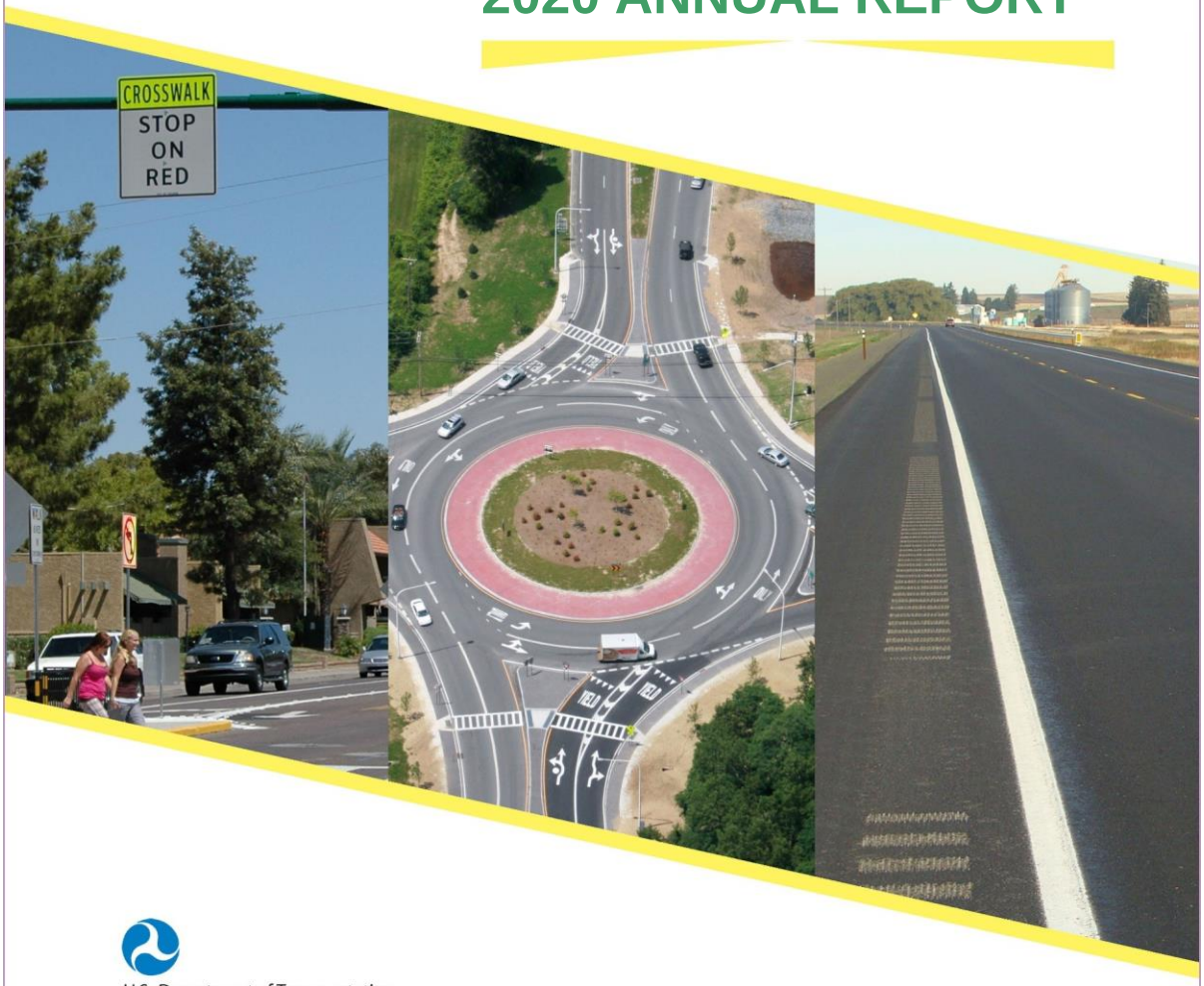
CONNECTICUT

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2020 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. 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 reporting period for 2020 is from October 1, 2018 to September 30, 2019. Connecticut's (5 year rolling average) fatalities and fatal crash rates have increased in calendar years 2018 and 2019. Both (5 year rolling average) serious injuries and the serious injury crash rate have seen little change in recent years. Connecticut uses HSIP resources to incorporate safety improvements across a broad range of maintenance, safety and non-infrastructure projects. Innovative methodologies developed and used by CTDOT will continue to identify more locations, on a statewide scale, with the greatest potential for crash reduction. Applications of new Highway Safety Manual concepts and systemic approaches are also being integrated into the HSIP program. The SHSP will target goals and devise strategies in each emphasis area to see where improvements can be made in order to support the vision of moving towards zero deaths.

Since CT did not meets its 2018 safety performance targets, an HSIP Implementation Plan was prepared and submitted to the Division Office on June 30, 2020. CTDOT took this opportunity to re-evaluate its HSIP investments and identify gaps and deficiencies to ensure that projects identified, prioritized, and programmed have the best potential for reducing fatalities and serious injuries. Consideration is also being made to help CT meet safety performance targets in subsequent years.

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.

CTDOT's Safety Engineering Section, which is located within the Division of Traffic Engineering, Bureau of Engineering and Construction utilizes the spot improvement approach and systemic approach to identify, select, and implement HSIP projects. The spot improvement approach, known as High Frequency Crash Locations (HFCL), results in safety investments at specific locations. The systemic approach leads to widespread implementation of treatments to reduce the potential for fatalities and/or serious injuries, regardless of if crashes occurred at a given site. Since many of CT's fatal and serious injury crashes are spread out across all public roads, the systemic approach provides an alternate method to identify and implement low-cost safety countermeasures addressing specific risk factors across the entire roadway network. As data becomes available, spot and systemic improvement projects will be evaluated to determine their effectiveness.

Where is HSIP staff located within the State DOT?

Engineering

How are HSIP funds allocated in a State?

- SHSP Emphasis Area Data

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

Local Roads are addressed by the Local Road Safety Program (LRSP). The LRSP provides federal funding for safety-related improvements on the non-State-maintained roadways, to address hazardous elements identified at locations and along roadway sections. To address all public roads requirement, Regional Transportation Safety Plans (RTSP) are being prepared for each of the nine regional councils of government (COG). The RTSPs identify key safety issues for all public roads. The plans utilized are similar to Connecticut’s Strategic Highway Safety Plan (SHSP) but focused instead on the local and regional level needs of the individual communities and region. Since RTSPs include all public roads, communities will be made aware of potential or emerging safety issues on locally owned and maintained roadways and recommendations on how to address them. Once all nine RTSPs have been finalized, there will be a new application process for HSIP projects not on the State system. Project sponsors will be encouraged to examine a full range of options starting with low-cost spot and systemic treatments such as signs and pavement markings, to mid-range solutions such as traffic signals, turning lanes or roadway realignment. The applications will be reviewed and evaluated based on factors such as crash analysis, regional or local priority, and benefit/cost analysis. Additional program details will made available at a later date.

