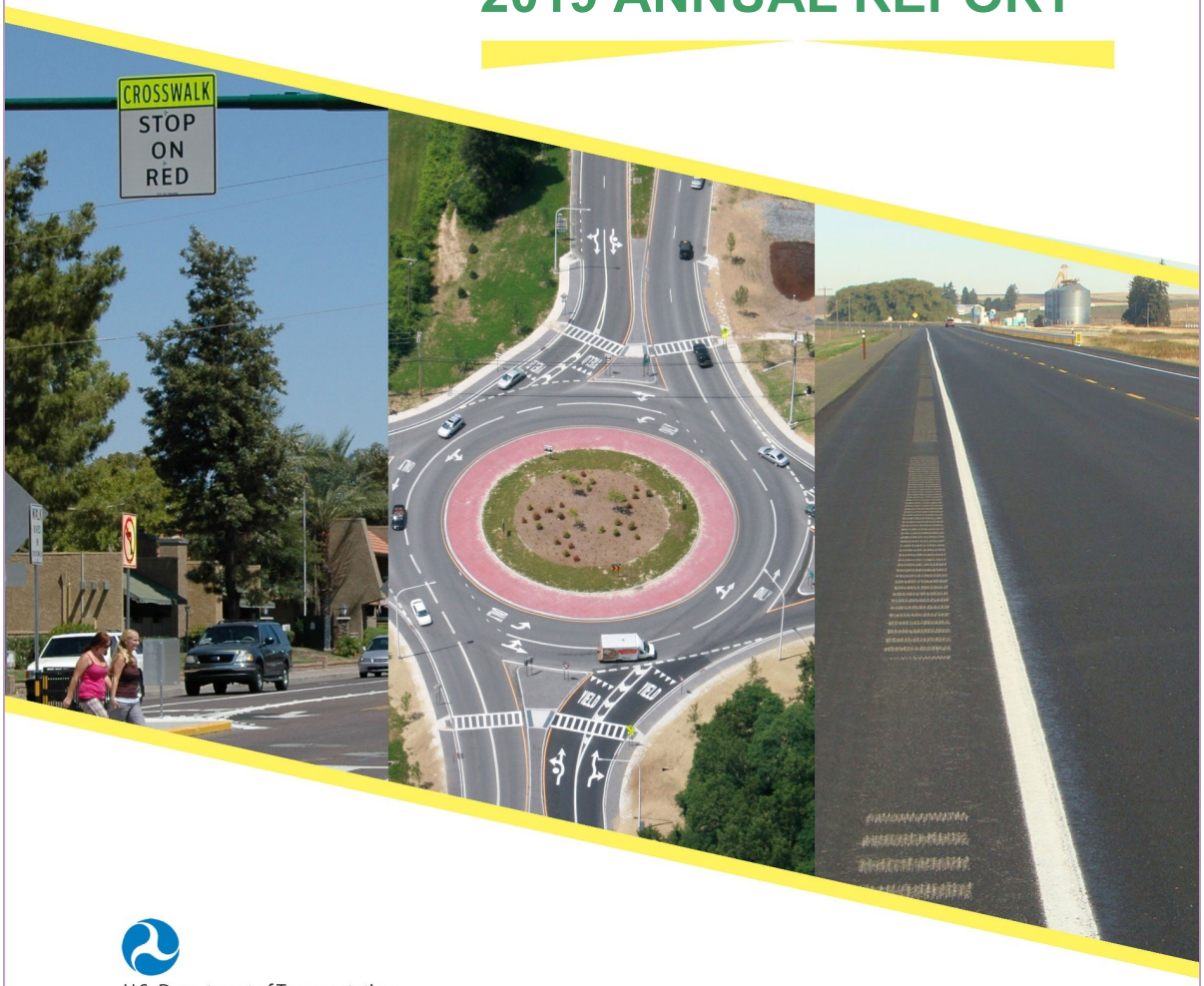
DELAWARE

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2019 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

The Delaware Department of Transportation (DelDOT) has prepared this Annual Report for state fiscal year 2019 (July 1, 2018 – June 30, 2019) to demonstrate the success of their safety program. During the 2019 reporting period, DelDOT continued its successful core HSIP programs – Hazard Elimination Program (HEP), Highway Rail-Grade Crossing Program (HRGX), and Strategic Highway Safety Plan (SHSP) as well as its systemic safety program. As part of the systemic program, DelDOT has been evaluating the durability of its high-friction pavement surface treatments at selected locations and continued planning for the installation of sinusoidal rumble strips at test locations. DelDOT continued reviewing signing and pavement markings at all horizontal curves for MUTCD-compliance to identify low-cost improvements at these locations. Additionally, DelDOT modified its HEP methodology to place an emphasis on crash severity and intersections.

With the modified site selection methodology, ten HEP segment sites are selected using the Critical Ratio methodology to identify high crash locations. The Critical Ratio method (also known as the Rate Quality Control Method) uses a statistical test to determine whether the crash rate at a particular location is significantly higher than a predetermined average crash rate (crash rates are based on three years of fatal and injury crash data) for locations of similar characteristics. Additionally, a new Intersection HEP has been developed to prioritize intersections with the highest potential for reduction in fatal and serious injury crashes. A total of five signalized and five unsignalized intersections are studied. Under the FY 2019 HRGX, all locations identified with a benefit/cost ratio greater than 1.0 had an active or planned project; therefore, no locations were evaluated for safety improvements in FY 2019. Both programs continued to identify both low-cost remedial improvements and long-term safety improvement needs. DelDOT continued successful implementation of Rectangular Rapid Flash Beacons (RRFB) as part of a pilot program. Pedestrian safety continued to be priority through both new studies and the design and implementation of previously identified countermeasures.

The success of these programs is demonstrated by the steady decline in the combined number of fatalities and serious injuries (based on 5-year rolling averages) from 2014 to 2018. From 2014 to 2017, annual fatalities averaged 124; however, decreased to 111 in 2018. Compared to the previous year, the number of serious injuries decreased by approximately 20 percent in CY 2017 and CY 2018. DelDOT led efforts, in conjunction with Delaware's Office of Highway Safety, to identify Delaware's safety performance measure targets, which are included in this report. Based on a preliminary assessment, Delaware has met or made significant progress toward meeting four of the five 2018 safety performance measure targets. In addition, DelDOT continued working on improvements and enhancements to its Crash Analysis Reporting System (CARS) and implementation of safety projects developed from the HSIP. Each year DelDOT meets with the SHSP core committee to identify, review and evaluate the implementation of countermeasures to support the Emphasis Areas identified in the 2015 SHSP. Progress is tracked through implementation matrices by Emphasis Area.

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.

DelDOT's Traffic Section leads the HSIP with support from both internal and external partners. The HSIP is comprised of several programs (and subprograms) that are designed to prioritize resources that target the most critical safety improvement opportunities as identified through data-driven approaches. The following programs are included in Delaware's HSIP:

- Hazard Elimination Program (HEP)
- Highway-Rail Grade Crossing (HRGX)
- Systemic Safety Improvement Programs
    - Longitudinal Rumble Strips
    - Freeway Median Barrier
    - High Friction Surface Treatment
- Strategic Highway Safety Plan (SHSP)

For the HEP, twenty spot locations throughout the state are chosen for safety studies each year. Ten sites are selected using the Critical Ratio methodology to identify high crash locations and ten intersection sites (5 signalized; 5 unsignalized) are selected using a crash index methodology. For each site selected, DelDOT's Traffic Section reviews crash data, performs a field review, and identifies potential safety improvement alternatives. For candidate locations where improvements are in project development, design, or construction, a safety audit is performed to confirm that the proposed improvements will address the identified crash problem. The HEP committee, which includes representatives from DelDOT (Traffic, Planning, Project Development, and the Maintenance Districts), Delaware State Police, FHWA, MPOs, and the counties and municipalities, meets to reach a consensus on the recommended safety improvements. Traffic control device improvements (i.e., signing, striping, lighting, and traffic signal upgrades) are then designed by DelDOT's Traffic Section and implemented by DelDOT's maintenance forces and/or on-call contractors. Projects requiring detailed design, public involvement, or resulting in right-of-way or environmental impacts are forwarded to DelDOT's Project Development section for prioritization and inclusion in the Capital Transportation Program (CTP).

