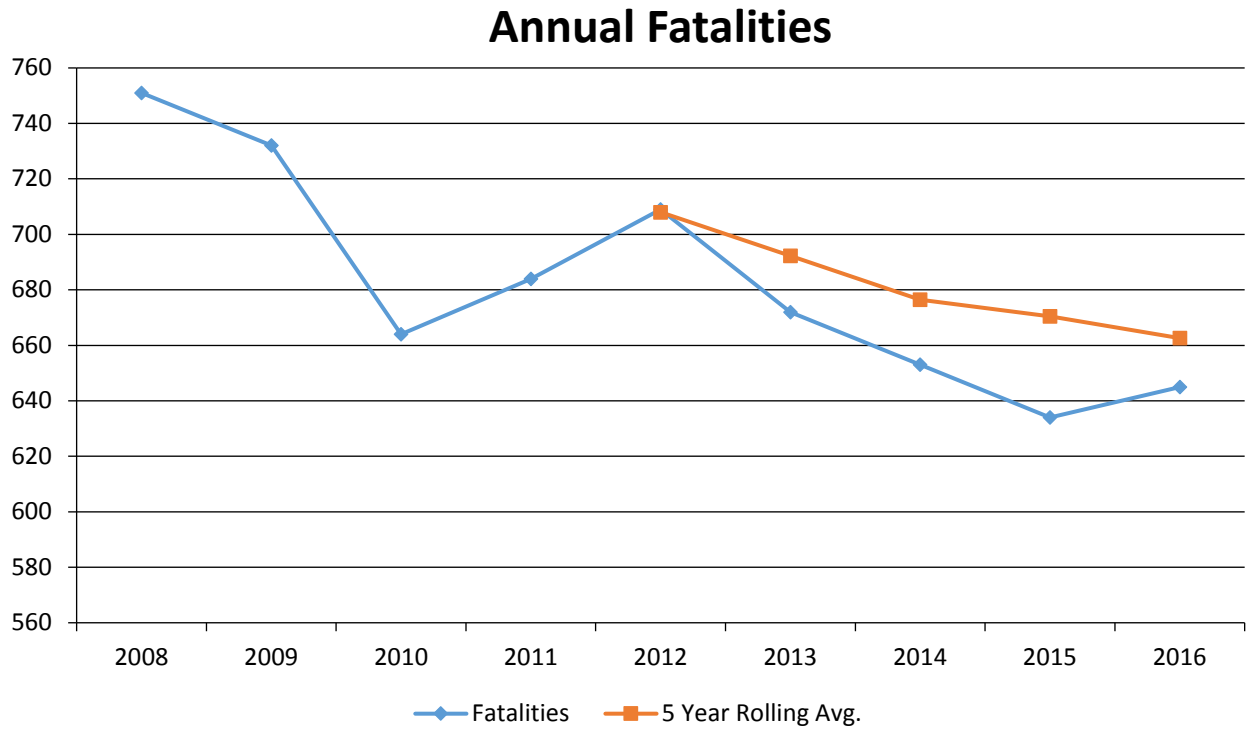
Zeroes for ADT and speed limit indicate projects with multiple values in different areas.