Tribal roads open to public travel are located in Southeastern CT and are not included in the RTSPs. The Tribal Nations have been invited to participate in the transportation safety planning process under the SHSP on numerous occasions but have not yet been involved. In the past, the Bureau of Indian Affairs has contacted the Department to contact RSAs on Tribal roads and CTDOT has willing participated. It is acknowledged that tribal roads qualify for HSIP funding. Contact information for CT's State and Federal transportation officials are available under the Transportation Safety for Tribal Governments website.

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

- Districts/Regions
- Maintenance
- Operations
- Planning

Describe coordination with internal partners.

The Safety Engineering Section within the Department's Division of Traffic Engineering conducts network screening on the state system to determine those intersection and segments that have the greatest potential for injury reduction. The lists are forwarded to the Operations Section within Traffic Engineering which reviews locations for possible highway safety improvements. Both of the sections coordinate and collaborate with each other as necessary. The study locations typically originate from internal databases, such as High Frequency Crash Location (HFCL) lists or via appointed and elected officials, town officials, or the public. Depending on the cost and scope of the countermeasure, CTDOT’s Office of Maintenance may be requested to implement low-cost improvements such as traffic signal timing changes, as well as installation of signs and pavement markings. In those situations where the scope of work is beyond the resources of the DOT’s Division of Maintenance, the Operations Section recommends a project for inclusion in the CTDOT’s Capital Improvement Plan. These safety projects are further developed, and plans, specifications, and estimates are taken on by the Department's Division of Highway Design.

Identify which external partners are involved with HSIP planning.

- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Other-Safety Circuit Rider Program

Describe coordination with external partners.

Regional Transportation Safety Plans (RTSP) are being prepared for all nine Councils of Government (COG) in CT. Once the plans are complete, the COGs will solicit member towns for candidate HSIP projects. CTDOT plans to evaluate all the projects received and will notify the COG if the project is selected for funding. The COGs then inform the member towns accordingly.

The Department's Safety Section works in partnership with CT's Safety Circuit Rider Program (CT SCR) which provides safety-related information, training, and technical assistance to local agencies. Some of the initiatives include coordination of Road Safety Assessments (RSA), collection and analysis of traffic volume data, identification of low cost safety improvements, assistance in the development of Local Road Safety Plans, development of a Connecticut Toolbox of Safety Resources, development of a series of Roadway Safety Briefs, and delivery of Local Road Safety Training. The CT SCR program also provides assistance to local agencies in understanding the capabilities of the new CT Crash Data Repository at the University of Connecticut (UCONN) and provides accurate information to local practitioners to make informed roadway safety decisions.

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

An internal HSIP eligibility form was created to help planners and engineers determine if the proposed strategy or treatment meets the requirements 23 USC 148 and 23 CFR Part 924.

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

Projects can qualify for the Department's HSIP funds and placement on the HSIP Safety Project Plan when they are initiated from the following sources:
- High Frequency Crash Locations (HFCL)
- Local Road Safety Program (LRSP)
- Railway-Highway Grade Crossing Program (RHGCP)
- Projects supporting SHSP Emphasis Areas
- High Risk Rural Roads
-Regional Transportation Safety Plans (RTSPs)

Program Methodology

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

Yes
CT's Highway Safety Improvement Program Guide is pending FHWA concurrence.

Select the programs that are administered under the HSIP.

- Horizontal Curve
- Local Safety
- Pedestrian Safety
- Roadway Departure
- Wrong Way Driving
- Other-spot improvements (HFCL)

Program: Horizontal Curve

Date of Program Methodology:7/1/2015

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes
- All crashes

Exposure
- Traffic

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?

Yes

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

No

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

Horizontal curves projects on local roads are based on risk factors.

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:100

Program: Local Safety

Date of Program Methodology:7/1/2008

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-As supplied by the applicant

Exposure

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency

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

Yes

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

No

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

Submittals by the regional planning organizations. The submittals that meet the program's criteria are funded.

How are projects under this program advanced for implementation?

- Other-Submittals are checked for accuracy and if the improvement yields a b/c ratio greater than 1.0, the submittals are forwarded to financial to obtain funding

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

Rank of Priority Consideration

Ranking based on B/C:50
Available funding:50

Program: Pedestrian Safety

Date of Program Methodology:9/1/2014

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		

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?

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:100

Program: Roadway Departure

Date of Program Methodology:7/1/2015

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	• Traffic	• Horizontal curvature

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?

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:100

Program: Wrong Way Driving

Date of Program Methodology:7/1/2015

What is the justification for this program?

- FHWA focused approach to safety

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	• Traffic	• 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?
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:100

Program: Other-spot improvements (HFCL)

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
• Fatal and serious injury crashes only	• Traffic	

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).

Rank of Priority Consideration

Cost Effectiveness:1.0

What percentage of HSIP funds address systemic improvements?

4

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

- Horizontal curve signs
- Install/Improve Signing
- Other-Traffic Signal Timings

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?

No

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.

CTDOT, in partnership with UCONN, is currently updating the agency's safety analysis tools and methods to match the six-step safety management process as described in the HSM. CT's Roadway Safety Management System (CRSMS) has a network screening module which is used to identify and rank sites with a higher than predicted crash frequency for specific roadway types, crash types, or the presence of a specific traffic control device. In the diagnosis module, users can create collision diagrams and crash trees as well as conduct a test of proportions. Condition diagrams are also available to provide a visual site overview and can be used in coordination with the collision diagram. CTDOT is also using IHSDM in the safety planning process to evaluate and compare design alternatives.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

Federal Fiscal Year
The reporting period is October 1, 2018 to September 30, 2019.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$25,610,464	$28,803,779	112.47%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$252,926	$252,926	100%
Penalty Funds (23 U.S.C. 154)	$5,645,904	$5,845,904	103.54%
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)	$1,065,664	$1,193,131	111.96%
State and Local Funds	$0	$0	0%
Totals	$32,574,958	$36,095,740	110.81%

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

$9,330,001

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

$9,743,853
27% of the total HSIP funding was for local road safety projects

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

$15,066,590

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

$15,849,590
44% of the total HSIP funding was for non-infrastructure projects

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

$4,083,300

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

Project 170-3455 (CHAMP Safety Service Patrol)

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

None.