For the HRGX, DelDOT uses FRA's GradeDec.NET software to calculate benefit/cost ratios for all of Delaware's public highway-rail grade crossings. The benefit/cost ratios take into account the most recent five years of crash data, train speeds, the number of trains per day, and AADT, in addition to several other factors. The benefit/cost ratios at each crossing are then calculated for various upgrade alternatives. Then, all at-grade crossings statewide are ranked according to their benefit/cost ratios to identify candidate locations for safety upgrades.

Each of Delaware's systemic safety improvement programs use a data-driven approach based on a number of factors, including traffic volumes, roadway characteristics, functional class, and crash history to identify and prioritize locations for implementing proven countermeasures. Before/after crash analysis has indicated the success of the high-friction surface treatment program.

Delaware's SHSP is a statewide-coordinated safety plan that provides a comprehensive framework, identifies specific goals and objectives, and integrates the four E's - engineering, education, enforcement and emergency medical services (EMS). Delaware's SHSP core agencies include DelDOT, Office of Highway Safety (OHS), and Delaware State Police (DSP). Additionally, several other stakeholders (e.g., Federal Highway Administration, National Highway Traffic Safety Administration, Federal Motor Carrier Safety Administration, Delaware Department of Motor Vehicles, Delaware Department of Justice, Delaware Office of Emergency Medical Services, Delaware Transit Commission, WILMAPCO, Dover/Kent County MPO, City of Wilmington, and Delaware T2/LTAP Center) provide input and expertise towards the development of the SHSP. Together, the SHSP core agencies and stakeholders review fatal and serious injury crash data to identify emphasis areas to focus resources with the goal of reducing fatalities and serious injuries.

Where is HSIP staff located within the State DOT?

Engineering

HSIP staff are located in DelDOT's Division of Transportation Solutions - Traffic Section.

How are HSIP funds allocated in a State?

- Other-Central Office via Formula

DelDOT's Central Office distributes HSIP funds to cover general HSIP program activities, the installation of low-cost countermeasures (signing, marking, signals, etc.) identified through the HSIP, and HSIP projects being designed through DelDOT's Project Development group.

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

All roadways throughout the state are eligible for safety funding; however, the calculations used to identify high crash locations for the Hazard Elimination Program (HEP) include state roadways in DelDOT's road inventory where traffic volumes are available. Based on a review of statewide crash data on all public roadways from 2009 to 2011, only 4 percent of fatal and incapacitating injury crashes occur on subdivision streets and municipal roadways, indicating that crashes reported on these roadways would not likely meet the minimum crash criteria for the various HSIP elements.

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

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

Describe coordination with internal partners.

Representatives from DelDOT's Traffic, Planning, Project Development, and Maintenance and Operations divisions participate in the HSIP as part of the HEP and SHSP committees.

Identify which external partners are involved with HSIP planning.

- FHWA
- Governors Highway Safety Office
- Law Enforcement Agency
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Other-National Highway Traffic Safety Administration
- Other-Delaware State Police
- Other-Department of Justice
- Other-Delaware Office of Emergency Medical Services
- Other-Federal Motor Carrier Safety Administration

Describe coordination with external partners.

Representatives from DelDOT's external partners participate in the HSIP via the HEP and/or SHSP committees. Together, DelDOT and these agencies work together to focus resources with the goal of reducing fatalities and serious injuries.

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

DelDOT revised the site selection methodology for its Hazard Elimination Program (HEP) in 2018. Please refer to Question 20 for additional information.

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

During FY 2019 (July 1, 2018 - June 30, 2019), components of Delaware's HSIP included the Strategic Highway Safety Plan (SHSP), the Hazard Elimination Program (HEP), and the Highway-Rail Grade Crossing Safety Program (HRGX). In addition, DelDOT continued investigating the application of sinusoidal rumble strips at several test locations to evaluate their impact and address noise concerns associated with traditional rumble strips. Additionally, all High-Friction Surface Treatment (HFST) applications to date in the state are in the process of being evaluated for their durability. DelDOT continued its evaluation of horizontal curves throughout the state for MUTCD-compliant signing and pavement markings and initiated new pedestrian safety studies along corridors exhibiting high pedestrian crash histories. DelDOT continued enhancements to the Crash Analysis and Reporting System (CARS) and continued their program to install rectangular rapid flashing beacons (RRFBs) at several crossing locations throughout the state. DelDOT made modifications to their HEP methodology to place an emphasis crash severity and intersections to more closely align with their SHSP. Details of these changes can be found in an attachment to the Program Methodology section of this report.

Program Methodology

Select the programs that are administered under the HSIP.

- Horizontal Curve
- Median Barrier
- Pedestrian Safety
- Segments
- Other-Longitudinal Rumble Strips
- Other-High Friction Surface Treatment

Program: Horizontal Curve

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Other-Competes with HSIP projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
		Horizontal curvature

What project identification methodology was used for this program?

- Other-All horizontal curves to be evaluated.
- Probability of specific crash types

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

No

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

How are projects under this program advanced for implementation?

- Other-Prioritized based on functional classification

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: Median Barrier

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Other-Competes with HSIP projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
Other-All roadway departure crashes, head-on crashes, and cross-median crashes	Volume Other-Roadway Miles	Median width Horizontal curvature Functional classification Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Relative severity index

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

No

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

How are projects under this program advanced for implementation?

- Other-Based on prioritization and funding availability

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must

equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Available funding:50
Ranking based on net benefit:50
Total Relative Weight:100

Program: Pedestrian Safety

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
Other-All pedestrian crashes		Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Probability of specific crash types

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

No

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

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).

Relative Weight in Scoring

Available funding:34

2019 Delaware Highway Safety Improvement Program
Ranking based on net benefit:33
Cost Effectiveness:33
Total Relative Weight:100

Program: Segments

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
All crashes	Volume Other-Roadway Miles	Other-Roadway Type

What project identification methodology was used for this program?

- Critical rate

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

No

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

How are projects under this program advanced for implementation?

- 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).

Relative Weight in Scoring

Ranking based on B/C:25
Available funding:25
Ranking based on net benefit:25
Cost Effectiveness:25
Total Relative Weight:100

Program: Other-Longitudinal Rumble Strips

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Other-Competes with HSIP projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
Other-All roadway departure crashes	Volume Other-Roadway Miles	Horizontal curvature Functional classification Roadside features

What project identification methodology was used for this program?

- Probability of specific crash types

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

No

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

How are projects under this program advanced for implementation?

- Other-Based on prioritization and funding availability

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
Ranking based on net benefit:1

Program: Other-High Friction Surface Treatment

Date of Program Methodology:7/1/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
Other-All wet weather roadway departure crashes	Volume Other-Roadway Miles	

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

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

No

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

How are projects under this program advanced for implementation?

- Other-Based on prioritization and funding availability

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 net benefit:1

What percentage of HSIP funds address systemic improvements?

2.8

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

- High friction surface treatment

What process is used to identify potential countermeasures?

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

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

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

DelDOT has accepted the SPaT Challenge and we expect to have our first systems operational shortly. As vehicles manufacturers increase deployment of connected vehicles, the implementation of red light violation warnings and other associated applications at traffic signals via DSRC will be supportive of safety initiatives related to the “Intersections” emphasis area of the SHSP. Moving ahead, we expect to have a higher level of coordination between ITS/CAV initiatives and HSIP/SHSP initiatives than we have had in the past.

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.

DelDOT uses the HSM to compare alternatives under consideration for its HEP.

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

Please see attached memorandum discussing changes to the HEP methodology.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$9,081,900	$3,141,528	34.59%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$2,408,900	$3,146,150	130.61%
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)	$34,217,300	$349,059	1.02%
State and Local Funds	$0	$0	0%
Totals	$45,708,100	$6,636,737	14.52%

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

0%

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

0%

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

$236,073

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

$236,073

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

0%

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

0%

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

No impediments at this time.

