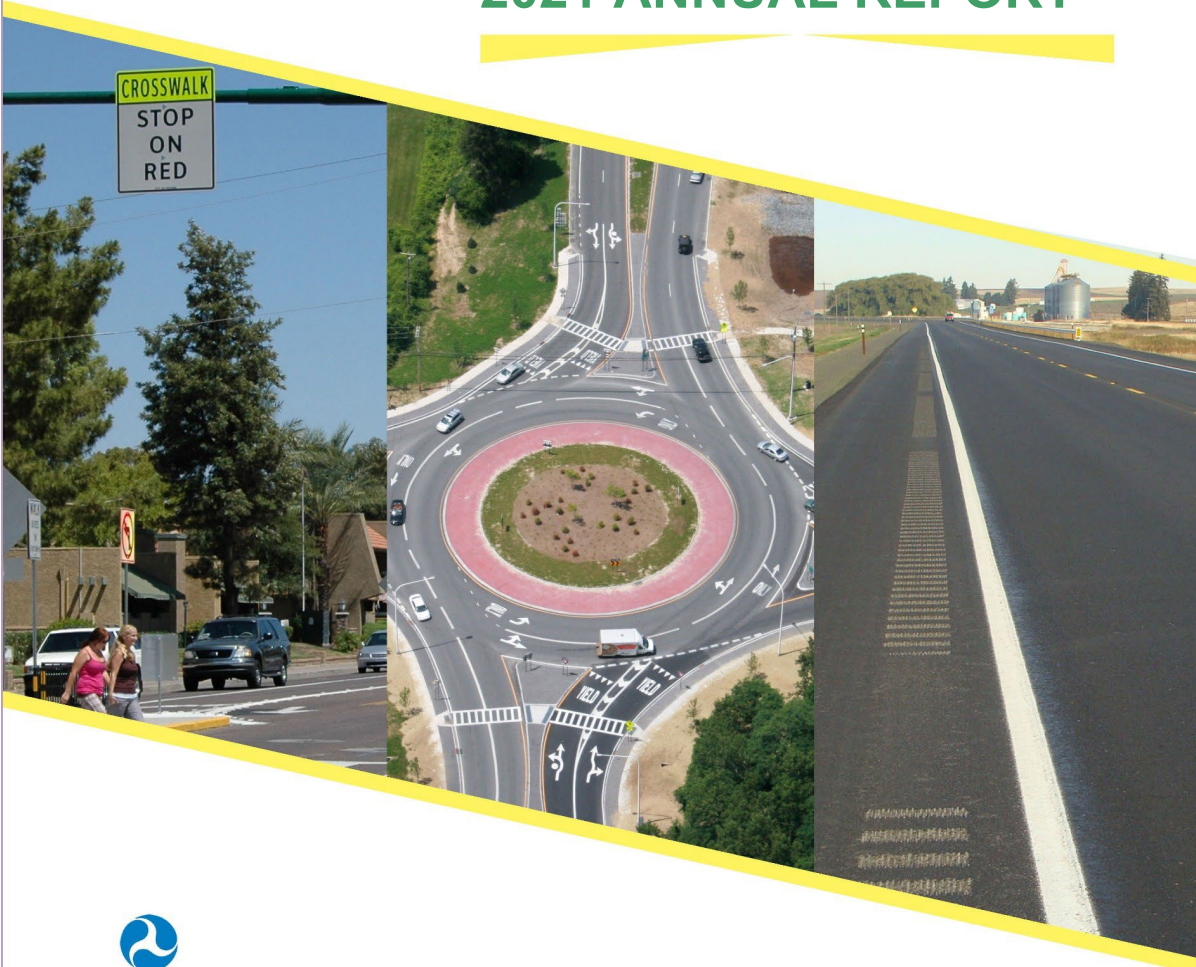




DELAWARE

HIGHWAY SAFETY IMPROVEMENT PROGRAM 2021 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

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Disclaimer

Protection of Data from Discovery Admission into Evidence

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.

23 U.S.C. 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 2021 (July 1, 2020 through June 30, 2021) to demonstrate the success of their safety program. During the 2021 reporting period, DelDOT continued its successful core HSIP sub-programs, including the Hazard Elimination Program (HEP), Systemic Safety Improvement Program, Highway Rail-Grade Crossing Program (HRGX), and Strategic Highway Safety Plan (SHSP). Additionally, a High Risk Rural Roads Program was re-established. During the 2021 reporting period, DelDOT installed new median barrier along SR 1, continued Rectangular Rapid Flashing Beacon (RRFB) installations, completed a pedestrian safety audit along US 13 in Dover and began implementation of improvements, began data analysis for a pedestrian safety audit in the City of Wilmington, balanced safety and congestion at flashing red arrow (FRA) locations, and implemented previous years' HEP recommendations. DelDOT successfully awarded a new contract to install High-Friction Surface Treatment (HFST) applications. DelDOT continued to identify new safety improvements through studies in its core programs and implemented previously identified improvements.

During the 2021 reporting period, DelDOT and its safety partners completed and adopted a new SHSP. Delaware's current SHSP was adopted in December 2020 and serves as the state's safety plan for 2021 through 2025. This extensive planning process identified new strategies and actions and re-emphasized existing ones to improve safety on Delaware's roadways. Additionally, DelDOT completed a redesign of its SHSP webpage at www.safety.deldot.gov and plans further website enhancements in the coming months.

In compliance with federal safety performance management regulations, DelDOT developed its first HSIP Implementation Plan for Federal Fiscal Year 2022. DelDOT led efforts, in conjunction with Delaware's Office of Highway Safety and Delaware State Police, to identify Delaware's 2022 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 2020 safety performance measure targets.

The success of Delaware's HSIP is demonstrated by the annual decline in the combined number of fatalities and serious injuries (based on 5-year rolling averages) from 2016 to 2020, resulting in a 5-year decrease of 20 percent. The number of fatalities (based on 5-year rolling averages) per year remained relatively steady from 2016 to 2020, ranging from 117.4 to 122.4. During the same period, the number of serious injuries (based on 5-year rolling averages) per year have steadily declined from 604 in 2016 to 459 in 2020, a reduction of nearly 25 percent.

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 Engineering 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:

- Strategic Highway Safety Plan (SHSP)
- Hazard Elimination Program (HEP)
 - Segment HEP
 - Intersection HEP
 - Signalized Intersection Program
 - Unsignalized Intersection Program
 - Systemic Safety Improvement Programs
 - Longitudinal Rumble Strips
 - High Friction Surface Treatment
 - Freeway Median Barrier
- Highway-Rail Grade Crossing (HRGX)
- High Risk Rural Roads Program (HRRRP)

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, Delaware T2/LTAP Center, and the general public) 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. Delaware's current SHSP was adopted in December 2020 and serves as the state's safety plan for 2021 through 2025.

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

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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 DeIDOT (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 DeIDOT's Traffic Section and implemented by DeIDOT'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 DeIDOT's Project Development section for prioritization and inclusion in the Capital Transportation Program (CTP).

