WEST VIRGINIA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2018 ANNUAL REPORT

U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

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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

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. This report describes West Virginia's implementation and effectiveness of its Highway Safety Improvement Program from July 1, 2017 through June 30, 2018, and satisfies the requirements of 23 U.S.C 148(h) and 23 CFR 924.15. The established format consist of five sections: program structure, project implementation, safety performance, evaluation, and compliance assessment.

In 2007, West Virginia developed it's first Strategic Highway Safety Plan, which focused on nine specific emphasis areas. At that time West Virginia had 432 fatalities and 5,994 Serious Injuries. Since then the HSIP has primarily focused on emphasis areas identified in the SHSP. In 2014, the fatality number was 272 which met the primary goal of the 2007 SHSP. Working with several internal and external members, West Virginia began a revision of their SHSP that was completed in 2017. The new SHSP has five specific emphasis areas: Road Departure, Alcohol and Drug Impaired Driving, Occupant Protection, Speeding and Aggressive Driving and Improving Highway Safety Data. Each emphasis area includes action plans that utilize the four E's of Safey to guide the implementation. WVDOH represents the engineering phase and is lead on infrastructure improvements. These improvements make up the majority of HSIP projects, and are mainly focused on reducing road departure crashes .

In the 10 years since the SHSP was adopted West Virginia has experienced a significant drop in fatalities and serious injuries. The 25% decline in fatalities was across all road classifications, and HSIP funded projects throughout the state. Even though WVDOH maintains 93% of the state's system including local roads, all routes are the system are evaluated for HSIP funding. WVDOH works with local governments as well as Metropolitan Planning Organizations to guarantee the state's safety needs are being addressed.

The Railway Highway Crossing Report will be submitted as a separate document and is not including in any discussions within this report.

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.

West Virginia's Highway Safety Improvement Progra (HSIP) is coordinated by the Mobility and Safety Section of the WVDOH's Traffic Engineering Division. The Section is responsible for reviewing and evaluating any project that is a candidate for highway safety funds. The initial review and evaluation of a potential project will include the analysis of crash data for the location, a field review of the site, and the collection of any other information found appropriate to evaluate the proposed project. Most projects are supported by the Strategic Highway Safety Plan. However, good projects that improve safety in West Virginia are evaluated even if they do not fall under any of the emphasis areas in the current SHSP.

Once a positive safety benefit is determined to exist for a project, the methodology discussed later is used to select the prioritize projects for the State's HSIP. Once a project is selected for the HSIP, the Section is responsible for selecting an HSIP funding category for the project, submitting appropriate programming documents where HSIP funds are encumbered and projects are assigned the State's Statewide Transportation Improvement Program (STIP). The Mobility and Safety Section remains responsible for monitoring and balancing the use of HSIP funds, and evaluating the effectiveness of a project following its completion. The annual HSIP for West Virginia is approximately $26.7 million. These funds can be used either for stand alone projects or in conjunction with other funding to partially fund the safety enhancement portion of a larger project.

Where is HSIP staff located within the State DOT?

Other-Traffic Engineering

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

Mobility and Safety Section

How are HSIP funds allocated in a State?

Central Office via Statewide Competitive Application Process

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

Further discussion of application process can be found in questions 8 and 10.

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

West Virginia Department of Transportation maintains approximately ninety-five percent (95%) of the roads in the State, including all secondary or county routes. As such, all HSIP funds are typically used for highway safety projects on the State Highway System. Very few of the State's municipalities own city streets. These are typically lower volume and do not have significant numbers of fatal or serious injury crashes occurring on them; however, should a safety concern exist on a municipal street, the project would be eligible to compete for available HSIP funds. All routes, including locally owned routes, are included when annual ranking lists are made. Ranking is based on classification so the lower AADT routes are not competing against higher multilane routes. Only routes that are higher than the state average for crashes are evaluated for countermeasures.

If a city request safety funds for a project, they would need to contact the Mobility and Safety Section of the WVDOH's Traffic Engineering Division or their local MPO. They would need to provide what the proposed improvement would be and the estimated cost. The local roads listed in question #32 are all local roads, and not just those owned by local municipalities.

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
Governors Highway Safety Office

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

Describe coordination with internal partners.

The Mobility and Safety Section coordinate with every division within WVDOT. Any division or district within DOH can recommend a location for safety improvements by contacting Mobility and Safety. The Traffic Safety Planning and Analysis section provides all divisions and districts with crash data. The Mobility and Safety Section will then review the crash data and determine whether a safety concern exists. This review may include performing a mini Road Safety Audit (RSA) that can be performed either at district level or a full scale RSA involving multiple disciplines (internal and external partners). Once the concern is identified, and countermeasures are determined, an estimate to implement the countermeasures is prepared. The Mobility and Safety Section shall perform a benefit/cost ratio to see if project is eligible for HSIP funding. Mobility and

Safety is the lead for all infrastructure SHSP related projects that are identified as HSIP eligible. Other subjects like non-motorist concerns such as pedestrians and bicyclist are handled by DOH's Planning Division. All projects utilizing HSIP funds must be reviewed, approved and programmed by Mobility and Safety. The Mobility and Safety Section will provide Design Division with all recommendations, and will coordinate with all divisions/districts throughout the multiple phases of a project.

Identify which external partners are involved with HSIP planning.

Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
Local Technical Assistance Program
Local Government Agency
Law Enforcement Agency
Academia/University
FHWA

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

Describe coordination with external partners.

For the HSIP to be productive Traffic Engineering Division (TED) must work with several external partners as well as their internal partners. The Safety Management Task Force (SMTF) is the governing body of the SHSP implementation. The HSMT is chaired by Traffic Safety Planning and Analysis but members of Mobility and Safety work on different emphasis areas. Through the SMTF the Mobility and Safety works closely with Governor's Highway Safety Program (GHSP), FHWA, Metropolitan Planning Organizations (MPO), WVU's Local Technical Assistance Program (LTAP), Law Enforcement, and several others. TED has partnered with different universities to perform research on several emphasis areas identified in the SHSP. In addition, LTAP has been instrumental in helping TED get their Traffic Incident Management (TIM) program off the ground, and provides training on DOH's behalf.

The MPO's are another external partner that TED works with closely. The MPO have been helpful in identifying potential projects throughout their urban areas. Either working through WVDOH's Planning Section, the appropriate District or contacting Mobility and Safety Section directly, the MPO can request possible HSIP funding. The Road Safety Audit (RSA) is another key element that Mobility and Safety works with the MPO. Their expertise and knowledge of the area is often sought, and the MPO has been good to help coordinate with local enforcement and officials.

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

Yes

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

Roadway Departure is West Virginia's #1 concern, and to help combat it WVDOH let 10 Indefinite Delivery/Indefinite Quantity (IDIQ) contracts (one in each of the WVDOH districts) to aid with Barrier

improvements. These contracts can be used district wide but the focus is on routes identified to have higher than state average run off the road rates.

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?

Yes

To upload a copy of the State processes, attach files below.

File Name:
WV HSIP Process.docx

Select the programs that are administered under the HSIP.

Median Barrier
Rural State Highways
Skid Hazard
HSIP (no subprograms)
Roadway Departure
Low-Cost Spot Improvements
HRRR

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

All programs listed are evaluated by other divisions within the department and our MPO's, more detailed information about coordination can be found in question #8. Any project that comes from them can be evaluated for HSIP funding. The marked programs are those that the Mobility and Safety Section are the lead section.

Program: HRRR

Date of Program Methodology: 9/1/2014

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

Addresses SHSP priority or emphasis area
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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 : 1
Available funding : 2

Program: HSIP (no subprograms)

Date of Program Methodology: 9/1/2014

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

Addresses SHSP priority or emphasis area
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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

Program: Low-Cost Spot Improvements

Date of Program Methodology: 10/1/2016

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

Addresses SHSP priority or emphasis area
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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

Program: Median Barrier

Date of Program Methodology: 10/1/2016

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

Addresses SHSP priority or emphasis area

2018 West Virginia Highway Safety Improvement Program
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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

Program: Roadway Departure

Date of Program Methodology: 9/1/2014

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

2018 West Virginia Highway Safety Improvement Program
Addresses SHSP priority or emphasis area
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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

Available funding : 1

Program: Rural State Highways

Date of Program Methodology: 9/1/2014

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

Addresses SHSP priority or emphasis area
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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 : 1
Available funding : 2

Program: Skid Hazard

2018 West Virginia Highway Safety Improvement Program
Date of Program Methodology: 10/1/2016

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

Addresses SHSP priority or emphasis area
FHWA focused approach to safety

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	Functional classification

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?

Yes

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

Yes

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

How are projects under this program advanced for implementation?

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

What percentage of HSIP funds address systemic improvements?

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

Cable Median Barriers
Rumble Strips
Traffic Control Device Rehabilitation
Pavement/Shoulder Widening
Install/Improve Signing
Install/Improve Pavement Marking and/or Delineation
Upgrade Guard Rails
Safety Edge
Install/Improve Lighting
Add/Upgrade/Modify/Remove Traffic Signal
Horizontal curve signs
High friction surface treatment

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
SHSP/Local road safety plan
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?

Yes

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

The WVDOH currently has five safety projects programmed dealing with ITS technologies. The first four projects provides funds to install dynamic message signs along US 50, I-64, I-68, and I-81. The fifth project provides funds to upgrade ITS and traffic control devices throughout the state.

The total cost for the seven projects is $9,399,872 which uses $6,134,891 in safety funds.

No funding has been programmed for CV/AV Technologies.

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.

In cases when the WVDOH is considering several solutions to a safety concern, the WVDOH will use the Highway Safety Manual to see what solution should give the best reduction in fatalities and injury crashes.

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.

The overall purpose of the HSIP is to achieve a significant reduction in traffic fatalities and incapacitating injuries through the implementation of infrastructure related highway safety improvements. Components of West Virginia's HSIP include the Strategic Highway Safety Program (SHSP), the Highway Safety Improvement Program (HSIP), and the Railway-Highway Grade Crossing Program. All routes in West Virginia are eligible for HSIP funding including the local routes not under WVDOH control.

FAST ACT removed the requirement for a formal set aside for High Risk Rural Roads, and the funding was absorbed by the larger HSIP. Roads that were traditionally reviewed in the HRRR Program are still being reviewed and ranked in the HSIP. Rural collectors or rural local roads generally correlate to the county route highway class and WVDOH maintains all of the State's more than 28,000 miles in county routes. The State has been able to allocate HSIP funds to the routes that have a crash rate higher than state average for that classification.

Since Road Departure is the #1 cause of death and serious injury in West Virginia, it has been the focus of the HSIP. All routes in West Virginia were ranked based on their run of the road crash rate and the top US and State routes are currently being reviewed by several consultants for appropriate countermeasures. Once that process is complete, the county routes will be reviewed in a similar method. Two consultants have been hired to guarantee consistency and provide guidance on plan preparation. In addition, projects dealing with other focus areas of the SHSP are reviewed and funded if funds are available and the benefit/cost ratio is above 1.

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)	$152,083,673	$113,770,062	74.81%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$3,417,834	$0	0%
Penalty Funds (23 U.S.C. 154)	$10,389,319	$10,320,962	99.34%
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	$165,890,826	$124,091,024	74.8%

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

The HSIP Funding includes SAFETEA-LU, MAP 21 and FAST ACT funding.

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.

WVDOH owns the majority of the roads in WV which includes local county routes. The few local owned routes are eligible for HSIP funding. However, none of these routes have had a crash history that is above state average.