General Listing of Projects

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

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
2018 HEP Studies	Non-infrastructure	Road safety audits	20	Locations	$345956.91	$345956.91	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency		Various	
Papermill and Creekview	Intersection traffic control	Intersection traffic control - other	1	Intersections	$151124.97	$151124.97	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	17,600	25	State Highway Agency	Spot	Intersections	
Curved guardrail inventory - consultant tasks	Roadside	Barrier- metal	1	Statewide	$27481.53	$27481.53	Penalty Funds (23 U.S.C. 154)	N/A	N/A	0		State Highway Agency		Roadway Departure	
Signalized Median Crossover Documents - Construction Support	Intersection traffic control	Intersection traffic control - other	1	Statewide	$22822.3	$22822.3	Penalty Funds (23 U.S.C. 154)	N/A	N/A	0		State Highway Agency		Intersections	
Turndown guardrail in New Castle County	Roadside	Barrier- metal	1	County	$61818.64	$61818.64	Penalty Funds (23 U.S.C. 154)	N/A	N/A	0		State Highway Agency		Roadway Departure	
Shipley Road and SR9 - RRFB Installation	Pedestrians and bicyclists	Pedestrian beacons	1	Crosswalks	$7506.1	$7506.1	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	8,025	35	State Highway Agency	Spot	Pedestrians	
Philly Pike and Manor	Pedestrians and bicyclists	Pedestrian signal - audible device	1	Intersections	$9108	$9108	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	22,600	35	State Highway Agency		Pedestrians	
SR2 Albertson/Prices Corner	Pedestrians and bicyclists	Crosswalk	1	Locations	$516950.04	$516950.04	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	50,600	45	State Highway Agency	Spot	Various	
SR5 and Hazletville Road Survey	Roadside	Removal of roadside objects (trees, poles, etc.)			$20	$20	Penalty Funds (23 U.S.C. 154)	N/A	N/A	0		State Highway Agency	Spot	Roadway Departure	
US13 Dover Pedestrian Study	Non-infrastructure	Transportation safety planning	1	Locations	$106077.51	$106077.51	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	56,400	35	State Highway Agency	Spot	Pedestrians	
I-95 and SR1 Freeway Median Barrier Design	Roadside	Barrier - other	27	Miles	$150559.6	$150559.6	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other Freeways & Expressways	0	65	State Highway Agency		Roadway Departure	
SR4 and Brennan	Lighting	Intersection lighting	1	Intersections	$108795.2	$108795.2	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	31,400	50	State Highway Agency	Spot	Various	

2019 Delaware Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Boxwood Road Lighting	Lighting	Continuous roadway lighting	1.25	Miles	$480607.95	$480607.95	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	14,000	35	State Highway Agency	Spot	Various	
2019 HEP Studies	Non-infrastructure	Road safety audits	20	Locations	$865213.08	$865213.08	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Spot	Various	
2019 SHSP	Non-infrastructure	Transportation safety planning	1	Statewide	$154818.25	$154818.25	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency		Various	
Dover RRFB Installation	Pedestrians and bicyclists	Pedestrian beacons	3	Crosswalks	$3669	$3669	Penalty Funds (23 U.S.C. 154)	N/A	N/A	0		State Highway Agency	Spot	Pedestrians	
Safety Audit for Roundabout at Howell School Road and PC Peoples Road	Non-infrastructure	Road safety audits	1	Intersections	$15820.24	$15820.24	Penalty Funds (23 U.S.C. 154)	Urban	Minor Collector	5,211	35	State Highway Agency	Spot	Intersections	
HEP Sites A& C - SR5 & Anderson/Johnson	Intersection geometry	Intersection geometry - other	1	Locations	$161087.69	$161087.69	HSIP (23 U.S.C. 148)	Urban	Major Collector	1,500	35	State Highway Agency	Spot	Intersections	
Nantioke RRFB Installation	Pedestrians and bicyclists	Pedestrian signal - Pedestrian Hybrid Beacon	1	Locations	$31767.3	$31767.3	Penalty Funds (23 U.S.C. 154)	Urban	Major Collector	8,600	35	State Highway Agency	Spot	Pedestrians	
US13 @ Redden	Intersection traffic control	Intersection flashers - add advance intersection warning sign-mounted	1	Intersections	$17949.9	$17949.9	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	32,385	55	State Highway Agency	Spot	Intersections	
SR1 Interchange mile markers installation	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Locations	$57396.1	$57396.1	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other Freeways & Expressways	56,000	65	State Highway Agency	Spot	Various	
POW/MIA RRFB	Pedestrians and bicyclists	Pedestrian signal - Pedestrian Hybrid Beacon	2	Locations	$89809.88	$89809.88	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	8,258	40	State Highway Agency	Spot	Pedestrians	
US40 and LaGrange	Pedestrians and bicyclists	Pedestrian signal - audible device	1	Intersections	$51662.6	$51662.6	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	36,439	55	State Highway Agency	Spot	Intersections	
High Friction Support	Roadway	Pavement surface - high friction surface	1	Statewide	$72360.74	$72360.74	Penalty Funds (23 U.S.C. 154)	N/A	N/A	0		State Highway Agency	Systemic	Roadway Departure	
West Denney's Road Lighting	Lighting	Intersection lighting	1	Intersections	$167935.37	$167935.37	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	0	49600	State Highway Agency	Spot	Various	

2019 Delaware Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Alder Signal & Cleveland RRFB	Pedestrians and bicyclists	Pedestrian signal - Pedestrian Hybrid Beacon	1	Locations	$165481.2	$165481.2	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	22,500	25	State Highway Agency	Spot	Pedestrians	
Philly Pike Lighting Design	Lighting	Lighting - other	1	Corridor	$54510.32	$54510.32	Penalty Funds (23 U.S.C. 154)	Rural	Minor Arterial	14,800	40	State Highway Agency	Spot	Pedestrians	
Philly Pike road Diet	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1	Corridor	$43941.48	$43941.48	Penalty Funds (23 U.S.C. 154)	Rural	Minor Arterial	14,800	40	State Highway Agency	Spot	Various	
Wyoming Road @ Pomeroy	Pedestrians and bicyclists	Pedestrian signal - Pedestrian Hybrid Beacon	1	Locations	$89000	$89000	Penalty Funds (23 U.S.C. 154)	Urban	Major Collector	15,100	35	State Highway Agency	Spot	Pedestrians	
Flashing Red Arrow Safety Studies	Non-infrastructure	Transportation safety planning	1	Statewide	$58710.17	$58710.17	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Spot		
US13 and SR24 Lighting	Lighting	Intersection lighting	1	Intersections	$41227.5	$41227.5	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	26,282	50	State Highway Agency	Spot	Intersections	
2016 HEP Pavement Markings	Roadway delineation	Roadway delineation - other			$28021	$28021	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Spot	Various	
US9 and Sussex Central	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	1	Intersections	$157381.72	$157381.72	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	13,300	25	State Highway Agency	Spot	Intersections	
Green and Albertson	Intersection traffic control	Modify traffic signal timing - left-turn phasing (permissive to protected-only)	1	Intersections	$9161	$9161	HSIP (23 U.S.C. 148)	Urban	Major Collector	9,800	25	State Highway Agency	Spot	Intersections	
Site N - City of Wilmington Signals	Intersection traffic control	Modify traffic signal timing - left-turn phasing (permissive to protected/permissive)	1	Intersections	$12233.5	$12233.5	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	14,500	25	State Highway Agency	Spot	Intersections	
SR54 Corridor Study	Non-infrastructure	Road safety audits	1	Locations	$11503.68	$11503.68	HSIP (23 U.S.C. 148)	Rural	Major Collector	7,200	55	State Highway Agency	Spot	Various	
Median Barrier Installation	Roadside	Barrier - cable	10.5	Miles	$3439986.3	$3439986.3	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other Freeways & Expressways	46,500	65	State Highway Agency	Spot	Roadway Departure	
SR4 @ Boxwood	Intersection geometry	Auxiliary lanes - add left-turn lane	1	Intersections	$2813	$2813	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	17,196	40	State Highway Agency	Spot	Intersections	
2017 HEP Pavement Markings	Roadway delineation	Roadway delineation - other			$100675.89	$100675.89	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Spot	Various	