Delaware began implementing systemic safety improvements in 2015 targeting the reduction of fatal and serious injury roadway departure crashes. This was a change on how Delaware approached roadway safety by focusing on implementing proven safety countermeasures at high risk locations rather than by implementing spot treatments. Each of Delaware's systemic safety improvement programs use a data-driven approach based on several factors, including traffic volumes, roadway characteristics, functional classification, and crash history to identify and prioritize locations for implementing proven countermeasures. Delaware has implemented systemic safety improvements in the following areas:

- Longitudinal Rumble Strips: project selection considers both centerline and shoulder rumble strips, prioritizing arterials, collectors, and local roadways statewide based on curvature, shoulder width, lane width and ADT. Other considerations include noise impacts, presence of bicycle traffic, and pavement condition. Recently, Delaware adopted sinusoidal rumble strips as a standard practice on non-freeway applications. Previous three-year open-end contracts were established for implementing rumble strips using HSIP, HRRRP, and Section 154 Penalty Transfer Funds.
- High-Friction Surface Treatment (HFST): project selection prioritizes all roadways statewide based on roadway departure crash rates on wet pavements, focusing on horizontal curves and high wet-weather crash locations. Implementation has occurred using HSIP, HRRRP, and Section 154 Penalty Transfer Funds. A new contract that includes installation of HFST at 12 new locations.
- Freeway Median Barrier: project selection considers both high-tension cable barrier and double-faced guardrail, prioritizing unprotected medians along I-95 and SR 1 based on daily traffic volumes, horizontal curvature, median width, and head-on and cross-median crash rates. Installation of freeway median barrier along I-95 and SR 1 was recently completed with over 40 miles of median barrier installed. DeIDOT is now moving towards prioritizing non-freeway median sections on principal arterials.

Delaware's HRGX Program serves as its Rail-Highway Crossing Program. For its HRGX, DeIDOT 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.

In December 2018, Delaware was identified as a state that experienced an increase in the rural road fatality rate, triggering the MAP-21 Special Rule and the requirement to obligate a portion of HSIP funding to high risk rural road safety projects. In conformance with the Special Rule, DeIDOT obligated \$900,000 in FFY2020 to develop and execute a high risk rural roads program. A site selection process was developed and modeled upon DeIDOT's HEP, using the critical ratio methodology to identify segment locations and the crash severity index methodology to identify intersection locations (with a few rural road-specific modifications). The segment site selection process is consistent with the HEP segment site selection process but with two modifications: 1) reduces the minimum number of fatality and injury crashes within a site from five to two along a 0.3 mile segment; and 2) only considers roadways identified as rural major collector, rural minor collector or rural local. The intersection site selection process utilizes the HEP intersection site selection process with three

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modifications: 1) while the HEP process identifies intersections from separate lists for signalized and unsignalized intersections, a single ranked list of all intersections (signalized and unsignalized) is used for HRRRP; 2) applies a criterion of a minimum of five fatal, personal injury, and/or property damage only crashes during a three-year period (no minimum was established for HEP); and 3) only considers intersections consisting of rural major collector, rural minor collector; and/or rural local roadways based on data contained in DeIDOT's Transportation System Data Management.

Where is HSIP staff located within the State DOT?

Engineering

HSIP staff are located in DeIDOT's Division of Transportation Solutions – Traffic Engineering Section.

How are HSIP funds allocated in a State?

- Other-Central Office via Formula

DeIDOT's Central Office distributes HSIP funds to cover general HSIP program activities and the installation of low-cost countermeasures (signing, marking, signals, etc.) identified through both the HSIP and projects designed through DeIDOT'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 DeIDOT's road inventory where traffic volumes are available. DeIDOT maintains approximately 85 percent of all roads in Delaware. Based on a review of statewide crash data on all public roadways from 2015 through 2019, less than 0.5 percent of fatal and serious injuries were the result of crashes that occurred on roadways not maintained by DeIDOT, 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 DeIDOT'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

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- 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 DeIDOT's external partners participate in the HSIP via the HEP and/or SHSP committees. Together, DeIDOT and these agencies work together to focus resources with the goal of reducing fatalities and serious injuries on Delaware's transportation system.

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

As noted previously, DeIDOT obligated \$900,000 in FFY2020 to develop and execute a high risk rural roads program. The program is in progress. Additional details can be found within this report.

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

During FY 2021 (July 1, 2020 - June 30, 2021), components of Delaware's HSIP included the Strategic Highway Safety Plan (SHSP), the Hazard Elimination Program (HEP), the Systemic Safety Improvement Program, Highway-Rail Grade Crossing Safety Program (HRGX), and High Risk Rural Roads Program (HRRRP). During the 2021 reporting period, DeIDOT and its safety partners completed and adopted a new SHSP. Delaware's current SHSP was adopted in December 2020 and serves as the state's safety plan for 2021 through 2025. In compliance with federal safety performance management regulations, DeIDOT developed its first HSIP Implementation Plan for Federal Fiscal Year 2022. Additional administration accomplishments for the FY 2021 reporting period include:

- Finalized program methodology for its High Risk Rural Roads Program and began safety evaluations to identify improvements.
- Finalized DeIDOT's rumble strip details and design guidance to add the use of sinusoidal shoulder and center line rumble strips (aka "mumble" strips).
- Awarded a new contract for installation of High Friction Surface Treatment applications.
- Completed construction of median barrier along an 18-mile section of SR 1 from south of SR 9, Bayside Road to Duck Creek that includes about 12.5 miles of new median barrier.
- Completed construction of new median barrier along SR 1 between the Biddles Toll Plaza and the Roth Bridge in summer 2020.
- Continued Rectangular Rapid Flashing Beacon (RRFB) installations.
- Continued to balance safety and congestion improvements at flashing red arrow (FRA) locations.
- Continued enhancements to the Crash Analysis and Reporting System (CARS)
- Completed a Pedestrian Safety Audit along US 13 in Dover, and began implementation of that study's recommendations and began a city-wide pedestrian safety study within the City of Wilmington

Program Methodology

Select the programs that are administered under the HSIP.

- HRRR

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- Intersection
- Median Barrier
- Segments
- Other-Longitudinal Rumble Strips
- Other-High Friction Surface Treatment

Program: HRRR

Date of Program Methodology:4/1/2021

What is the justification for this program?

- Other-MAP-21 Special Rule

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

- Other-Fatal and Injury Crashes Only

Exposure

- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Critical rate
- Relative severity index

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

How are projects under this program advanced for implementation?

- selection committee

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

Rank of Priority Consideration

Available funding:1

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In December 2018, Delaware was identified as a state that experienced an increase in the rural road fatality rate, triggering the MAP-21 Special Rule and the requirement to obligate a portion of HSIP funding to high risk rural road safety projects. In conformance with the Special Rule, DelDOT obligated \$900,000 in FFY2020 to develop and execute a high risk rural roads program. A site selection process was developed and modeled upon DelDOT's HEP, using the critical ratio methodology to identify segment locations and the crash severity index methodology to identify intersection locations (with a few rural road-specific modifications). The segment site selection process is consistent with the HEP segment site selection process but with two modifications: 1) reduces the minimum number of fatality and injury crashes within a site from five to two along a 0.3 mile segment; and 2) only considers roadways identified as rural major collector, rural minor collector or rural local. The intersection site selection process utilizes the HEP intersection site selection process with three modifications: 1) while the HEP process identifies intersections from separate lists for signalized and unsignalized intersections, a single ranked list of all intersections (signalized and unsignalized) is used for HRRRP; 2) applies a criterion of a minimum of five fatal, personal injury, and/or property damage only crashes during a three-year period (no minimum was established for HEP); and 3) only considers intersections consisting of rural major collector, rural minor collector; and/or rural local roadways based on data contained in DelDOT's Transportation System Data Management.