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
0015-0335RW+	Roadway	Roadway widening - travel lanes	1	Locations	$40500	$45000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	11,000	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0063-0678CN	Roadway	Roadway widening - travel lanes	1	Locations	$503694	$559660	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	11,000	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0063-0714CN	Intersection traffic control	Intersection traffic control - other	1	Intersections	$1022670	$1136300	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	16,000	30	City or Municipal Highway Agency	Spot	Intersections	Reduce Conflicts
0076-0221CN	Intersection traffic control	Intersection traffic control - other	1	Intersections	$900000	$1000000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	25,000	30	Town or Township Highway Agency	Spot	Intersections	Reduce Conflicts
0087-0146CN	Intersection traffic control	Intersection traffic control - other	1	Intersections	$720000	$800000	HSIP (23 U.S.C. 148)	Urban	Major Collector	8,000	25	Town or Township Highway Agency	Spot	Intersections	Reduce Conflicts
0088-0191CN+	Intersection geometry	Intersection geometry - other	1	Intersections	$972000	$1080000	HSIP (23 U.S.C. 148)	Urban	Major Collector	5,800	25	Town or Township Highway Agency	Spot	Intersections	Reduce Conflicts
0088-0194CN	Intersection traffic control	Intersection traffic control - other	1	Intersections	$610362	$678180	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,700	25	City or Municipal Highway Agency	Spot	Intersections	Reduce Conflicts
0093-0213PL	Non-infrastructure	Transportation safety planning	1	Plan	$1540000	$1540000	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Data	Records
0093-0214PL	Non-infrastructure	Transportation safety planning	1	Plan	$781000	$781000	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Data	Records
0102-0285RW+	Intersection geometry	Auxiliary lanes - add two-way left-turn lane	2	Intersections	$472500	$525000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	23,000	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0102-0346CN+	Intersection geometry	Auxiliary lanes - add left-turn lane	1	Intersections	$584690	$649656	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	19,750	30	State Highway Agency	Spot	Intersections	Reduce Conflicts

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
0106-0126CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$1830384	$2035460	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	35,500	45	State Highway Agency	Spot	Intersections	Reduce Conflicts
0126-0173CN	Intersection traffic control	Intersection traffic control - other	1	Intersections	$378000	$420000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	16,000	30	State Highway Agency	Spot	Intersections	Reduce Conflicts
0135-0340CN	Intersection traffic control	Intersection traffic control - other	4	Intersections	$1478336	$1642595	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	17,000	30	City or Municipal Highway Agency	Spot	Intersections	Reduce Conflicts
0138-0211CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$251577	$251577	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,000	30	State Highway Agency	Spot	Intersections	Reduce Conflicts
0138-0211CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$97467	$97467	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Principal Arterial-Other	15,000	30	State Highway Agency	Spot	Intersections	Reduce Conflicts
0138-0212CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$24089	$24089	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,000	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0138-0212CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$607415	$607415	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,000	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0139-0103PE+	Railroad grade crossings	Railroad grade crossings - other	1	Plan	$30000	$30000	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Local Road or Street	0	25	Other State Agency	Spot	Railroad	Reduce Conflicts
0144-0196CN	Intersection traffic control	Intersection traffic control - other	1	Intersections	$149500	$166000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	19,750	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0144-0196PE+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$75500	$83889	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	19,750	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0170-3360PL	Non-infrastructure	Transportation safety planning	1	Plan	$1496018	$1662242	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Data	Records
0170-3360PL	Non-infrastructure	Transportation safety planning	1	Plan	$305782	$339758	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Other	Records
0170-3455OTH	Non-infrastructure	Non-infrastructure - other	1	Safety Patrol	$4083300	$4537000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Safety Patrol	Other

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
0170-3480PL+	Non-infrastructure	Transportation safety planning	1	Report	$27000	$30000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Pedestrians	Reduce Conflicts
0170-3501PL+	Non-infrastructure	Transportation safety planning	1	Plan	$1400000	$1400000	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Data	Records
0170-3515PL	Non-infrastructure	Transportation safety planning	1	Plan	$450000	$500000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Planning	Records
0170-3516PL	Non-infrastructure	Transportation safety planning	1	Plan	$1350000	$1500000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Data	Records
0170-3517PL	Non-infrastructure	Training and workforce development	1	training	$1215000	$1350000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Other	Other
0170-3517PL+	Non-infrastructure	Training and workforce development	1	training	$74700	$83000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Other	Other
0170-3547PL	Non-infrastructure	Non-infrastructure - other	1	Plan	$1500000	$1500000	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		not applicable	not applicable	Data	Other
0170-5002PL	Non-infrastructure	Training and workforce development	1	training	$123857	$123857	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Multiple/Varies	0		Town or Township Highway Agency	not applicable	Work Zones	Other
0170-5002PL	Non-infrastructure	Training and workforce development	1	training	$123857	$123857	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Multiple/Varies	0		Town or Township Highway Agency	not applicable	Work Zones	Other
0171-0393CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$15000	$15000	HSIP (23 U.S.C. 148)	Urban	Minor Collector	36,400	45	State Highway Agency	Spot	Intersections	Reduce Conflicts
0171-0401CN+	Intersection traffic control	Intersection traffic control - other	1	Intersections	$584640	$584640	HSIP (23 U.S.C. 148)	Urban	Major Collector	18,600	35	State Highway Agency	Spot	Intersections	Reduce Conflicts
0171-0434PE	Intersection traffic control	Modify traffic signal - modernization/replacement	5	Intersections	$118000	$118000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0171-0434RW	Intersection traffic control	Modify traffic signal - modernization/replacement	5	Intersections	$115000	$115000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0171-0437CN+	Roadway signs and traffic control	Sign sheeting - upgrade or replacement	467	Locations	$1431620	$1431620	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		Town or Township Highway Agency	Systemic	Pedestrians	Reduce Conflicts

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
0171-0450PE	Roadway signs and traffic control	Roadway signs and traffic control - other	15	Locations	$250000	$250000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Wrong Way	Reduce Conflicts
0172-0438CN+	Pedestrians and bicyclists	Pedestrian warning signs - add/modify flashers	54	Signs	$81026	$81026	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Pedestrians	Reduce Conflicts
0172-0440PE+	Intersection traffic control	Intersection traffic control - other	436	Intersections	$45000	$50000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	Reduce Conflicts
0172-0450CN	Intersection traffic control	Modify traffic signal - modernization/replacement	17	Intersections	$270000	$270000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0172-0450CN	Intersection traffic control	Modify traffic signal - modernization/replacement	17	Intersections	$270000	$270000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0172-0450PE+	Intersection traffic control	Modify traffic signal - modernization/replacement	17	Intersections	$270000	$270000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0172-0474CN+	Roadway signs and traffic control	Sign sheeting - upgrade or replacement	208	Locations	$834220	$834220	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		Town or Township Highway Agency	Systemic	Pedestrians	Reduce Conflicts
0172-0474CN+	Roadway signs and traffic control	Sign sheeting - upgrade or replacement	208	Locations	$834220	$834220	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		Town or Township Highway Agency	Systemic	Pedestrians	Reduce Conflicts
0172-0484PE	Intersection traffic control	Modify traffic signal - modernization/replacement	47	Intersections	$1000000	$1000000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0172-0485PE	Intersection traffic control	Modify traffic signal - modernization/replacement	50	Intersections	$875000	$875000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0172-0488PE	Roadway signs and traffic control	Roadway signs and traffic control - other	15	Locations	$250000	$250000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Wrong Way	Reduce Conflicts
0173-0455CN+	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	$754840	$754840	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	16,000	30	State Highway Agency	Spot	Intersections	Reduce Conflicts
0173-0468PE+	Intersection traffic control	Modify traffic signal - modernization/replacement	17	Intersections	$270000	$270000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts

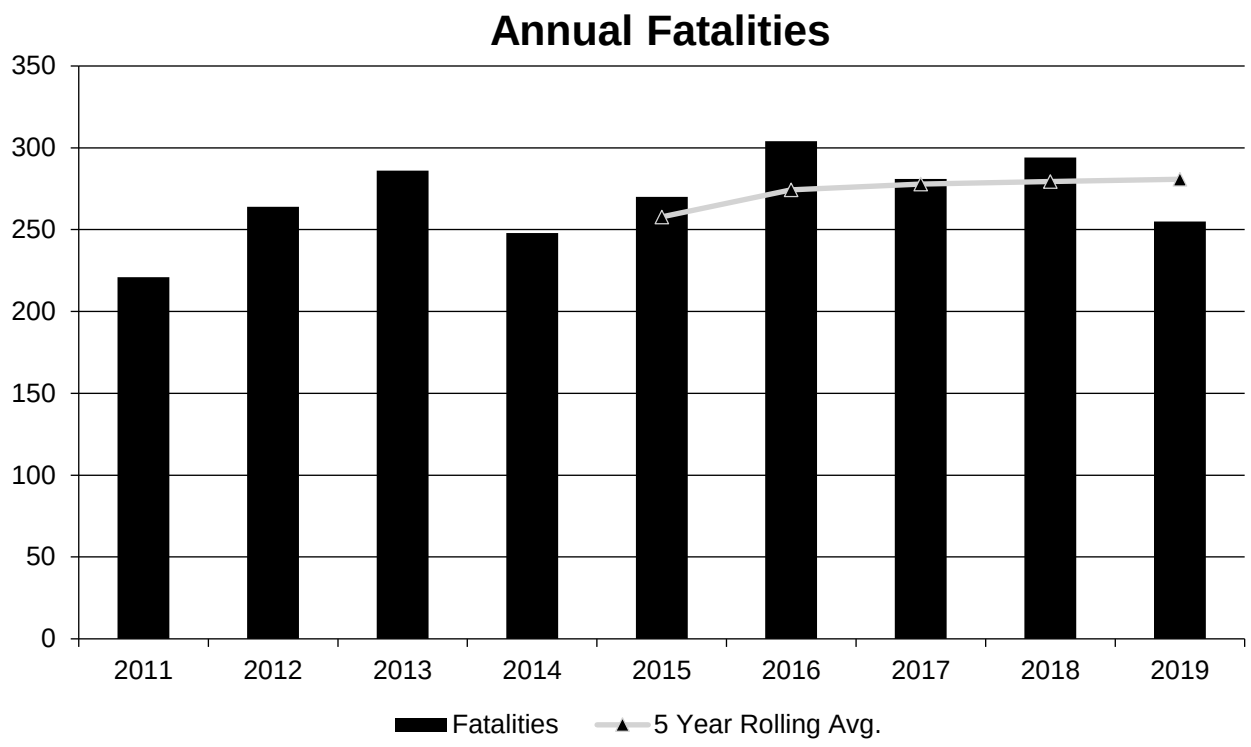
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
0173-0485CN	Roadway signs and traffic control	Curve-related warning signs and flashers	630	Curves	$100000	$100000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Lane Departure	Reduce Conflicts
0173-0485CN	Roadway signs and traffic control	Curve-related warning signs and flashers	630	Curves	$84564	$84564	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Lane Departure	Reduce Conflicts
0173-0485CN	Roadway signs and traffic control	Curve-related warning signs and flashers	630	Curves	$1065664	$1065664	Other Federal-aid Funds (i.e. STBG, NHPP)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Lane Departure	Reduce Conflicts
0173-0485PE	Roadway signs and traffic control	Curve-related warning signs and flashers	630	Curves	$116000	$116000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Lane Departure	Reduce Conflicts
0173-0487PE+	Intersection traffic control	Modify traffic signal - modernization/replacement	2	Intersections	$78600	$78600	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0173-0502PE	Roadway signs and traffic control	Roadway signs and traffic control - other	15	Locations	$250000	$250000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Wrong Way	Reduce Conflicts
0174-0377CN+	Intersection traffic control	Modify traffic signal - modernization/replacement	2	Intersections	$54207	$54207	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0174-0405CN	Intersection traffic control	Modify traffic signal - modernization/replacement	17	Intersections	$270000	$270000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0174-0405PE+	Intersection traffic control	Modify traffic signal - modernization/replacement	17	Intersections	$270000	$270000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Reduce Conflicts
0174-0417PE	Roadway signs and traffic control	Curve-related warning signs and flashers	1080	Curves	$225000	$225000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Lane Departure	Reduce Conflicts
0174-0432PE	Roadway signs and traffic control	Roadway signs and traffic control - other	15	Locations	$250000	$250000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Wrong Way	Reduce Conflicts