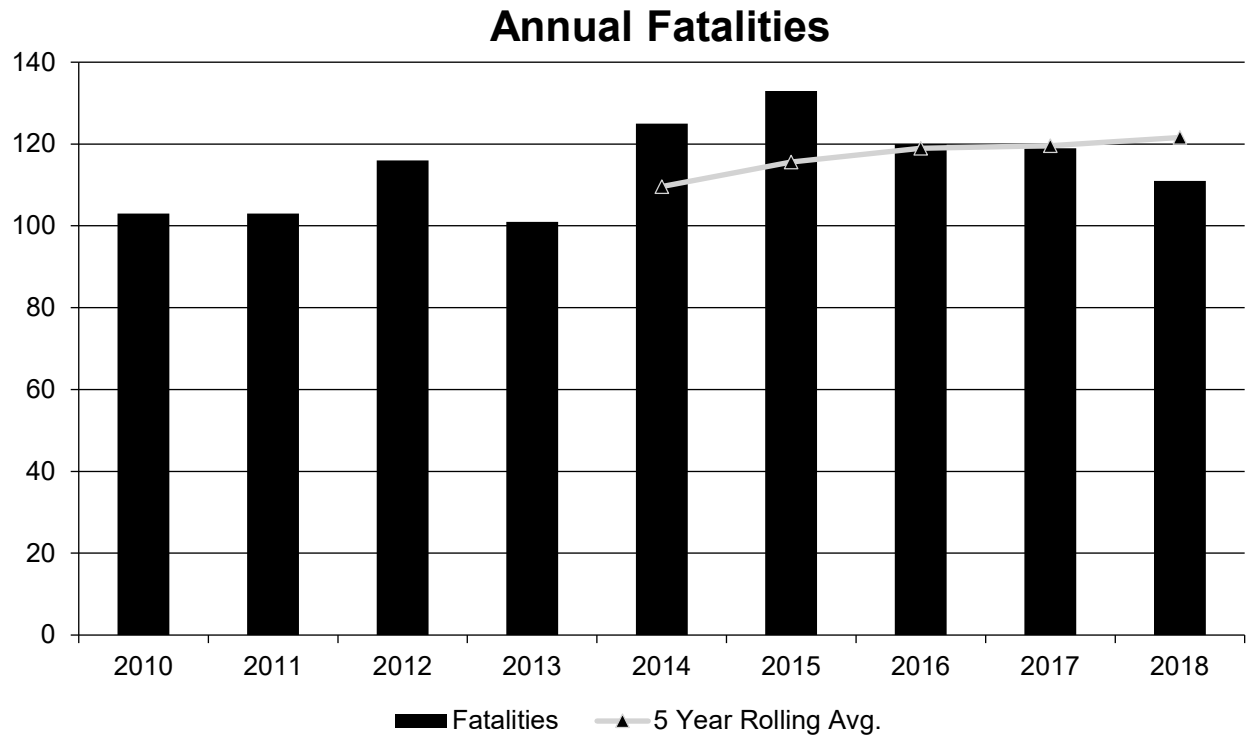
The reported total project costs and HSIP costs shown are the costs for the reporting period (i.e., FY 2019).