Program: Intersection

Date of Program Methodology:12/17/2018

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
<ul style="list-style-type: none">• Other-Fatal and Injury Crashes Only		

What project identification methodology was used for this program?

- Relative severity index

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

How are projects under this program advanced for implementation?

- selection committee

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

Rank of Priority Consideration

Available funding: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

- Other-All roadway departure crashes, head-on crashes, and cross-median crashes

Exposure

- Volume
- Other-Roadway Miles

Roadway

- 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: Segments

Date of Program Methodology:12/17/2018

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

- Other-Fatal and Injury Crashes Only

Exposure

- Volume
- Other-Roadway Miles

Roadway

- 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).

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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

- Other-All roadway departure crashes

Exposure

- Volume
- Other-Roadway Miles

Roadway

- 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

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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
<ul style="list-style-type: none"> • Other-All wet weather roadway departure crashes 	<ul style="list-style-type: none"> • 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?

17

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

- Cable Median Barriers
- High friction surface treatment
- Other-Median Barrier

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.

As part of the national SPaT Challenge, DelDOT has equipped intersections along US 13 in Smyrna as well as intersections in Dover with dedicated short-range communication (DSRC) roadside equipment. As vehicle 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. Although the HSIP may not be the direct catalyst, DelDOT has undertaken and implemented many ITS solutions to improve safety that are in alignment with its SHSP. A few examples include the installation of a dilemma zone detection system, queue detection systems for the I-95 Wilmington Viaduct project, and Variable Speed Limit signs. Moving ahead, we expect to have a higher level of coordination between CAV/ITS 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 and countermeasures under consideration for its HSIP.

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

In December 2018, Delaware was identified as a state that experienced an increase in the rural road fatality rate, triggering the MAP-21 Special Rule and the requirement to obligate a portion of HSIP funding to high risk rural road safety projects. In conformance with the Special Rule, DelDOT obligated \$900,000 in FFY2020 to develop and execute a high risk rural roads program. A site selection process was developed and modeled upon DelDOT’s HEP, using the critical ratio methodology to identify segment locations and the crash severity index methodology to identify intersection locations (with a few rural road-specific modifications). The segment site selection process is consistent with the HEP segment site selection process but with two modifications: 1) reduces the minimum number of fatality and injury crashes within a site from five to two along a 0.3 mile segment; and 2) only considers roadways identified as rural major collector, rural minor collector or rural local. The intersection site selection process utilizes the HEP intersection site selection process with three

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modifications: 1) while the HEP process identifies intersections from separate lists for signalized and unsignalized intersections, a single ranked list of all intersections (signalized and unsignalized) is used for HRRRP; 2) applies a criterion of a minimum of five fatal, personal injury, and/or property damage only crashes during a three-year period (no minimum was established for HEP); and 3) only considers intersections consisting of rural major collector, rural minor collector; and/or rural local roadways based on data contained in DeIDOT's Transportation System Data Management.

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)	\$19,413,000	\$9,815,854	50.56%
HRRR Special Rule (23 U.S.C. 148(g)(1))	\$0	\$900,000	0%
Penalty Funds (23 U.S.C. 154)	\$2,408,900	\$2,541,638	105.51%
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)	\$17,011,200	\$13,638,138	80.17%
State and Local Funds	\$0	\$0	0%
Totals	\$38,833,100	\$26,895,630	69.26%

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?

\$1,876,885

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

\$1,876,885

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
T200900704 - HSIP NCC, SR 273, APPLEBY ROAD TO AIRPORT ROAD	Intersection geometry	Add/modify auxiliary lanes	1	Intersections	\$327137.87	\$13972700	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	27,600	45	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
T201200903 - HSIP SR 24 at SR 5 / SR 23 Intersection Improvements	Intersection geometry	Add/modify auxiliary lanes	1	Intersections	\$7962217.67	\$7962217.67	HSIP (23 U.S.C. 148)	Urban	Major Collector	14,900	45	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
T201901002 - Median Barrier Installation, Statewide, Open-End	Roadside	Barrier - other	14	Miles	\$50000	\$50000	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other Freeways & Expressways	42,000	65		Systemic	Roadway Departure	Roadway Departure 2.0 Minimize the consequence of leaving the roadway by improving the roadside environment.
T201901002 - Median Barrier Installation, Statewide, Open-End	Roadside	Barrier - other	14	Miles	\$1500000	\$1500000	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Principal Arterial-Other Freeways & Expressways	42,000	65		Systemic	Roadway Departure	Roadway Departure 2.0 Minimize the consequence of leaving the roadway by improving the roadside environment.
T201901002 - Median Barrier Installation,	Roadside	Barrier - other	14	Miles	\$2491638	\$2491638	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other Freeways & Expressways	42,000	65		Systemic	Roadway Departure	Roadway Departure 2.0 Minimize the consequence of

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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
Statewide, Open-End															leaving the roadway by improving the roadside environment.
T202001001 - FY2021 Highway Safety Improvement Program	Miscellaneous	Transportation safety planning	1	Statewide	\$717337	\$717337	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot and Systemic	Multiple/Varies	Multiple/Varies
T202100401 - 2019 HAZARD ELIMINATION PROGRAM - TRAFFIC CONTROL DEVICE IMPROVEMENT	Roadway signs and traffic control	Roadway signs and traffic control - other	1	Statewide	\$45000	\$45000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Multiple/Varies	Multiple/Varies
T202100401 - 2019 HAZARD ELIMINATION PROGRAM - TRAFFIC CONTROL DEVICE IMPROVEMENT	Roadway signs and traffic control	Roadway signs and traffic control - other	1	Statewide	\$189000	\$189000	HRRR Special Rule (23 U.S.C. 148(g)(1))	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Multiple/Varies	Multiple/Varies
T201600201 - HEP KC, SR14 AT KILLENS POND ROAD INTERSECTION IMPROVEMENTS	Intersection geometry	Splitter island – install on one or more approaches	1	Intersections	\$45000	\$941648	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,400	50	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
T202101004 - FY2022 HIGHWAY SAFETY IMPROVEMENT PROGRAM	Miscellaneous	Transportation safety planning	1	Statewide	\$448548.52	\$448548.52	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot and Systemic	Multiple/Varies	Multiple/Varies
T200809001 - HSIP NCC, I-95, N213 CARR	Intersection geometry	Add/modify auxiliary lanes	2	Intersections	\$166629.6	\$166629.6	Other Federal-aid Funds (i.e.	Urban	Minor Arterial	10,800	35	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of

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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
ROAD & N3, MARSH ROAD							STBG, NHPP)								intersection crashes through operational, geometric and traffic control device improvements.
T200809001 - HSIP NCC, I-95, N213 CARR ROAD & N3, MARSH ROAD	Intersection geometry	Add/modify auxiliary lanes	2	Intersections	\$2482322.4	\$2482322.4	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Minor Arterial	10,800	35	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
T200800713 - HSIP NCC, SR273 AND I-95 INTERCHANGE IMPROVEMENT	Interchange design	Interchange improvements	1	Interchanges	\$8900000	\$16654569.05	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Principal Arterial-Other	29,300	45	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
T201500201 - HEP KC, SR8 & SR15 INTERSECTION IMPROVEMENT	Intersection geometry	Intersection geometry - other	1	Intersections	\$141975.02	\$141975.02	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Minor Arterial	20,600	40	State Highway Agency	Spot	Intersections	Intersection 1.0: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.
T201900901 - HSIP SR24 CORRIDOR PROJECTS COORDINATION	Miscellaneous	Transportation safety planning	1	Locations	\$270612.58	\$270612.58	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Multiple/Varies	Statewide 3.0: Improve linkages between land use and transportation to improve safety for all road users.