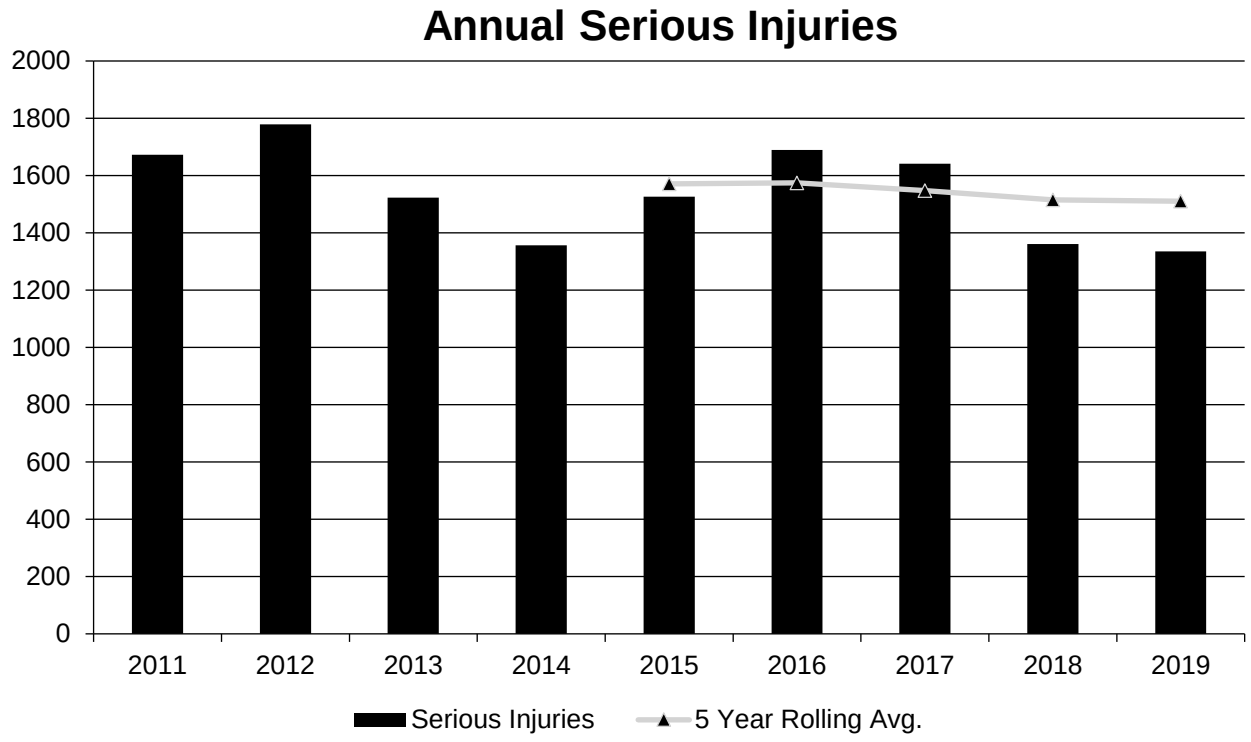
Safety Performance

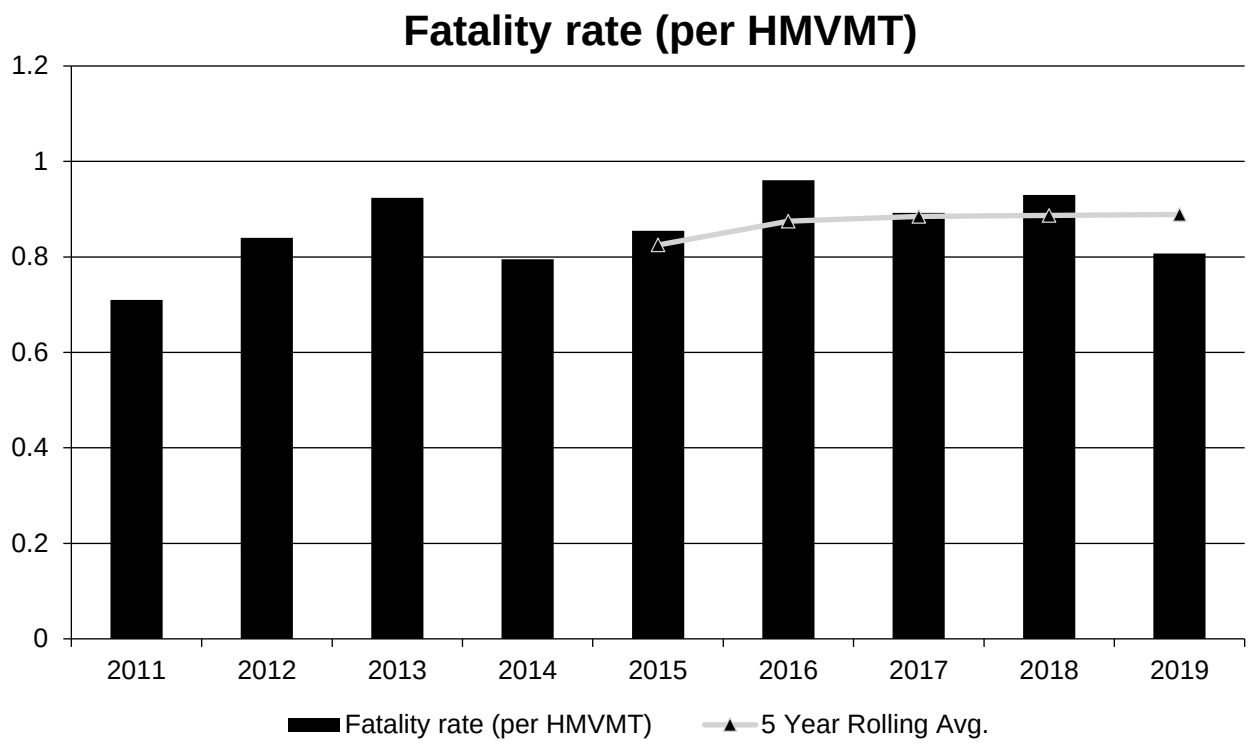
General Highway Safety Trends

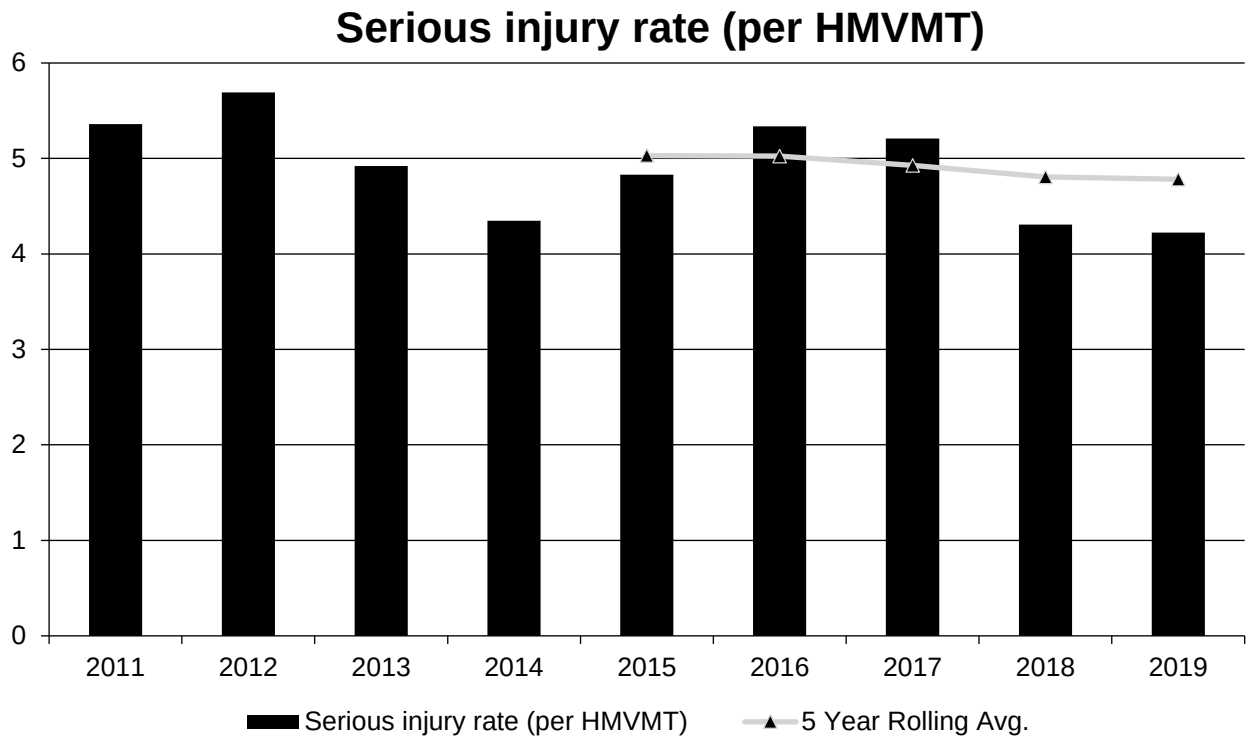
Present data showing the general highway safety trends in the State for the past five years.