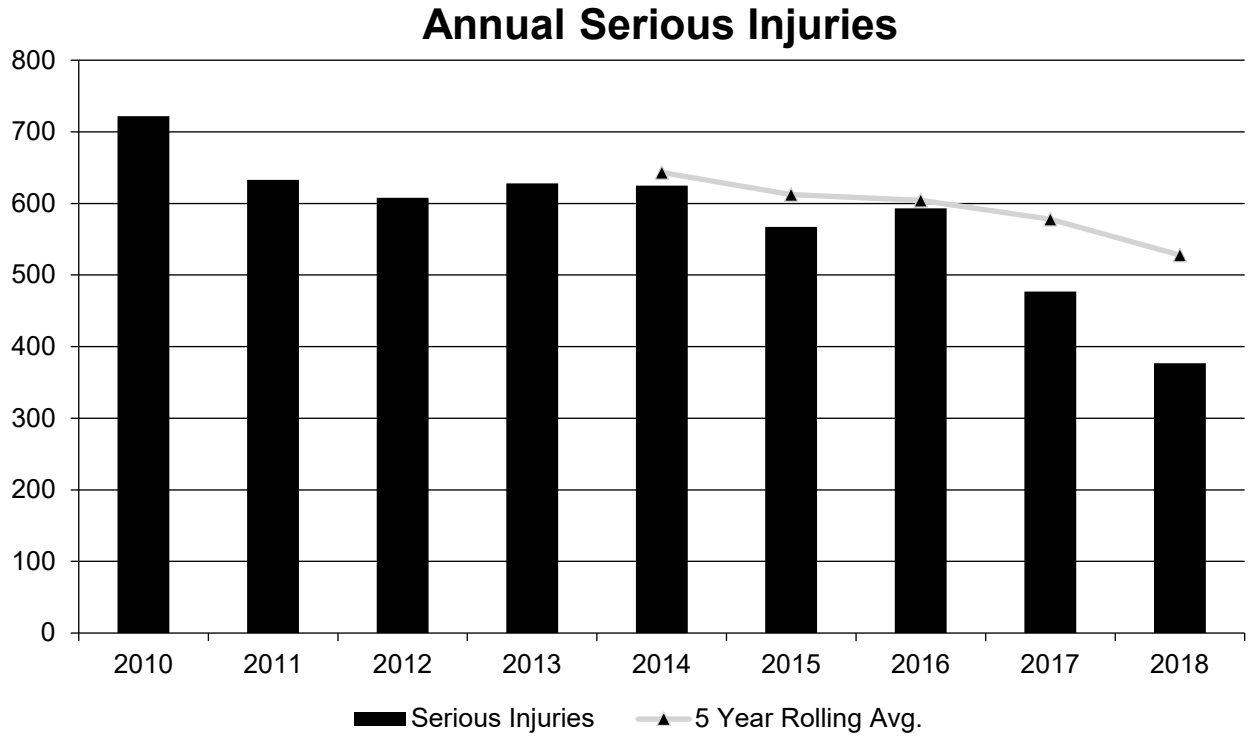
Safety Performance

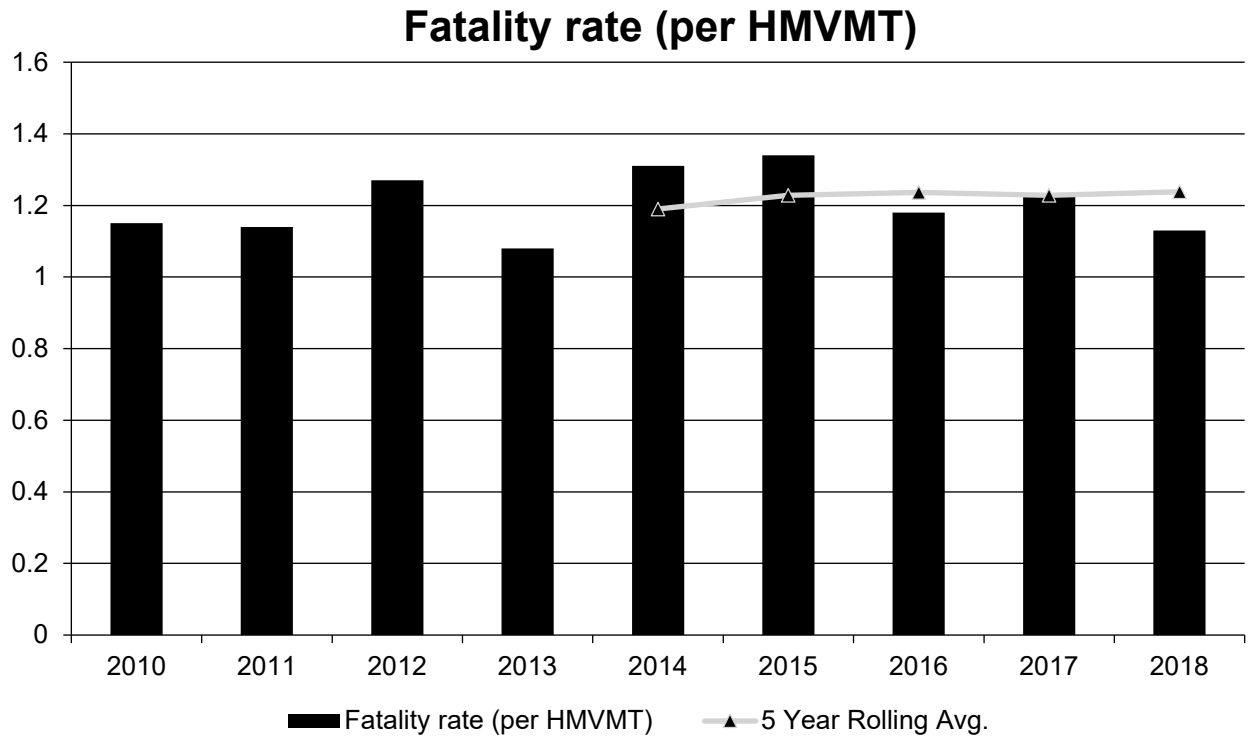
General Highway Safety Trends

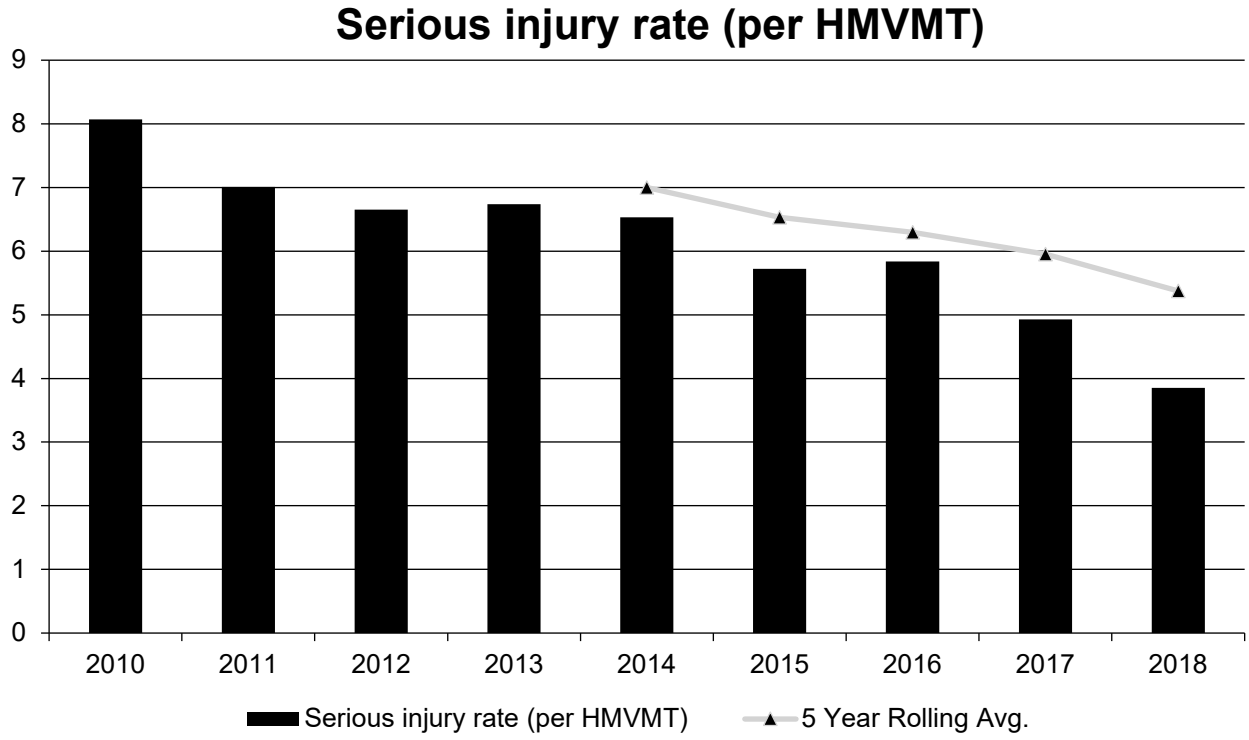
Present data showing the general highway safety trends in the State for the past five years.

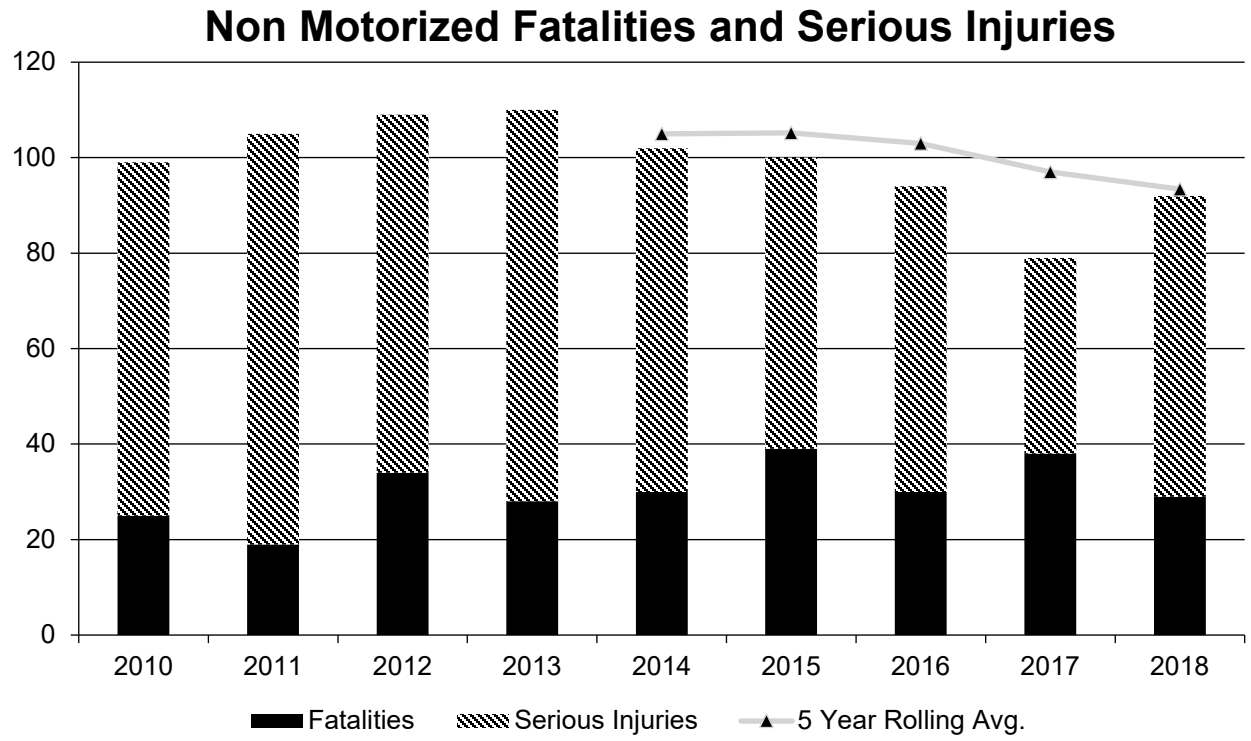
PERFORMANCE MEASURES	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fatalities	103	103	116	101	125	133	120	119	111
Serious Injuries	722	633	608	628	625	567	593	477	377
Fatality rate (per HMVMT)	1.150	1.140	1.270	1.080	1.310	1.340	1.180	1.230	1.130
Serious injury rate (per HMVMT)	8.070	7.010	6.650	6.740	6.530	5.720	5.840	4.930	3.850
Number non-motorized fatalities	25	19	34	28	30	39	30	38	29
Number of non-motorized serious injuries	74	86	75	82	72	61	64	41	63


Annual Fatalities
140
120
100
80
60
40
20
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
800
700
600
500
400
300
200
100
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
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
2010
2011
2012
2013
2014
2015
2016
2017
2018
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
9
8
7
6
5
4
3
2
1
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



At the time of reporting, annual vehicle miles traveled (VMT) data is unavailable for calendar year 2018. As such, 2018 fatality and serious injury rates were calculated based on projected 2018 VMT values. 2018 VMT was projected from known 2017 VMT using FHWA's VMT forecasting growth rates (May 2018 release), which indicates a 1.2% annual growth rate for the 20-year period from 2016-2036 for "baseline economic growth". For the purposes of this reporting, state data was used for both the number of fatalities and serious injuries.

Describe fatality data source.

State Motor Vehicle Crash Database

For the purposes of reporting the most recent statewide crash data trends, crash data from Delaware's Crash Analysis Reporting System (CARS) was used. It should be noted that safety performance measure targets (and the trend line analyses to derive the targets) relied on FARS data as required by the SPM Final Rule.