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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
T202100701 - HIGH FRICTION SURFACE TREATMENT	Roadway	Pavement surface – high friction surface	1	Statewide	\$447211.08	\$447211.08	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	RD 1.1 Continue the systemic installation of proven engineering safety countermeasures such as HFSTs, rumble strips, and traffic control devices.
T202101001 - HIGH RISK RURAL ROADS PROGRAMS, FY21-23	Miscellaneous	Transportation safety planning	1	Statewide	\$711000	\$711000	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Multiple/Varies	0		State Highway Agency	Spot	Multiple/Variations	Multiple/Varies

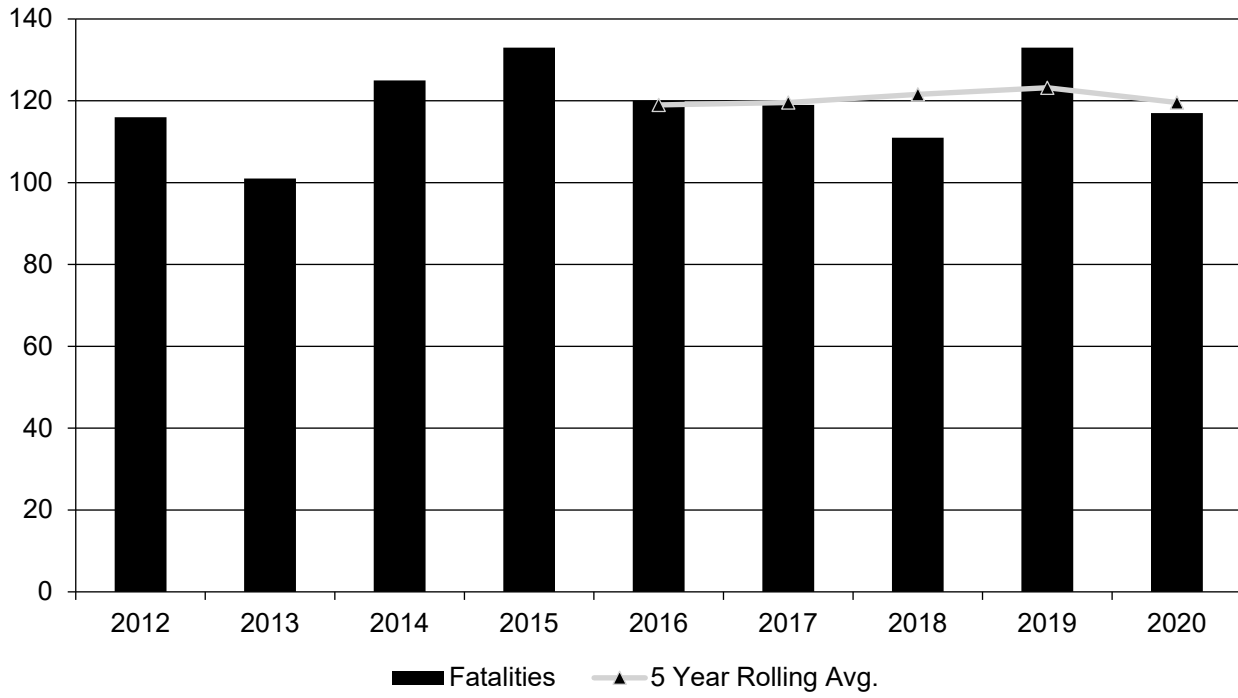
Safety Performance

General Highway Safety Trends

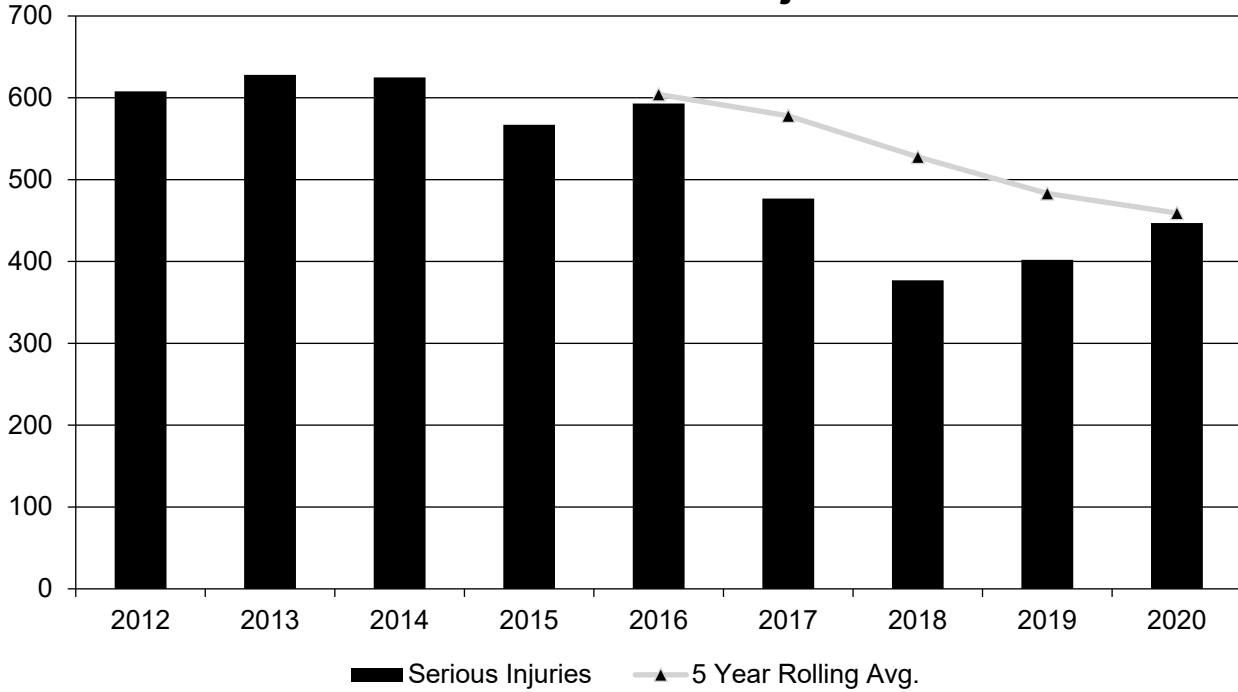
Present data showing the general highway safety trends in the State for the past five years.

PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fatalities	116	101	125	133	120	119	111	133	117
Serious Injuries	608	628	625	567	593	477	377	402	447
Fatality rate (per HMVMT)	1.270	1.090	1.310	1.340	1.180	1.140	1.090	1.290	1.410
Serious injury rate (per HMVMT)	6.650	6.760	6.530	5.720	5.840	4.560	3.700	3.910	5.370
Number non-motorized fatalities	34	28	30	39	30	38	29	39	28
Number of non-serious motorized injuries	75	82	72	61	64	41	63	65	67

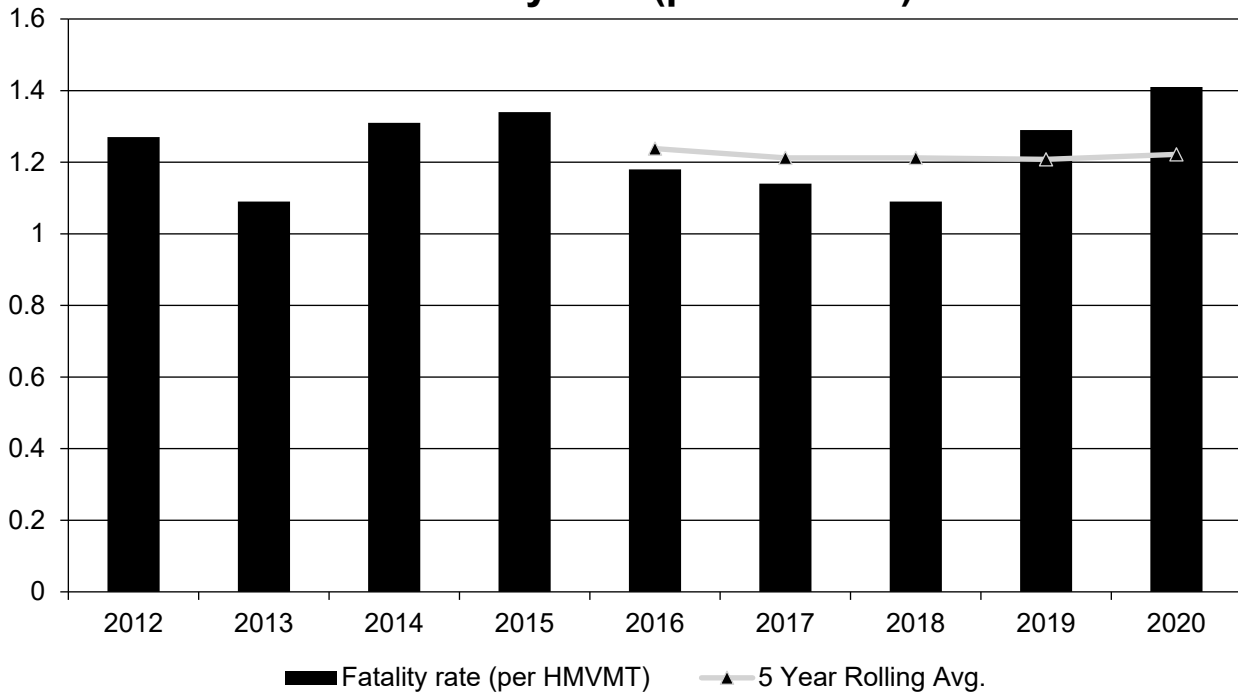
Annual Fatalities



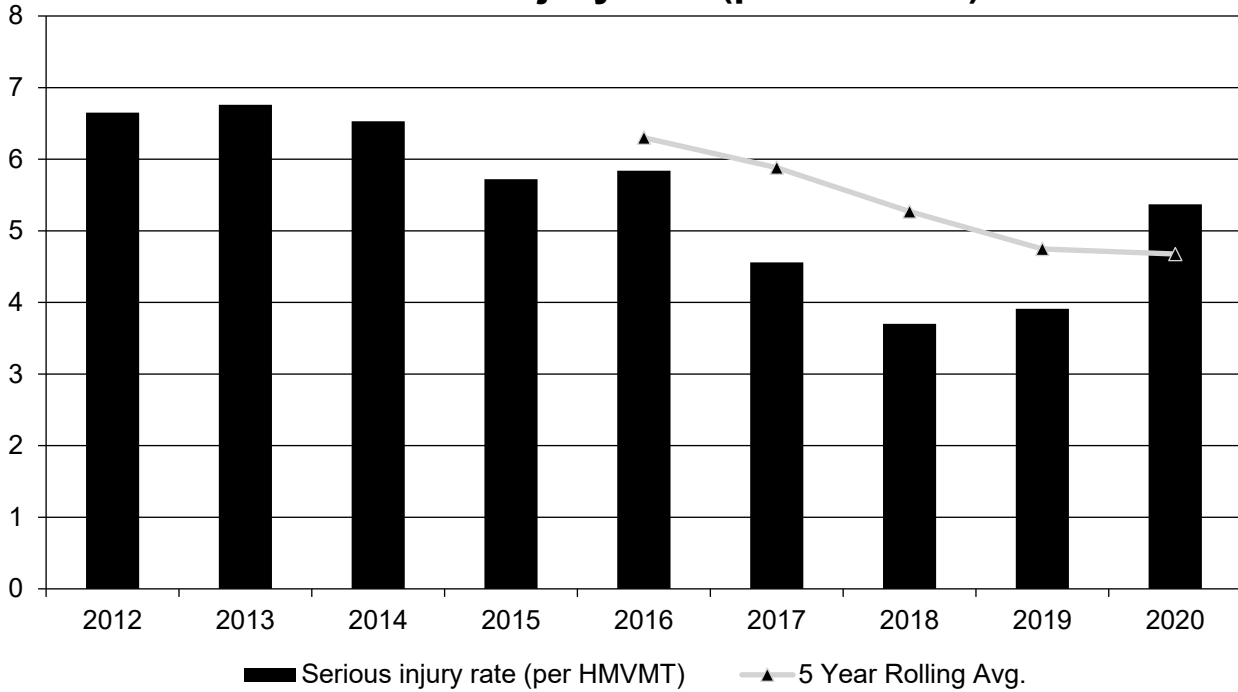
Annual Serious Injuries



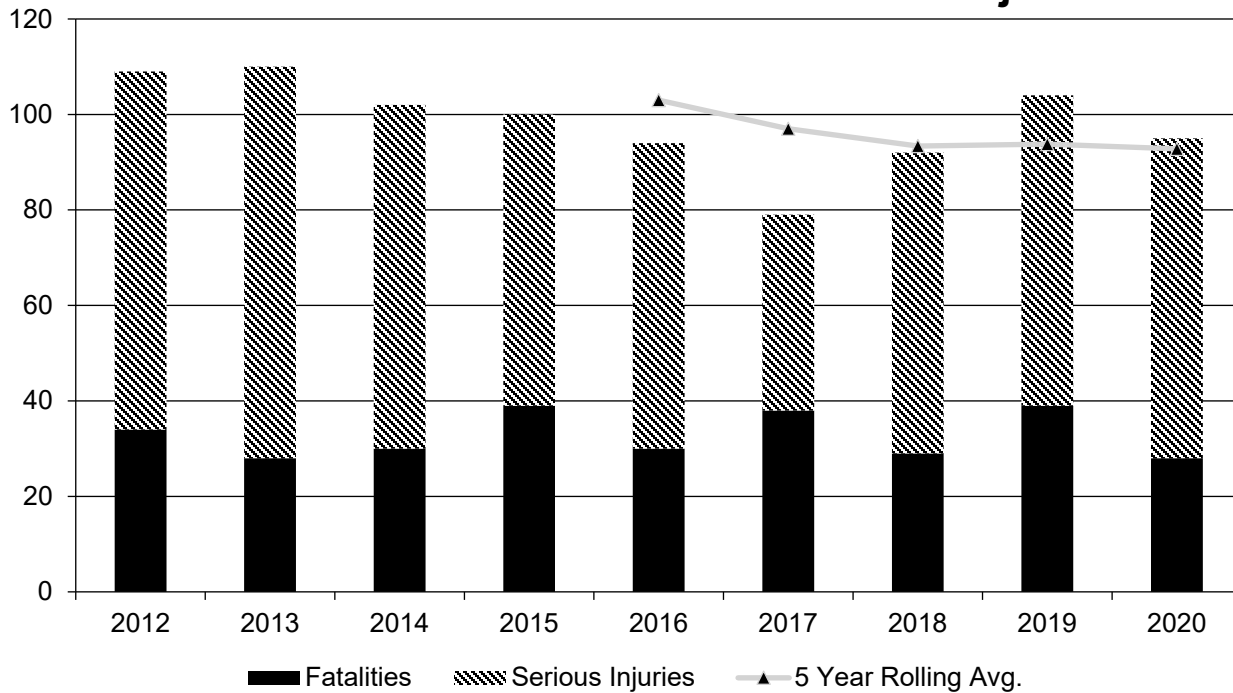
Fatality rate (per HMVMT)