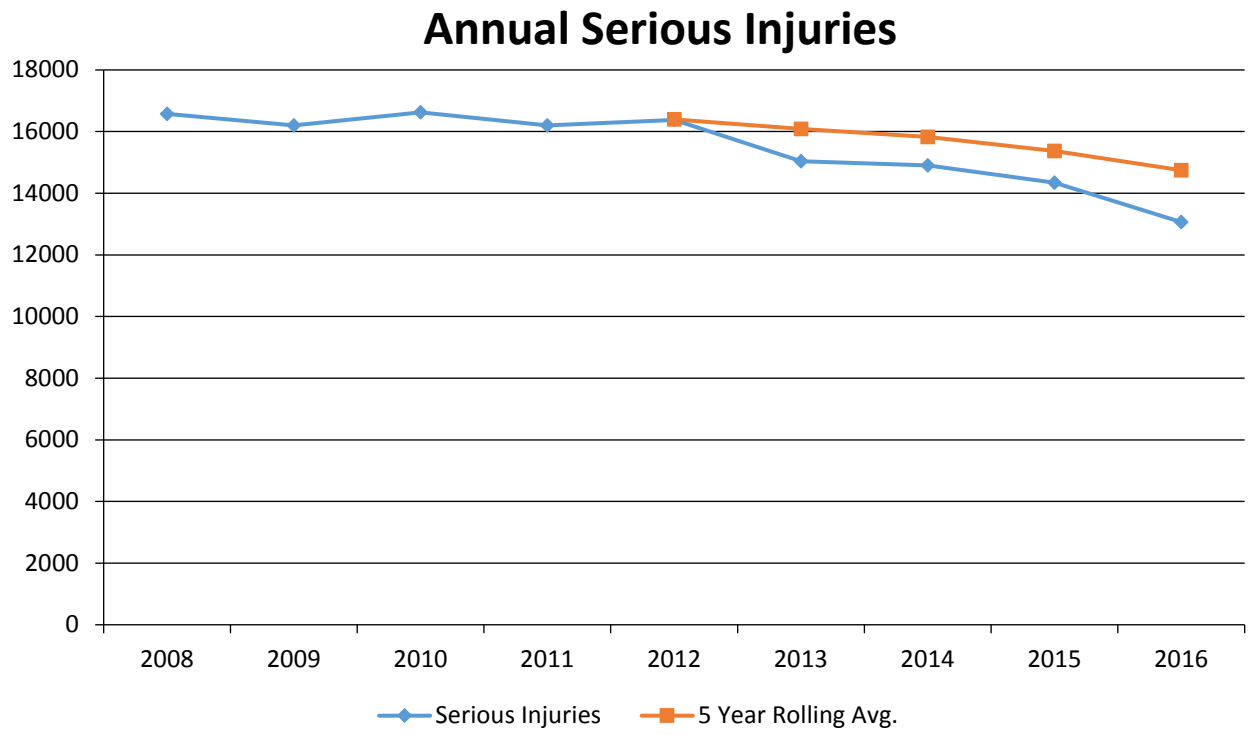
Safety Performance

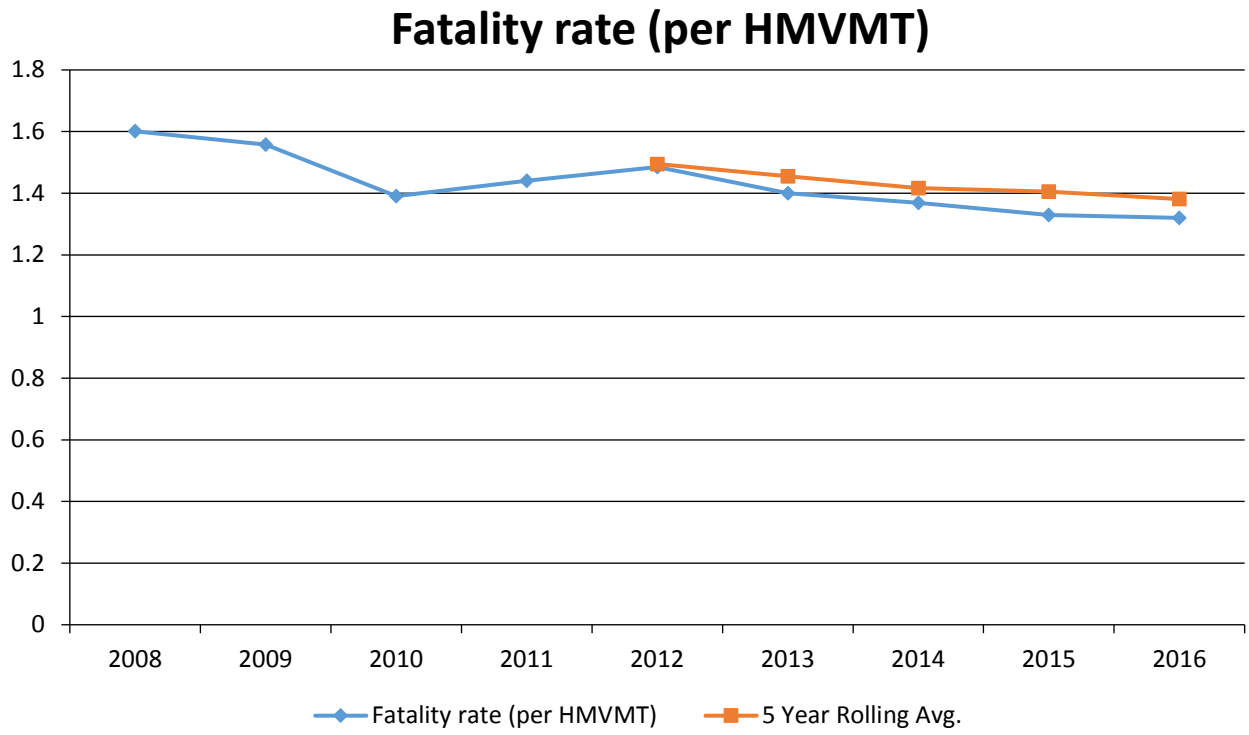
General Highway Safety Trends

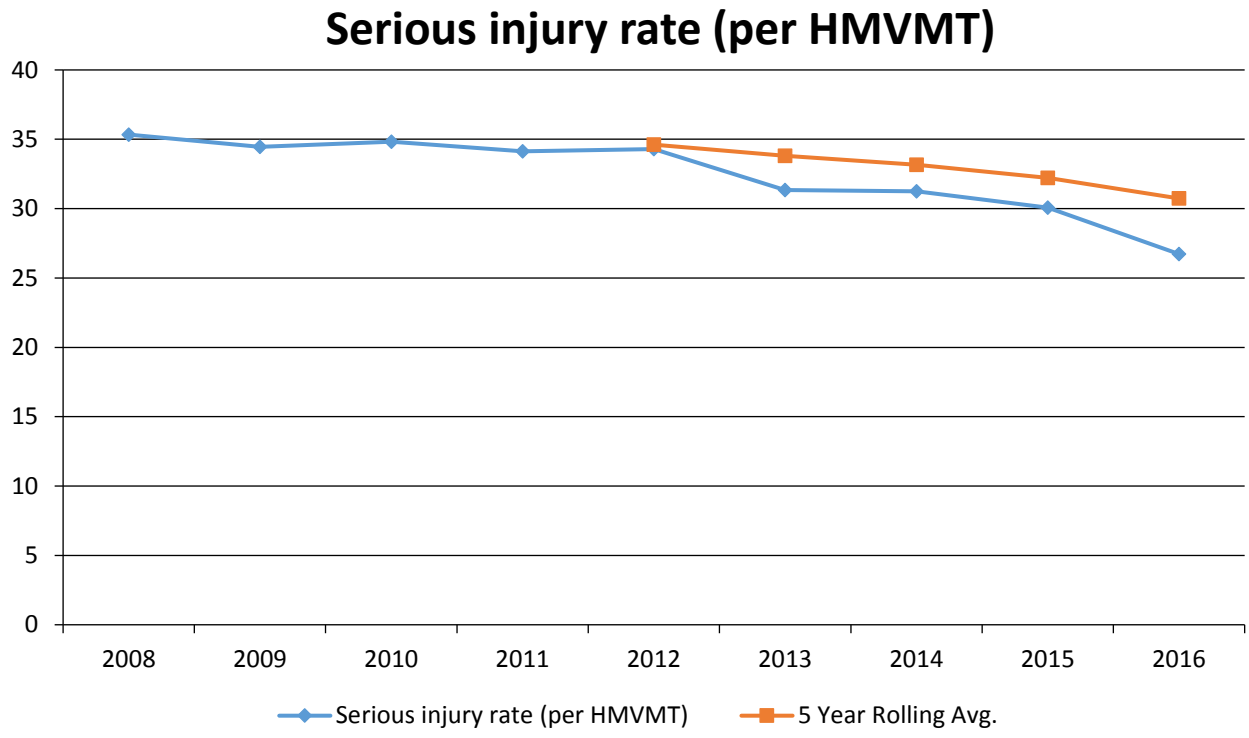
Present data showing the general highway safety trends in the State for the past five years.

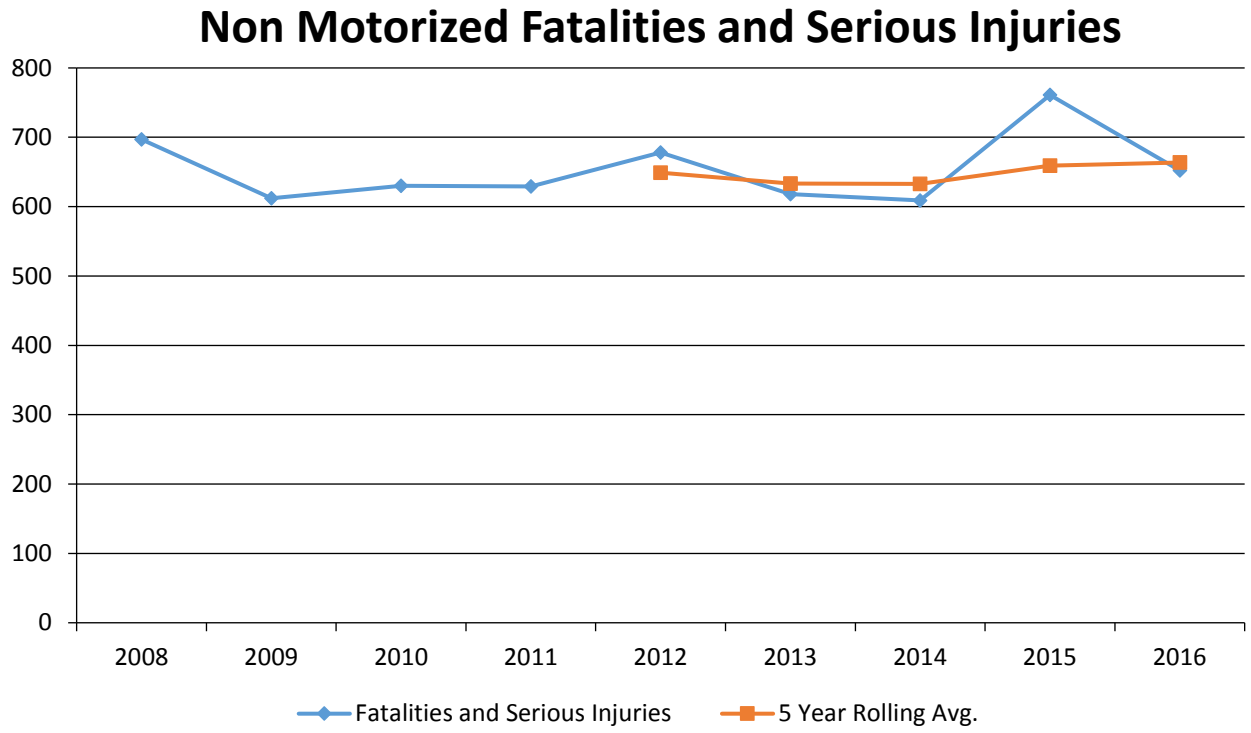
PERFORMANCE MEASURES	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fatalities	751	732	664	684	709	672	653	634	645
Serious Injuries	16,574	16,198	16,624	16,201	16,378	15,040	14,907	14,344	13,064
Fatality rate (per HMVMT)	1.601	1.558	1.391	1.441	1.485	1.400	1.369	1.329	1.320
Serious injury rate (per HMVMT)	35.339	34.466	34.818	34.134	34.306	31.335	31.252	30.063	26.727
Number non-motorized fatalities	53	43	75	46	72	75	55	76	84
Number of non-motorized serious injuries	644	569	555	583	606	543	554	685	568


Annual Fatalities
760
740
720
700
680
660
640
620
600
580
560
2008
2009
2010
2011
2012
2013
2014
2015
2016
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
40
35
30
25
20
15
10
5
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Enter additional comments here to clarify your response for this question or add supporting information.