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

Year 2018

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	0	0	0	0
Rural Principal Arterial (RPA) - Other Freeways And Expressways	2	4.4	0.33	0.77

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) - Other	6.6	24.2	0.8	2.93
Rural Minor Arterial	6.2	16.6	2.59	15.68
Rural Minor Collector	9.6	20.2	4.08	6.21
Rural Major Collector	13	27.4	2.98	6.43
Rural Local Road Or Street	8.8	34.2	2.12	8.21
Urban Principal Arterial (UPA) - Interstate	6.4	25.2	0.46	1.82
Urban Principal Arterial (UPA) - Other Freeways And Expressways	3.6	9.6	0.57	1.49
Urban Principal Arterial (UPA) - Other	29.8	126	1.37	5.81
Urban Minor Arterial	15.6	89.2	1.43	8.15
Urban Minor Collector	4.6	21.2	0.54	4.64
Urban Major Collector	7.2	40	1.5	9.58
Urban Local Road Or Street	8	54.4	1.58	8.85
Unknown				

Year 2016

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

At the time of reporting, annual vehicle miles traveled data is unavailable for calendar year 2017. As such, 2018 crash rates were calculated based on projected 2018 VMT values. 2018 VMT was projected from known 2017 VMT using FHWA's VMT forecasting growth rates (May 2018 release), which indicates a 1.12% annual growth rate for the 20-year period from 2016-2036 for "baseline economic growth". If needed, please see attached spreadsheet for the crash data. Additionally, functional classification data was updated/corrected for several roadways in 2014 throughout the state; therefore, comparing pre-2014 and post-2014 crash data by functional classification should be done with caution. Data by roadway ownership is not available at this time.

Provide additional discussion related to general highway safety trends.

The combined number of fatalities and serious injuries (based on 5-year rolling averages) per year has steadily

declined on an annual basis from 2014 to 2018. Statewide vehicle miles traveled (VMT) increased annually from 2014 to 2016, decreased in 2017 and are projected to increase in 2018. Fatalities per VMT (based on 5-year rolling averages) have increased annually from 2014 to 2018; however, serious injuries per VMT (based on 5-year rolling averages) have decreased annually from 2014 to 2018. In 2018, serious injuries per VMT was approximately 23 percent lower than in 2014. The raw number of fatalities and serious injuries per year for the State of Delaware are relatively low; therefore, there is greater potential for larger fluctuations in fatality rates and serious injury rates as compared to other larger states and national rates, even though the raw number of fatalities and serious injuries may only differ by a few on a year-to-year basis.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2020 Targets *

Number of Fatalities:112.4

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

During 2015, DelDOT, OHS, DSP, and other statewide safety partners collaborated in the development of the 2015 Delaware Strategic Highway Safety Plan: Toward Zero Deaths, which provides a framework to reduce fatalities and serious injuries resulting from crashes on Delaware's roadways. The 2015 SHSP established a multi-year overall goal which includes annual target reductions. In 2017, DelDOT and OHS performed extensive data and trendline analyses to identify potential methodologies for establishing Delaware's 2018 SPM targets and met with FHWA and NHTSA representatives to review the data and establish the 2018 SPM targets. At that time, DelDOT and OHS agreed to use the annual target reductions included in Delaware's 2015 SHSP overall goal as the basis for developing Delaware's 2018 SPM targets. In March 2018, DelDOT, OHS, and DSP reconvened to establish Delaware's 2019 SPM targets and agreed to follow the same methodology used for the 2018 SPM targets. Having established an agreed upon methodology for the 2018 and 2019 SPM targets, the three agencies coordinated in Spring 2019 to set 2020 SPM targets. As shown in the table below, the number of fatalities and serious injuries in 2018 were reduced by 3 and 15 per year, respectively, to obtain target values for 2019 and 2020. Consistent methodologies were applied to establish the target values for the rate of fatalities, rate of serious injuries, and combined number of non-motorized fatalities and serious injuries. The 2016 through 2020 values were then averaged to calculate the 2020 five-year rolling average target values.

Number of Serious Injuries:430.6

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

See response for number of fatalities.

Fatality Rate:1.134

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

See response for number of fatalities.

Serious Injury Rate:4.340

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

See response for number of fatalities.

Total Number of Non-Motorized Fatalities and Serious Injuries:89.0

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

See response for number of fatalities.

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

After coordinating with the Office of Highway Safety (OHS) and Delaware State Police (DSP) in Spring 2019, DelDOT distributed the draft agreed upon safety performance measures to statewide stakeholders for their comment via email. Members of Delaware's SHSP committee accounted for a majority of the stakeholders included in the distribution of the draft targets. This includes, but is not limited to, the representatives from Delaware's MPOs, Delaware State Police, and Delaware's Office of Emergency Medical Services. DelDOT did not receive any objections to the draft safety performance measure targets.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2018 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

2018 SPM targets were established during 2017 to consider safety performance through the end of calendar year 2018. Per FHWA guidelines, fatality data from the Fatality Analysis Reporting System (FARS) and traffic volume data from the Highway Performance Monitoring System (HPMS) will be used to officially assess whether a state met or made significant progress towards meeting its annual SPM targets. Both FARS data and HPMS data for 2018 are not yet available; therefore, officially determining whether Delaware met or made significant progress towards meeting its 2018 SPM targets is not possible at this time. However, a preliminary assessment was completed using 2018 fatality data from DelDOT's Crash Analysis Reporting System (CARS) and projected 2018 VMT data to assess Delaware's achievement of the 2018 SPM targets. Based on this preliminary assessment (described below), Delaware has met or made significant progress toward meeting four of the five 2018 Safety Performance Measure Targets.

1. Number of Fatalities – Delaware's projected 2014-2018 5-year rolling average value is 120.8 or 0.6 fatalities greater than the 120.2 target. Although this target was not met, CY 2019 fatalities were the lowest since CY 2013.
2. Rate of Fatalities – Delaware's projected 2014-2018 5-year rolling average value is 1.228, which is slightly higher than the 1.208 target and slightly lower than the 1.240 baseline. By being lower than the baseline, this SPM is met .
3. Number of Serious Injuries – Delaware's projected 2014-2018 5-year rolling average value is 527.8 or 50.8 serious injuries lower than the 578.6 target; therefore, this SPM is met . This significant decrease is mainly driven by a decrease in yearly serious injuries in both CY 2017 and CY 2018. The reason(s) for this decrease are not yet clear; however, DelDOT anticipates further discussions amongst stakeholders will occur during development of its 2020 SHSP.

4. Rate of Serious Injuries – Delaware's projected 2014-2018 5-year rolling average value is 5.374 or 0.448 less than the 5.822 target; therefore, this SPM is met . Refer to SPM #3 (number of serious injuries) for additional details.
5. Combined Number of Non-Motorized Fatalities and Serious Injuries – Delaware's projected 2014-2018 5-year rolling average value is 93.2 or 1.0 lower than the 94.2 target; therefore, this SPM is met . A significant reduction in serious injuries in CY 2017 largely contributed to meeting this target.

Applicability of Special Rules

Does the HRRR special rule apply to the State for this reporting period?
No

The HRRR Special Rule does not apply for Delaware in FY2019; however, it does apply for FY2020. Under the rule, Delaware must obligate $900,000 in FY2020 towards HRRR safety projects. At the time of reporting, DelDOT's preliminary plan is to obligate half of the funds to high friction surface treatments and half for turned down/curve guardrail upgrades.

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	2012	2013	2014	2015	2016	2017	2018
Number of Older Driver and Pedestrian Fatalities	11	14	20	14	17	19	16
Number of Older Driver and Pedestrian Serious Injuries	41	55	42	42	42	46	27

As required, the number of fatalities is based on FARS data and the number of serious injuries is based on State data. At the time of reporting, 2018 FARS data is unavailable; therefore, State data is reported for CY 2018.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries
- Economic Effectiveness (cost per crash reduced)

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

See response to Question 33 for discussion of the change in fatalities and serious injuries.