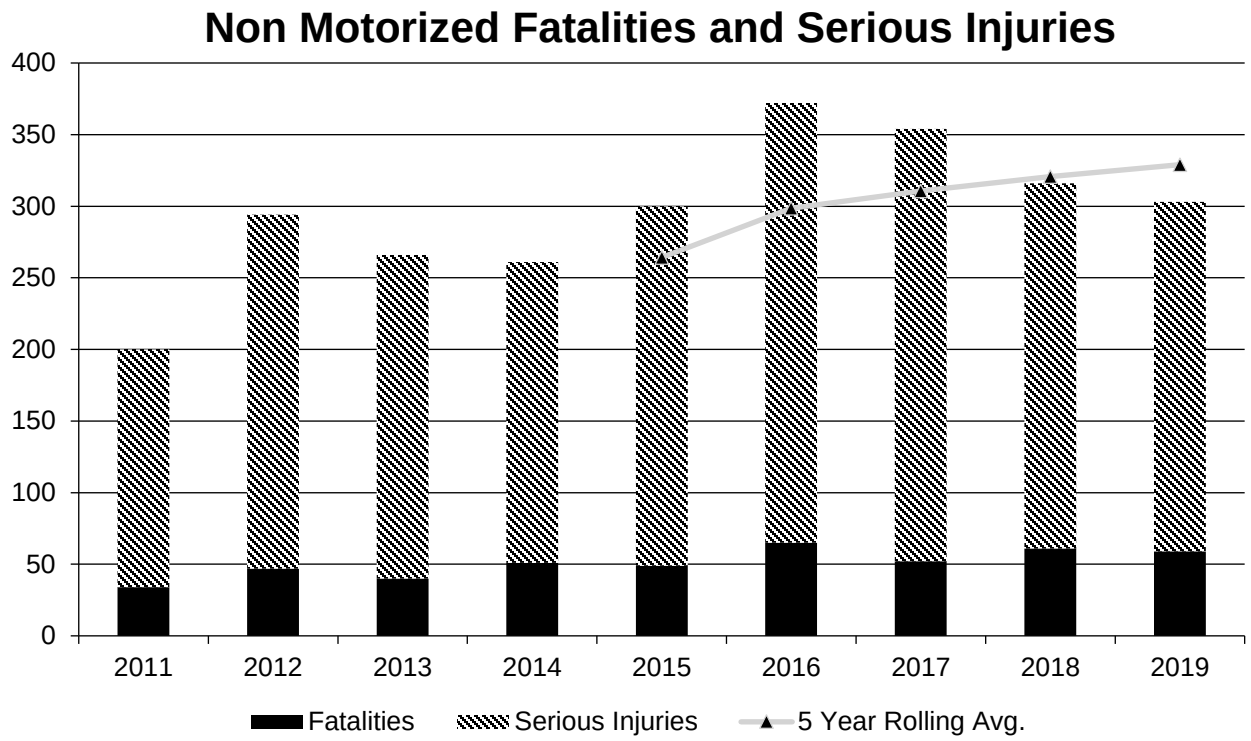
PERFORMANCE MEASURES	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fatalities	221	264	286	248	270	304	281	294	255
Serious Injuries	1,673	1,779	1,523	1,356	1,526	1,689	1,641	1,361	1,335
Fatality rate (per HMVMT)	0.710	0.840	0.924	0.795	0.855	0.961	0.892	0.930	0.807
Serious injury rate (per HMVMT)	5.360	5.690	4.920	4.348	4.830	5.338	5.210	4.308	4.225
Number non-motorized fatalities	34	47	40	51	49	65	52	61	59
Number of non-motorized serious injuries	166	247	226	210	251	307	302	255	244


Annual Fatalities
350
300
250
200
150
100
50
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.2
1
0.8
0.6
0.4
0.2
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
6
5
4
3
2
1
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



In some cases, the values from previous years were updated to reflect the most recent data.

Describe fatality data source.

FARS

Annual data for the number of fatalities, fatality rate, and number of non-motorized fatalities between 2010 and 2018 was updated from the latest available FARS data. Annual data for the number of serious injuries, serious injury rate and number of non-motorized serious injuries between 2010 and 2018 was updated from the UCONN crash data repository. Also, the 2019 performance measures data for fatalities and serious injuries is from the UCONN crash data repository and is preliminary.

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	3.2		0.68	
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other				

Functional Classification	**Number of Fatalities (5-yr avg)**	**Number of Serious Injuries (5-yr avg)**	**Fatality Rate (per HMVMT) (5-yr avg)**	**Serious Injury Rate (per HMVMT) (5-yr avg)**
Rural Minor Arterial				
Rural Minor Collector				
Rural Major Collector				
Rural Local Road or Street				
Urban Principal Arterial (UPA) - Interstate	43.6		0.44	
Urban Principal Arterial (UPA) - Other Freeways and Expressways	25.2		0.6	
Urban Principal Arterial (UPA) - Other	61.4		1.6	
Urban Minor Arterial	77.4		1.5	
Urban Minor Collector				
Urban Major Collector	32		1.22	
Urban Local Road or Street	33.8		1.33	
Other	2.8			

Year 2018

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	196.4	479.4		
County Highway Agency				
Town or Township Highway Agency	83	747.2		
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				

FARS is the source for the number of fatalities based on functional class. The source of data for HMVMT is FHWA Table VM-2 for 2018.
The state's crash file does not have serious injury crash data broken down by functional class so those columns are blank.
2019 values are not available.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2021 Targets *

Number of Fatalities:270.0

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

"Annual" Fatalities. - The annual number of fatalities did fluctuate as expected from year to year, but the annual data also suggest a downward trend since a high point of 304 fatalities in 2016. - A time series regression analysis was conducted to project the likely number of fatalities in 2020 and 2021 (our target year). Based on the regression analysis, we should expect the fatalities to drop to 260-270, but there is a significant amount of statistical variance around the projection.5-Year Moving Average. - In contrast to the annual numbers, the 5-year moving average is exhibiting a continuing upward trend. The trendline suggests the 5-year moving average could be as much as 20-25 fatalities higher than the likely annual trend. (The annual trend reflects the influence of decreasing fatalities since 2016.)TARGET: - CTDOT is choosing to set a 2021 fatality target of 270.0. The selection is based on careful consideration of the following:1. The 2 trendlines in the graph suggest the actual value should lie fall between 260-290.2. CTDOT wants to set an aggressive target that will move the State back toward fatality levels experienced in 2015 and earlier. 3. CTDOT recognizes that 2019 had an exceptionally low number of fatalities. The unusually large reduction of 39 fatalities between 2018 and 2019 could be a statistical anomaly.The goal in CT's 2017-2021 SHSP for number of fatalities is combined with number of serious injuries. By 2021, the goal is to reduce fatalities and serious injuries on all public roads by 15%. It is hopeful that CT can reach this goal by implementing the strategies in each of the emphasis areas.