Previous fatality numbers have been revised, primarily for 2015, due to the discovery of a number of duplicate records in the database.

Describe fatality data source.

FARS

Enter additional comments here to clarify your response for this question or add supporting information.

State data are used only when FARS data are not available.

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

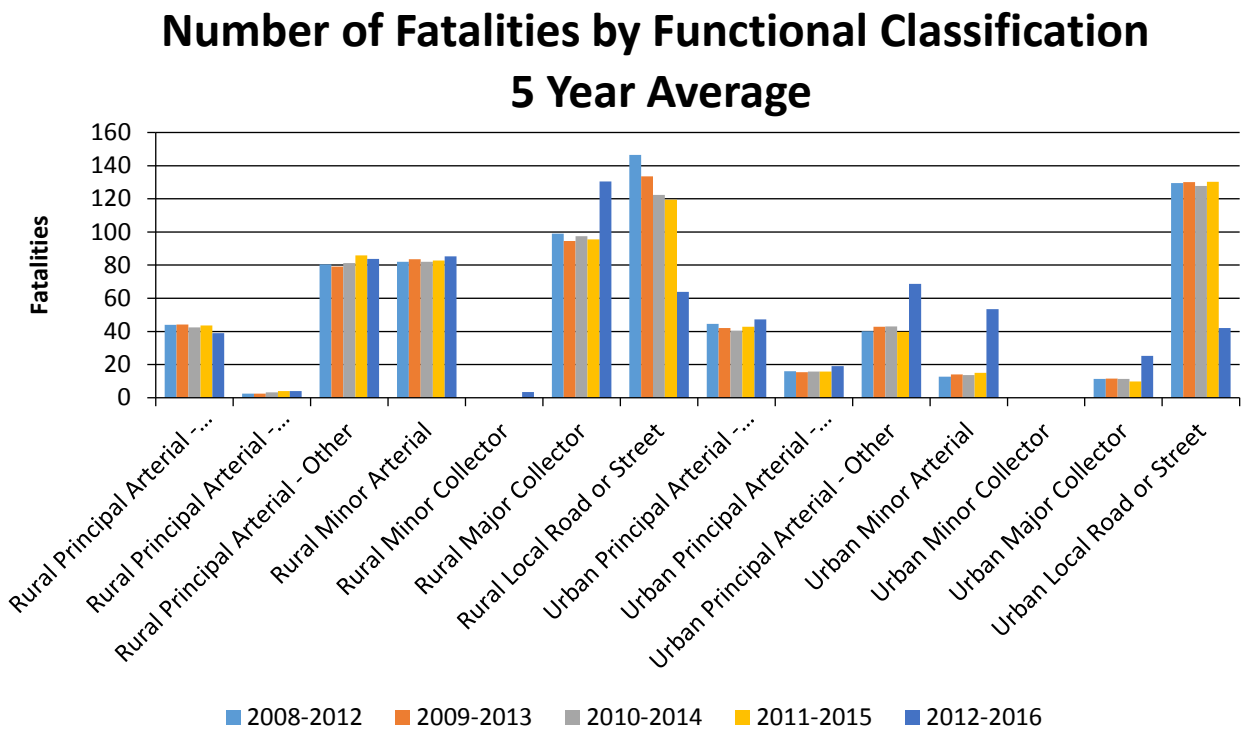
Year 2016

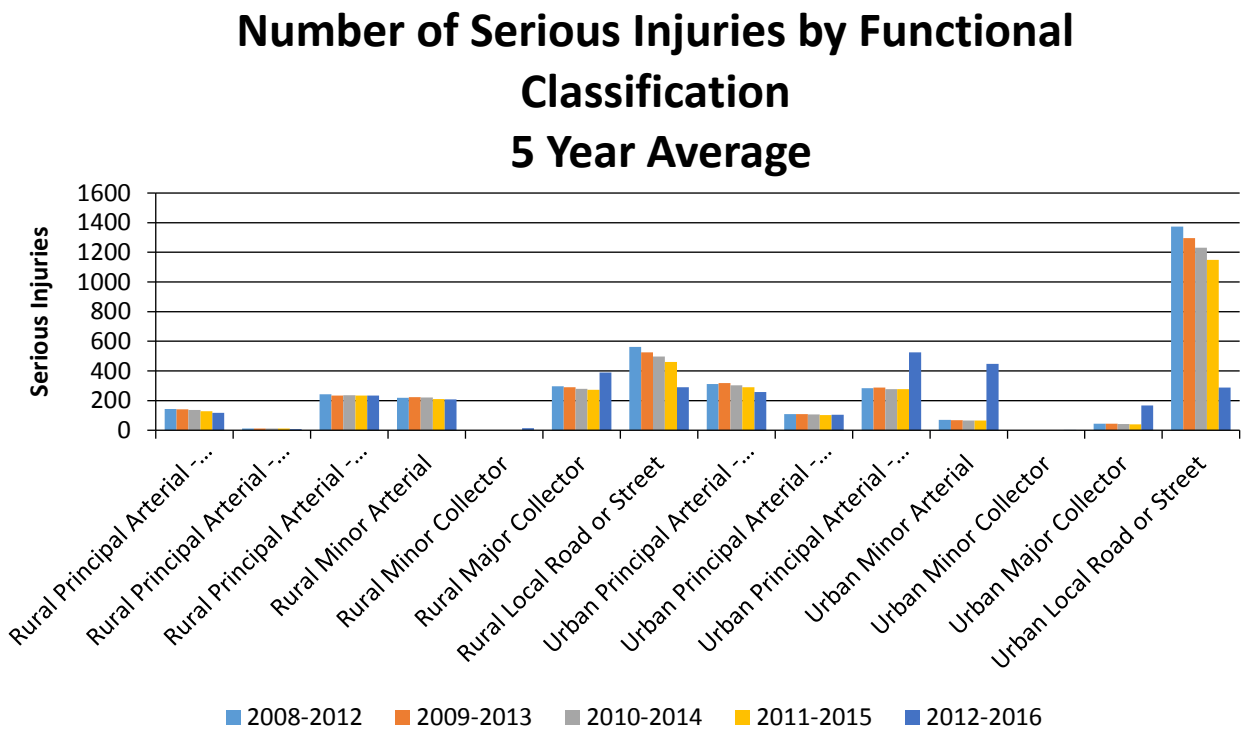
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial - Interstate	39	117.8		
Rural Principal Arterial - Other Freeways and Expressways	4	8.2		
Rural Principal Arterial - Other	83.8	234.6		