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

$19,208,593

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

$18,248,593

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

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.

West Virginia has observed an impediment to obligating Highway Safety Improvement Program funds. Even though the Mobility and Safety Section is responsible for monitoring and balancing the use of HSIP funds, they do not handle the design of the project. We have found that people who are responsible for the design of the project have too much work. Often these people have other projects from other core programs.

To overcome this, members of the Mobility and Safety Section are keeping contact with people who are responsible for the design during the entire process and checking with their workload before assigning the design of the project to them.

In 2016, West Virginia became a focus state for run off the road accidents. FHWA will make available resources to try to reduce the number of run off the road accidents. FHWA contracted TTI to review West Virginia's crash data and develop a plan for 2018-2019 funding.

In 2017, West Virginia initiated an accelerated safety program. With this program, West Virginia plans to use available safety funds to upgrade existing cable guardrail to high tension four strand, install new cable guardrail, fund guardrail IDIQ projects, install high friction throughout the state, fund ITS, and install new lighting at interchanges and intersections. Additionally West Virginia has identified US and West Virginia routes that have a roadway departure rate higher than the statewide average. West Virginia has hired several consultants to assess these roads and propose various improvements to these routes. Safety funds will then be used to fund these improvements.

The WVDOH made a commitment to be able to do system analysis and evaluation encompassing the entire state-owned highway network. When this commitment was made, it was under the assumption that the OASIS system would be fully functional and operating at full capacity. While the OASIS did go live in 2014 and was functioning properly, it was discovered that there was some major crash mapping and data quality issues that needed to be remedied. At launch, there were approximately 60% of the crashes statewide that were able to be mapped. This means that all of the data analysis as well as network screening (sliding window analysis) were inlay able to utilize 60% of the total crashes. Traffic's Safety Planning and Analysis Section is working on a system outside of OASIS to provide accurate data.

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**
Develop and Implement	Non-infrastructure	Non-infrastructure - other	1	Numbers	$438500	$1502294	HRRR Special Rule (23 U.S.C. 148(g)(1))	Statewide	0		State Highway Agency	Spot	Data	
State Crash Records	Non-infrastructure	Data/traffic records	1	Numbers	$32750	$1612540	HRRR Special Rule (23 U.S.C. 148(g)(1))	Statewide	0		State Highway Agency	Spot	Data	
WV 28 / WV 956 (ROW)	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	$157500	$175000	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural Minor Arterial	7,212	40	State Highway Agency	Spot	Data Driven Emphasis Area	
Traffic Inc Management	Non-infrastructure	Educational efforts	1	Numbers	$900000	$1300000	Penalty Funds (23 U.S.C. 154)	Statewide	0		State Highway Agency	Spot	Data Driven Emphasis Area	
Statewide Safety Campaign	Non-infrastructure	Educational efforts	1	Numbers	$4523342	$4523342	Penalty Funds (23 U.S.C. 154)	Statewide	0		State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
GSHP Highway Safety Plan	Non-infrastructure	Non-infrastructure - other	1	Numbers	$80000	$80000	Penalty Funds (23 U.S.C. 154)	Statewide	0		State Highway Agency	Spot	Data Driven Emphasis Area	
Saturation Patrol for Enf	Non-infrastructure	Enforcement	1	Numbers	$2020000	$2070000	Penalty Funds (23 U.S.C. 154)	Statewide	0		State Highway Agency	Systemic	Data Driven Emphasis Area	
West Run Road (ENG)	Roadway	Roadway widening - travel lanes	2	Miles	$80100	$89000	HSIP (23 U.S.C. 148)	Urban Major Collector	4,815	25	State Highway Agency	Spot	Roadway Departure	
Skid Testing	Non-infrastructure	Transportation safety planning	1	Numbers	$162441	$250417	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
Strategic Highway Safety	Non-infrastructure	Transportation safety planning	1	Numbers	$315000	$400000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
Road Safety Audits	Non-infrastructure	Road safety audits	1	Numbers	$90000	$100000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data Driven Emphasis Area	
Highway Safety Imp Prog	Non-infrastructure	Non-infrastructure - other	1	Numbers	$607500	$1502294	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
Statewide Crash Records	Non-infrastructure	Data/traffic records	1	Numbers	$855000	$1612540	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
Advance Intersection	Intersection traffic control	Modify traffic signal - add closed loop system	1	Numbers	$720000	$800000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data Driven Emphasis Area	
Incident Management	Non-infrastructure	Enforcement	1	Numbers	$247500	$275000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data Driven Emphasis Area	
WVSP ATMS Integration	Non-infrastructure	Enforcement	1	Numbers	$2125000	$2125000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
West Run Road (ROW)	Roadway	Roadway widening - travel lanes	2	Miles	$270000	$300000	HSIP (23 U.S.C. 148)	Urban Major Collector	4,815	25	State Highway Agency	Spot	Roadway Departure	

													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**
Wood WV 2 TWLTL	Roadway	Roadway widening - travel lanes	1	Miles	$1282261	$1423624	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Other	14,797	55	State Highway Agency	Spot	Data Driven Emphasis Area	
US 250 TWLTL (CON)	Roadway	Roadway widening - travel lanes	1	Miles	$1621098	$1621098	HSIP (23 U.S.C. 148)	Rural Minor Arterial	9,420	40	State Highway Agency	Spot	Data Driven Emphasis Area	
WV 28 / WV 956 (CON)	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Numbers	$472500	$525000	HSIP (23 U.S.C. 148)	Rural Minor Arterial	7,212	40	State Highway Agency	Spot	Data Driven Emphasis Area	
Median Guardrail Design R	Roadside	Barrier - cable	1	Numbers	$225000	$250000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
Teays Valley Int Studies	Non-infrastructure	Transportation safety planning	1	Numbers	$211500	$235000	HSIP (23 U.S.C. 148)	Urban Minor Arterial	5,897	35	State Highway Agency	Spot	Data Driven Emphasis Area	
Teays Vallley TWLTL Study	Non-infrastructure	Transportation safety planning	1	Miles	$211500	$235000	HSIP (23 U.S.C. 148)	Urban Minor Arterial	5,897	45	State Highway Agency	Spot	Data	
Airport Road - Easton	Roadway	Roadway widening - add lane(s) along segment	1	Miles	$1000000	$7383529	HSIP (23 U.S.C. 148)	Urban Minor Arterial	23,362	40	State Highway Agency	Spot	Roadway Departure	
2016 RPM	Roadway delineation	Raised pavement markers	1	Numbers	$876430	$973810	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
Corbiltt Hill Tn Ln (ENG)	Intersection geometry	Auxiliary lanes - add left-turn lane	1	Intersections	$16000	$20000	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Other	11,337	55	State Highway Agency	Spot	Data Driven Emphasis Area	
US 50 Doddridge DMS	Advanced technology and ITS	Dynamic message signs	1	Numbers	$428383	$475981	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Other	13,125	65	State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
Skid Testing 2017	Non-infrastructure	Transportation safety planning	1	Numbers	$180000	$200000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
2018 RPM	Roadway delineation	Raised pavement markers	1	Numbers	$571204	$634671	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Spot	Roadway Departure	
Patteson Lighting (CON)	Lighting	Continuous roadway lighting	1	Miles	$426162	$473513	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Other	34,271	35	State Highway Agency	Spot	Road Departure	
Huntington Area Roadway	Lighting	Continuous roadway lighting	19	Miles	$1300000	$6615577	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	24,628	65	State Highway Agency	Spot	Road Departure	
E Beckley Lighting (CON)	Lighting	Site lighting - interchange	2	Miles	$1827769	$2030854	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	11,470	70	State Highway Agency	Spot	Road Departure	
Morgantown I-68 SB HFST	Roadway	Pavement surface - high friction surface	1	Miles	$163377	$181530	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	11,365	70	State Highway Agency	Spot	Roadway Departure	
Safety Database Managemen	Non-infrastructure	Transportation safety planning	1	Numbers	$396000	$440000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
Safety Database System	Non-infrastructure	Transportation safety planning	1	Numbers	$90000	$100000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	

2018 West Virginia 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**
Pavement Program Safety	Non-infrastructure	Transportation safety planning	1	Numbers	$225000	$250000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
Project Safety Analysis	Non-infrastructure	Transportation safety planning	1	Numbers	$90000	$100000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
HSIP Project Development	Non-infrastructure	Transportation safety planning	1	Numbers	$90000	$100000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
HSIP Program Development	Non-infrastructure	Transportation safety planning	1	Numbers	$90000	$100000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
HRGX Program	Non-infrastructure	Transportation safety planning	1	Numbers	$22500	$25000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
2017 RSA	Non-infrastructure	Road safety audits	1	Numbers	$67500	$75000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
2017 Workzone Review	Non-infrastructure	Transportation safety planning	1	Numbers	$22500	$25000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Systemic	Data	
2017 SHSP Implementation	Non-infrastructure	Transportation safety planning	1	Numbers	$135000	$150000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
2017 Roadway Dep Counter	Non-infrastructure	Transportation safety planning	1	Numbers	$135000	$150000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
2017 TIM Implementation	Non-infrastructure	Transportation safety planning	1	Numbers	$67500	$75000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Data	
Interstate Median North	Non-infrastructure	Transportation safety planning	1	Numbers	$147468	$167358	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
Interstate Median South	Non-infrastructure	Transportation safety planning	1	Numbers	$164700	$183000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
Interstate Median S Wide	Non-infrastructure	Transportation safety planning	1	Numbers	$200000	$250000	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Roadway Departure	
Roadway Depart Assess A	Non-infrastructure	Transportation safety planning	293	Miles	$204036	$226707	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
Roadway Depart Assess B	Non-infrastructure	Transportation safety planning	213	Miles	$205070	$227856	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
Roadway Depart Assess C	Non-infrastructure	Transportation safety planning	259	Miles	$228428	$253809	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
Roadway Depart Assess D	Non-infrastructure	Transportation safety planning	263	Miles	$162157	$180174	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	

													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**
Morgantown MD Light (CON)	Lighting	Site lighting - interchange	1	Interchanges	$3954550	$3954550	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	62,671	70	State Highway Agency	Spot	Road Departure	
Dunbar DMS (CON)	Advanced technology and ITS	Dynamic message signs	1	Numbers	$282532	$313925	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	72,758	60	State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
VA State Ln DMS (CON)	Advanced technology and ITS	Dynamic message signs	1	Numbers	$469426	$521585	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	52,557	70	State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	
Cooper Rock (ENG)	Roadside	Barrier - cable	14	Miles	$300000	$300000	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Interstate	47,654	70	State Highway Agency	Spot	Roadway Departure	
Piedmont Guardrail (ENG)	Roadside	Barrier - cable	15	Miles	$300000	$300000	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Interstate	36,926	70	State Highway Agency	Spot	Roadway Departure	
Lost Creek / Burns (CON)	Roadside	Barrier - cable	16	Miles	$6844124	$6844124	HSIP (23 U.S.C. 148)	Rural Principal Arterial (RPA) - Interstate	29,717	70	State Highway Agency	Spot	Roadway Departure	
Roadway Depart Assess E	Non-infrastructure	Transportation safety planning	226	Miles	$171809	$190899	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
Roadway Depart Assess F	Non-infrastructure	Transportation safety planning	187	Miles	$212643	$236270	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D1 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$1800000	$2000000	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D2 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$2670636	$2967373	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D3 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$2565571	$2850634	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D4 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$1600404	$1778227	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D5 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$2062623	$2291803	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D6 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$2207922	$2453246	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D7 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$1808816	$2009796	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D8 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$854642	$949606	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
2017 D9 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$1305066	$1450073	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	