Number of Serious Injuries:1360.0

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

"Annual" Serious Injuries.- The annual number of serious injuries fluctuated as expected from year to year, but the annual data also suggest a major downward trend since a high point of 1689 serious injuries in 2016. - A time series regression analysis was conducted to project the likely number of serious injuries in 2020 and 2021 (our target year). Based on the regression analysis, we should expect a large drop in serious injuries. The drop is expected to bring the annual number down to the 1260-1300 range, but there is a significant amount of statistical variance around the projection.5-Year Moving Average. - Unlike the case for fatalities, the 5-year moving average for serious injuries is exhibiting a steady downward trend. Nonetheless, there is still a large difference between the 5-year average trendline and the annual regression analysis forecast. The 5-year average is expected to drop to around 1410, while the regression forecast is 1260-1300. TARGET: - CTDOT is choosing to set a 2021 fatality target of 1360.0 serious injuries. The selection is based on careful consideration of the following:1. The 2 trendlines in the graph suggest the actual value should lie fall between 1260-1410.2. CTDOT wants to set an aggressive target that will move the State back toward fatality rate levels experienced in 2014 and earlier. The goal in CT's 2017-2021 SHSP for number of fatalities is combined with number of serious injuries. By 2021, the goal is to reduce fatalities and serious injuries on all public roads by 15%. It is hopeful that CT can reach this goal by implementing the strategies in each of the emphasis areas.

Fatality Rate:0.850

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

- The annual fatality rate fluctuates as expected from year to year, but the annual data also suggest a downward trend since a high point of 0.961 fatalities/100M VMT in 2016. - A time series regression analysis was conducted to project the likely number of fatalities in 2020 and 2021 (our target year). Based on the regression analysis we should expect the fatality rates to drop to 0.835, but there is a significant amount of

statistical variance around the projection.5-Year Moving Average. - In contrast to the annual numbers, the 5-year moving average is exhibiting a continuing upward trend. The trendline for the 5-year moving average suggests the fatality rate could be up to 8% higher (or a rate of 0.910 versus 0.835) than rates suggested by the “annual” projection. (The annual trend reflects the influence of a decreasing fatality rate since 2016.)TARGET: - CTDOT is choosing to set a 2021 fatality rate target of 0.850. The selection is based on careful consideration of the following:1. The 2 trendlines in the graph suggest the actual value should fall between 0.835 and 0.910.2. CTDOT wants to set an aggressive target that will move the State back toward fatality rate levels experienced in 2015 and earlier. 3. CTDOT recognizes that 2019 had an exceptionally low fatality rate 0.807 fatalities/100M VMT. The unusually large rate reduction between 2018 and 2019 could be a statistical anomaly.CT does not have goals for fatality rate per HMVMT in its 2017-2021 SHSP.

Serious Injury Rate:4.300

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

“Annual” Serious Injury Rates.- The annual serious injury rates fluctuated as expected from year to year, but the annual data also suggest a major downward trend since a high point of 5.34 serious injuries/100 million VMT in 2016. - A time series regression analysis was conducted to project the likely serious injury rates in 2020 and 2021 (our target year). Based on the regression analysis, we should expect large a drop in the serious injury rates. The drop is expected to bring the annual rate down to 3.90-4.10, but there is a significant amount of statistical variance around the projection.5-Year Moving Average. - Unlike the case for fatality rates, the 5-year moving average for serious injury rates is exhibiting a steady downward trend. Nonetheless, there is still a large difference between the 5-year average trendline and the annual regression analysis forecast. The 5-year average is expected to drop to around 4.50, while the regression forecast is 3.90-4.10. TARGET: - CTDOT is choosing to set a 2021 fatality target of 4.30 serious injuries/100M VMT. The selection is based on careful consideration of the following:1. The 2 trendlines in the graph suggest the actual value should lie fall between 3.90-4.50.2. CTDOT wants to set an aggressive target that will move the State back toward fatality rate levels experienced in 2014 and earlier.CT does not have goals for serious injury rate per HMVMT in its 2017-2021 SHSP.

Total Number of Non-Motorized Fatalities and Serious Injuries:300.0

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

“Annual” Non-Motorist Fatalities & Serious Injuries.- The annual number of non-motorist fatalities and serious injuries fluctuated as expected from year to year, but the annual data also suggest a major downward trend since a high point of 372 non-motorist fatalities and serious injuries in 2016. - A time series regression analysis was conducted to project the likely number of non-motorist fatalities and serious injuries in 2020 and 2021 (our target year). Based on the regression analysis, we should expect a drop in fatalities and serious injuries. The drop is expected to bring the annual number down to 300-320, but there is a significant amount of statistical variance around the projection.5-Year Moving Average. Non-Motorized Road Users are an emphasis area in CT's 2017-2021 SHSP. The strategies in the SHSP for this EA will help CT re- Unlike the “annual” projections of fatalities and injuries, the 5-year moving average for non-motorist fatalities and serious injuries is exhibiting a steady upward trend. The diverging trends yield a significant difference between the 5-year average trendline and the annual regression analysis forecast. The 5-year average is expected to increase to around 350, while the regression forecast is 300-320. TARGET: - CTDOT is choosing to set a 2021 target of 300 non-motorist fatalities and serious injuries. The selection is based on careful consideration of the following:1. High Priority for Pedestrian Safety. The safety of pedestrians and bicyclists became a major issue in CT when pedestrian and bicyclist fatalities unexpectedly jumped in 2014. While it was part of a larger national trend, it raised great concern in a State that is heavily urbanized, and walking and bicycling are essential modes of transport for many residents. These forms of active transportation are also increasingly popular forms of physical exercise. CTDOT adopted pedestrian safety as a high priority, and there are major programs to improve safety and expand opportunities for walking and bicycling. We remain committed to those goals.2. 5-year Moving Average Trendline is Problematic. Given CTDOT’s commitment to pedestrian safety, we are unwilling to accept a higher

performance target of 350 fatalities and serious injuries that is projected using the 5-year moving average trendline. 3. “Annual” Trendline is more acceptable. The projection using regression analysis suggests a value between 300-320 that we believe to be more likely than the 5-year average, and it is more acceptable given CTDOT’s goal of improving non-motorist safety. 4. Aggressive Target. The CTDOT wants to set an aggressive target that will move the State back toward fatality rate levels experienced in 2014 and earlier.Non-Motorized Road Users is an emphasis area in CT's 2017-2021 SHSP. A 15% reduction in the number of fatalities and serious injuries is the stated goal in the SHSP which should be reached by implementing the strategies under this EA.
The performance targets and match those reported by CT's Highway Safety Office.