Serious injury rate (per HMVMT)



Non Motorized Fatalities and Serious Injuries



For the purposes of this reporting, state data was used for both the number of fatalities and serious injuries. As a result of mitigation measures for the COVID-19 pandemic, vehicle miles traveled in CY 2020 were approximately 20 percent lower than CY 2019.

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. The difference between the number of fatalities reported in FARS and CARS is typically no more than one, so data interpretations are unaffected.

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

Year 2020

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				
Rural Principal Arterial (RPA) - Other	2.4	7.8	0.6	1.91

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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)
Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	6.8	25.6	0.99	3.66
Rural Minor Arterial	5.4	17	2.07	6.74
Rural Minor Collector	7.4	17	4.67	10.91
Rural Major Collector	14.8	40.6	2.74	7.45
Rural Local Road or Street	10.6	34.2	2.51	8.21
Urban Principal Arterial (UPA) - Interstate	8.2	24.6	0.59	1.75
Urban Principal Arterial (UPA) - Other Freeways and Expressways	4	9.8	0.58	1.4
Urban Principal Arterial (UPA) - Other	30.6	105.2	1.42	4.8
Urban Minor Arterial	13.6	76	1.23	7
Urban Minor Collector	1	4.6		7.04
Urban Major Collector	8.2	49.4	0.97	5.91
Urban Local Road or Street	7	46.8	0.68	4.62

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Year 2019

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			
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				

Since DeIDOT maintains approximately 85 percent of all roads in Delaware, Delaware does not report on roadway ownership at this time.

Provide additional discussion related to general highway safety trends.

The number of fatalities (based on 5-year rolling averages) per year remained relatively steady from 2016 to 2020, ranging from 117.4 to 122.4. During the same period, the number of serious injuries (based on 5-year rolling averages) per year have steadily declined from 604 in 2016 to 459 in 2020, a reduction of nearly 25 percent. Statewide vehicle miles traveled (VMT) averaged approximately 102.75 HMVMT from 2016 to 2019; however, decreased approximately 20 percent to 83.22 HMVMT in 2020. The reduced VMT is the direct result

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of restrictions implemented for the COVID-19 pandemic. As a result of the reduction, the fatality and serious injury rates for calendar year 2020 were 20 and 19 percent greater than the annual average for the preceding four years. 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 2022 Targets *

Number of Fatalities:111.8

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

During 2020, DeIDOT and OHS and other statewide safety partners (including FHWA and NHTSA) collaborated to develop the *2021-2025 Delaware Strategic Highway Safety Plan: Toward Zero Deaths (2021-2025 SHSP)*, which provides a framework to reduce fatalities and serious injuries resulting from crashes on Delaware's roadways. As part of the plan's development, several trendlines were reviewed to establish an aggressive, yet achievable, overall objective. Through a comparison of these trendlines, the reduction of combined fatalities and serious injuries ranged from 2.6 to 4.4 percent annually or 12 to 20 percent over five years. Based on these historic trends, the *2021-2025 SHSP* established a five-year overall objective to reduce fatalities and serious injuries by 15 percent (a 3.2 percent annual reduction) as measured from the 2015-2019 five-year rolling average.

In Spring 2021, DeIDOT and OHS met to set Delaware's 2022 safety performance measure targets and agreed to align the annual SPM targets with the *2021-2025 SHSP's* five-year overall objective. The objectives outlined in the *2021-2025 SHSP* are frequency- based using five-year rolling averages; therefore, 2022 SPM targets 1, 3, and 5 were calculated using projections based on the *2021-2025 SHSP's* objective to reduce fatalities and serious injuries by 15 percent over 5 years. Projected fatality and serious injury numbers were combined with projected vehicle miles traveled (VMT) to calculate the two rate-based SPM targets (i.e., 2 and 4). The table below shows the historical performance for 2016 to 2020, 2020 Baseline, 2022 Targets, and the CY2021 and CY2022 average values required to match the 2020 Baseline and 2022 Targets. FHWA determines a state has met or made significant progress when actual performance matches the established target or is better than the baseline for at least four of the five SPM targets.

Number of Serious Injuries:438.3

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

See Number of Fatalities response.

Fatality Rate:1.074

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

See Number of Fatalities response.

Serious Injury Rate:4.212

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

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See Number of Fatalities response.

Total Number of Non-Motorized Fatalities and Serious Injuries:85.1

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

See Number of Fatalities response.

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

After coordinating with the Delaware Office of Highway Safety (OHS) in Spring 2021, DeIDOT distributed the draft of 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. DeIDOT 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 2020 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.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	112.4	119.6
Number of Serious Injuries	430.6	459.2
Fatality Rate	1.134	1.222
Serious Injury Rate	4.340	4.676
Non-Motorized Fatalities and Serious Injuries	89.0	92.8

2020 SPM targets were established in Spring 2019 to consider safety performance through the end of calendar year 2020. 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. As previously noted, crash data from Delaware's Crash Analysis Reporting System (CARS) was used instead of FARS data for this report. The difference between the number of fatalities reported in FARS and CARS is typically no more than one. Based on this preliminary assessment (described below), Delaware has met or made significant progress toward meeting four of the five 2020 Safety Performance Measure Targets.

1. Number of Fatalities – Delaware's projected 2016-2020 5-year rolling average value is 6 or 8.2 fatalities greater than the 112.4 target and 1.2 fatalities less than the 120.8 2014-2018 baseline. Fatalities decreased annually in 2016 to 2018 compared to 2015 until 2019, when fatalities increased to 133, matching the 2015 performance. In 2020, fatalities decreased to 2017; however, remained within recent ranges of variability. Since actual performance is less than the baseline, this SPM target is met.
2. Number of Serious Injuries – Delaware's projected 2016-2020 5-year rolling average value is 459.2 or 80.2 serious injuries greater than the 379.0 target and 68.6 less than the 527.8 2014-2018 baseline. At

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the end of September 2017, Delaware implemented a change to its serious injury definition in accordance with a federal mandate. From 2017-2020, the annual number of serious injuries averaged 425 which is nearly 30 percent less than the average annual number of serious injuries for the four preceding years (2013-2016). Since actual performance is less than the baseline, this SPM target is met.