2018 West Virginia 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**
2017 D10 Guardrail (CON)	Roadside	Barrier - other	1	Numbers	$2108649	$2342943	HSIP (23 U.S.C. 148)	Districtwide	0		State Highway Agency	Systemic	Roadway Departure	
Kanawha HFST (CON)	Roadway	Pavement surface - high friction surface	1	Miles	$891582	$990646	HSIP (23 U.S.C. 148)	Urban Principal Arterial (UPA) - Interstate	99,696	60	State Highway Agency	Spot	Roadway Departure	
ITS - IDIQ	Advanced technology and ITS	Advanced technology and ITS - other	1	Numbers	$1000000	$4133831	HSIP (23 U.S.C. 148)	Statewide	0		State Highway Agency	Spot	Road Departure, Data, Speed and Aggressive Driving, and Impaired	

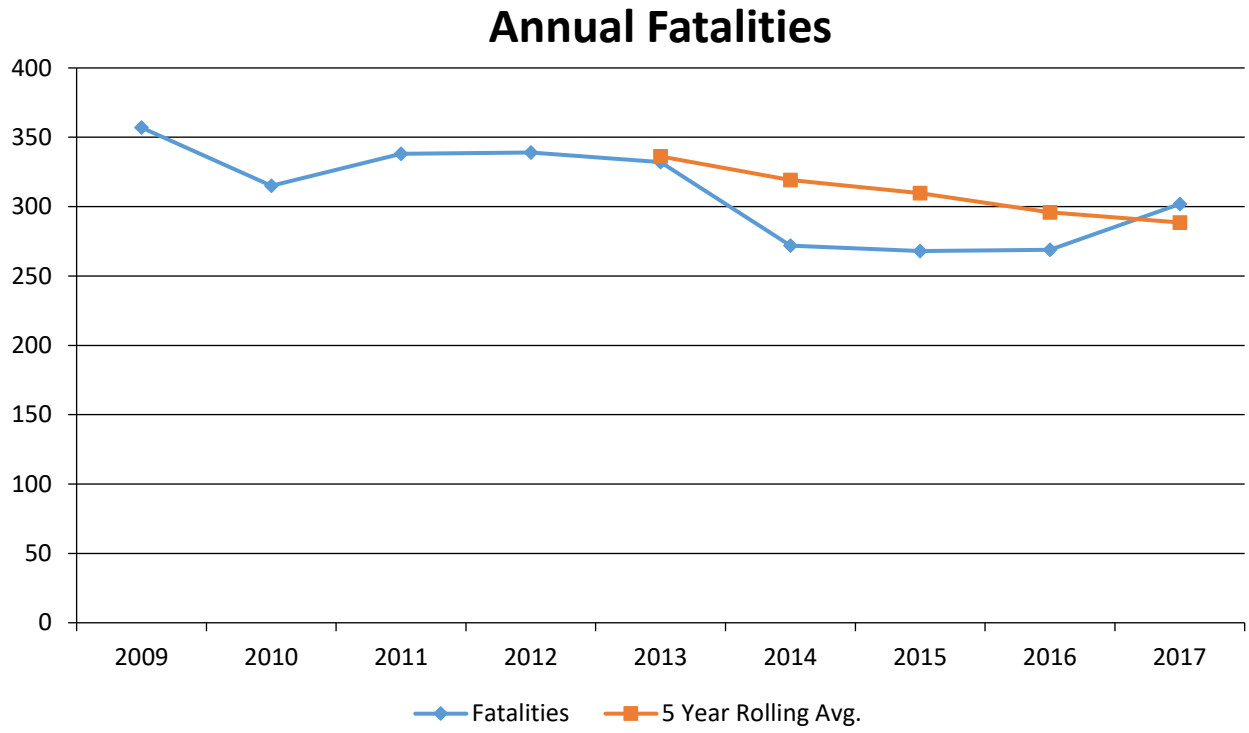
Enter additional comments here to clarify your response for this question or add supporting information.