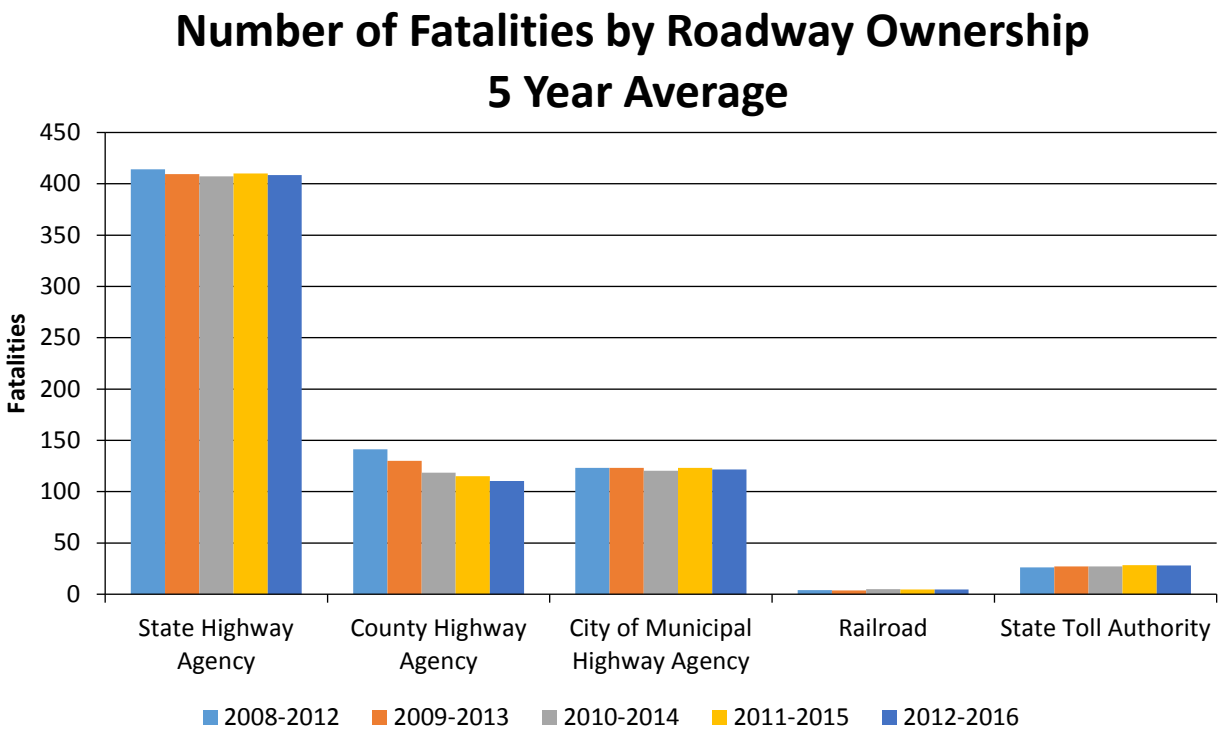
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Minor Arterial	85.2	208.6		
Rural Minor Collector	3.4	13.4		
Rural Major Collector	130.4	388.8		
Rural Local Road or Street	63.8	291		
Urban Principal Arterial - Interstate	47.2	258.8		
Urban Principal Arterial - Other Freeways and Expressways	19	104.2		
Urban Principal Arterial - Other	68.6	524.8		
Urban Minor Arterial	53.4	448.4		
Urban Minor Collector	0	2		
Urban Major Collector	25.2	167		
Urban Local Road or Street	42	287.8		