3. Rate of Fatalities – Delaware’s projected 2016-2020 5-year rolling average value is 1.220, which is higher than the 1.134 target and 1.202 baseline. As a result of reduced VMT in 2020 due to COVID-19 restrictions, the fatality rate for 2020 was 20 percent greater than the annual average for the preceding four years. This SPM target is not met.
4. Rate of Serious Injuries – Delaware’s projected 2016-2020 5-year rolling average value is 4.676, which is higher than the 3.962 target and less than the 527.8 baseline. As a result of reduced VMT in 2020 due to COVID-19 restrictions, the serious injury rate for 2020 was 19 percent greater than the annual average for the preceding four years. Since actual performance is less than the baseline, this SPM target is met.
5. Combined Number of Non-Motorized Fatalities and Serious Injuries – Delaware’s projected 2016-2020 5-year rolling average value is 92.8, which is higher than the 89.0 target and lower than the 93.4 baseline. Since actual performance is less than the baseline, this SPM target is met.

Applicability of Special Rules

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

No

The HRRR Special Rule applies for FY2021 based on a comparison of 2015-2019 to 2013-2017 data.

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	2014	2015	2016	2017	2018	2019	2020
Number of Older Driver and Pedestrian Fatalities	20	14	17	19	16	27	23
Number of Older Driver and Pedestrian Serious Injuries	42	42	42	46	27	31	28

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, 2020 FARS data is unavailable; therefore, State data is reported for CY 2020.

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.

Cost-benefit ratio analysis (i.e., economic effectiveness evaluations) are commonly a component of the safety studies that DeIDOT performs as part of its HSIP. These evaluations allow DeIDOT to ensure program effectiveness during the selection of safety countermeasures to implement.

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

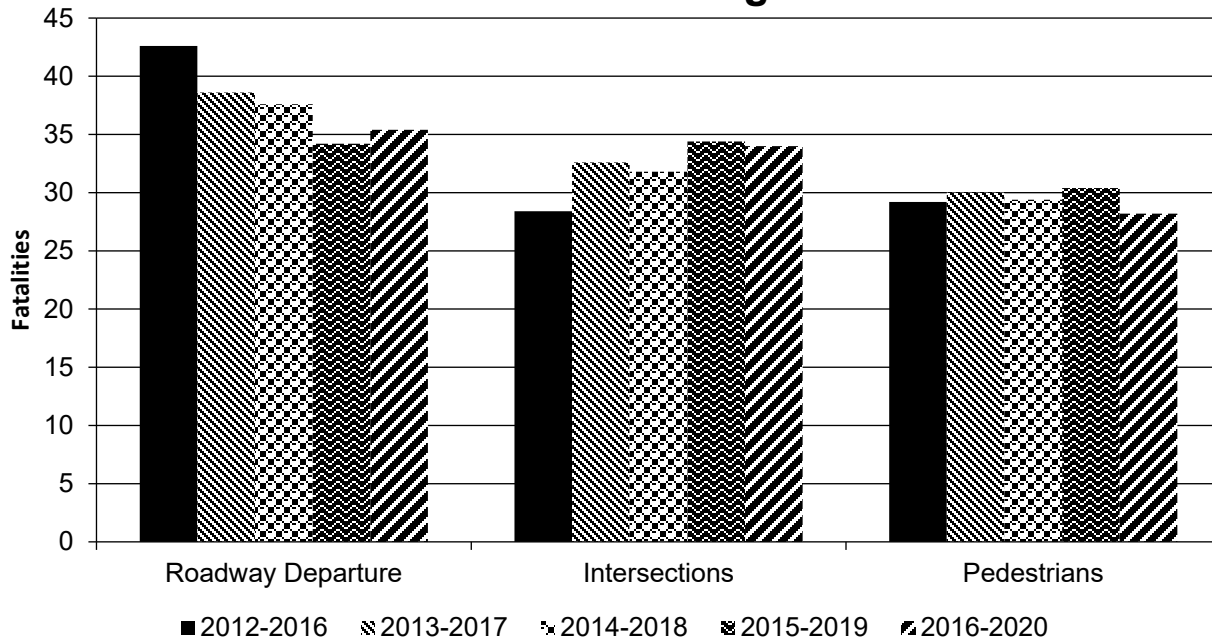
Effectiveness of Groupings or Similar Types of Improvements

Present and describe trends in SHSP emphasis area performance measures.

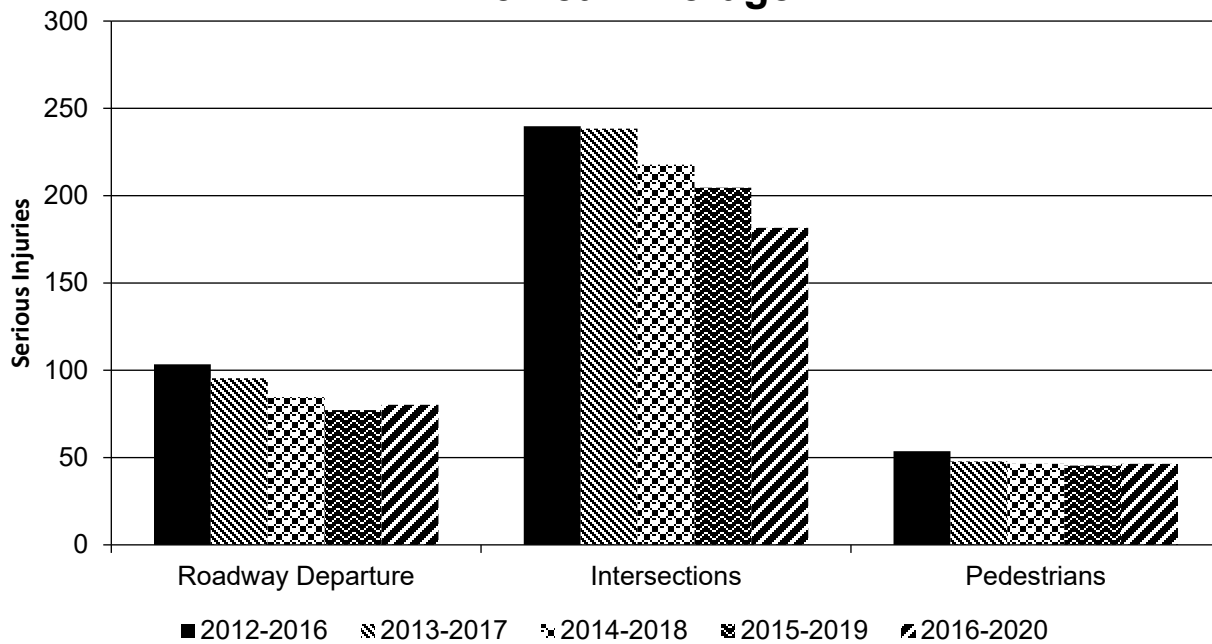
Year 2020

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		35.4	80.2	0.36	0.82
Intersections		34	181.6	0.35	1.84
Pedestrians		28.2	46.4	0.29	0.48