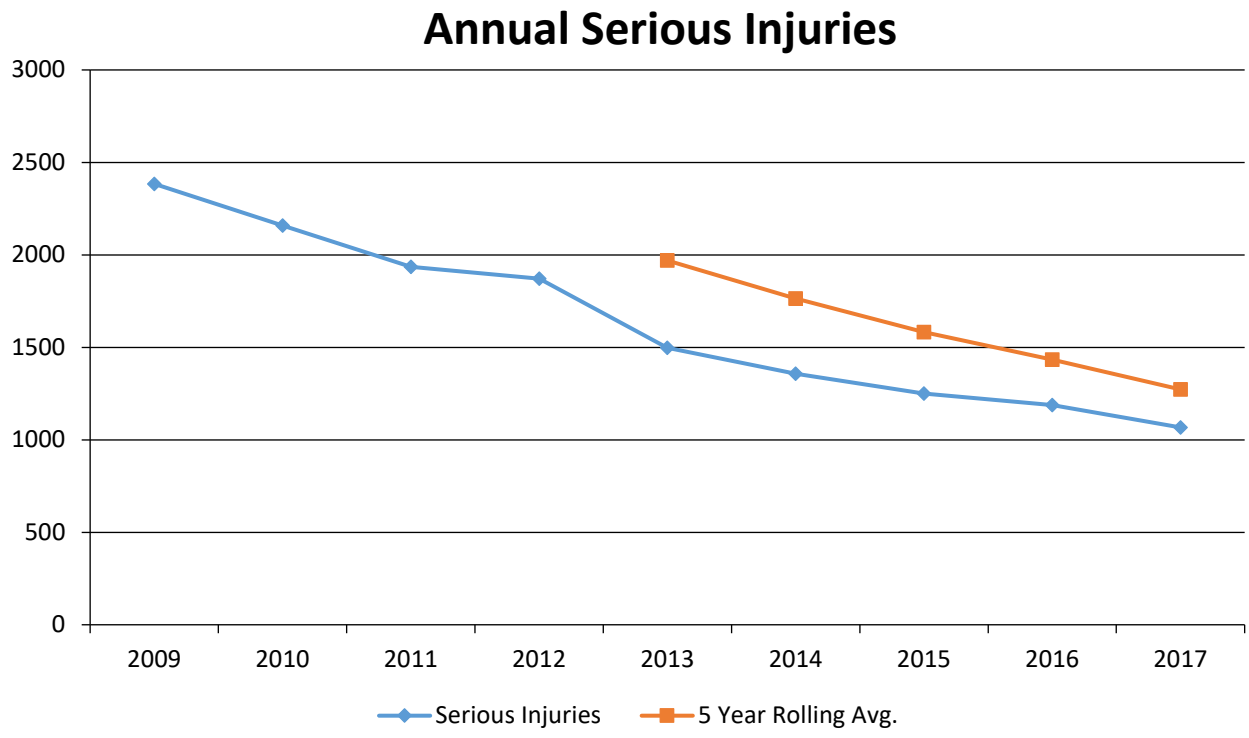
Safety Performance

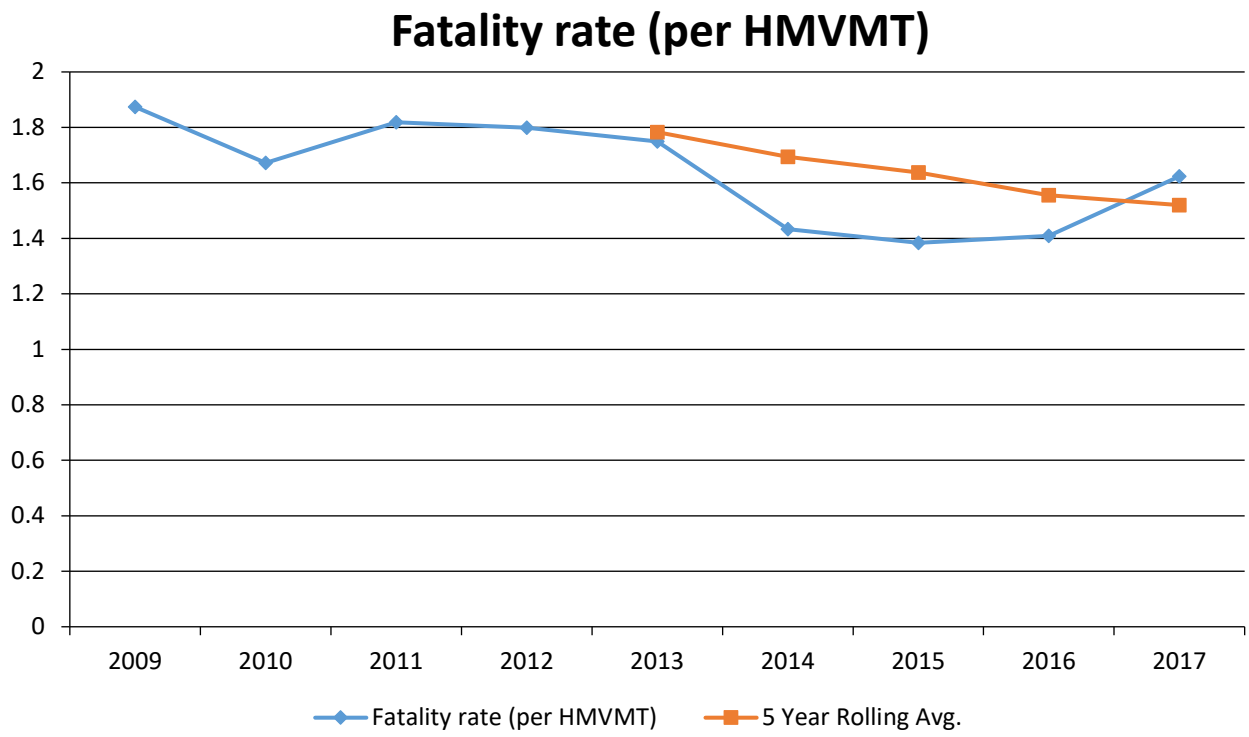
General Highway Safety Trends

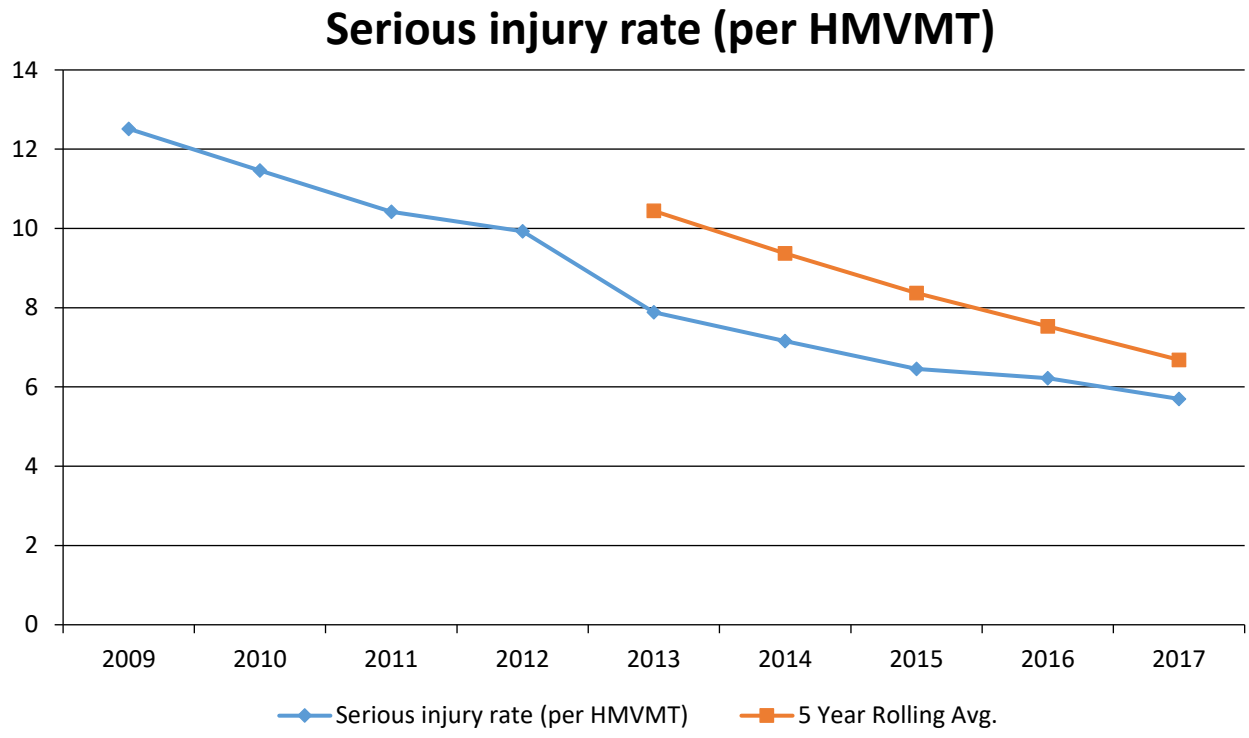
Present data showing the general highway safety trends in the State for the past five years.

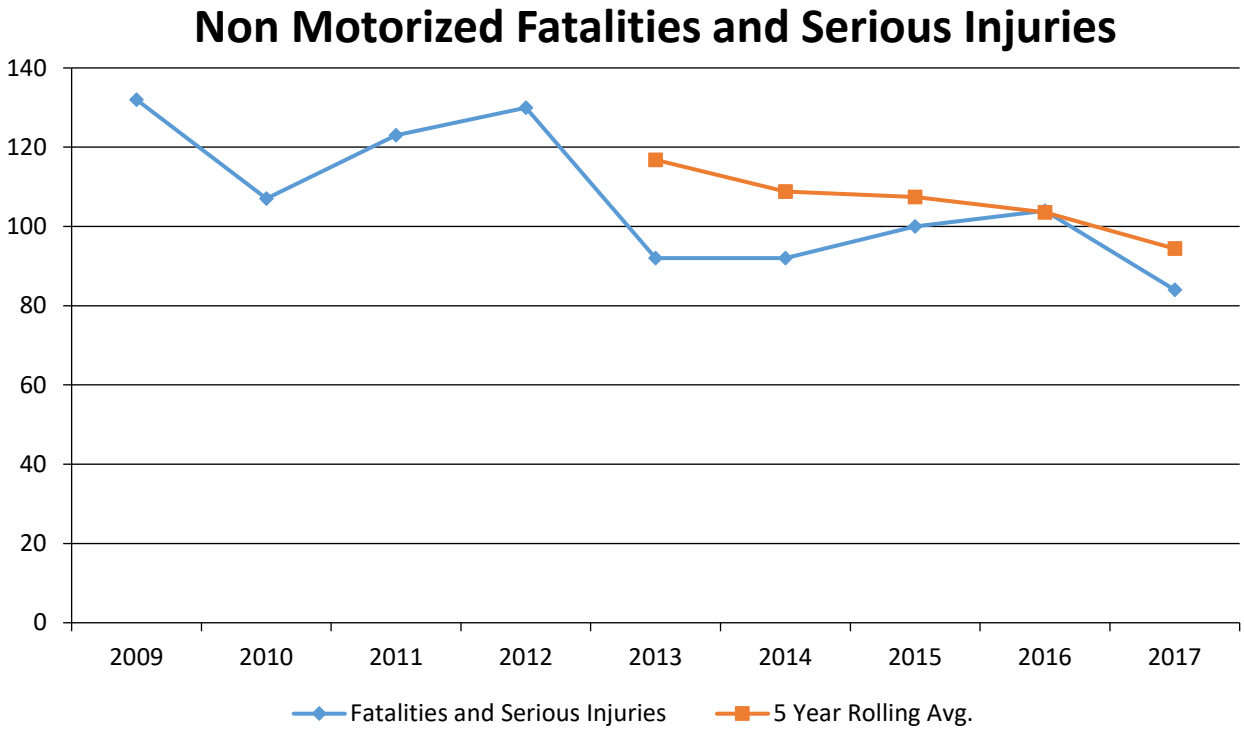
PERFORMANCE MEASURES	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fatalities	357	315	338	339	332	272	268	269	302
Serious Injuries	2,384	2,159	1,936	1,871	1,498	1,358	1,251	1,188	1,067
Fatality rate (per HMVMT)	1.874	1.672	1.819	1.799	1.749	1.433	1.384	1.409	1.624
Serious injury rate (per HMVMT)	12.515	11.462	10.417	9.927	7.889	7.157	6.459	6.221	5.699
Number non-motorized fatalities	21	16	20	32	28	21	20	27	29
Number of non-motorized serious injuries	111	91	103	98	64	71	80	77	55


Annual Fatalities
400
350
300
250
200
150
100
50
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
3000
2500
2000
1500
1000
500
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
14
12
10
8
6
4
2
0
2009
2010
2011
2012
2013
2014
2015
2016
2017
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



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

West Virginia is experiencing a slight rise in fatalities, while experiencing a a steady decrease in serious injuries. It would be expected that these two would correlate however they are not. Traffic's Safety Planning and Analysis section, working with others as needed, plan to perform an in-depth study of crashes in an attempt to gain further understanding of the trend.

Describe fatality data source.

FARS

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

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

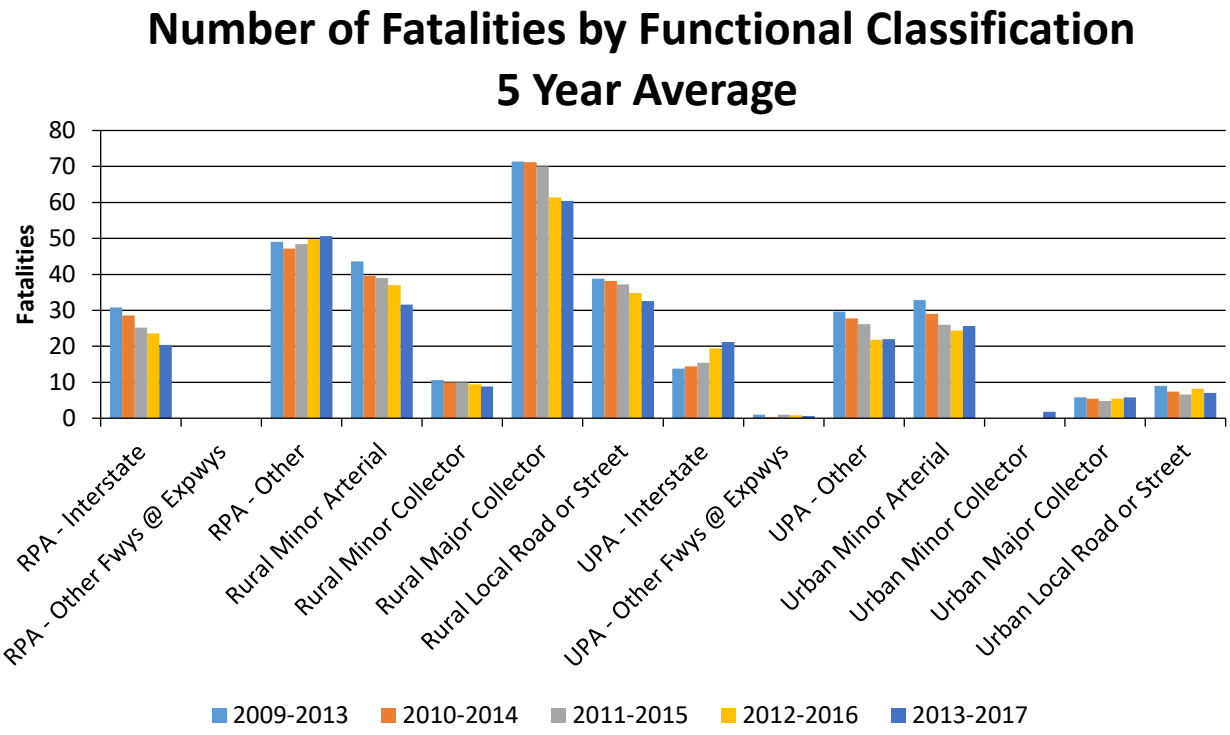
Year 2017

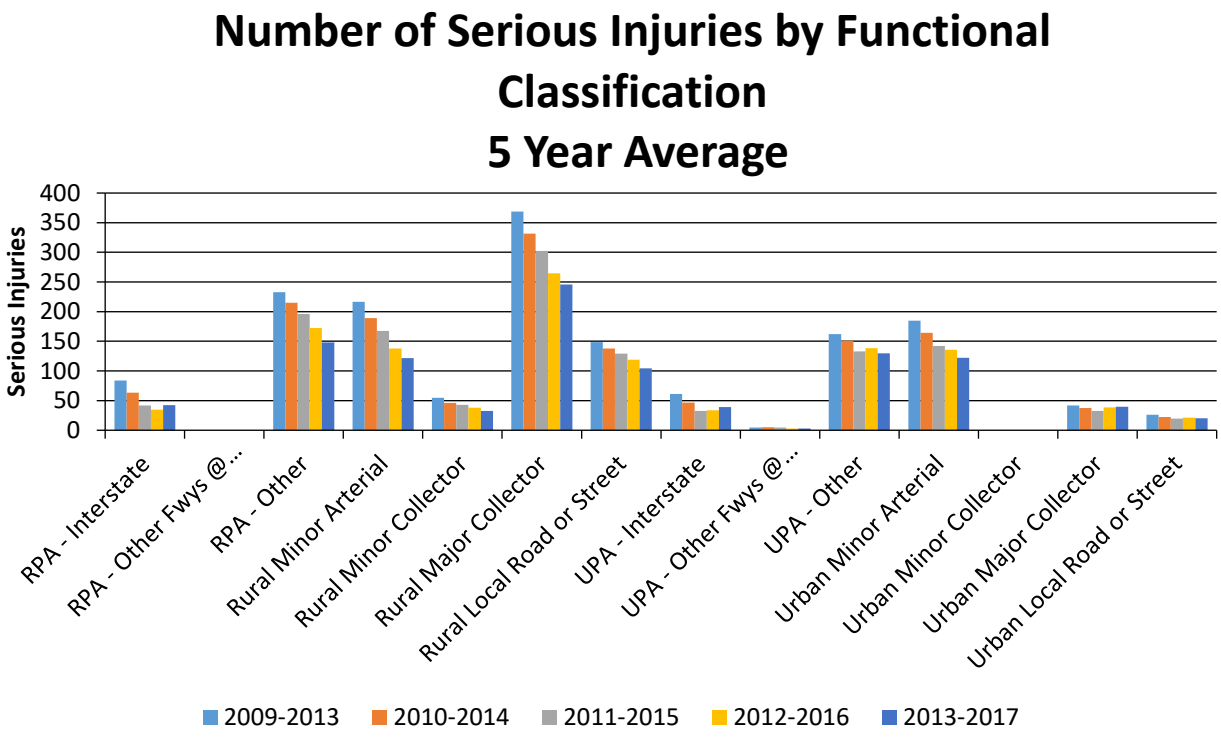
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	20.4	42.2	0.76	1.72
Rural Principal Arterial (RPA) - Other Freeways and Expressways	0	0	0	0
Rural Principal Arterial (RPA) - Other	50.6	148.2	2.11	5.99