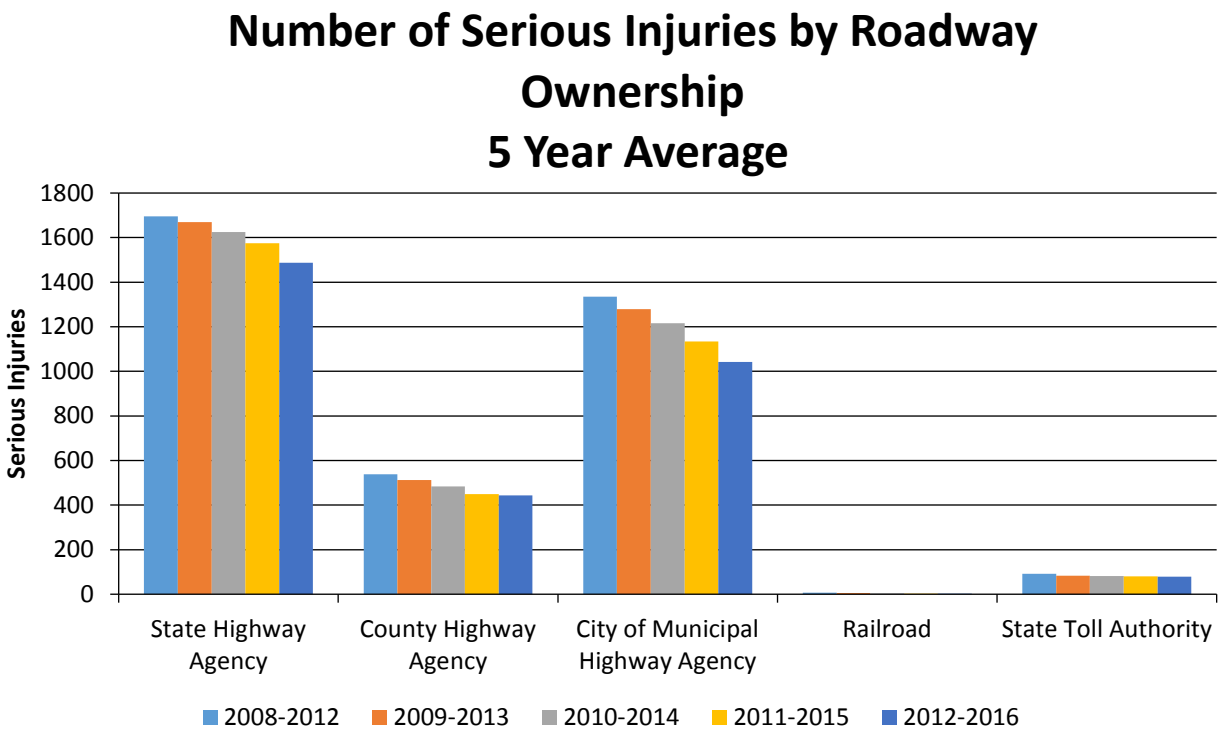
Year 2016

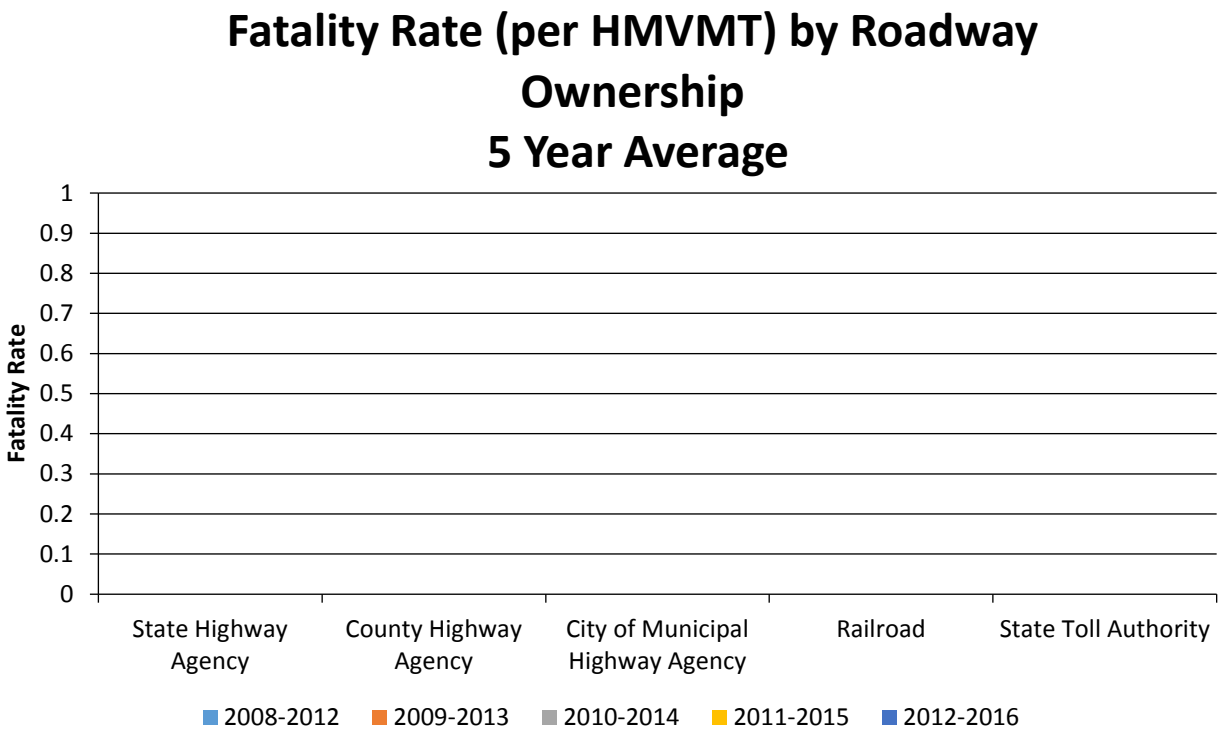
Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	408.6	1,487.6	0	0
County Highway Agency	110.4	443.8	0	0
Town or Township Highway Agency				
City of Municipal Highway Agency	121.6	1,041.4	0	0
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad	4.6	2.6	0	0
State Toll Authority	28	78.4	0	0
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

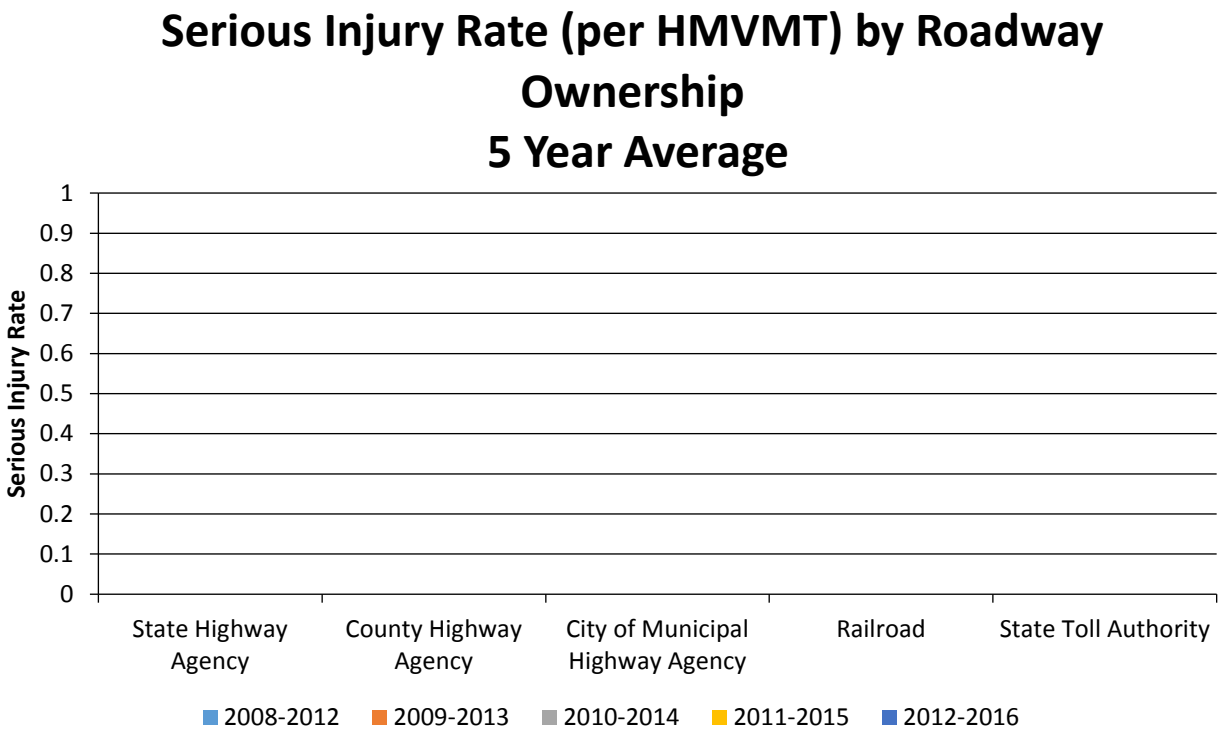

Number of Fatalities by Functional Classification
5 Year Average
Fatalities
160
140
120
100
80
60
40
20
0
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Principal Arterial - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
Urban Principal Arterial -...
Urban Principal Arterial -...
Urban Principal Arterial - Other
Urban Minor Arterial
Urban Minor Collector
Urban Major Collector
Urban Local Road or Street
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Number of Serious Injuries by Functional Classification
5 Year Average
Serious Injuries
1600
1400
1200
1000
800
600
400
200
0
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
Urban Principal Arterial -...
Urban Principal Arterial -...
Urban Principal Arterial -...
Urban Minor Arterial
Urban Minor Collector
Urban Major Collector
Urban Local Road or Street
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Number of Fatalities by Roadway Ownership
5 Year Average
Fatalities
450
400
350
300
250
200
150
100
50
0
State Highway Agency
County Highway Agency
City of Municipal Highway Agency
Railroad
State Toll Authority
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Number of Serious Injuries by Roadway Ownership
5 Year Average
Serious Injuries
1800
1600
1400
1200
1000
800
600
400
200
0
State Highway Agency
County Highway Agency
City of Municipal Highway Agency
Railroad
State Toll Authority
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Fatality Rate (per HMVMT) by Roadway Ownership
5 Year Average
Fatality Rate
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
State Highway Agency
County Highway Agency
City of Municipal Highway Agency
Railroad
State Toll Authority
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016



Enter additional comments here to clarify your response for this question or add supporting information.

VMT were not available by functional classification to calculate rates.

Are there any other aspects of the general highway safety trends on which the State would like to elaborate?

No

Safety Performance Targets

Safety Performance Targets

Calendar Year 2018 Targets *

Number of Fatalities	691.0

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

This target was set by the Highway Safety Office using an ARIMA model. It projects a limit to an increasing trend.

Number of Serious Injuries	14083.0

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

This target was set by the Highway Safety Office using an ARIMA model. It predicts that the recent decrease can be sustained.

Fatality Rate	1.410

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

This target was set by the Highway Safety Office using an ARIMA model. It projects a limit to an increasing trend.

Serious Injury Rate	28.900

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

This target was calculated by applying the difference between the projections for total fatalities and fatality rate to the serious injury total established by the Highway Safety Office.

Total Number of Non-Motorized Fatalities and Serious Injuries	698.0

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

The target is a linear least-squares regression of the five-year rolling averages calculated for the years 2014, 2015, and 2016.

Enter additional comments here to clarify your response for this question or add supporting information.

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

ODOT has met regularly with HSO to discuss goal setting methodology.

Does the State want to report additional optional targets?

No

Enter additional comments here to clarify your response for this question or add supporting information.