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

- # miles improved by HSIP
- # RSAs completed
- More systemic programs

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

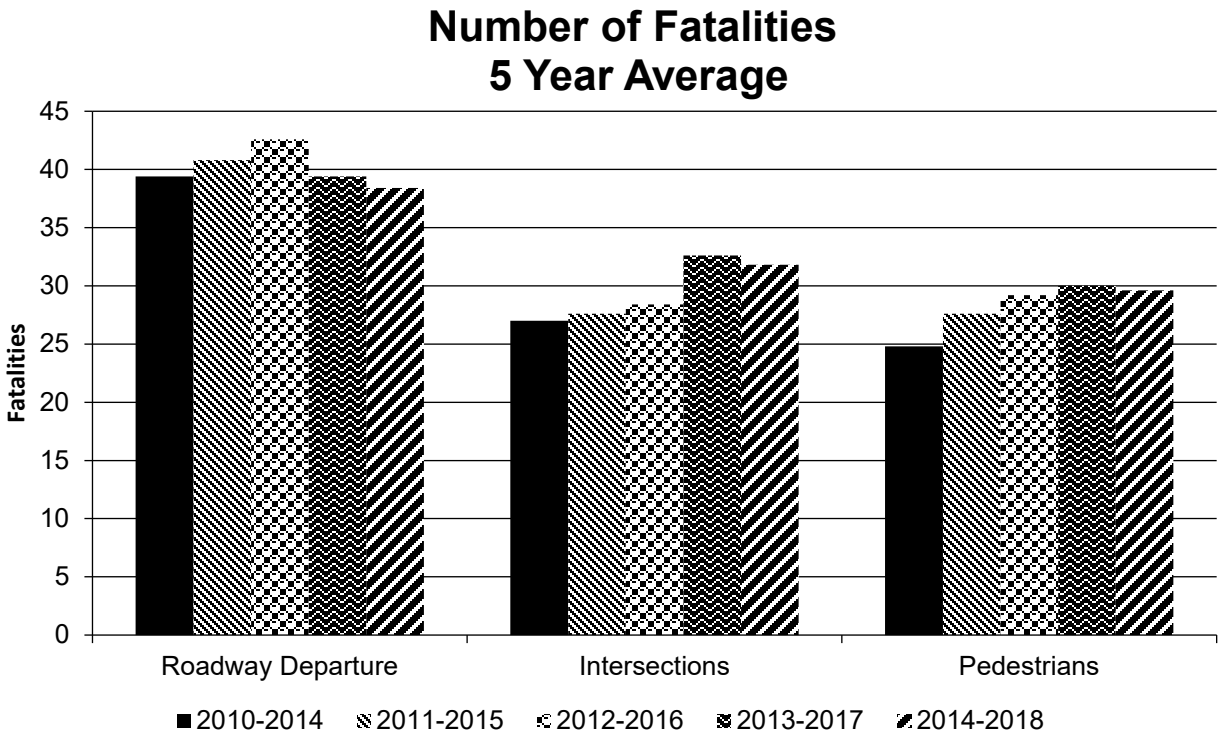
DelDOT revised the site selection methodology for its Hazard Elimination Program (HEP) in 2018. Please refer to Question 20 for additional information.

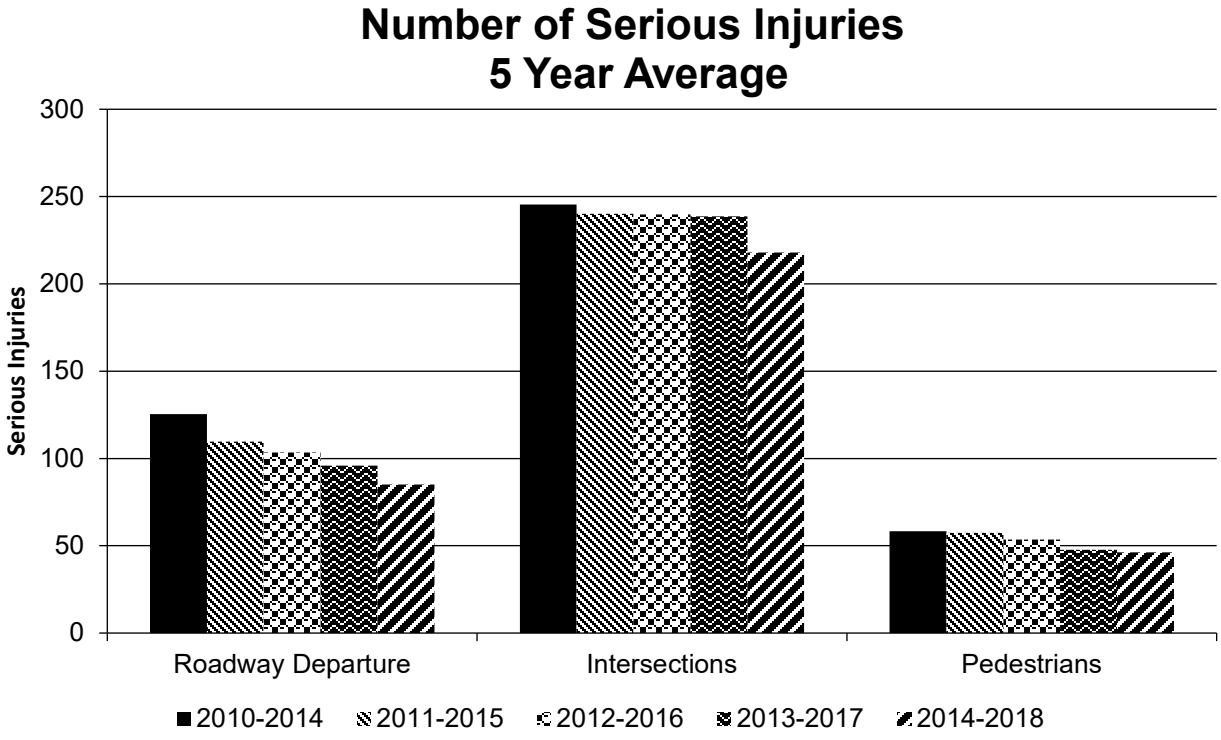
Effectiveness of Groupings or Similar Types of Improvements

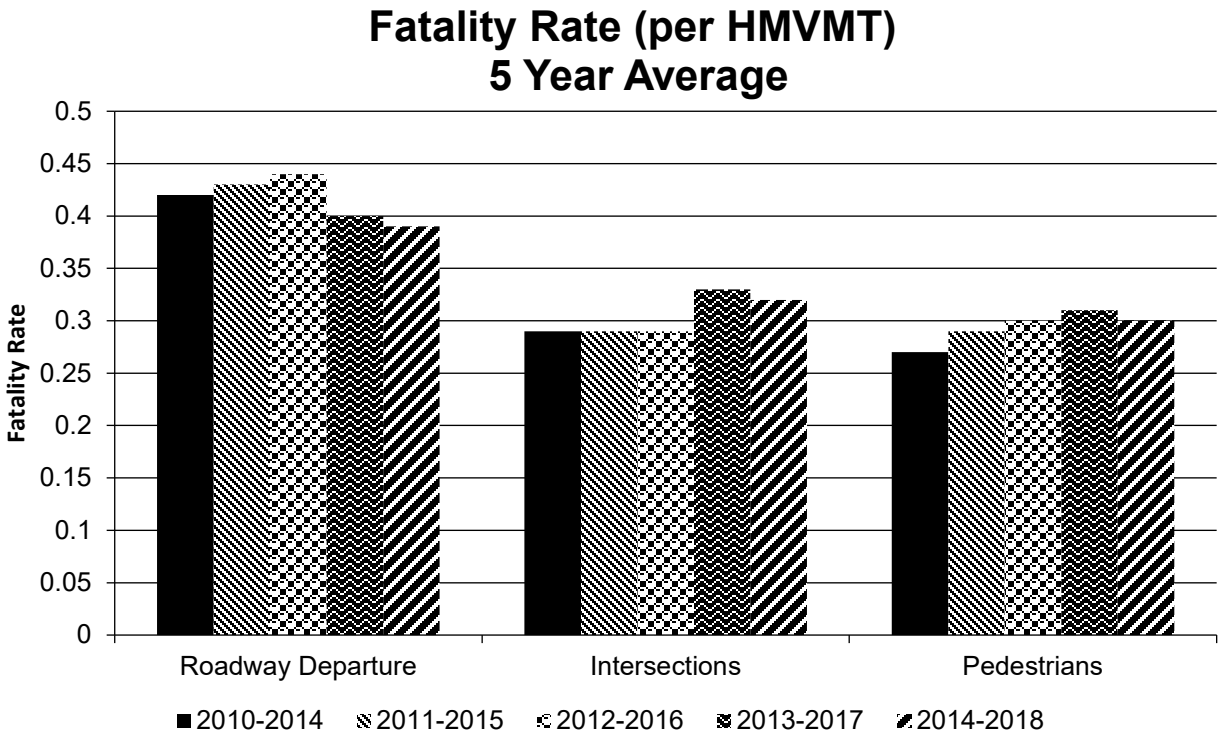
Present and describe trends in SHSP emphasis area performance measures.