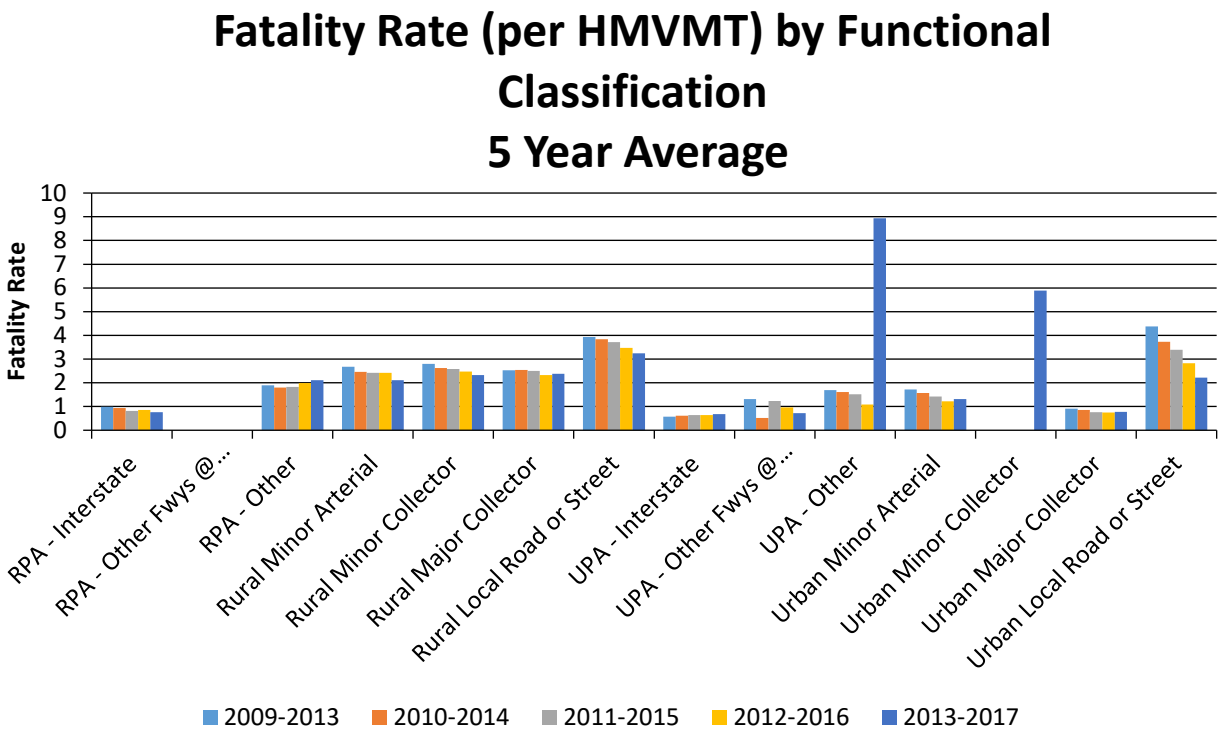
Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Minor Arterial	31.6	121.8	2.11	8.05
Rural Minor Collector	8.8	32.8	2.33	8.58
Rural Major Collector	60.4	245.8	2.38	9.55
Rural Local Road or Street	32.6	104.6	3.24	10.41
Urban Principal Arterial (UPA) - Interstate	21.2	39.2	0.68	1.22
Urban Principal Arterial (UPA) - Other Freeways and Expressways	0.6	3	0.71	3.67
Urban Principal Arterial (UPA) - Other	22	129.8	8.94	6.28
Urban Minor Arterial	25.6	122.4	1.31	6.11
Urban Minor Collector	1.8		5.89	
Urban Major Collector	5.8	39.8	0.77	5.24
Urban Local Road or Street	7	20.2	2.22	7.08

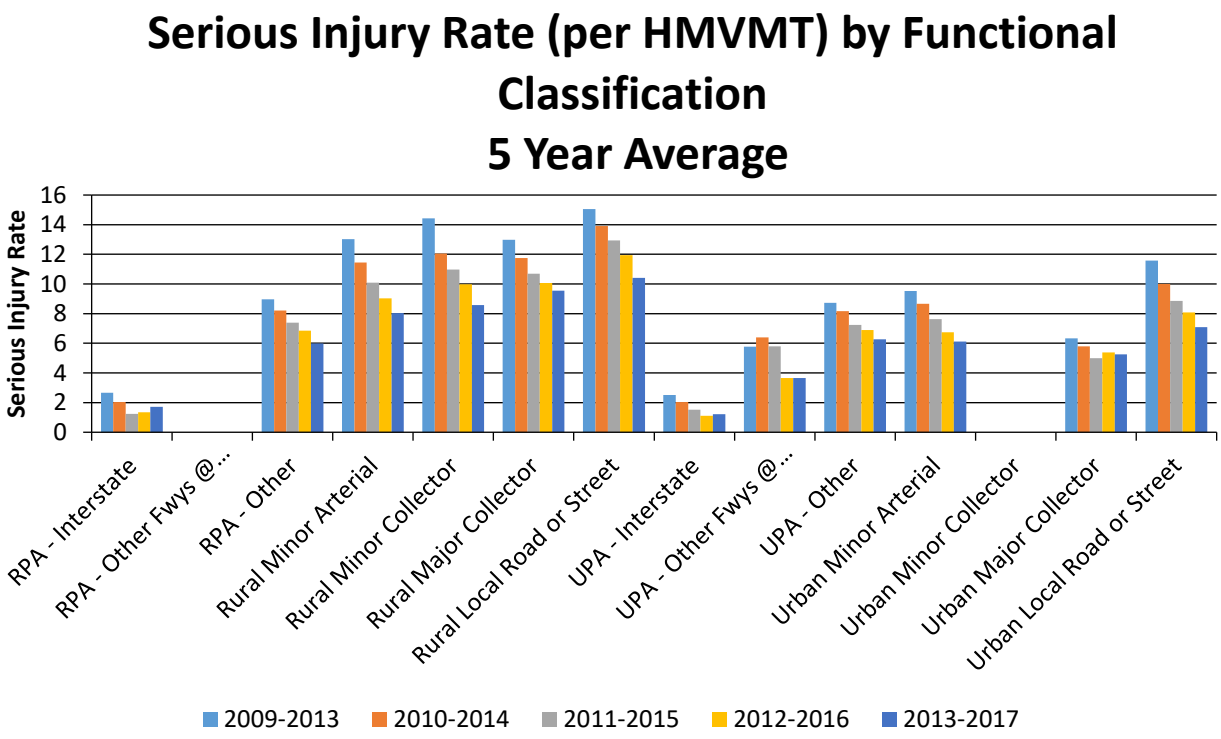
Year 2015

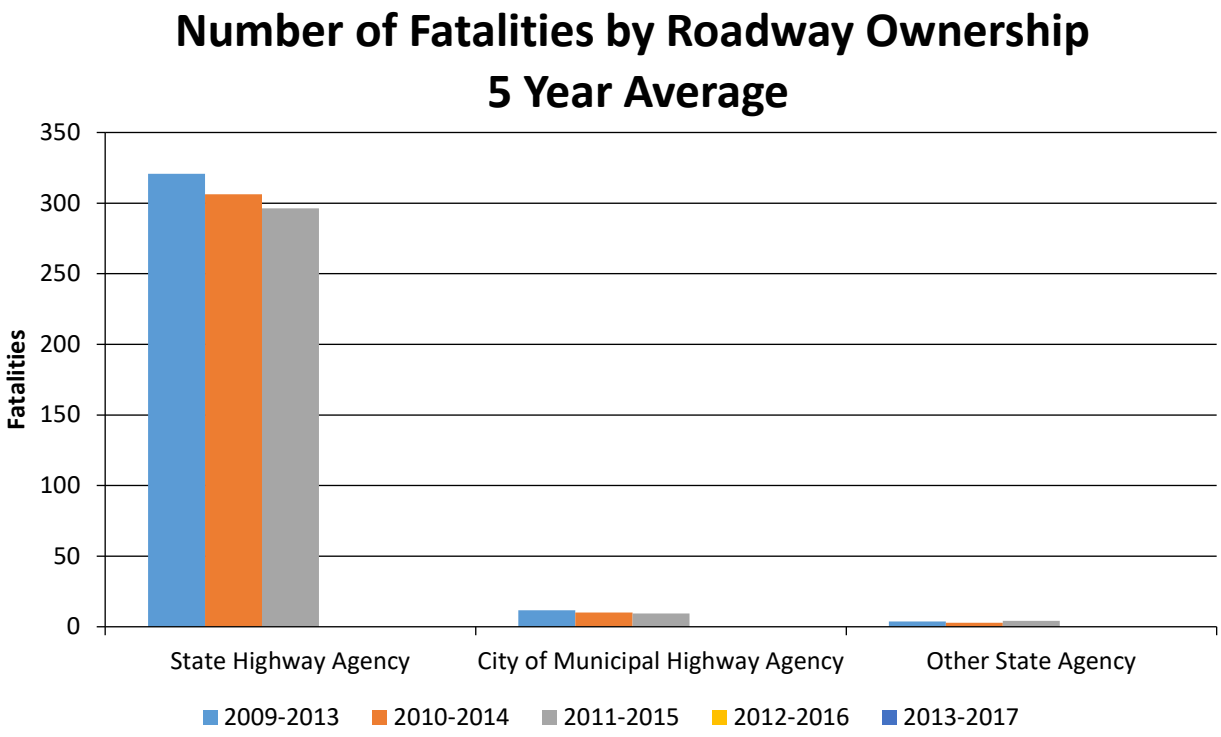
Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	296.2	1,396.2	1.61	7.58
County Highway Agency				
Town or Township Highway Agency				
City of Municipal Highway Agency	9.4	158.8		
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency	4.2	46.4		
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

