KANSAS

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2017 ANNUAL REPORT

U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

Table of Contents

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

In Kansas we continue to spend our HSIP dollars in a variety of independently managed sub-programs, including intersections, signing, pavement markings, lighting, rail, HRRR, and general safety improvements. The rail program is reported with the RHGCP report. This is the fifth year HRRR is reported with the HSIP report. We are working with our sub-program managers to develop program manuals specific to each sub-program in a manner consistent with the requirements of this report and related strategies in our Strategic Highway Safety Plan. Collectively, these programs cover all 140,000 centerline miles of public roads in Kansas while applying a multitude of proven countermeasures designed to reduce fatal and serious injury crashes statewide.

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.

Our HSIP is managed via seven independent sub-programs, including intersections, signing, pavement markings, lighting, rail, HRRR, and general safety improvements. Each of these programs is described in detail within this report.

Where is HSIP staff located within the State DOT?

Other-Planning and Design

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

Intersections, signing, pavement markings, lighting, and general safety improvements are managed in the Bureau of Transportation Safety and Technology within the Division of Planning and Development. HRRR is managed by the Bureau of Local Projects and rail by the Bureau of Road Design, both within the Division of Engineering and Design.

How are HSIP funds allocated in a State?

Other-Headquarters

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

A committee made up of the HSIP Program Manager, FHWA Division Safety Engineer, sub-program managers, and management meet twice a year to measure program progress based on planned obligations and to estimate and distribute allocations for future years.

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

Our HSIP program is made up of seven sub-programs: lighting, pavement marking, signing, rail, intersections, HRRR, and general safety improvements. Lighting, pavement marking, signing, and general safety improvement projects are exclusive to the State Highway System, although projects may impact intersecting non-state roads. Intersections and rail projects may include local roads, that is, public roads not a part of the

State Highway System. HRRR is exclusive to local roads. The rail program is addressed in the Rail-Highway Grade Crossing Program report.

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

Traffic Engineering/Safety
Design
Planning
Maintenance
Operations
Districts/Regions
Local Aid Programs Office/Division

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

Describe coordination with internal partners.

Lighting sub-program: Projects are selected with input from the structural engineer in our State Bridge Office responsible for foundations for lighting, as well as field information from our Area Offices, and road safety audits performed by our Traffic Engineering Section.

Signing sub-program: This blanket replacement program was programmed to cover the entire state highway system in ten years. Our Area Offices complete a sign inventory for each project. Projects that are primarily on conventional roads the Area Offices typically install the new signs and posts. Projects that are on urban expressways and freeways are typically contractor let. Area Offices then administer the construction engineering duties.

Pavement Marking sub-program: Our pavement marking technician works closely with our district maintenance engineers to identify recommended routes. Works also with Traffic Engineering Section to identify locations in need of improved markings for safety.

Intersections sub-program: Projects are identified through solicitation to cities and their recommendations. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP) and road safety audits. When the intersection is located on the State Highway System, our District and Area Offices are made part of the discussion as well. Once locations are identified a competitive process for funding begins.

HRRR sub-program: District Offices provide construction oversight. The Bureau of Local Projects manages the program.

General Safety Improvements sub-program: Projects are selected and scoped in partnership with District and Area Offices.

All sub-programs: The Crash Data Unit in our Bureau of Transportation Safety & Technology manage and report on crash data as needed.

Identify which external partners are involved with HSIP planning.

Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
Local Government Agency
FHWA
Other-Kansas Association of Counties
Other-Local Roads Emphasis Area Team (SHSP)

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

Describe coordination with external partners.

Intersections sub-program: Projects are identified through solicitation to cities and their recommendations. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP) and road safety audits.

HRRR sub-program: Projects are identified through solicitation to counties and their recommendations. Additionally, projects may be identified through studies such as Traffic Engineering Assistance Program reports (TEAP) and road safety audits.

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?

Yes

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

A total of $24,636,098 in safety funds (HSIP and Rail) was apportioned for FFY 2017, distributed to each sub-program as follows:

Lighting: $750,000 HSIP

Pavement Marking: $3,000,000 HSIP

Signing: -$3,800,000 HSIP

Highway-Railway Grade Crossing and Rail: $7,260,505 ($6,260,505 Rail & $1,000,000 HSIP)

Intersection Safety: $10,480,000 HSIP

High Risk Rural Roads: $3,000,000 HSIP

General Safety Improvements: $3,945,593 HSIP

The following dollars were obligated for SFY 2017 in each program:

Lighting: $10,217.35 HSIP

Pavement Marking: $8,329,346.49 HSIP

Signing: $4,073,030.39 HSIP

Highway-Railway Grade Crossing and Rail: $10,175,933.54 ($9,854,012.49 Rail; $321,921.05 HSIP; -$1,408,750.10 ACHSIP)

Intersection Safety: $2,435,239.01 HSIP

High Risk Rural Roads: $3,303,129.10 (-$25,181.78 HRRR & $3,328,310.88 HSIP)

General Safety Improvements: $735,659.15 HSIP ($50,000 ACHSIP)

Each of the programs discussed further in this report are consistent with our SHSP. It is our intent that strategies identified or developed as part of the SHSP process will contribute to the continued success of these programs. A portion of our HSIP funding is programmed as part of our RHGCP. See RHGCP report for more information.

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.

We are planning an HSIP evaluation with our FHWA Division Office in FY 2018 with the understanding a key outcome will be completion of our HSIP manual which has been a work in progress for a number of years.

Select the programs that are administered under the HSIP.

Intersection
Sign Replacement And Improvement
Local Safety
Other-Pavement Marking

2017 Kansas Highway Safety Improvement Program
Other-Lighting
Other-General Safety Improvements

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

Our HRRR program may also be referred to as Local Safety since it applies to locally owned roads.

Program: Intersection

Date of Program Methodology: 8/25/2016

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
All crashes	Traffic Volume	Functional classification
Other-Fatal and SI crashes	Population	Other-Turn lanes
	Lane miles	

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

Crash frequency
Equivalent property damage only (EPDO Crash frequency)
Crash rate

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

Yes

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

No

Describe the methodology used to identify local road projects as part of this program.
State projects consider only pattern and crash rate. The method for local road projects is more time-consuming to validate counter-measures, including information such as EPDO, CMFs and BC.

How are projects under this program advanced for implementation?

2017 Kansas Highway Safety Improvement Program

Competitive application process

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 : 3
Available funding : 4

Other-EPDO and crash rate : 1
Other-Project viability : 2

Enter additional comments here to clarify your response for this question or add supporting information.
This program is increasingly focusing on low-cost safety improvements at site-specific locations and systematic improvements to signing, pavement marking, roadsides, and horizontal curves. A scoring rubric is used to rank applications.

Program: Local Safety

Date of Program Methodology: 2/11/2011

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
All crashes	Traffic Volume Population Lane miles	Horizontal curvature Functional classification Roadside features Other-Shoulder width, sign sheeting type, percent in district, past projects, cost, road safety audit, county priority

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

2017 Kansas Highway Safety Improvement Program
Crash frequency
Crash rate
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

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

No

Describe the methodology used to identify local road projects as part of this program.
This program applies only to local roads (non-state owned and operated.)

How are projects under this program advanced for implementation?

Competitive application process
selection committee
Other-Scoring rubric

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

Rank of Priority Consideration

Available funding : 2

Other-Scoring rubric : 1
Other-Geographical distribution : 3

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

Program: Sign Replacement And Improvement

Date of Program Methodology: 7/1/2006

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-Sign inventory

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

Other-Pre-programmed blanket replacement program

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?

No

Describe the methodology used to identify local road projects as part of this program.
This program applies only to local roads (non-state owned and operated.)

How are projects under this program advanced for implementation?

Other-Projects were pre-programmed based on a blanket replacement program.

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-Per established cyclical program : 1

Enter additional comments here to clarify your response for this question or add supporting information.
This program was established in 1996 to address necessary sign replacements on the State Highway System due to pending (now final) federal requirements for minimum retro-reflectivity of highway signs. This program schedules sign replacements based upon highway route-mileage statewide and the total mileage of all the routes in each District Sub-Area with multiple Sub-Areas in each District being addressed each year. This program excludes signs on any other state project that include sign replacement for that highway route in the same year. This program also excludes any signs that were replaced within seven years of the scheduled date of the replacement project. This is the tenth year KDOT has used HSIP funds to improve permanent signing. The projects in the program are administered using two separate methods. Sub-Areas comprised primarily of routes classified as freeways and expressways with interchanges are let to contract via normal letting procedures. Sub-Areas with routes that are classified as expressways and conventional roads are administered by releasing contracts to

purchase the signs and posts with installation performed by KDOT maintenance crews. However, due to KDOT maintenance work force reductions, the program will rely on contractors to install the signs regardless of route classification within some Sub-Areas.

Program: Other-Pavement Marking

Date of Program Methodology: 7/1/2006

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
All crashes	Volume Population Other-If we considered only traffic volumes, only high volume districts (1 and 5) would get funded, thus population is taken into account. At the district level, we then consider higher volume routes first and take into account retro-readings.	Other-Retro-reflectivity.

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?

No

Describe the methodology used to identify local road projects as part of this program.
This program applies only to local roads (non-state owned and operated.)

How are projects under this program advanced for implementation?

Other-Pavement Marking Specialist works closely with district maintenance engineers to select projects.

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

Rank of Priority Consideration

Available funding : 1

Enter additional comments here to clarify your response for this question or add supporting information.
This set-aside program was established in FY 1996 to address pavement marking necessary due to pending new federal requirements for minimum retro-reflectivity of pavement markings. Improvements in this category utilize high-performance, long-life pavement marking materials. Efforts are also made to identify those marking materials with wet-weather retro-reflectivity. This program is limited to projects that do not have high-performance markings included under any other KDOT program. Projects are selected by the BTS&T based upon a roadway's traffic volumes, past performance of marking material, geometry, surface condition, surface type, crash history, and, in the case of new marking materials, the research benefit. This is the 12th year KDOT has used HSIP funds to improve pavement markings.

Program: Other-Lighting

Date of Program Methodology: 7/1/2006

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
	Volume	Other-Road type: Interchanges

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

Other-Locations are brought to our attention

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?

No

Describe the methodology used to identify local road projects as part of this program.
This program applies only to local roads (non-state owned and operated.)

How are projects under this program advanced for implementation?

Other-Lighting Unit

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

Rank of Priority Consideration

Available funding : 1

Enter additional comments here to clarify your response for this question or add supporting information.
Because lighting is beneficial to the safety and operation of the highway system, this set-aside program was established in FY 2000. Projects are selected by the Bureau of Transportation Safety & Technology (BTS&T) based on the roadway's volume and the potential for night-time crash history. This program is limited to projects which are not included under any other KDOT program. Projects are scheduled until the available lighting funds are exhausted. This is the 12th year KDOT has used HSIP funds to improve lighting.

Program: Other-General Safety Improvements

Date of Program Methodology: 2/10/2012

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**

Fatal and serious injury crashes only	Volume Population Lane miles	Median width Horizontal curvature Functional classification Roadside features

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

Crash frequency
Crash rate

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

No

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

No

Describe the methodology used to identify local road projects as part of this program.
This program applies only to local roads (non-state owned and operated.)