Applicability of Special Rules

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

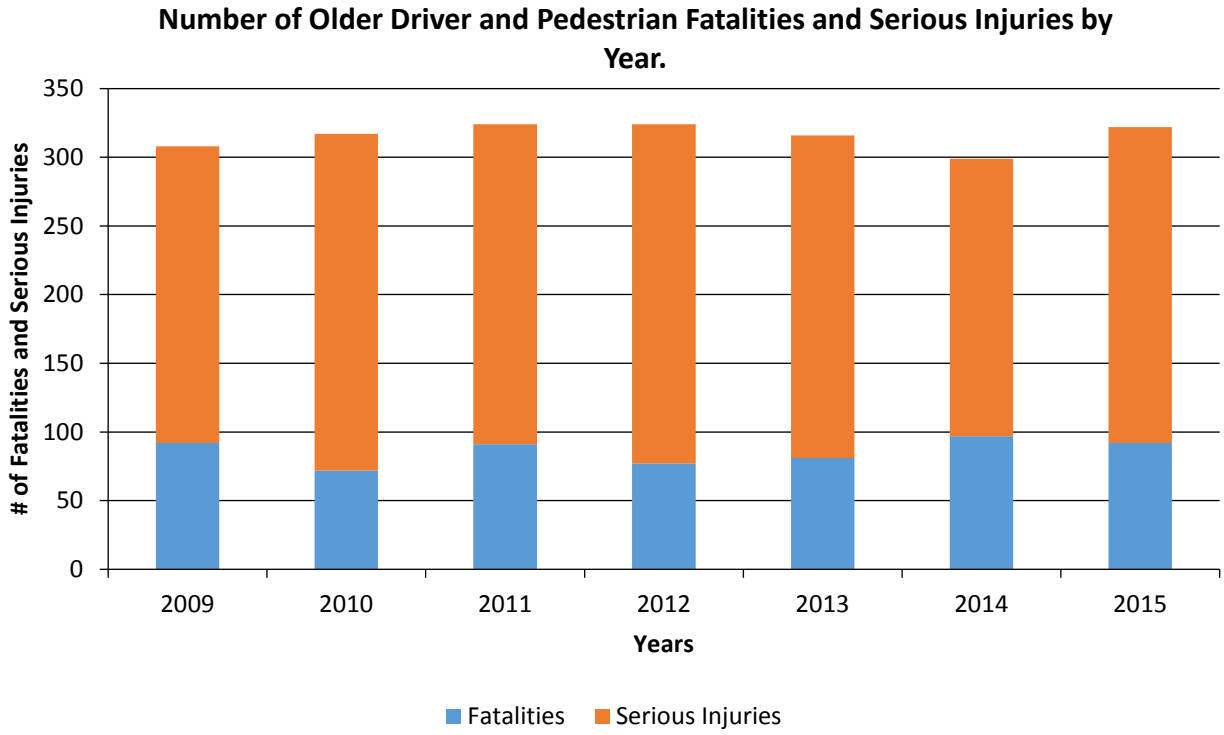
2017 Oklahoma Highway Safety Improvement Program

No

Enter additional comments here to clarify your response for this question or add supporting information.

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

PERFORMANCE MEASURES	2009	2010	2011	2012	2013	2014	2015
Number of Older Driver and Pedestrian Fatalities	92	72	91	77	81	97	92
Number of Older Driver and Pedestrian Serious Injuries	216	245	233	247	235	202	230



Enter additional comments here to clarify your response for this question or add supporting information.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

Change in fatalities and serious injuries
Benefit/Cost Ratio

Enter additional comments here to clarify your response for this question or add supporting information.

There is no measure for the HSIP as a whole. Specific projects and programs may be evaluated by Benefit/Cost ratio or by reductions in targeted crash types.

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

Sign and Marking Improvements at Stop Controlled Intersections: Preliminary data indicate that a statistically significant crash reduction was achieved, but the amount cannot yet be estimated.

Shoulder Rumble Strip: Considering those projects for which five years of post-installation data were available, the combined naive benefit/cost ratio for all crash types was 248:1.

Median Cable Barrier: Crossover crashes with death or severe injury on access controlled state highways (where most of the median cable barrier has been installed) declined from an average of 34.4 per year from 2002-2006 (the last period before significant construction began) to an average of 7.6 per year from 2012-2016.

Intersection Traffic Signals: For the 26 intersections for which five years of post-installation data were available, the combined naive benefit/cost ratio for all intersection related crashes was 92:1.

Crash data are insufficient for evaluation, or cannot be isolated, for systemic curve treatment, signal backplate upgrades, centerline rumble strip, guardrail upgrades, ITS installations, and district signing and striping.

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

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

Enter additional comments here to clarify your response for this question or add supporting information.

Miles of improvement has been used for median cable barrier. Recent systemic programs include intersection sign and marking improvement, retroreflective backplate upgrades, curve delineation, centerline rumble strip, and high friction surface course. The introduction of centerline rumble strips represents a policy

change. Organizational changes have been proposed on the basis of increased internal awareness of data-driven safety.

Are there any significant programmatic changes that have occurred since the last reporting period?

Yes

Describe significant program changes that have occurred since the last reporting period.

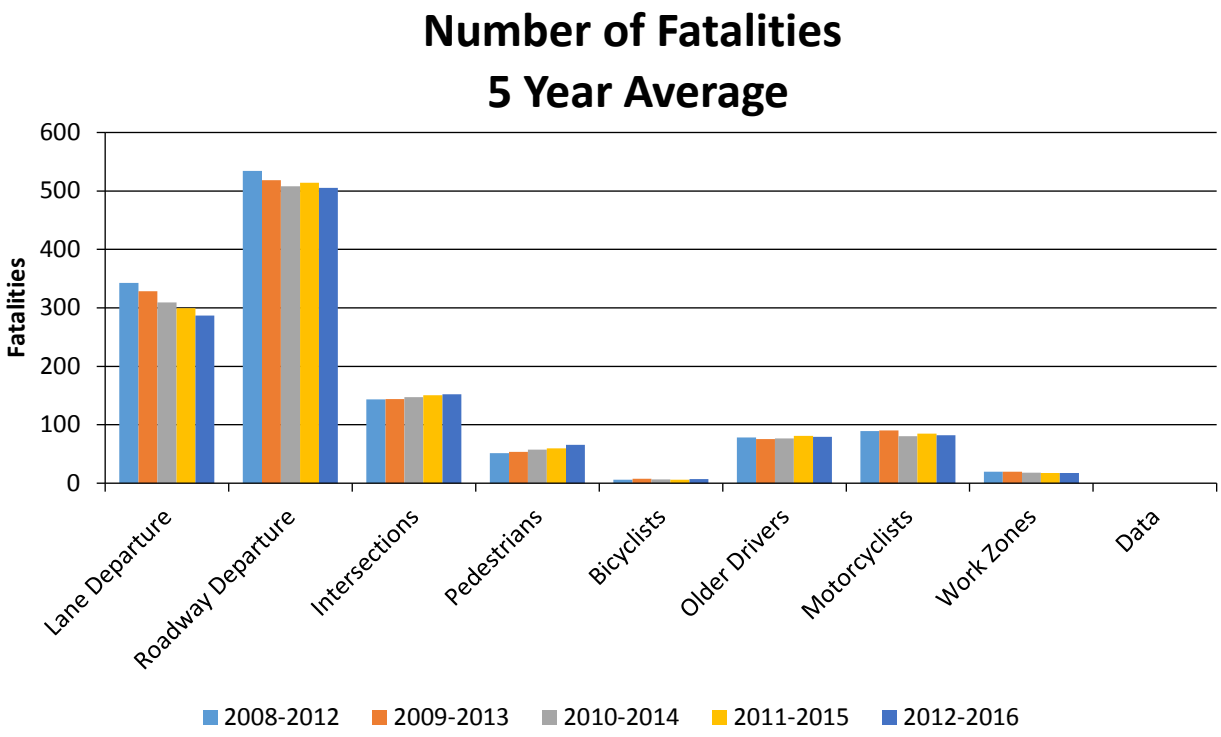
Implementation of systemic programs for centerline rumble strip and for curve delineation.