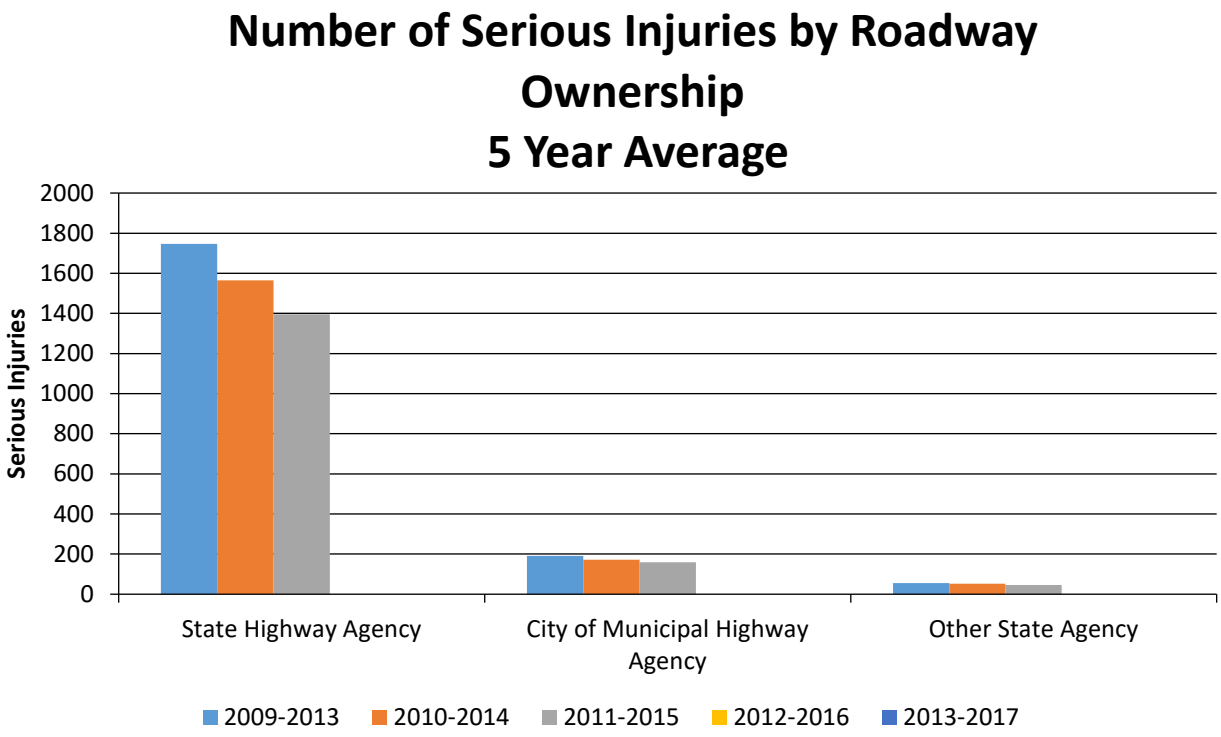

Number of Fatalities by Functional Classification
5 Year Average
Fatalities
80
70
60
50
40
30
20
10
0
RPA - Interstate
RPA - Other Fwys @ Expwys
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @ Expwys
UPA - Other
Urban Minor Arterial
Urban Minor Collector
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017

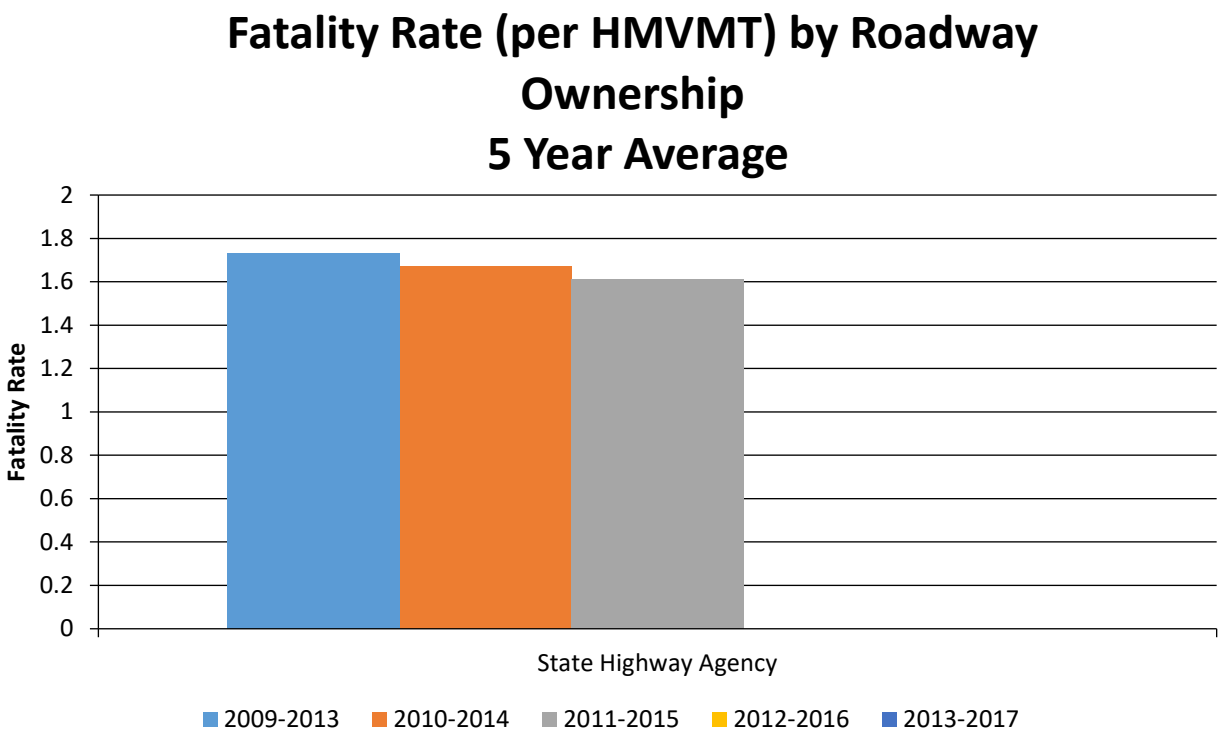

Number of Serious Injuries by Functional Classification
5 Year Average
Serious Injuries
400
350
300
250
200
150
100
50
0
RPA - Interstate
RPA - Other Fwys @...
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @...
UPA - Other
Urban Minor Arterial
Urban Minor Collector
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017

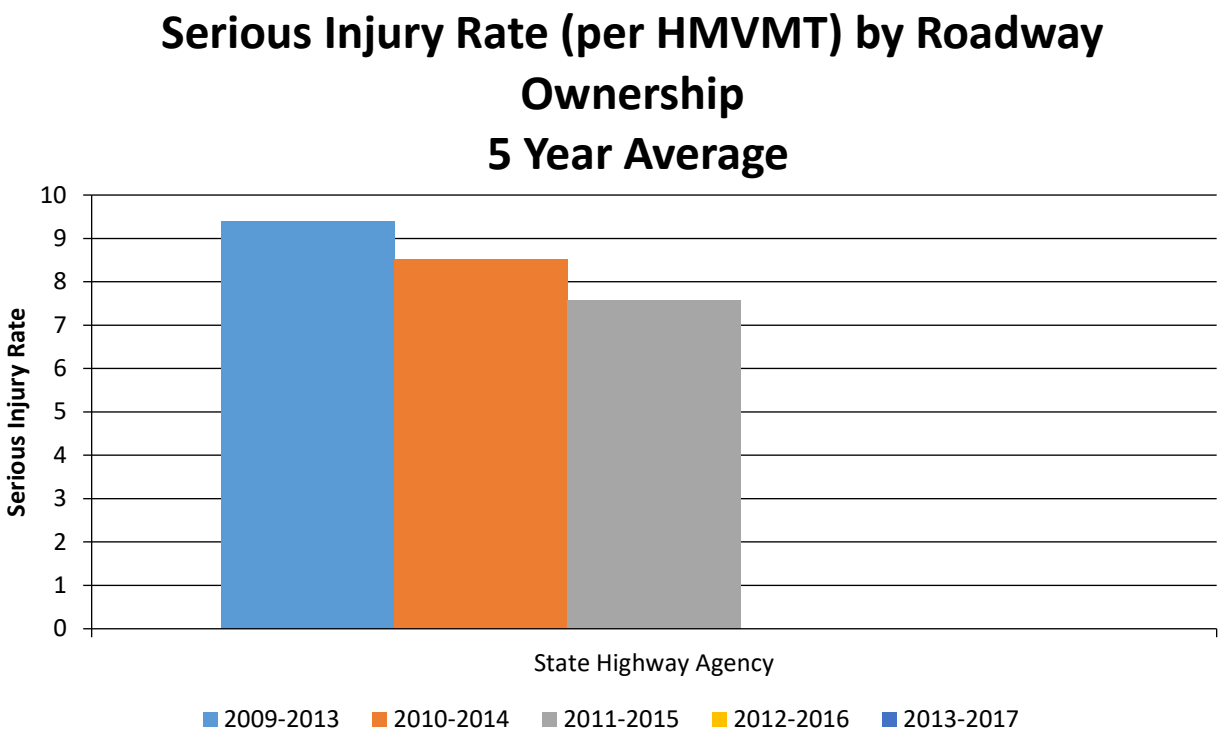

Fatality Rate (per HMVMT) by Functional Classification
5 Year Average
Fatality Rate
10
9
8
7
6
5
4
3
2
1
0
RPA - Interstate
RPA - Other Fwys @...
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @...
UPA - Other
Urban Minor Arterial
Urban Minor Collector
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Serious Injury Rate (per HMVMT) by Functional Classification
5 Year Average
Serious Injury Rate
16
14
12
10
8
6
4
2
0
RPA - Interstate
RPA - Other Fwys @...
RPA - Other
Rural Minor Arterial
Rural Minor Collector
Rural Major Collector
Rural Local Road or Street
UPA - Interstate
UPA - Other Fwys @...
UPA - Other
Urban Minor Arterial
Urban Minor Collector
Urban Major Collector
Urban Local Road or Street
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Number of Fatalities by Roadway Ownership
5 Year Average
Fatalities
350
300
250
200
150
100
50
0
State Highway Agency
City of Municipal Highway Agency
Other State Agency
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Number of Serious Injuries by Roadway Ownership
5 Year Average
Serious Injuries
2000
1800
1600
1400
1200
1000
800
600
400
200
0
State Highway Agency
City of Municipal Highway Agency
Other State Agency
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Fatality Rate (per HMVMT) by Roadway Ownership
5 Year Average
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Fatality Rate
State Highway Agency
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017



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

All routes shown under "local road" classification are not owned by local municipalities. WVDOH owns the majority of those routes.

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 2019 Targets *

Number of Fatalities	283.0

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

One of the goals of the SHSP is to achieve a 50 percent reduction in fatalities by 2030

Number of Serious Injuries	977.0

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

One of the goals of the SHSP is to achieve a 66 percent reduction in serious injuries by 2030

Fatality Rate	1.498

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

This is based on 250 fatalities and assuming an annual 0.44% vehicle miles traveled growth

Serious Injury Rate	5.370

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

This is based on 1058 serious injuries and assuming an annual 0.44% vehicle miles traveled growth

Total Number of Non-Motorized Fatalities and Serious Injuries	89.0

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

In 2016 there were 104 non-motorized fatalities and serious injuries. It is the goal to reduce that number to 31 in 2030.

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.

In the mid-1990's, various officials with highway safety responsibilities in West Virginia recognized the value of banding together to advance highway safety. This resulted in the creation of the State's first Highway Safety Management Task Force. After a brier hiatus, the renamed Safety Management Task Force (SMTF) reconvened in late 2001 and met regularly to coordinate highway safety-related activities and programs and allowed participants to speak with one voice for greater safety impacts.

Today, the Task Force continues this mission as its more than 30 members provide oversight of the SHSP, including plan development, implementation, and evaluation. Recently, they worked diligently on the update that responds to the current traffic safety problems facing West Virginia. Members of the SMTF include the Alcohol Beverage Control Administration, local law enforcement representatives, Department of Education, Department of Health and Human Resources, Division of Highways, Division of Motor Vehicles, Federal Highway Administration, Federal Motor Carrier Safety Administration, Governor's Highway Safety Program, National Highway Traffic Safety Administration, Office of the Insurance Commissioner, Parkways Authority, Public Service Commission, state police, West Virginia Association of metropolitan Organization, West Virginia Commission of Drunk Driving Prevention, and West Virginia University Medicine.