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

Available funding : 2
Cost Effectiveness : 1

Enter additional comments here to clarify your response for this question or add supporting information.
Every year the FHWA provides funds for DOT's to make safety improvements to their system through the Highway Safety Improvement Program (HSIP). As a pilot KDOT developed a program that directed up to $6,000,000 of HSIP funds to projects that were selected using a new system that combines quantitative safety analysis and prediction (IHSDM) with District input. The goal was to distribute these funds throughout the state and address spot locations, like individual curves, intersections, or short tangent sections that were identified with tools developed for the Transparency Report. Moreover the hope is that the program can help address locations that demonstrate a potential safety issue but have not been addressed through traditional KDOT funding programs. This program has not received additional funding since the original $6,000,000 was allocated to it. However, projects in the program continue to be let to contract which is why the program continues to be included in this report.

What percentage of HSIP funds address systemic improvements?

43

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

Install/Improve Pavement Marking and/or Delineation
Install/Improve Lighting

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

Percent was calculated by summing dollars obligated for lighting and pavement marking and dividing by the total obligated.

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

Engineering Study
Road Safety Assessment
Other-Highway Safety Manual and CMF Clearinghouse
Other-Crash data analysis to identify systematic countermeasures

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.
The State of Kansas has formed an autonomous vehicle (AV) task force to consider the impacts of this emerging technology on everything from state statutes to infrastructure safety expenditures.

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.

Our intersections sub-program is working to integrate Part B (Roadway Safety Management Process) and Part D (Crash Modification Factors) into the program methodology.

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?

No

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State 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)	$18,375,593	$19,233,724	104.67%
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	$2,832,936	$2,722,562	96.1%
Totals	$21,208,529	$21,956,286	103.53%

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

HSIP values were provided by our Management Systems Analyst; State and Local values were provided by our WinCPMS Administrator. Both persons in our Bureau of Program and Project Management.

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

79%

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

$4,140,142

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

Programmed is the total apportionment to those programs that include non-state owned roads in the methodology and may include dollars that get obligated to projects on state-owned roads: $1.00 mil (rail) + $10.48 mil (intersections) + $3.00 mil (hrrr) / $18.38 mil (total) = 79%

Obligated is the total obligated to those programs that include non-state owned roads in the methodology excluding projects in the intersections program on state-owned roads. $321,921 (rail) + $489,910 (intersection projects on locally-owned roads) + $3,328,311 (hrrr) = $4,140,142

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

0%

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

$300,000

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

$300,000 represents dollars obligated to C-4855-17, which is our Traffic Engineering Assistance Program that provides TE help to local agencies in Kansas. An additional $50,000 was obligated to KA-4535-01, which is a study to review 2017 federal-aid 1R safety improvements, and for this purpose not considered non-infrastructure, thus not included in the total above.

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?

$7,420,302

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.

Signing sub-program: Due to delays in the 2016 HSIP project selection and construction lettings, no new 2017 projects were initiated. Funding was reallocated to support other HSIP sub-programs.

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**
C-0313-01	Shoulder treatments	Shoulder treatments - other	33	Miles	$-11199.38	$277556	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Improve shoulders where reasonable
C-0486-01	Intersection geometry	Intersection geometrics - modify intersection corner radius	0.3	Miles	$-13982.4	$263860	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Spot	Intersections	Promote proven engineering countermeasures
C-4592-01	Shoulder treatments	Shoulder grading	9.1	Miles	$556.46	$1348685	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Spot	Roadway Departure	Improve shoulders where reasonable
C-4634-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	115	Miles	$-31853.23	$76488	HSIP (23 U.S.C. 148)	Rural Minor Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4671-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	74	Miles	$188967.25	$193967	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4672-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	276	Miles	$52809.21	$280113	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4673-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	75	Miles	$-69736.51	$81245	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4676-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	77	Miles	$-33553.23	$63815	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4677-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	92	Miles	$-40467.88	$186733	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4678-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	23.5	Miles	$-21710.45	$50148	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4681-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	345	Miles	$-39225.79	$214782	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4683-01	Shoulder treatments	Widen shoulder - paved or other	1.1	Miles	$493638.89	$603732	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Spot	Roadway Departure	Improve shoulders where reasonable
C-4688-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	284	Miles	$-26397.04	$104876	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4689-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	0	Miles	$-18974.6	$27589	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4692-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	11	Miles	$7021.13	$41417	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4798-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	70	Miles	$255560	$290560	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4800-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	127	Miles	$217910	$239910	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4801-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	73	Miles	$157584	$184584	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity

													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
C-4802-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	26	Miles	$76800	$93800	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4803-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	81	Miles	$80087.59	$102088	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4804-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	103	Miles	$125585	$146585	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4805-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	38.4	Miles	$189545	$192195	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4806-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	77	Miles	$268640	$322658	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4807-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	125	Miles	$195300.21	$236814	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4808-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	70	Miles	$198330	$236532	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4809-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	254	Miles	$383856.21	$435210	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4810-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	2.2	Miles	$77535	$97189	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4811-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	81	Miles	$146794	$182830	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4812-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	60	Miles	$101225.38	$129226	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4814-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	95	Miles	$202400	$228400	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4815-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	41	Miles	$121393.88	$140394	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4816-01	Roadway signs and traffic control	Roadway signs (including post) - new or updated	363	Miles	$51000	$60800	HSIP (23 U.S.C. 148)	Rural Minor Collector	0		County Highway Agency	Systemwide	Roadway Departure	Maintain sign retro-reflectivity
C-4856-01	Shoulder treatments	Shoulder grading	7	Miles	$22604.4	$397598	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Spot	Roadway Departure	Improve shoulders where reasonable
C-4860-01	Shoulder treatments	Shoulder treatments - other	8	Miles	$-4914	$0	HSIP (23 U.S.C. 148)	Rural Major Collector	0		County Highway Agency	Spot	Roadway Departure	Improve shoulders where reasonable
KA-4539-01	Lighting	Continuous roadway lighting	0.75	Miles	$169851	$170833	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Interstate	34,900	60	State Highway Agency	Systemic	Intersections	Provide street lighting at higher-volume intersections and interchanges
U-0164-01	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	1	Intersections	$242406.68	$303008.35	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	18,900	55	State Highway Agency	Spot	Intersections	Perform improvements of crash-prone intersections
KA-4226-01	Intersection traffic control	Modify traffic signal - replace existing indications	4	Intersections	$109245.01	$206938.69	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	24,000	55	State of Kansas	Spot	Intersections	Signal improvements

													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**
		(incandescent-to-LED and/or 8-to-12 inch dia.)												
N-0639-01	Intersection traffic control	Modify traffic signal timing - left-turn phasing (permissive to protected/permissive)	1	Intersections	$400000	$1883743.13	HSIP (23 U.S.C. 148)	Urban Major Collector	19,644	35	City of Municipal Highway Agency	Spot	Intersections	Signal improvements
U-0543-01	Intersection traffic control	Modify traffic signal timing - left-turn phasing (permissive to protected-only)	1	Intersections	$89910	$99900	HSIP (23 U.S.C. 148)	Urban Major Collector	24,845	30	City of Municipal Highway Agency	Spot	Intersections	Signal improvements
KA-4420-01	Roadway delineation	Longitudinal pavement markings - remarking	15.2	Miles	$437542	$101249.54	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	17,600	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4507-01	Roadway delineation	Longitudinal pavement markings - remarking	9.55	Miles	$400890	$432677.44	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4508-01	Roadway delineation	Longitudinal pavement markings - remarking	7.755	Miles	$291968	$224932.57	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other Freeways and Expressways	6,700	70	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4510-01	Roadway delineation	Longitudinal pavement markings - remarking	10.8	Miles	$327097	$279024.69	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other Freeways and Expressways	10,500	70	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4511-01	Roadway delineation	Longitudinal pavement markings - remarking	5.435	Miles	$142720	$134466	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	6,360	55	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4513-01	Roadway delineation	Longitudinal pavement markings - remarking	3.54	Miles	$57258	$59497.7	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	3,980	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4538-01	Roadway delineation	Longitudinal pavement markings - remarking	11.982	Miles	$880811	$783099.15	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Interstate	69,185	70	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4540-01	Roadway delineation	Longitudinal pavement markings - remarking	8.6	Miles	$513050	$446226.43	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4545-01	Roadway delineation	Longitudinal pavement markings - remarking			$570000		HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Data	Pavement Markings
KA-4546-01	Roadway delineation	Longitudinal pavement markings - remarking	4.5	Miles	$293066.07	$215000	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Other	21,700	50	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4554-01	Roadway delineation	Longitudinal pavement markings - remarking	8.009	Miles	$188974	$215000	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	14,000	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4555-01	Roadway delineation	Longitudinal pavement markings - remarking	23.258	Miles	$637088	$698750	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	16,000	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4556-01	Roadway delineation	Longitudinal pavement markings - remarking	7.247	Miles	$186913	$215000	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	16,000	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4557-01	Roadway delineation	Longitudinal pavement markings - remarking	2.6	Miles	$61960	$53750	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	15,400	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4558-01	Roadway delineation	Longitudinal pavement markings - remarking	11.474	Miles	$338746	$215000	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	12,600	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4559-01	Roadway delineation	Longitudinal pavement markings - remarking	14.3	Miles	$438264	$322500	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Interstate	12,900	75	State Highway Agency	Systemic	Roadway Departure	Pavement Markings

													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
KA-4560-01	Roadway delineation	Longitudinal pavement markings - remarking	2	Miles	$50029	$53750	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	4,460	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4561-01	Roadway delineation	Longitudinal pavement markings - remarking	7	Miles	$188257	$215000	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	5,880	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4562-01	Roadway delineation	Longitudinal pavement markings - remarking	1.2	Miles	$122368	$53750	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Other Freeways and Expressways	12,300	55	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4564-01	Roadway delineation	Longitudinal pavement markings - remarking	4.34	Miles	$340783.91	$322500	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Other Freeways and Expressways	25,700	55	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4565-01	Roadway delineation	Longitudinal pavement markings - remarking	12.016	Miles	$815448	$752500	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4566-01	Roadway delineation	Longitudinal pavement markings - remarking	0.379	Miles	$58656	$53750	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Interstate	67,500	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4567-01	Roadway delineation	Longitudinal pavement markings - remarking	10.346	Miles	$487784.06	$376250	HSIP (23 U.S.C. 148)	Rural Minor Arterial	11,500	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4568-01	Roadway delineation	Longitudinal pavement markings - remarking	1.2	Miles	$68712.93	$53750	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Other	18,700	50	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4569-01	Roadway delineation	Longitudinal pavement markings - remarking	10.7	Miles	$481219.37	$376250	HSIP (23 U.S.C. 148)	Urban Principal Arterial - Other	12,600	55	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4570-01	Roadway delineation	Longitudinal pavement markings - remarking	6.6	Miles	$199341.07	$107500	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	5,670	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4571-01	Roadway delineation	Longitudinal pavement markings - remarking	4.4	Miles	$111725.13	$107500	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	4,430	55	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4592-01	Roadway delineation	Longitudinal pavement markings - remarking	25	Miles	$592991.52	$483750	HSIP (23 U.S.C. 148)	Rural Minor Arterial	3,090	65	State Highway Agency	Systemic	Roadway Departure	Pavement Markings
KA-4535-01	Non-infrastructure	Non-infrastructure - other	1	Numbers	$50000	$50000	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	0		State Highway Agency		Roadway Departure	
KA-4472-01	Roadway	Rumble strips - edge or shoulder	7.22	Miles	$16659	$16659	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Roadway Departure	Install shoulder rumble strips where appropriate
KA-4493-01	Roadway	Rumble strips - edge or shoulder	21.059	Miles	$31606	$31606	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	0		State Highway Agency	Systemic	Roadway Departure	Install shoulder rumble strips where appropriate
KA-4500-01	Roadway	Rumble strips - edge or shoulder	64.94	Miles	$121515	$121515	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	0		State Highway Agency	Systemic	Roadway Departure	Install shoulder rumble strips where appropriate
KA-4501-01	Roadway	Rumble strips - edge or shoulder	17.477	Miles	$36002	$36002	HSIP (23 U.S.C. 148)	Rural Principal Arterial - Other	0		State Highway Agency	Systemic	Roadway Departure	Install shoulder rumble strips where appropriate
KA-4494-01	Roadway	Rumble strips - edge or shoulder	55.001	Miles	$63410	$63410	HSIP (23 U.S.C. 148)		0		State Highway Agency	Systemic	Roadway Departure	Install shoulder rumble strips where appropriate