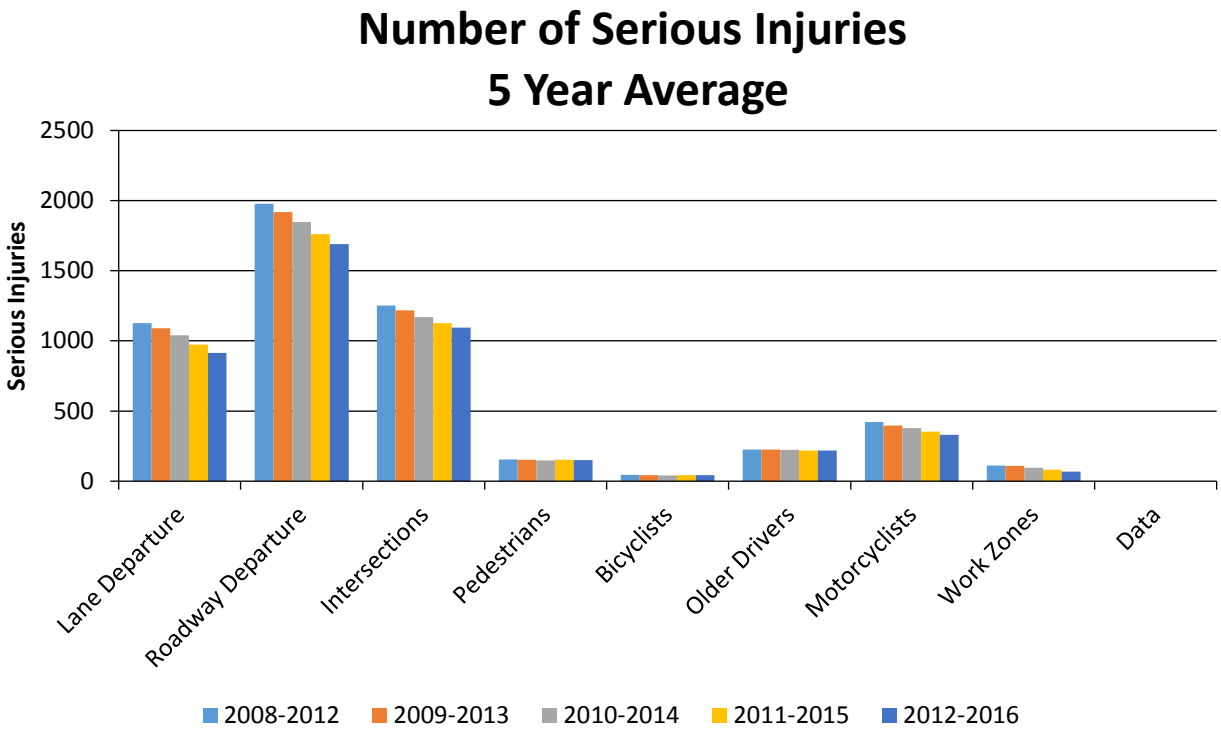
Effectiveness of Groupings or Similar Types of Improvements

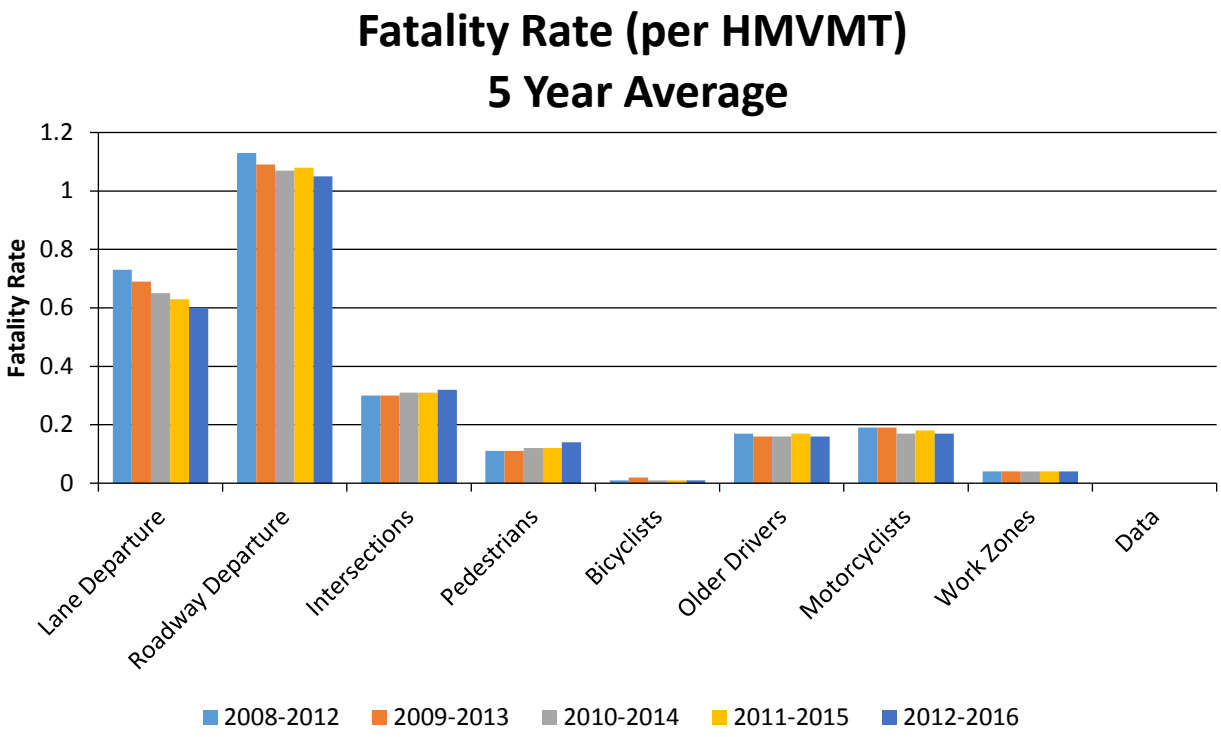
Present and describe trends in SHSP emphasis area performance measures.