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

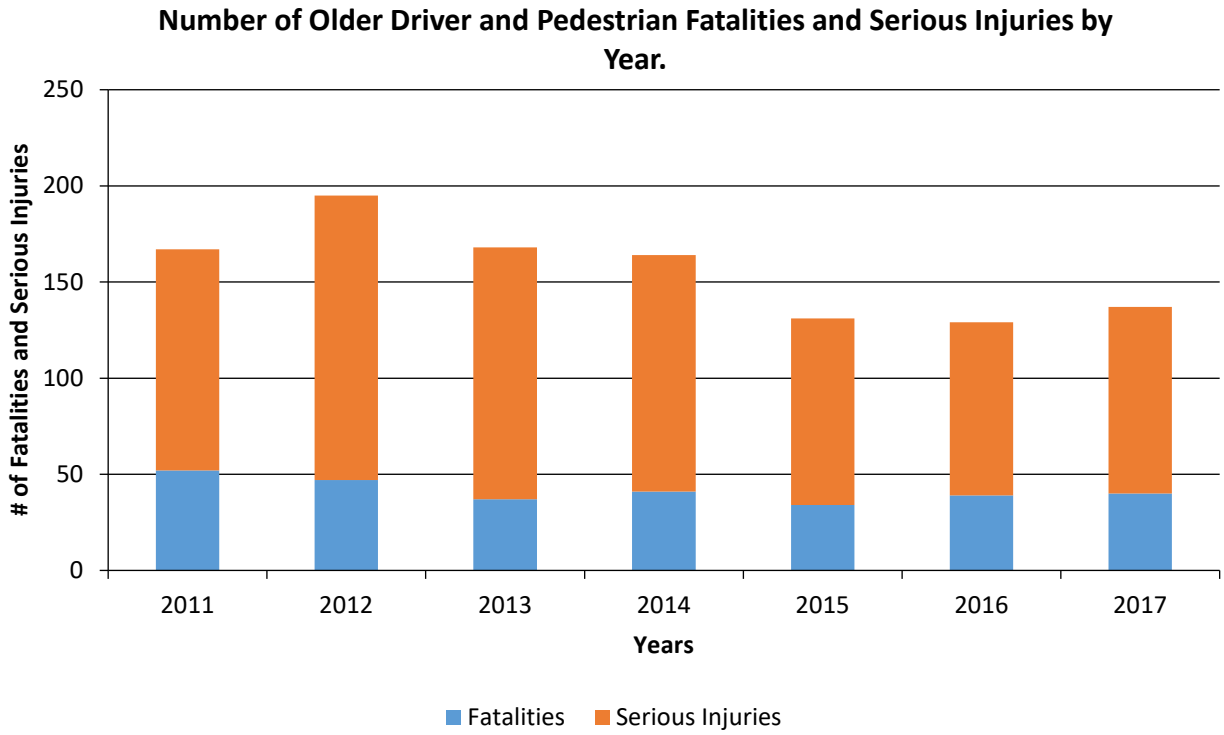
Does the HRRR special rule apply to the State for this reporting period?

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 65 years of age and older for the past seven years.

PERFORMANCE MEASURES	2011	2012	2013	2014	2015	2016	2017
Number of Older Driver and Pedestrian Fatalities	52	47	37	41	34	39	40
Number of Older Driver and Pedestrian Serious Injuries	115	148	131	123	97	90	97



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
Economic Effectiveness (cost per crash reduced)

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

WV has focused on Road Departure with it's HSIP since it has the best chance of reducing the fatality and injury rates. However, other projects are evaluated if they meet the SHSP goals.

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

The number of fatalities has generally decreased between 2009 and 2017. In 2009, there were 357 fatalities and it decreased to 304 in 2017. The number of serious injuries has decreased between 2009 and 2017. In 2009, there were 2,384 serious injuries. By 2017, this number has decreased to 1,067. WV utilizes a 5 year rolling average to measure effectiveness. For this report the time frame was 2013-2017, which is annual numbers from 2009-2017.

The fatality rate has decreased between 2009 and 2017. In 2009, the fatality rate was 1.87 per HMVMT. In 2017, the fatality rate was 1.62 per HMVMT. The serious injury rate also decreased between 2009 and 2017. In 2009 the serious injury rate was 12.51 per HMVMT. In 2017, the serious injury rate was 5.70 per HMVMT.

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

More systemic programs
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?

Yes

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

WV developed a large Road Departure Program using HSIP funds. These projects included Cable Barrier Projects, Low Cost Countermeasures on our US and WV Routes, High Friction Surface Treatment in curves

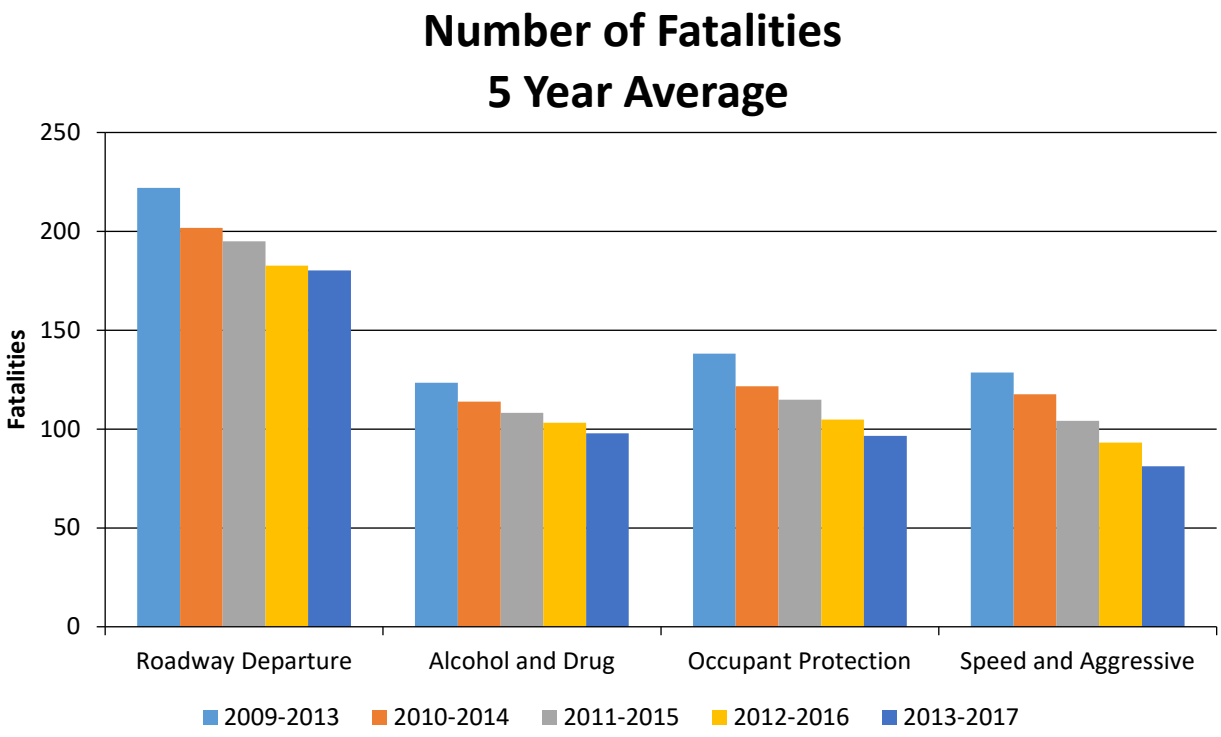
that had higher than average wet weather crashes, ITS and Lighting projects, and 10 Guardrail upgrade projects using the Indefinite Delivery/Indefinite Quantity (IDIQ) format.

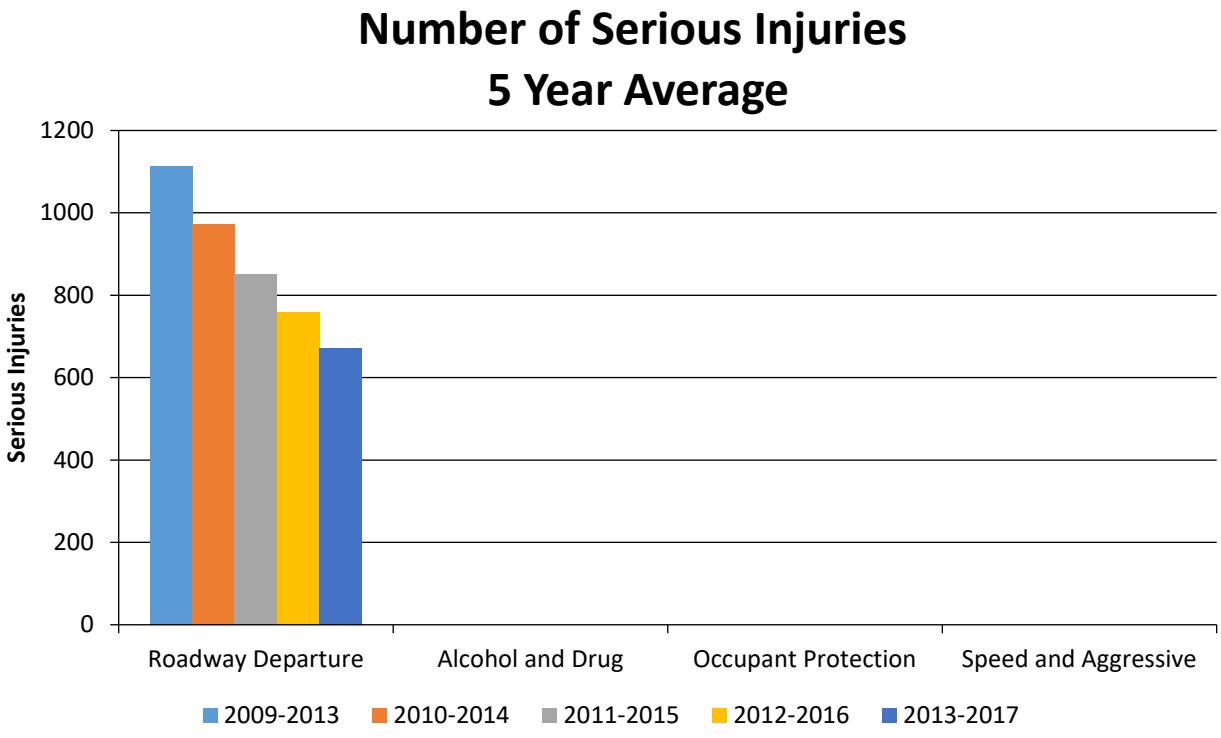
Effectiveness of Groupings or Similar Types of Improvements