2017 Kansas Highway Safety Improvement 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**
C-4855-17	Non-infrastructure	Non-infrastructure - other			$300000	$300000	HSIP (23 U.S.C. 148)		0		County Highway Agency		Local Roads	Package solutions with data through programs such as TEAP
KA-4563-01	Speed management	Traffic calming feature	1	Numbers	$282600	$314000	HSIP (23 U.S.C. 148)		0		State Highway Agency			

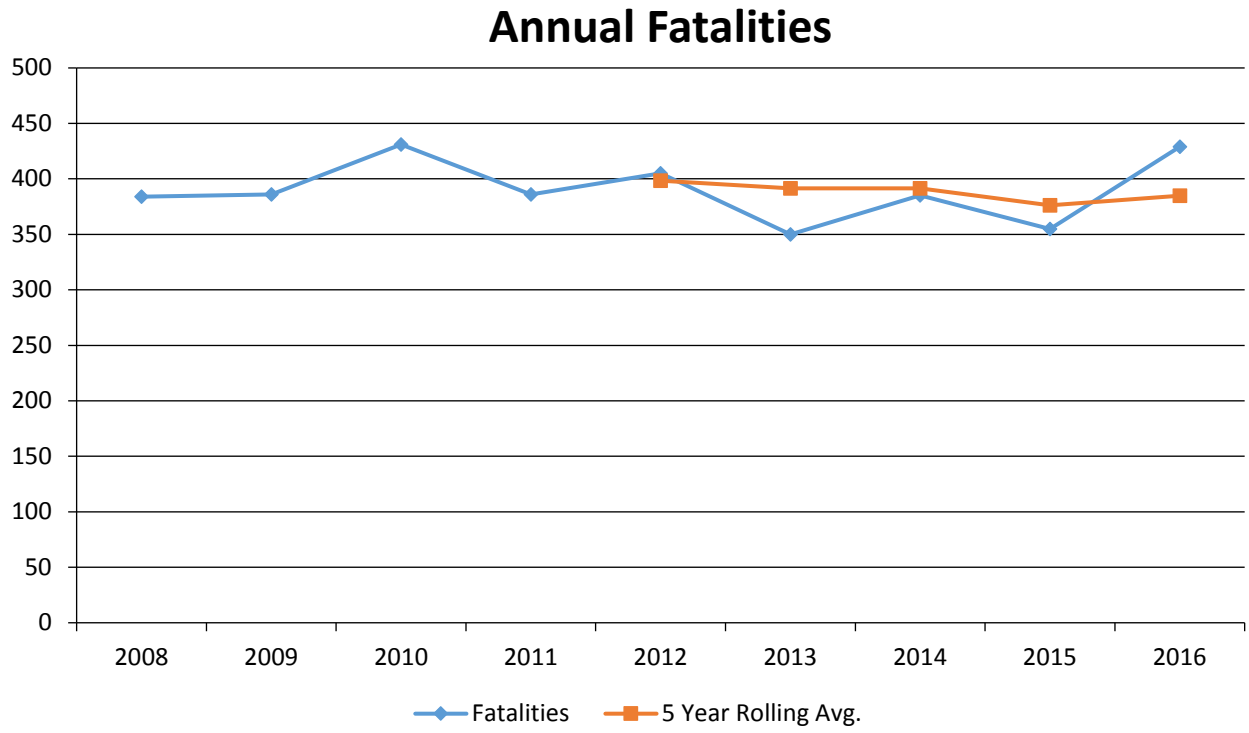
Enter additional comments here to clarify your response for this question or add supporting information.