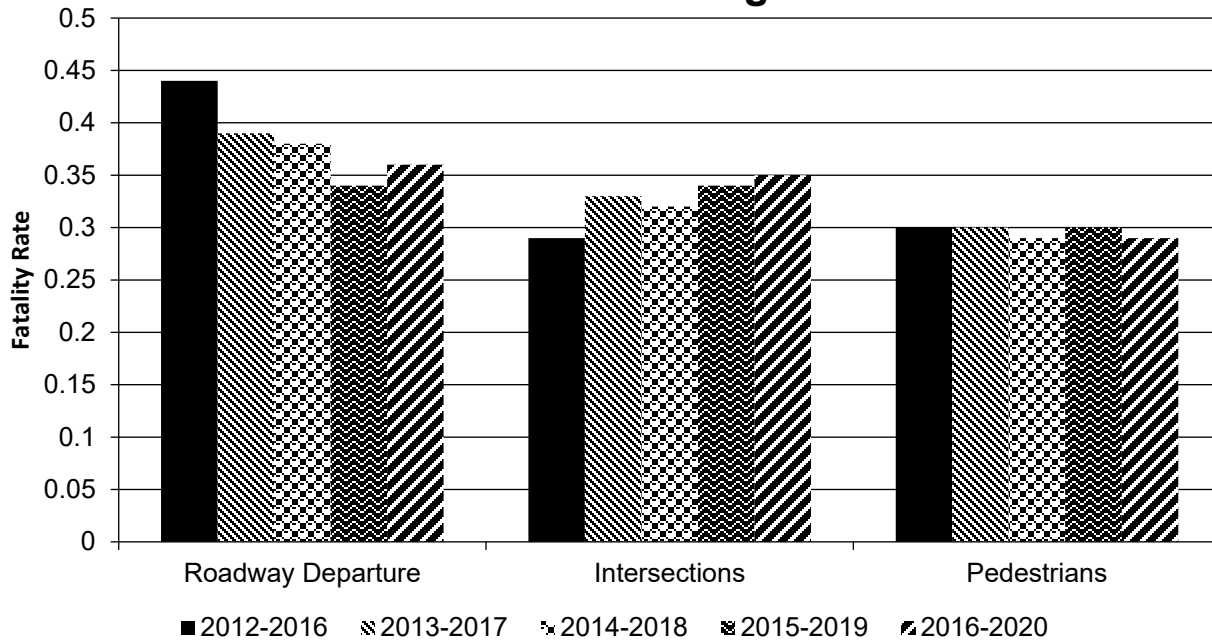
Number of Fatalities 5 Year Average



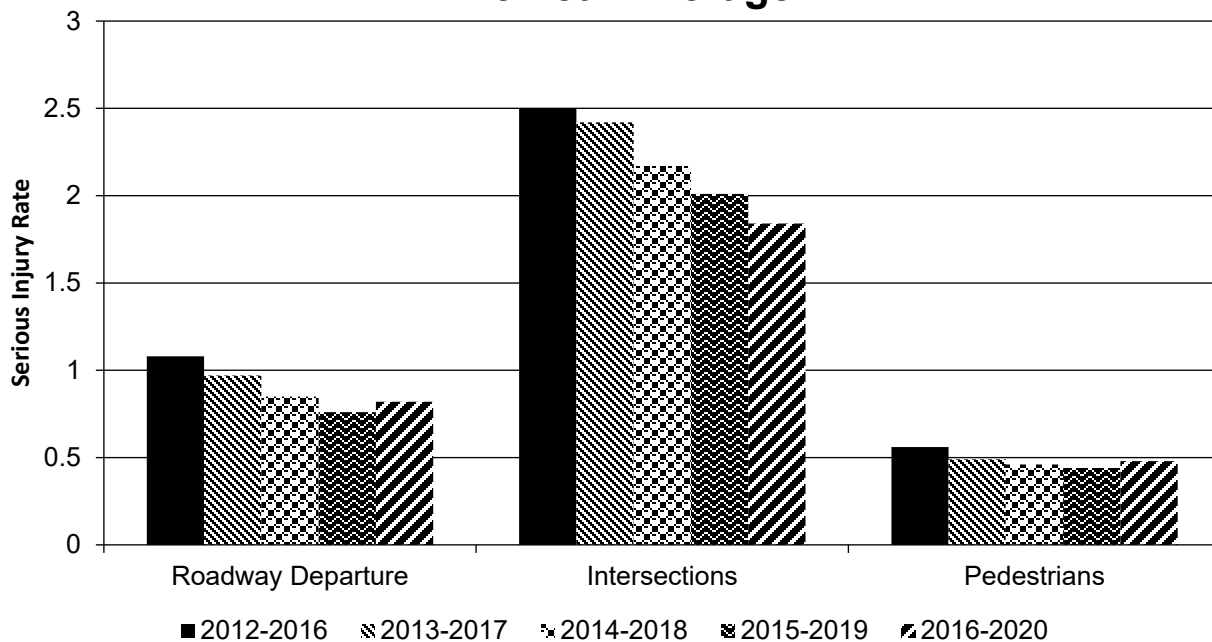
Number of Serious Injuries 5 Year Average



Fatality Rate (per HMVMT) 5 Year Average



Serious Injury Rate (per HMVMT) 5 Year Average



Delaware’s 2021-2025 SHSP includes 8 data-driven emphasis areas. Crash statistics for emphasis areas related to driver behavior (i.e., Distracted Driving, Impaired Driving, Unrestrained Motorists, Speeding) are reported in Delaware’s annual Highway Safety Plan.

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As shown, the number and rate of roadway departure fatalities and serious injuries (based on 5-year rolling averages) decreased from 2016 to 2019 but increased slightly in 2020. The number and rate of intersection fatalities (based on 5-year rolling averages) has generally increased from 2016 to 2020; however, the number and rate of intersection serious injuries has generally decreased during the same time period. The number and rate of pedestrian fatalities and serious injuries (based on 5-year rolling averages) has remained relatively steady from 2016 through 2020.

Project Effectiveness

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

Performing before/after analyses of completed projects was identified as an action item in Delaware's FFY2022 HSIP Implementation Plan, which was completed in July 2021. However, no further elaboration is available at this time.

Compliance Assessment

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

12/31/2020

What are the years being covered by the current SHSP?

From: 2021 To: 2025

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

2025

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

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

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	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100	100	100
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100						100			
	Begin Point Segment Descriptor (10) [10]	100	100					100	100	100	100
	End Point Segment Descriptor (11) [11]	100	100					100	100	100	100
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								
	Functional Class (19) [19]	100	100					100	100	100	100
Median Type (54) [55]	100	100									

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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	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	100					100	100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			100	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			100	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			100	100						
	Intersection/Junction Geometry (126) [116]			100	100						
	Intersection/Junction Traffic Control (131) [131]			100	100						
	AADT for Each Intersecting Road (79) [81]			100	100						
	AADT Year (80) [82]			100	100						
	Unique Approach Identifier (139) [129]			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					100	100				

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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	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]						100				
	Ramp AADT (191) [181]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		100.00	94.44	100.00	100.00	90.91	100.00	100.00	88.89	100.00	100.00

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

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.

DeIDOT is working towards meeting the FDE requirement by September 2026.

Optional Attachments

Program Structure:

Project Implementation:

Safety Performance:

Evaluation:

Compliance Assessment:

Glossary

5 year rolling average: means the average of five individuals, consecutive annual points of data (e.g. annual fatality rate).

Emphasis area: means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.

Highway safety improvement project: means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.

HMVMT: means hundred million vehicle miles traveled.

Non-infrastructure projects: are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.

Older driver special rule: applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.

Performance measure: means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.

Programmed funds: mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.

Roadway Functional Classification: means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

Strategic Highway Safety Plan (SHSP): means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.

Systematic: refers to an approach where an agency deploys countermeasures at all locations across a system.

Systemic safety improvement: means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.

Transfer: means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.