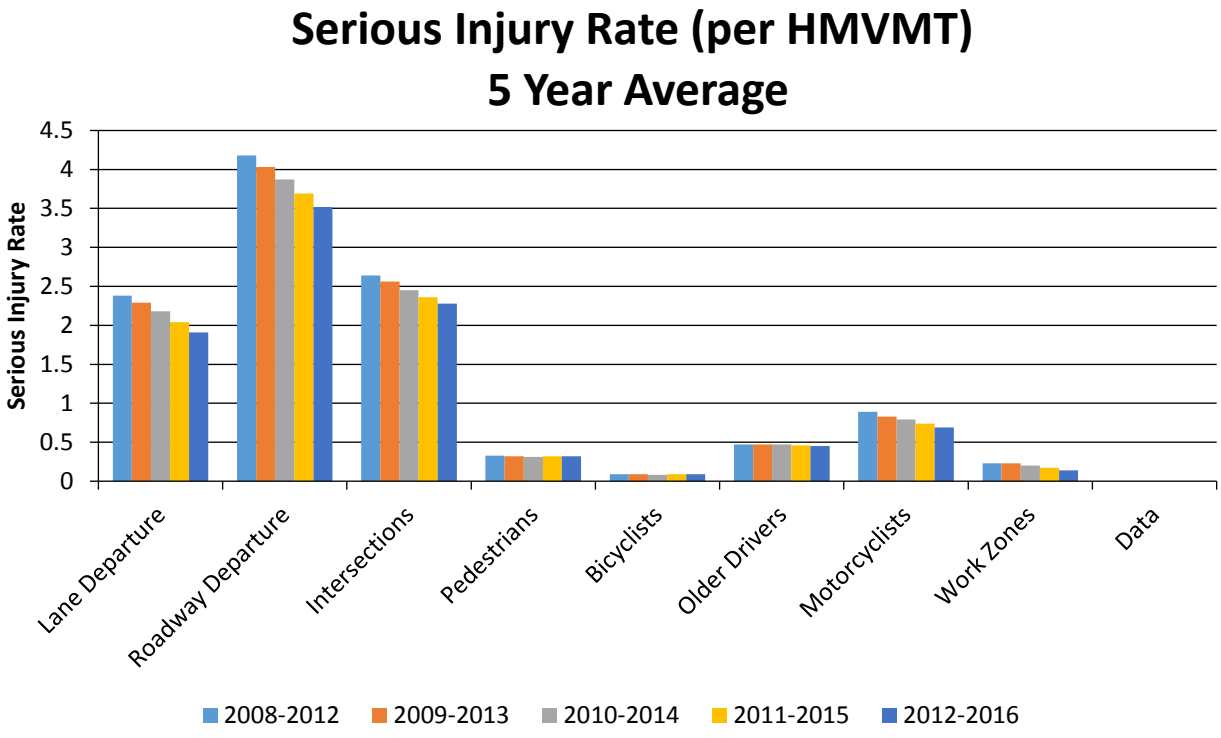
Year 2016

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)	Other 1	Other 2	Other 3
Lane Departure		286.6	913.6	0.6	1.91			
Roadway Departure		505	1,689.8	1.05	3.52			
Intersections		152.2	1,093.6	0.32	2.28			
Pedestrians		65.8	150.8	0.14	0.32			
Bicyclists		7	43.6	0.01	0.09			
Older Drivers		79.2	217.6	0.16	0.45			
Motorcyclists		82	330.8	0.17	0.69			
Work Zones		17.2	68.2	0.04	0.14			
Data		0	0	0	0			


Number of Fatalities
5 Year Average
Fatalities
600
500
400
300
200
100
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Number of Serious Injuries
5 Year Average
Serious Injuries
2500
2000
1500
1000
500
0
Lane Departure
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Data
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016





Enter additional comments here to clarify your response for this question or add supporting information.

Has the State completed any countermeasure effectiveness evaluations during the reporting period?

Yes

Please provide the following summary information for each countermeasure effectiveness evaluation.

CounterMeasures:	Safety Corridor
Description:	Signage indicating zero tolerance. Enhanced enforcement was intended but amount was not documented.
Target Crash Type:	All
Number of Installations:	3
Number of Installations:	3
Miles Treated:	
Years Before:	3
Years After:	3
Methodology:	Simple before/after
Results:	One safety corridor showed a statistically significant decline in crashes (98.93%) after adjusting for AADT, one showed a statistically significant increase in crashes (99.96%), one showed no significant change. A fourth corridor showed a decrease in crashes but concomitant improvements (mainly centerline rumble strip) prevent isolating the effect of zero tolerance enforcement. The corridor which showed an increase in crashes was one in which local law enforcement chose not to participate. The project as a whole did not have statistically significant results at the 95% level.
	HSIP funds were not used.

File Name: Hyperlink

Project Effectiveness

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

Enter additional comments here to clarify your response for this question or add supporting information.

Are there any other aspects of the overall HSIP effectiveness on which the State would like to elaborate?

No

Compliance Assessment

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

07/20/2015

What are the years being covered by the current SHSP?

From: 2013 To: 2018

When does the State anticipate completing it's next SHSP update?

2018

Enter additional comments here to clarify your response for this question or add supporting information.

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

	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
MIRE NAME (MIRE NO.)	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT										
Segment Identifier (12)	100	0					0	0	0	0
Route Number (8)	100	0								
Route/Street Name (9)	100	0								
Federal Aid/Route Type (21)	100	0								
Rural/Urban Designation (20)	50	0					0	0		
Surface Type (23)	90	0					0	0		
Begin Point Segment Descriptor (10)	0	0					0	0	0	0
End Point Segment Descriptor (11)	0	0					0	0	0	0
Segment Length (13)	95	0								
Direction of Inventory (18)	100	0								
Functional Class (19)	90	0					0	0	0	0
Median Type (54)	50	0								

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
Access Control (22)	50	0								
One/Two Way Operations (91)	95	0								
Number of Through Lanes (31)	95	0					0	0		
Average Annual Daily Traffic (79)	90	0					0	0		
AADT Year (80)	100	0								
Type of Governmental Ownership (4)	100	0					0	0	0	0
INTERSECTION										
Unique Junction Identifier (120)			0	0						
Location Identifier for Road 1 Crossing Point (122)			0	0						
Location Identifier for Road 2 Crossing Point (123)			0	0						
Intersection/Junction Geometry (126)			0	0						
Intersection/Junction Traffic Control (131)			0	0						
AADT for Each Intersecting Road (79)			0	0						
AADT Year (80)			0	0						
Unique Approach Identifier (139)			0	0						
INTERCHANGE/RAMP										
Unique Interchange Identifier (178)					0	0				
Location Identifier for Roadway at Beginning of Ramp Terminal (197)					0	0				
Location Identifier for Roadway at Ending Ramp Terminal (201)					0	0				
Ramp Length (187)					0	0				
Roadway Type at Beginning of Ramp Terminal (195)					0	0				

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 Type at End Ramp Terminal (199)					0	0				
Interchange Type (182)					0	0				
Ramp AADT (191)					0	0				
Year of Ramp AADT (192)					0	0				
Functional Class (19)					0	0				
Type of Governmental Ownership (4)					0	0				
Totals (Average Percent Complete):	**78.06**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Enter additional comments here to clarify your response for this question or add supporting information.

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.

ODOT intends to implement the MIRE implementation plan submitted along with OHSO's Traffic Record Strategic Plan in July 2017.

Provide the suspected serious injury identifier, definition and attributes used by the State for both the crash report form and the crash database using the table below. Please also indicate whether or not these elements are compliant with the MMUCC 4th edition criteria for data element P5. Injury Status, suspected serious injury.

CRITERIA	SUSPECTED SERIOUS INJURY IDENTIFIER(NAME)	MMUCC 4TH EDITION COMPLIANT *	SUSPECTED SERIOUS INJURY DEFINITION	MMUCC 4TH EDITION COMPLIANT *	SUSPECTED SERIOUS INJURY ATTRIBUTES(DESCRIPTORS)	MMUCC 4TH EDITION COMPLIANT *
Crash Report Form	4	No	N/A	No	N/A	No
Crash Report Form Instruction Manual	Incapacitating Injury	No	Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred.	No	Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred.	No
Crash Database	4	No	N/A	No	N/A	No
Crash Database Data Dictionary	A	No	As reported by police.	No	As reported by police.	No

Please describe the actions the State is taking to become compliant by April 15, 2019.
This is being addressed by the Department of Public Safety and Highway Safety Office.

Enter additional comments here to clarify your response for this question or add supporting information.

Did the State conduct an HSIP program assessment during the reporting period?

2017 Oklahoma Highway Safety Improvement Program
No

When does the State plan to complete it’s next HSIP program assessment.

2020

Enter additional comments here to clarify your response for this question or add supporting information.

Optional Attachments

Program Structure:

Project Implementation:

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.