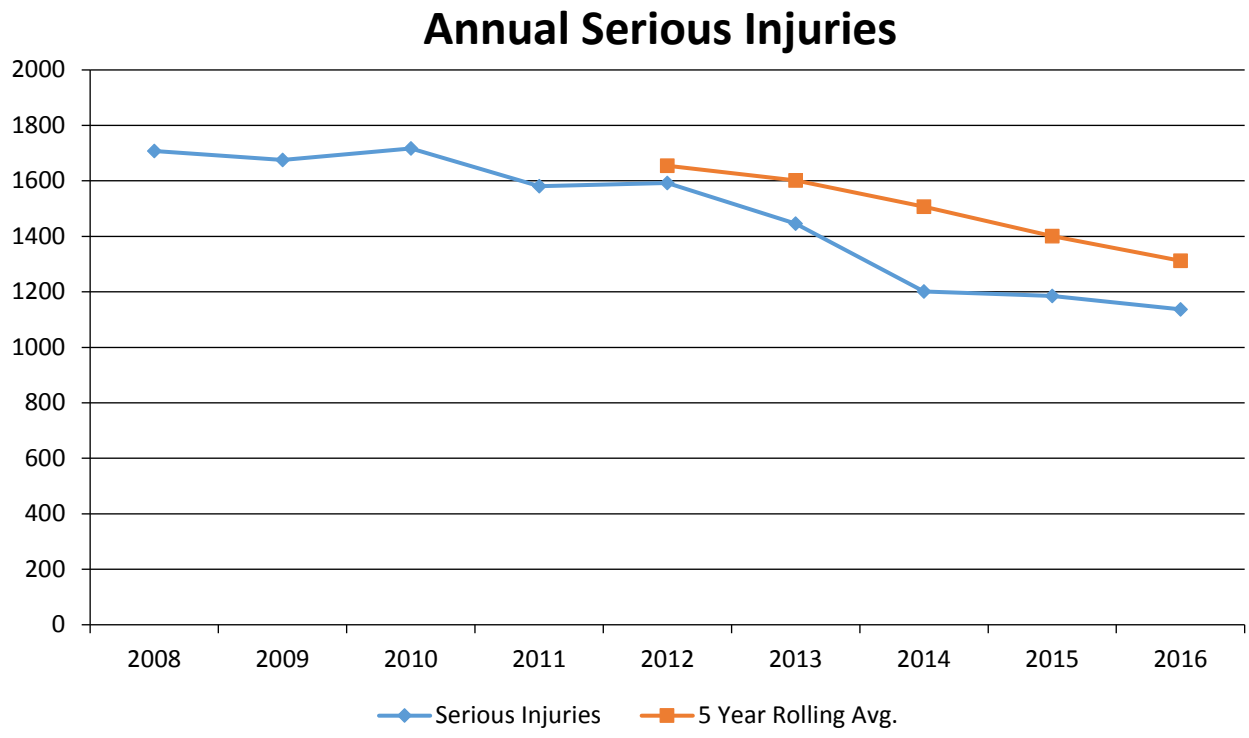
Safety Performance

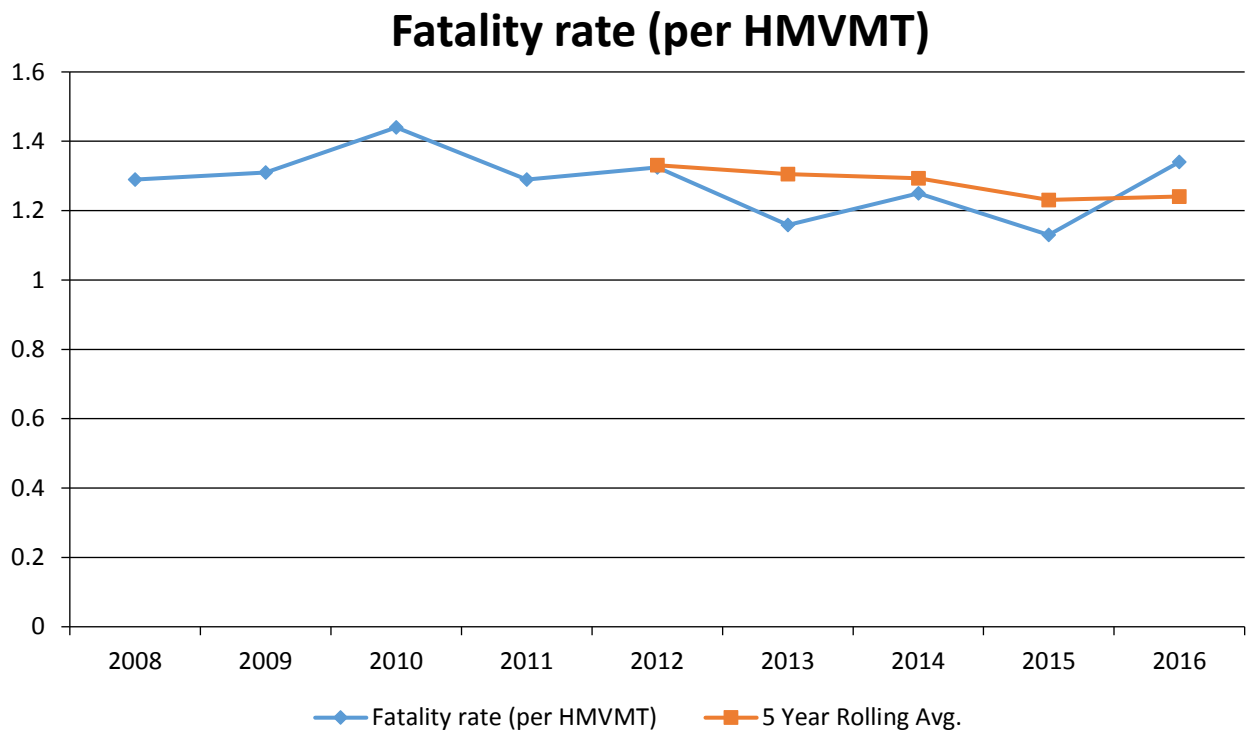
General Highway Safety Trends

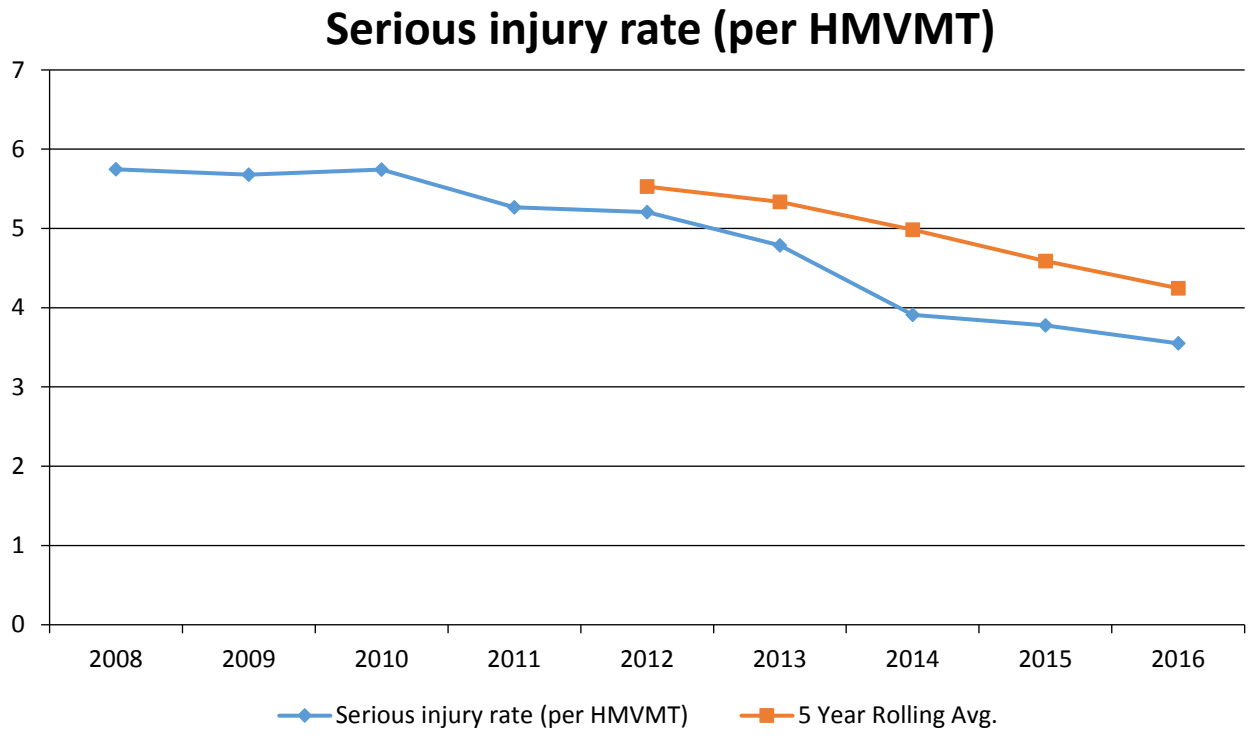
Present data showing the general highway safety trends in the State for the past five years.

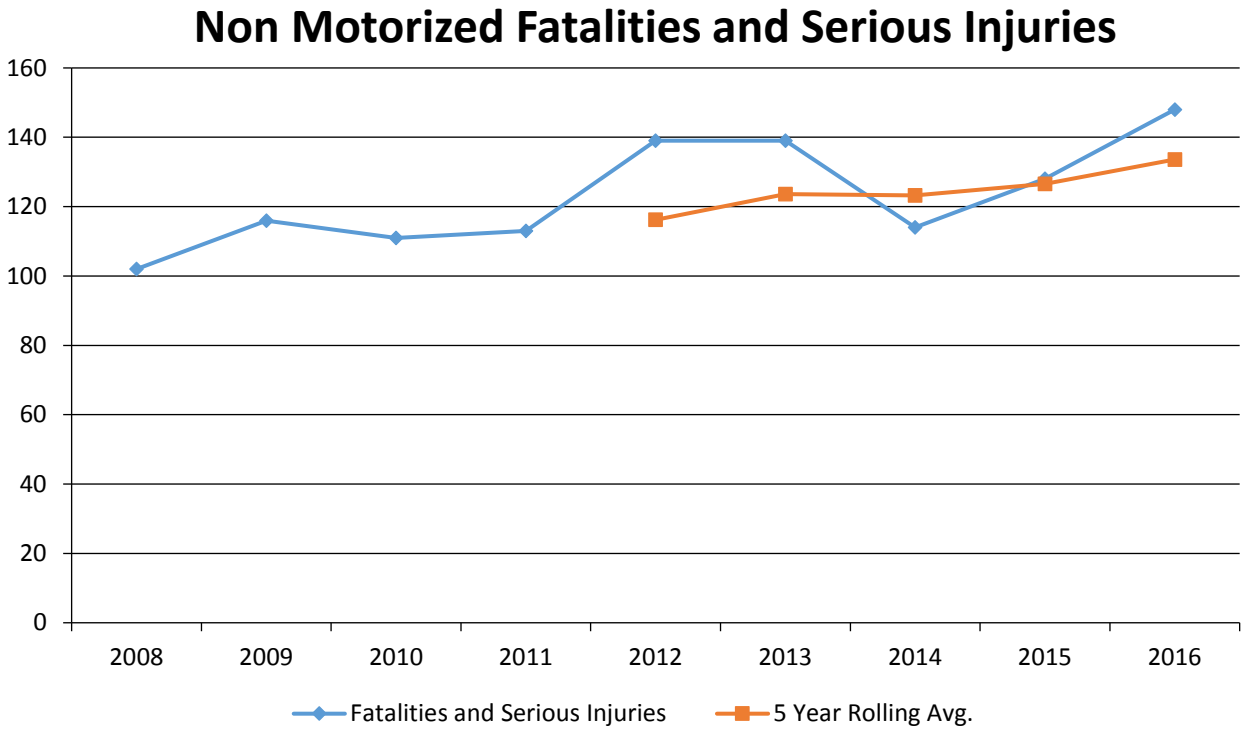
PERFORMANCE MEASURES	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fatalities	384	386	431	386	405	350	385	355	429
Serious Injuries	1,708	1,675	1,717	1,581	1,592	1,446	1,201	1,185	1,137
Fatality rate (per HMVMT)	1.290	1.310	1.440	1.290	1.325	1.159	1.250	1.130	1.340
Serious injury rate (per HMVMT)	5.746	5.679	5.742	5.266	5.207	4.787	3.911	3.776	3.550
Number non-motorized fatalities	24	28	16	16	33	31	30	27	46
Number of non-motorized serious injuries	78	88	95	97	106	108	84	101	102


Annual Fatalities
500
450
400
350
300
250
200
150
100
50
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
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)
7
6
5
4
3
2
1
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.

Describe fatality data source.

FARS

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

FARS data is used through 2015. KCARS (state) data is used for 2016.

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

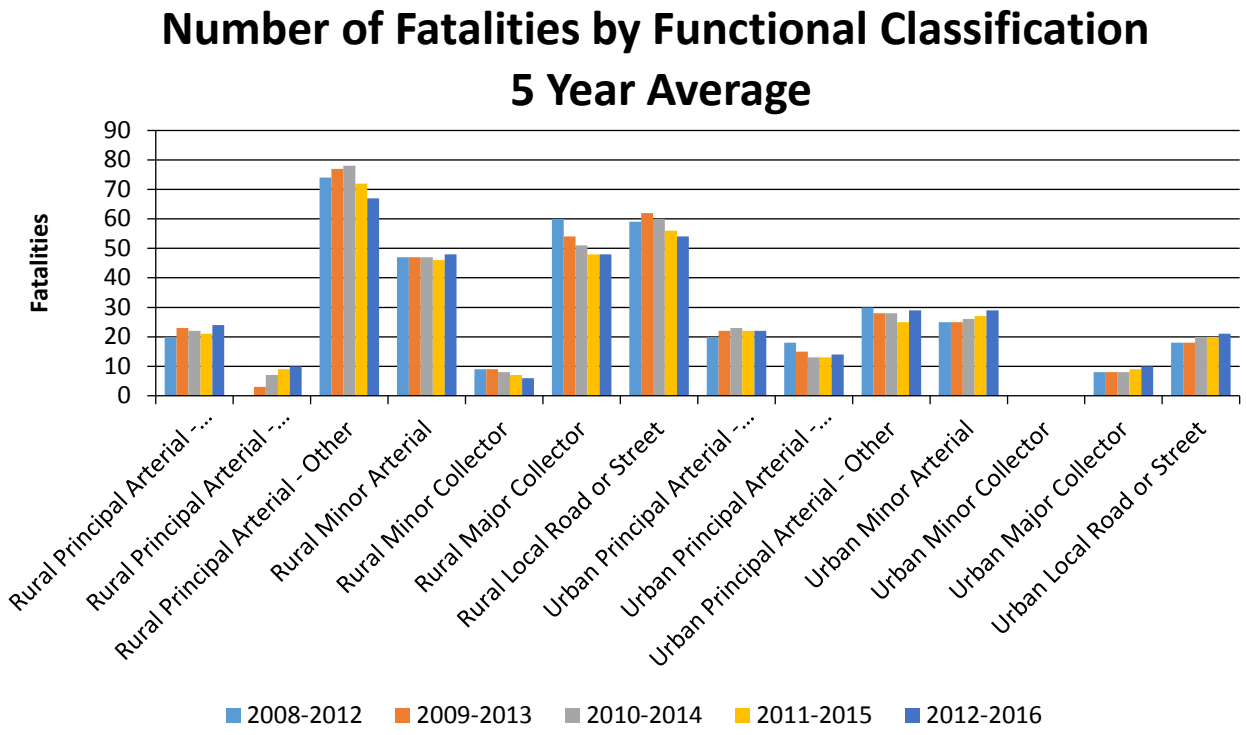
Year 2016

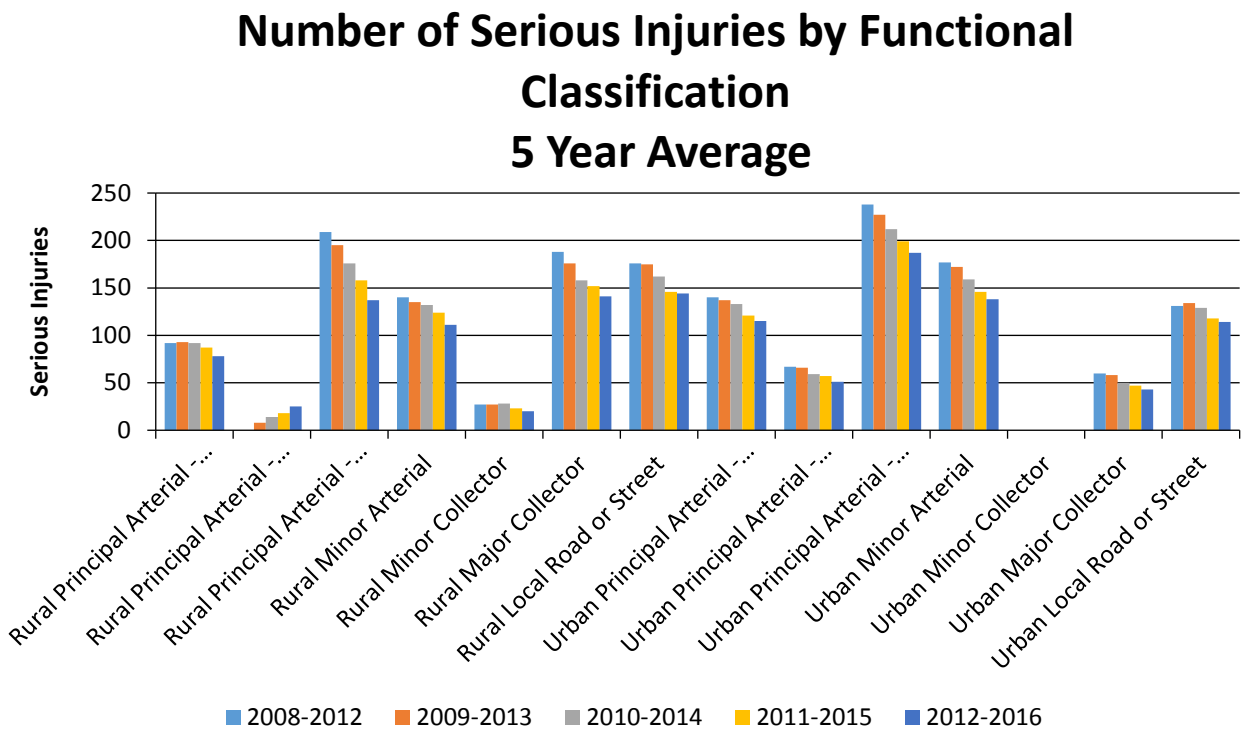
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial - Interstate	24	78	0.67	2.12
Rural Principal Arterial - Other Freeways and Expressways	10	25	0.8	1.89
Rural Principal Arterial - Other	67	137	2.1	4.3
Rural Minor Arterial	48	111	2.07	4.81