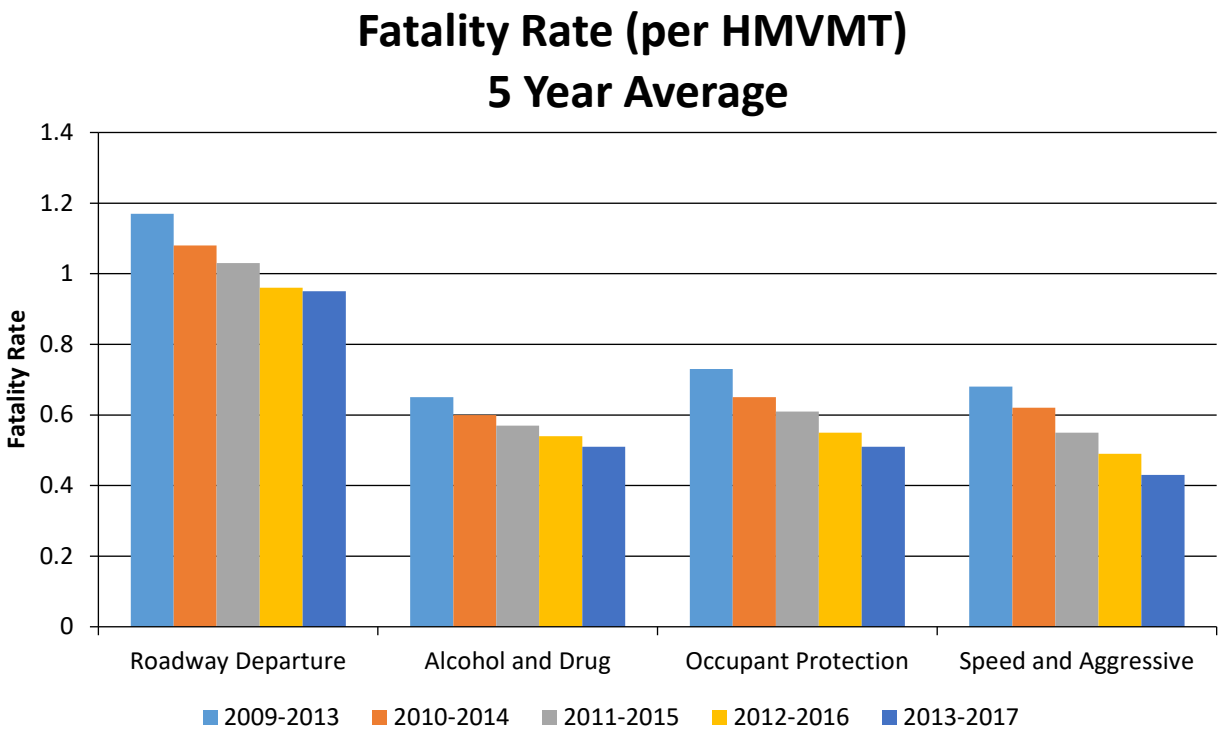
Present and describe trends in SHSP emphasis area performance measures.

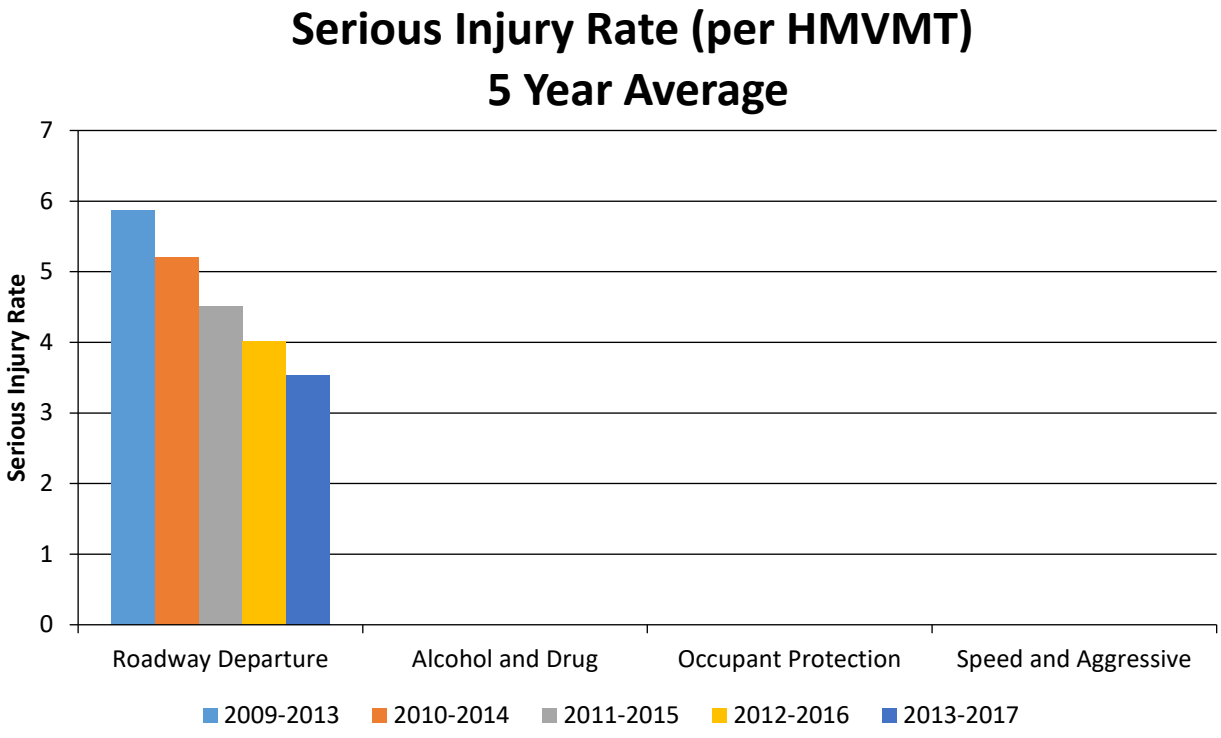
Year 2017

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	All	180.2	670.8	0.95	3.53	0	0	0
Alcohol and Drug	All	97.8		0.51				
Occupant Protection	All	96.6		0.51				
Speed and Aggressive	All	81.2		0.43				


Number of Fatalities
5 Year Average
Fatalities
250
200
150
100
50
0
Roadway Departure
Alcohol and Drug
Occupant Protection
Speed and Aggressive
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017


Number of Serious Injuries
5 Year Average
Serious Injuries
1200
1000
800
600
400
200
0
Roadway Departure
Alcohol and Drug
Occupant Protection
Speed and Aggressive
2009-2013
2010-2014
2011-2015
2012-2016
2013-2017





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?

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 OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
Harrison County I-79	Rural Principal Arterial (RPA) - Interstate	Lighting	Site lighting - interchange	18.00	31.00					3.00	18.00	21.00	49.00	47.1
Wayne County CR 52/4	Rural Local Road or Street	Roadside	Barrier- metal	4.00	5.00					2.00	1.00	6.00	6.00	-158.4
Kanawha County CR 12	Urban Minor Arterial	Intersection traffic control	Modify traffic signal - modernization/replacement	10.00	8.00					2.00		12.00	8.00	-0.4
Hampshire County US 50	Rural Minor Arterial	Intersection traffic control	Intersection traffic control - other	4.00	2.00			1.00			2.00	5.00	4.00	-0.2
Putnam County I-64	Urban Principal Arterial (UPA) - Interstate	Roadway	Pavement surface - high friction surface	58.00	78.00	1.00		1.00		12.00	16.00	72.00	94.00	20.4
Kanawha County I-64	Urban Principal Arterial (UPA) - Interstate	Roadway	Pavement surface - high friction surface	23.00	12.00					8.00	2.00	31.00	14.00	-61.2

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

For the evaluation results, the reported number is the difference in the crash rate. If the number is positive, the crash rate increased. If the number is negative, the crash rate decreased. The overall rates have decreased, and countermeasures have been effective.

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?

07/31/2017

What are the years being covered by the current SHSP?

From: 2017 To: 2021

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

2021

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

We are operating on a 5 year cycle, and will begin process 1 year to 18 months ahead of the deadline. The Highway Safety Management Task Force develop previous editions, and will work on all updates. West Virginia's SHSP can be found at https://transportation.wv.gov/communications/Documents/WestVirginiaStrategicHighwaySafetyPlan.pdf

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					100	95	100	95
Route Number (8)	100	0								
Route/Street Name (9)	100	0								
Federal Aid/Route Type (21)	100	0								
Rural/Urban Designation (20)	100	0					100	0		
Surface Type (23)	80	0					80	0		
Begin Point Segment Descriptor (10)	100	0					100	95	100	95
End Point Segment Descriptor (11)	100	0					100	95	100	95
Segment Length (13)	100	0								
Direction of Inventory (18)	100	0								
Functional Class (19)	100	0					100	0	100	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
Median Type (54)	80	0								
Access Control (22)	100	0								
One/Two Way Operations (91)	100	0								
Number of Through Lanes (31)	100	0					100	0		
Average Annual Daily Traffic (79)	100	0					100	0		
AADT Year (80)	100	0								
Type of Governmental Ownership (4)	100	0					100	50	100	50
INTERSECTION										
Unique Junction Identifier (120)			50	50						
Location Identifier for Road 1 Crossing Point (122)			50	50						
Location Identifier for Road 2 Crossing Point (123)			50	50						
Intersection/Junction Geometry (126)			50	50						
Intersection/Junction Traffic Control (131)			0	0						
AADT for Each Intersecting Road (79)			100	0						
AADT Year (80)			100	0						
Unique Approach Identifier (139)			100	100						
INTERCHANGE/RAMP										
Unique Interchange Identifier (178)					100	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)					100	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 Beginning of Ramp Terminal (195)					100	0				
Roadway Type at End Ramp Terminal (199)					100	0				
Interchange Type (182)					0	0				
Ramp AADT (191)					100	0				
Year of Ramp AADT (192)					100	0				
Functional Class (19)					100	0				
Type of Governmental Ownership (4)					100	0				
Totals (Average Percent Complete):	**97.78**	**0.00**	**62.50**	**37.50**	**72.73**	**0.00**	**97.78**	**37.22**	**100.00**	**67.00**

*Based on Functional Classification

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

Over the past several years, WVDOT has invested a considerable amount of time and energy in developing an integrated transportation management system. A significant portion of that involves MIRE data. Efforts to move MIRE data from the traditionally Mainframe based into a modern relational database have been a major part of this effort, along with collecting and perfecting LRS data including local roads. MIRE data comes from a large variety of sources including WVDOH projects and 911 Data. WVDOH is continuing to move toward the completion of our transportation management system. A recent upgrade is nearing completion and this will open the door to integrating even more MIRE data with Safety data. Additional enhancements and upgrades are being planned.

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.

The State of WV is currently developing an Enterprise Resource Planning System part of which includes a Transportation Asset Inventory. Each and every one of the above mentioned elements is included in the inventory. Work to collect/refined/update local roads portions of this data continues today.

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	A - Suspected Serious Injury	Yes	N/A	Yes	N/A	No
Crash Report Form Instruction Manual	A - Suspected Serious Injury	Yes	A suspected serious injury is any non-fatal injury that results in any of the following:	Yes	severe lacerations resulting in exposure of underlying tissues/muscle/organs or resulting in signif	No
Crash Database	A - Suspected Serious Injury	Yes	N/A	Yes	N/A	No

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 Database Data Dictionary	A - Suspected Serious Injury	Yes	A suspected serious injury is any non-fatal injury that results in any of the following:	Yes	severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in signifi	No

Please describe the actions the State is taking to become compliant by April 15, 2019.

We currently have a form update submitted to our Crash Report software vendor, it includes the following it is in their que to be completed; we have requested it to be implemented no later than 1/1/2019 however we haven't received an anticipated completion data yet. We have an addendum to the Crash Report Instruction Manual prepared and ready to roll out to law enforcement agencies as soon as our vendor gives us an anticipated completion date for the changes. Law Enforcement agencies will receive the updated training prior to the updated form being pushed out onto their software. We have updated the crash database and crash data dictionary to reflect these changes and are ready to go when the form is updated.

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.

2019

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

Optional Attachments

Program Structure:

WV HSIP Process.docx

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.