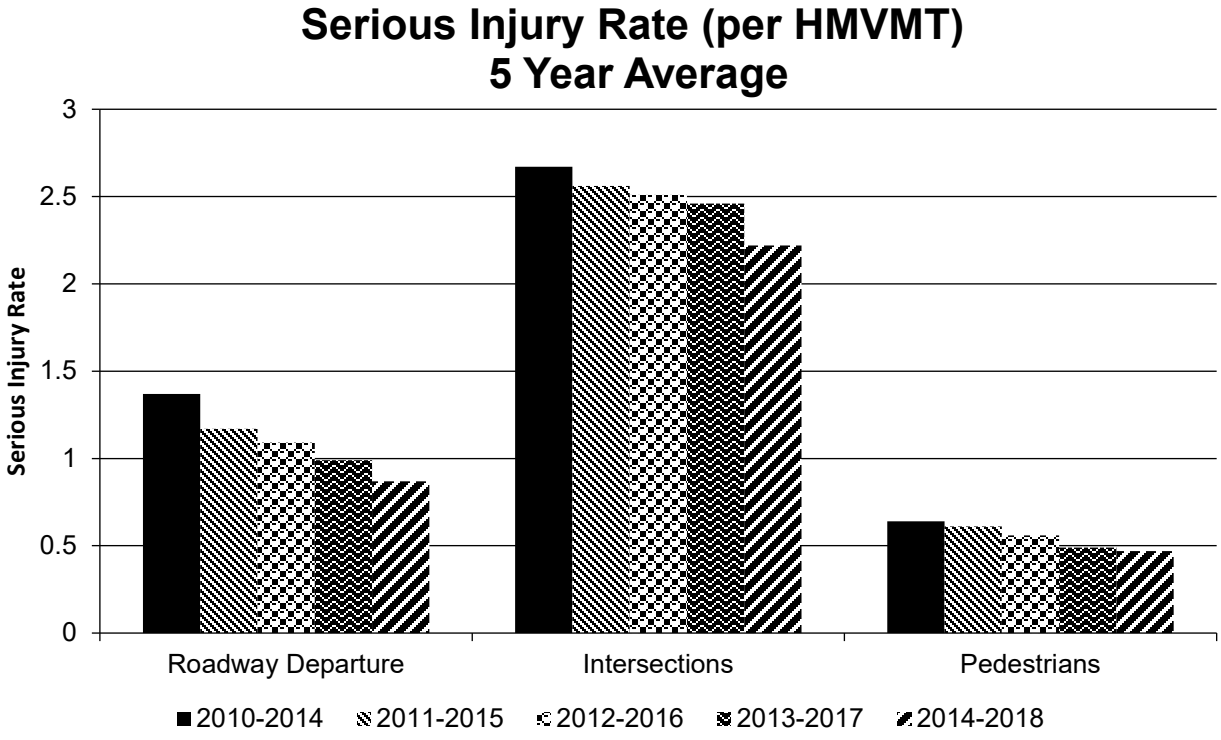
Year 2018

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Roadway Departure		38.4	85	0.39	0.87
Intersections		31.8	218	0.32	2.22
Pedestrians		29.6	46.2	0.3	0.47


Number of Fatalities
5 Year Average
Fatalities
45
40
35
30
25
20
15
10
5
0
Roadway Departure
Intersections
Pedestrians
2010-2014
2011-2015
2012-2016
2013-2017
2014-2018


Number of Serious Injuries
5 Year Average
Serious Injuries
300
250
200
150
100
50
0
Roadway Departure
Intersections
Pedestrians
2010-2014
2011-2015
2012-2016
2013-2017
2014-2018





At the time of reporting, annual vehicle miles traveled (VMT) data is unavailable for calendar year 2018. As such, 2018 fatality and serious injury rates were calculated based on projected 2018 VMT values. 2018 VMT was projected from known 2017 VMT using FHWA's VMT forecasting growth rates (May 2018 release), which indicates a 1.2% annual growth rate for the 20-year period from 2016-2036 for "baseline economic growth". Delaware’s 2015 SHSP includes 7 data-driven emphasis areas. Crash statistics for emphasis areas related to

driver behavior (i.e., Impaired Driving, Unrestrained Motorists, Speeding) are reported in Delaware's annual Highway Safety Plan .

As shown, the number of roadway departure fatalities (based on 5-year rolling averages) has remained relatively steady from 2014 to 2018; however, the number of roadway departure serious injuries has decreased during the same period. The number of intersection fatalities (based on 5-year rolling averages) remained relatively consistent from 20143 through 2016; however, increased by approximately four in 2017 and 2018 when compared to 2016. The number of intersection serious injuries (based on 5-year rolling averages) from 2014 to 2018 has seen a yearly decline. Pedestrian fatalities (based on 5-year rolling averages) have increased from 2014 to 2017 and remained relatively consistent in 2018; however, pedestrian serious injuries have decreased yearly from 2014 to 2018.

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

Yes

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

CounterMeasures:	ICB
Description:	Intersection Control Beacon
Target Crash Type:	All
Number of Installations:	4
Number of Installations:	4
Miles Treated:	
Years Before:	2
Years After:	2
Methodology:	Simple before/after
Results:	Please refer to attached study for further details.

File Name: ICB_ResearchReport_20190628_Package.pdf

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)
See comments.														

No elaboration at this time.

Compliance Assessment

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

12/31/2015

What are the years being covered by the current SHSP?

From: 2016 To: 2020

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

2020

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

ROAD TYPE	MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
ROADWAY SEGMENT	Segment Identifier (12)	100	100					100	100	100	100
	Route Number (8)	100									
	Route/Street Name (9)	100	100								
	Federal Aid/Route Type (21)	100	100								
	Rural/Urban Designation (20)	100	100					100	80		
	Surface Type (23)	100						100			
	Begin Point Segment Descriptor (10)	100	100					100	100	100	100
	End Point Segment Descriptor (11)	100	100					100	100	100	100
	Segment Length (13)	100	100								
	Direction of Inventory (18)	100	100								
	Functional Class (19)	100	100					100	100	100	100
	Median Type (54)	100									
	Access Control (22)	100									

ROAD TYPE	MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	One/Two Way Operations (91)	100	100								
	Number of Through Lanes (31)	100	100					100	80		
	Average Annual Daily Traffic (79)	100	100					100	100		
	AADT Year (80)	100									
	Type of Governmental Ownership (4)	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120)			100	100						
	Location Identifier for Road 1 Crossing Point (122)			100	100						
	Location Identifier for Road 2 Crossing Point (123)			100	100						
	Intersection/Junction Geometry (126)			100	100						
	Intersection/Junction Traffic Control (131)			100	100						
	AADT for Each Intersecting Road (79)			100	100						
	AADT Year (80)			100							
	Unique Approach Identifier (139)			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178)					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197)					100	100				
	Location Identifier for Roadway at Ending Ramp Terminal (201)					100	100				
	Ramp Length (187)					100	100				

ROAD TYPE	MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	Roadway Type at Beginning of Ramp Terminal (195)					100	100				
	Roadway Type at End Ramp Terminal (199)					100	100				
	Interchange Type (182)						100				
	Ramp AADT (191)					100	100				
	Year of Ramp AADT (192)					100	100				
	Functional Class (19)					100	100				
	Type of Governmental Ownership (4)					100	100				
Totals (Average Percent Complete):		**100.00**	**72.22**	**100.00**	**87.50**	**90.91**	**100.00**	**100.00**	**84.44**	**100.00**	**100.00**

*Based on Functional Classification

There are no non-state maintained interchanges/ramps in the state; therefore, the non-state maintained interchange/ramp section is not applicable. A value of 100 % was entered for the purposes of reporting.

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.

DelDOT is currently in the development stages of their Transportation System Data Management (TSDM) system which will incorporate the FDEs. Data collection to provide FDEs for state-maintained roads has occurred and was completed in October 2015. DelDOT is working towards meeting the FDE requirement by September 2026.

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

No

DelDOT is continually assessing its HSIP; however, did not complete a formal program assessment during the reporting period. DelDOT did modify its HEP methodology to prioritize corridors and/or intersections, including considering only fatal and injury crashes during site selection and/or considering crash numbers in lieu of rates. In 2020, DelDOT and its planning partners will be working to updates its SHSP, which will naturally provide opportunities for assessing the HSIP.

When does the State plan to complete its next HSIP program assessment.

2020

Optional Attachments

Program Structure:

2018 HSIP Methodology Update Memo 2018-12-17.pdf
Project Implementation:

Safety Performance:

Evaluation:

ICB_ResearchReport_20190628_Package.pdf
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.