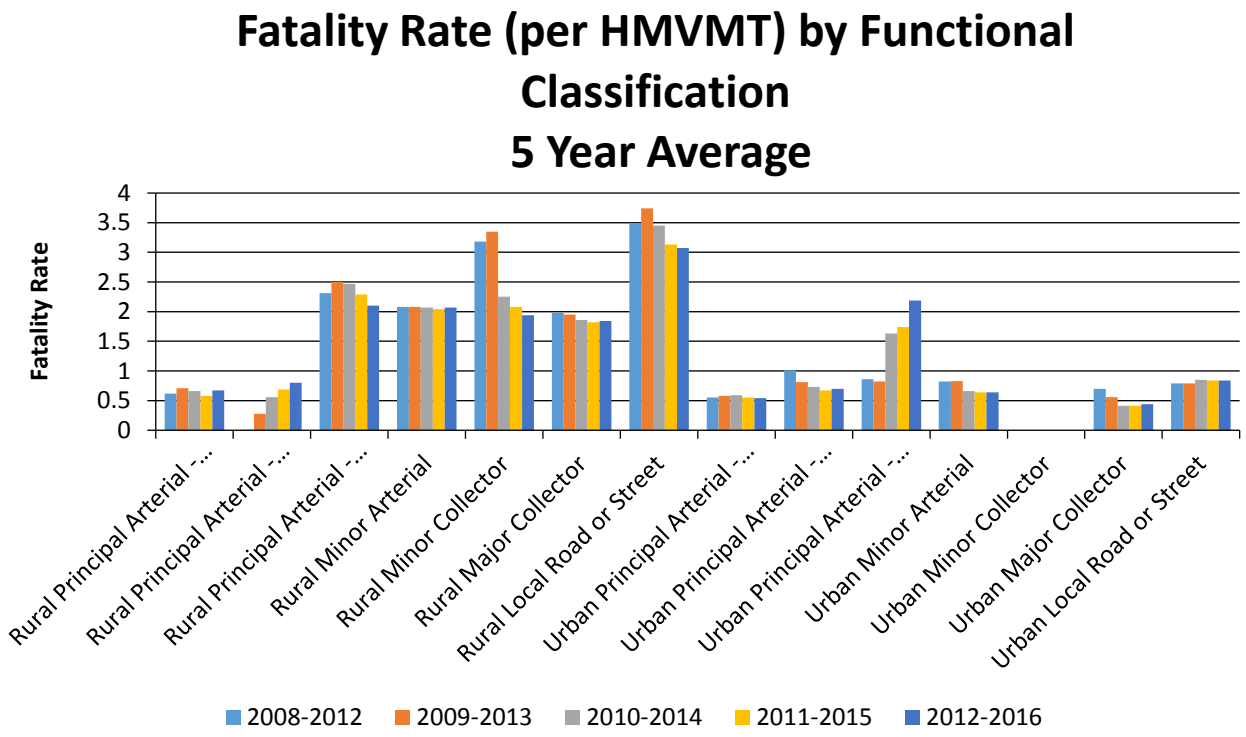
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Minor Collector	6	20	1.94	6.05
Rural Major Collector	48	141	1.84	5.36
Rural Local Road or Street	54	144	3.07	8.2
Urban Principal Arterial - Interstate	22	115	0.54	2.76
Urban Principal Arterial - Other Freeways and Expressways	14	51	0.7	2.62
Urban Principal Arterial - Other	29	187	2.19	14.1
Urban Minor Arterial	29	138	0.64	3.06
Urban Minor Collector	0	0	0	0.18
Urban Major Collector	10	43	0.44	1.95
Urban Local Road or Street	21	114	0.84	4.66

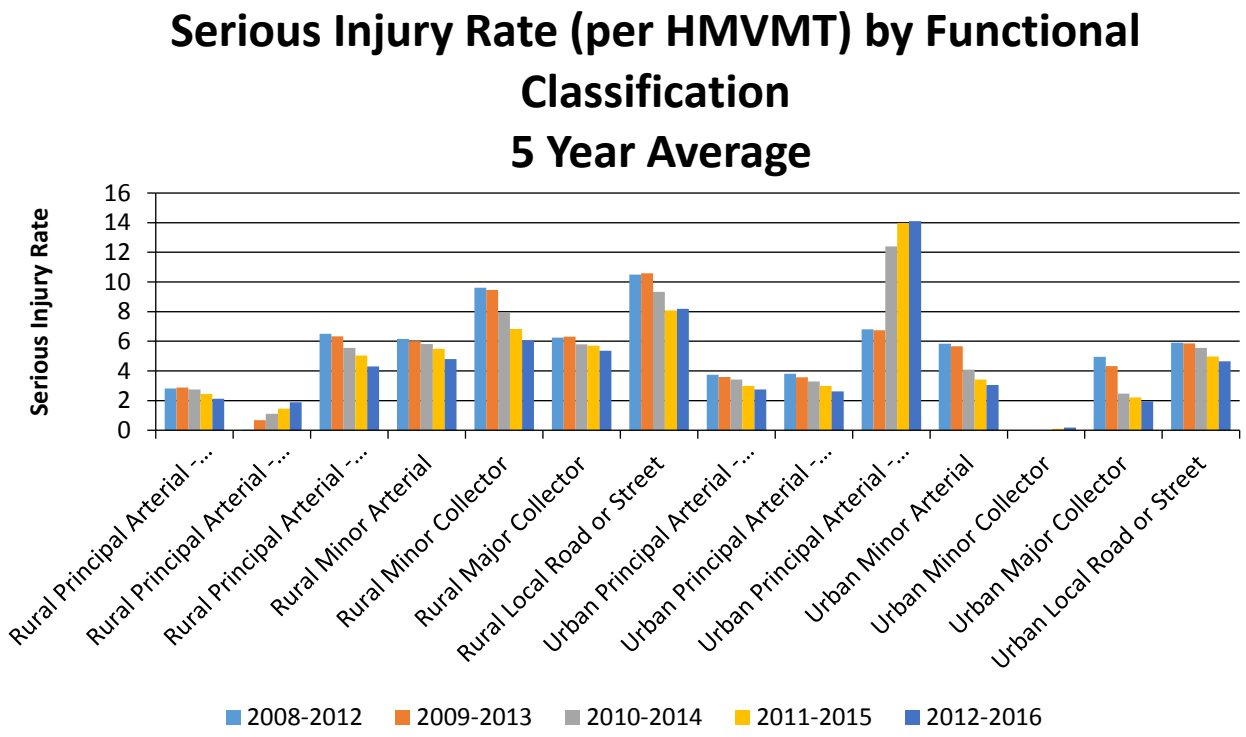
Year 2015

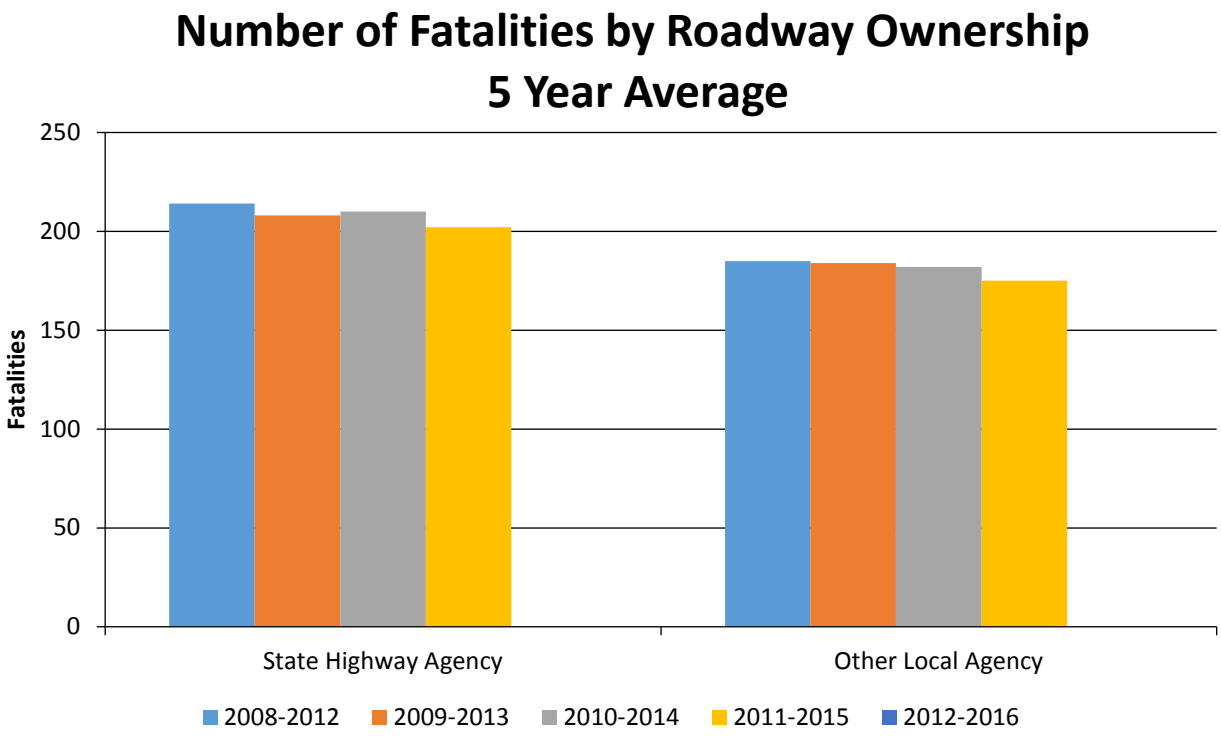
Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	202	647	1.12	3.59
County Highway Agency				
Town or Township Highway Agency				
City of Municipal Highway Agency				
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency	175	750	1.31	5.61
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

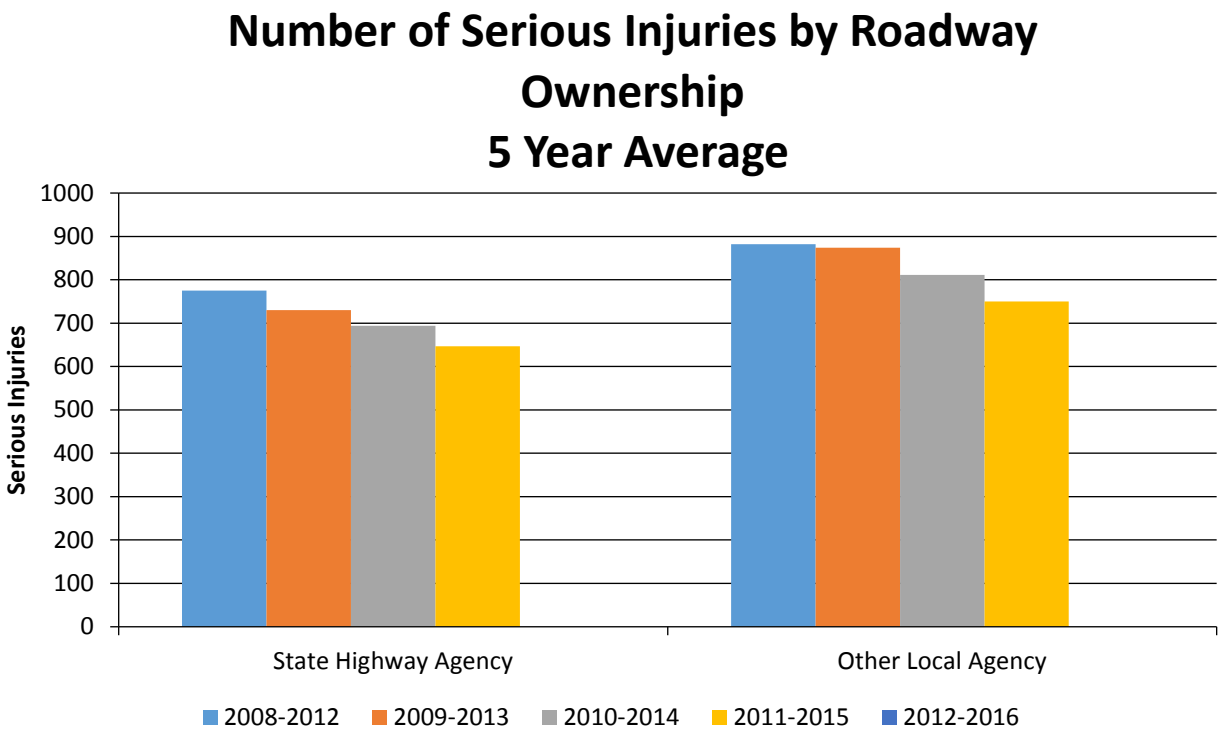

Number of Fatalities by Functional Classification
5 Year Average
Fatalities
90
80
70
60
50
40
30
20
10
0
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Principal Arterial - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
Urban Principal 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

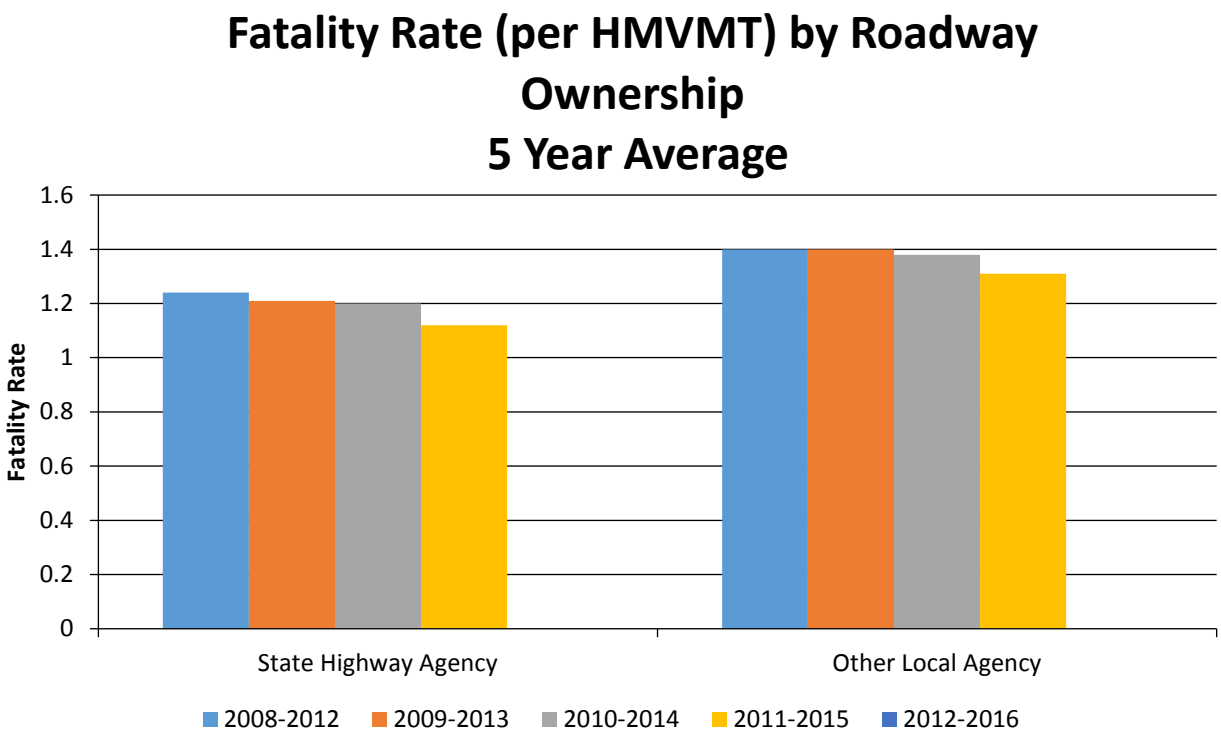

Number of Serious Injuries by Functional Classification
5 Year Average
Serious Injuries
250
200
150
100
50
0
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
Urban Principal 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

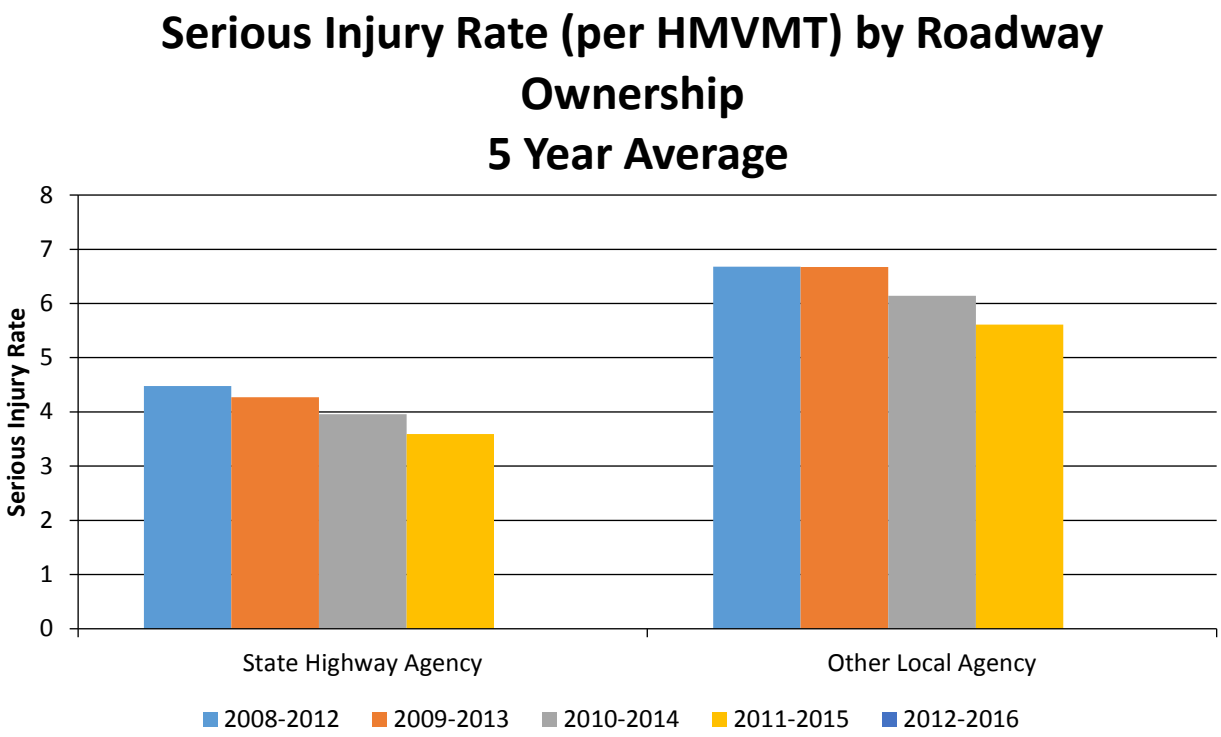

Fatality Rate (per HMVMT) by Functional Classification
5 Year Average
Fatality Rate
4
3.5
3
2.5
2
1.5
1
0.5
0
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Principal Arterial -...
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
Urban Principal 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


Serious Injury Rate (per HMVMT) by Functional Classification
5 Year Average
Serious Injury Rate
16
14
12
10
8
6
4
2
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
250
200
150
100
50
0
State Highway Agency
Other Local Agency
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Number of Serious Injuries by Roadway Ownership
5 Year Average
Serious Injuries
1000
900
800
700
600
500
400
300
200
100
0
State Highway Agency
Other Local Agency
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Fatality Rate (per HMVMT) by Roadway Ownership
5 Year Average
Fatality Rate
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
State Highway Agency
Other Local Agency
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.

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	364.0

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

The 2018 five year moving average projection based upon the trend line indicates 364 total fatalities. A zero percent reduction in this projection would derive our goal of 364 total fatalities in 2018. Based upon recent history, the trend line of the target, the zero percent reduction goal is realistic and attainable. The 2018 HSP and 2018 HSIP five-year moving average targets are equal. The goal in our SHSP is to reduce fatalities by

half between 2009 and 2029. Our five-year average in 2009 was 417 fatalities per year. Our 2029 goal is thus less than 208 fatalities per year. To be on pace requires 323 fatalities per year in 2018, which is well below our target. This is discouraging, though not unexpected. It is our hope that continued efforts via the SHSP as well as advancing vehicle technologies will drive us closer to our goal by 2029.

Number of Serious Injuries 1190.0

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

The 2018 five year moving average projection based upon the trend line indicates 1,202 serious injuries. A one percent reduction in this projection would derive our goal of 1,190 serious injuries in 2018. Based upon recent history, the trend line of the target, the one percent reduction goal is realistic and attainable. The 2018 HSP and 2018 HSIP five-year moving average targets are equal. The goal in our SHSP is to reduce serious injuries by half between 2009 and 2029. Our five-year average in 2009 was 1762 serious injuries per year. Our 2029 goal is thus less than 881 serious injuries per year. To be on pace requires 1366 serious injuries per year in 2018, which is well above our target. This is encouraging, and surprising given the struggle with fatality numbers. Further, even as fatalities have increased in 2016 and into 2017, serious injuries continue to decrease.

Fatality Rate 1.160

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

The 2018 five year moving average projection based upon the trend line indicates 1.17 fatalities per 100 million VMT. A one percent reduction in this projection will produce our goal of 1.16 fatalities per 100 million VMT in 2018. Based upon recent history, the trend line of the target, the one percent reduction goal is realistic and attainable. Our target for fatality rate is slightly more aggressive than for fatalities since the former accounts for exposure while the latter does not. The 2018 HSP and 2018 HSIP five-year moving average targets are equal. Our SHSP does not include a goal based on rates. However, it is understood that in order to reduce fatalities and serious injuries by half over 20 years, the rates for each must reduce by more that half as long as VMT continues to increase.

Serious Injury Rate 3.774

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

The 2018 five year moving average projection based upon the trend line indicates 3.851 serious injury rate per 100 million VMT. A two percent reduction in this projection would lead to our goal of 3.774 serious injury rate per 100 million VMT in 2018. Based upon recent history, the trend line of the target, the two percent reduction goal is realistic and attainable. Our target for serious injury rate is slightly more aggressive than for serious injuries since the former accounts for exposure while the latter does not. The 2018 HSP and 2018 HSIP five-year moving average targets are equal. Our SHSP does not include a goal based on rates. However, it is understood that

in order to reduce fatalities and serious injuries by half over 20 years, the rates for each must reduce by more that half as long as VMT continues to increase.

Total Number of Non-Motorized Fatalities and Serious Injuries	138.0

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

The 2018 five year moving average projection based upon the trend line indicates 139 fatalities and serious injuries. A one percent reduction in this projection would derive our goal of 138 fatalities and serious injuries in 2018. Based upon recent history, the trend line of the target, the one percent reduction goal is realistic and attainable. Our SHSP does not address non-motorized fatalities and serious injuries based on a strategic approach to planning. However, unlike overall fatalities and serious injuries, non-motorized fatalities and serious injuries have been on the increase through 2015. And since these numbers contribute to the overall numbers, we are considering adding pedestrians as an emphasis area in our next update to the SHSP in 2019.

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.

On February 22, 2017 we hosted a Kansas Safety Target Setting Coordination Training Workshop presented by the FHWA. Most MPOs in the state were represented at this training. On April 17, 2017 we hosted a conference call with all the MPOs to present state targets and discuss next steps. We have been and will continue to provide each MPO with the data necessary to calculate their 2018 targets. At present, we are not certain whether individual MPOs will adopt the state targets or their own. There also remains some uncertainty as to what it means to adopt the state targets. Our SHSO and SHSP/HSIP coordinator are housed in the same section within the Kansas DOT, making coordination simple. Our state targets were discussed and established at a meeting dated March 21, 2017. On May 18, 2017, our state targets were presented to the Executive Safety Council, a multi-agency committee that oversees development and implementation of our SHSP. On June 1, 2017, our state targets were presented to KDOT Executive Staff.

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

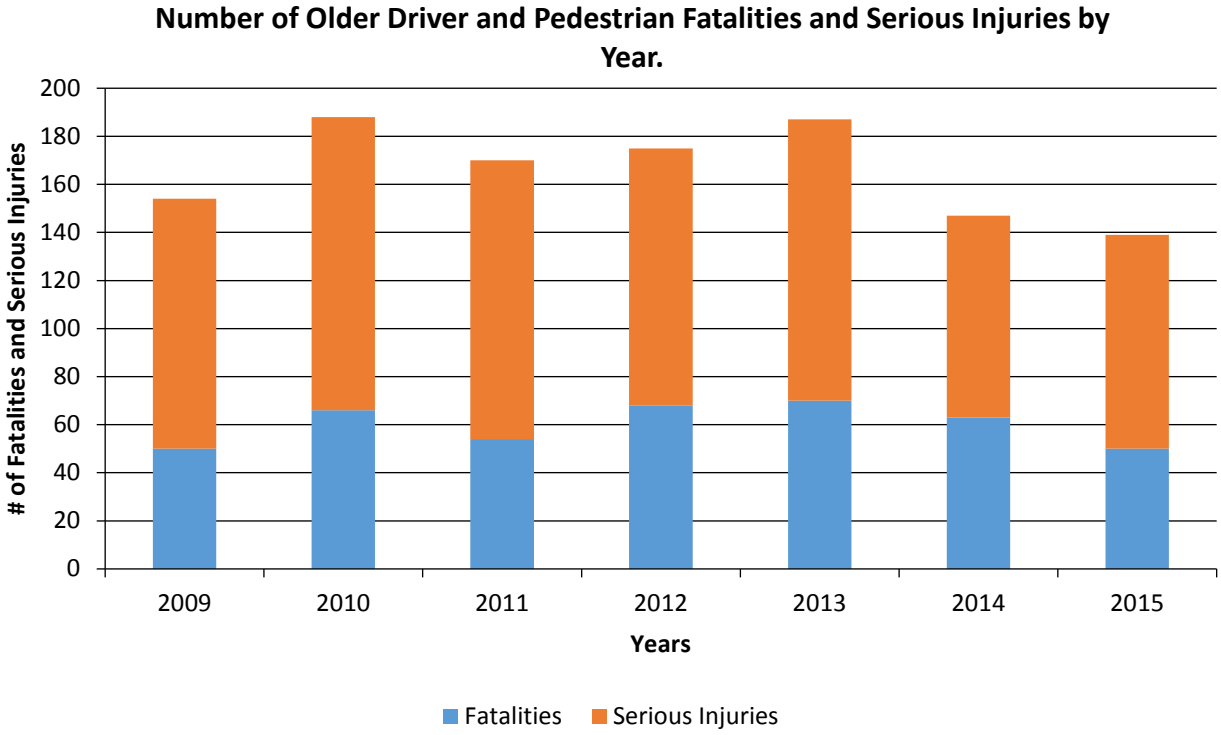
Does the HRRR special rule apply to the State for this reporting period?

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	50	66	54	68	70	63	50
Number of Older Driver and Pedestrian Serious Injuries	104	122	116	107	117	84	89



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

The numbers above reflect our interpretation of the older driver rule. Specifically, these are only older drivers and pedestrians who have died or been seriously injured. These numbers do NOT include older passengers, or, for example, fatal crashes where an older driver was involved but did not have serious injuries.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

Other-Obligation of HSIP dollars.

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

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

In FFY 2017 we were apportioned $18,375,593. In SFY 2017 we obligated $19,233,724, providing indication we are spending our HSIP funding.

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

More systemic programs
Increased awareness of safety and data-driven process
Increased focus on local road safety
HSIP Obligations

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

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

No

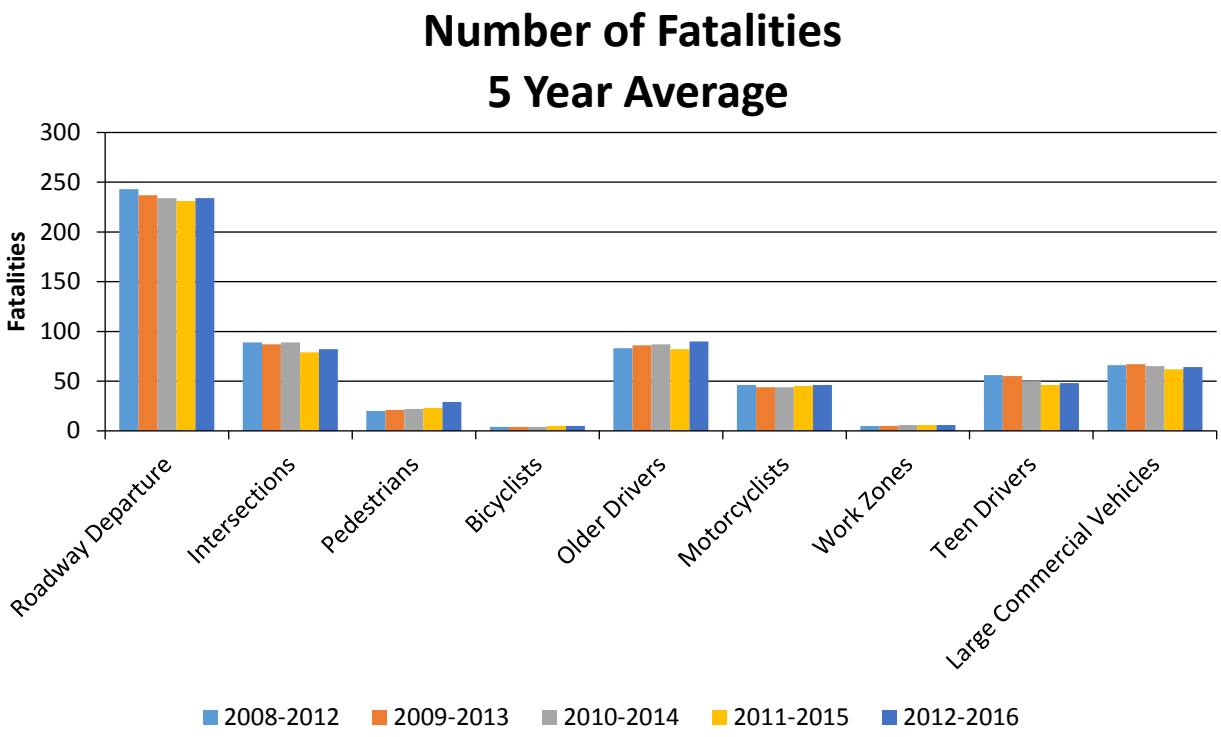
Effectiveness of Groupings or Similar Types of Improvements

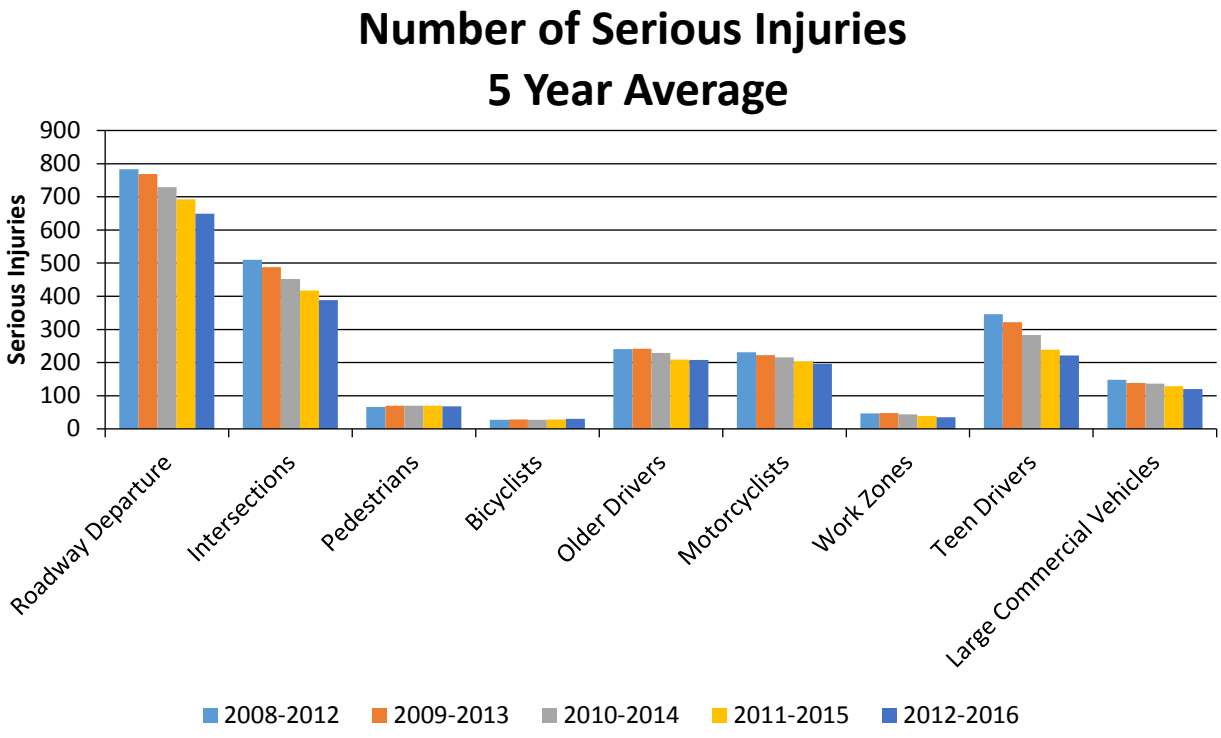
Present and describe trends in SHSP emphasis area performance measures.

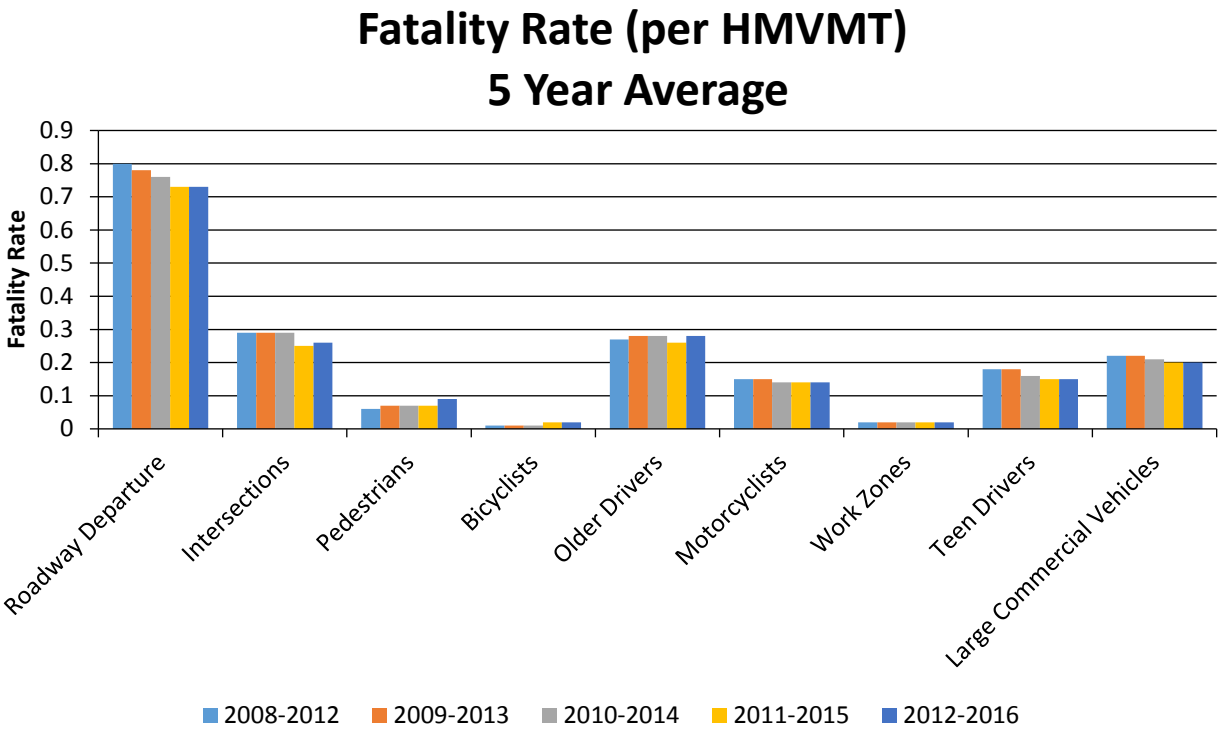
Year 2016

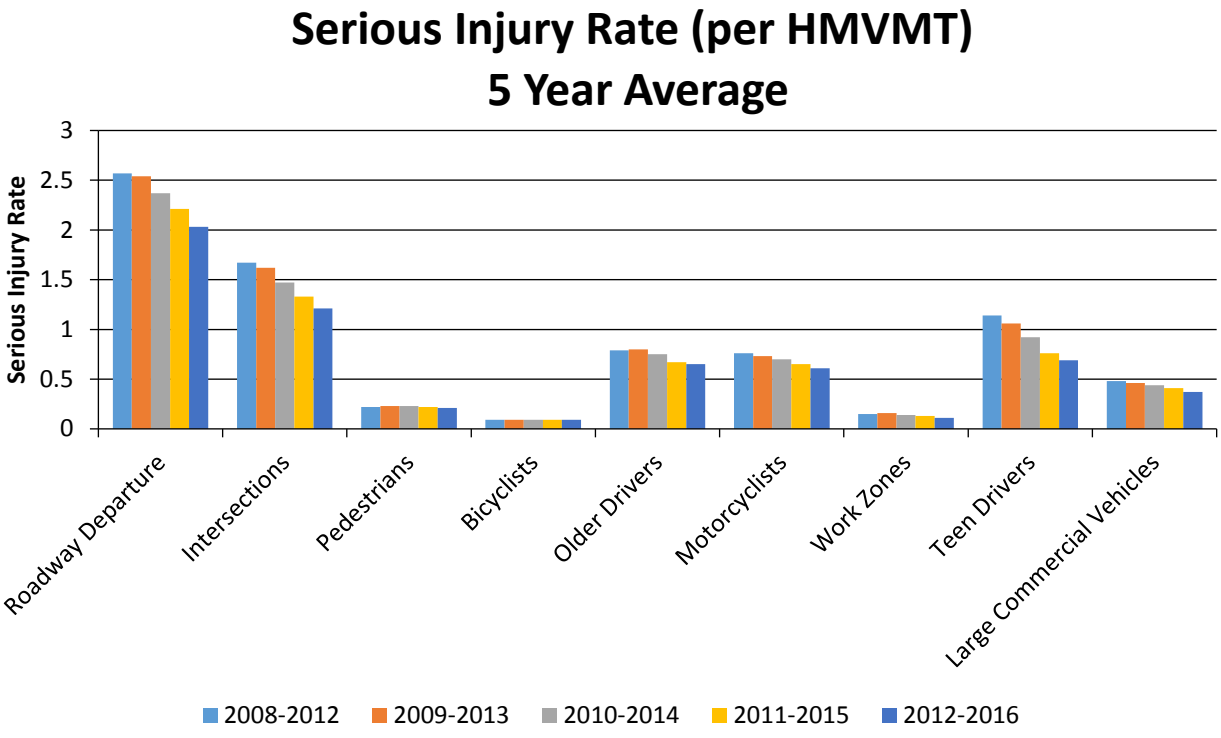
2017 Kansas Highway Safety Improvement Program

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
Roadway Departure		234	649	0.73	2.03			
Intersections		82	388	0.26	1.21			
Pedestrians		29	68	0.09	0.21			
Bicyclists		5	30	0.02	0.09			
Older Drivers		90	208	0.28	0.65			
Motorcyclists		46	196	0.14	0.61			
Work Zones		6	35	0.02	0.11			
Teen Drivers		48	221	0.15	0.69			
Large Commercial Vehicles		64	120	0.2	0.37			


Number of Fatalities
5 Year Average
Fatalities
300
250
200
150
100
50
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Teen Drivers
Large Commercial Vehicles
2008-2012
2009-2013
2010-2014
2011-2015
2012-2016


Number of Serious Injuries
5 Year Average
Serious Injuries
900
800
700
600
500
400
300
200
100
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
Teen Drivers
Large Commercial Vehicles
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?

2017 Kansas Highway Safety Improvement Program

No

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

Project Effectiveness

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

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL INJURY BEFORE	ALL INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
Nothing to report														

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?

Yes

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

It remains our intent to develop performance measures for each of these HSIP sub-programs. This will be in concert with completing new "white papers" for each eligible sub-program, and be driven by our SHSP which includes reallocation of HSIP funding as a key strategy for the emphasis areas intersections and roadway departure. As an example, three of these programs (lighting, pavement marking, and signing) can be measured by wet-weather and/or nighttime crashes.

Compliance Assessment

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

07/26/2017

What are the years being covered by the current SHSP?

From: 2015 To: 2019

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

2019

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

We are updating our 2015 SHSP. This minor update will be known as the 2017 SHSP. The 2019 update will be our next major revision.

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)	99	99					99	99	99	99
Route Number (8)	99	99								
Route/Street Name (9)	99	99								
Federal Aid/Route Type (21)	99	99								
Rural/Urban Designation (20)	99	99					99	99		
Surface Type (23)	99	99					99	99		
Begin Point Segment Descriptor (10)	99	99					99	99	99	99
End Point Segment Descriptor (11)	99	99					99	99	99	99
Segment Length (13)	99	99								
Direction of Inventory (18)	99	99								
Functional Class (19)	99	99					99	99	99	99
Median Type (54)	99	99								

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)	99	99								
One/Two Way Operations (91)	99	99								
Number of Through Lanes (31)	99	99					99	99		
Average Annual Daily Traffic (79)	99	99					99	99		
AADT Year (80)	99	99								
Type of Governmental Ownership (4)	99	99					99	99	99	99
INTERSECTION										
Unique Junction Identifier (120)			75	0						
Location Identifier for Road 1 Crossing Point (122)			75	0						
Location Identifier for Road 2 Crossing Point (123)			75	0						
Intersection/Junction Geometry (126)			75	0						
Intersection/Junction Traffic Control (131)			75	0						
AADT for Each Intersecting Road (79)			75	0						
AADT Year (80)			75	0						
Unique Approach Identifier (139)			75	0						
INTERCHANGE/RAMP										
Unique Interchange Identifier (178)					99	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)					99	0				
Roadway Type at Beginning of Ramp Terminal (195)					99	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)					99	0				
Interchange Type (182)					50	0				
Ramp AADT (191)					99	0				
Year of Ramp AADT (192)					99	0				
Functional Class (19)					99	0				
Type of Governmental Ownership (4)					99	0				
Totals (Average Percent Complete):	**99.00**	**99.00**	**75.00**	**0.00**	**76.55**	**0.00**	**99.00**	**99.00**	**99.00**	**99.00**

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.

Complete access to MIRE FDE on all public roads in Kansas should be accomplished by two projects: K-Hub and work associated with Next Generation 911.

K-Hub:

K-Hub is a new Linear Referencing and Transportation Database System, which will replace our existing CANSYS II database system.

K-Hub is an opportunity for KDOT to develop a combined statewide geospatially enabled roadway and transportation data management system that allows KDOT to efficiently meet current and future business requirements. Successful deployment of K-Hub will position KDOT to maintain data on all 140,000 miles of Kansas public roads with the current level of staffing. Bottom line, this is a colossal IT project that will influence almost every KDOT system.

Primary objectives of the K-Hub project include:

- Deploy an innovative solution that balances upfront project cost, system lifecycle cost and total cost of ownership to achieve the best value and level of service for KDOT.
- Utilize commercial-off-the-shelf (COTS) software components licensed to KDOT and additional components, as needed, to meet K-Hub System Requirements.
- Innovative approaches to accomplish system functions and data exchanges to support current and future KDOT business processes while minimizing the need for custom components.
- Project planning and execution to ensure successful and timely transition to K-Hub from the existing system.
- Integration of hardware and software components to provide system response performance that consistently meets system benchmarks.
- Flexibility that allows for modification and enhancement by KDOT, the bidder team or third parties.
- User friendly and easily accessible design for enterprise-wide usage.
- Configurable system parameters.
- Position KDOT to maximize its ability to support the system post implementation.

Next Generation 911:

Next Generation 9-1-1 (abbreviated NG9-1-1) refers to an initiative aimed at updating the 9-1-1 service infrastructure in the United States and Canada to improve public emergency communications services in a growingly wireless mobile society.

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	Disabling Injury	No	N/A	No	N/A	No
Crash Report Form Instruction Manual	Disabling Injury	No	Any injury other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred.	No	Incapacitating	No
Crash Database	Disabling Injury	No	N/A	No	N/A	No
Crash Database Data Dictionary	Disabling Injury	No	See crash report form instruction manual.	No	Where # of fatalities = 0 and # of disabled > 0.	No

Please describe the actions the State is taking to become compliant by April 15, 2019.
A project called the Crash Portal Project is in progress to replace the current motor vehicle crash records management system for crash report processing. After the project is complete, the Crash Data Unit at KDOT will revise the current Motor Vehicle Crash Report forms to comply with the MMUCC 4 standards and include the required Serious Injury coding and definition.

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?
No

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

2018

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.