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

Internal coordination between the HSO and Traffic Engineering began in the Spring of 2020. The HSO's contractor prepared initial targets for each of the safety performance targets for discussion. Once the draft targets were approved at the staff level, they were forwarded to CTDOT management for discussion and approval. After the targets were approved, CTDOT hosted a meeting with the MPOs to discuss safety performance targets. During the June 2, 2020 meeting, there was a presentation and discussion on Federal reporting requirements, deadlines, and an assessment on past and current trends. After the HSIP annual report is submitted to FHWA, CTDOT will send a letter to all the MPOs requesting a resolution from their policy board no later than February 28, 2021, stating that they either support CTDOT's targets or that they plan to set their own.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State’s 2019 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	274.0	280.8
Number of Serious Injuries	1574.0	1510.4
Fatality Rate	0.873	0.889
Serious Injury Rate	5.024	4.782
Non-Motorized Fatalities and Serious Injuries	290.0	329.0

Number of Fatalities:
Preliminary data suggests that target will not be achieved and is slightly worse than baseline

Number of Serious Injuries:
Preliminary data suggests that target will be achieved and is better than baseline

Fatality Rate (per HMVMT):
Preliminary data suggests that target will not be achieved and is slightly worse than baseline

Serious Injury Rate (per HMVMT):

Preliminary data suggests that target will be achieved and is better than baseline

Number of Non-Motorized Fatalities and Serious Injuries:
Preliminary data suggests that target will not be achieved and is worse than baseline

Applicability of Special Rules

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

No

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	2013	2014	2015	2016	2017	2018	2019
Number of Older Driver and Pedestrian Fatalities	30	35	38	50	53	40	53
Number of Older Driver and Pedestrian Serious Injuries	113	112	124	120	132	117	137

Data source for the number of older drivers and pedestrian fatalities is FARS with the exception of 2019 data which is from the UCONN crash data repository. Data source for the number of older drivers and pedestrian serious injuries in the UCONN crash data repository.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Change in fatalities and serious injuries

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

- Since the number of fatalities and serious injuries trends have not changed much since last year, it is difficult to evaluate the State's HSIP program. CT finalized its SHSP in July 2017 and it is anticipated that many of the infrastructure related strategies will be implemented resulting in fewer fatalities and serious injuries.
- A safety effectiveness evaluation module is planned for the CT Roadway Safety Management System (CRSMS) which will allow users to evaluate individual projects. Features such as lives saved and injuries prevented are being considered to help inform decision makers of the return on past investments and help make a case for future funding.
- A Highway Safety Improvement Program (HSIP) Implementation Plan for Connecticut (CT) was created to document the HSIP funding and actions the state will take for the 2021 Federal Fiscal Year (FFY). This plan is required because the Federal Highway Administration (FHWA) notified the State that we did not meet or make significant progress toward meeting our 2018 safety performance targets, based on the 5-year moving averages for 2014-2018. Connecticut was not alone on this assessment because FHWA determined that 24 other State DOTs also did not meet targets or make significant progress. Connecticut met the safety performance target for two out of the five categories, specifically the number of serious injuries and the serious injury rate. Although Connecticut failed to meet its projected safety performance target for the fatality rate, its fatality rate was one of the lowest rates in the country. In 2018, the rate was 0.930 per 100 million vehicles miles traveled (VMT) which was the 11th lowest rate nationwide. The national average was 1.13 VMT, which was 20% higher than CT’s rate.

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

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

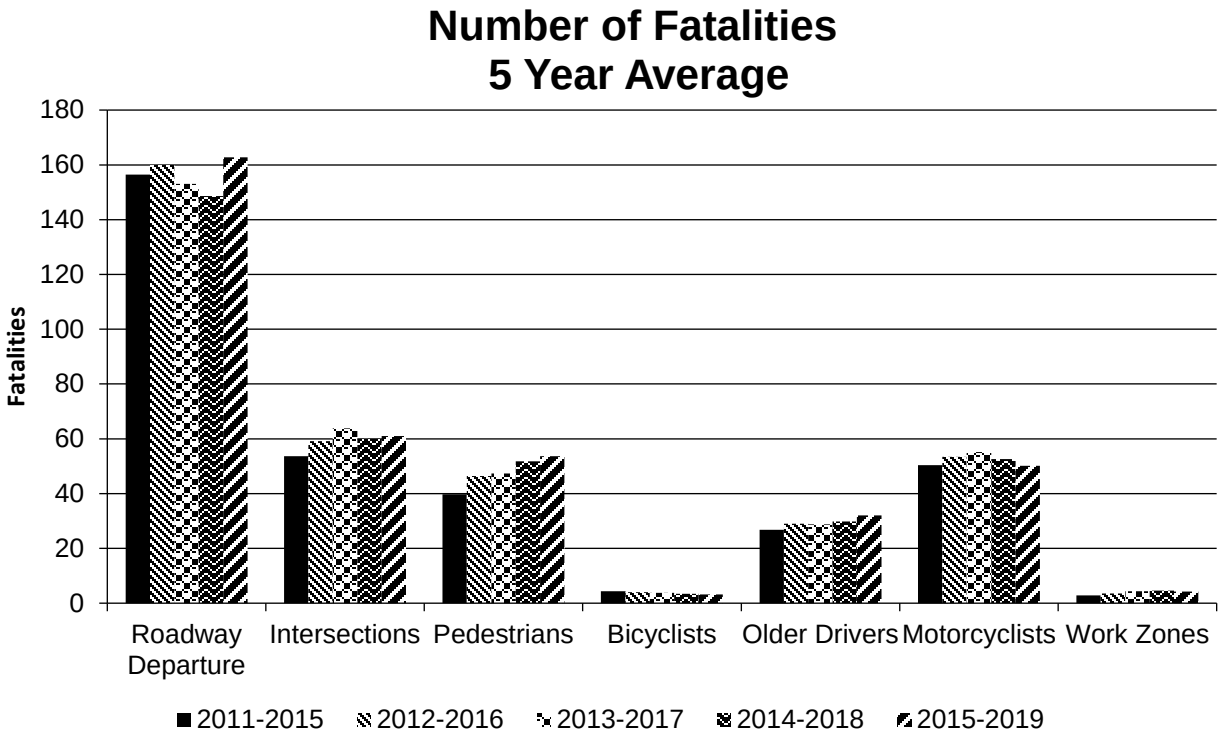
Effectiveness of Groupings or Similar Types of Improvements

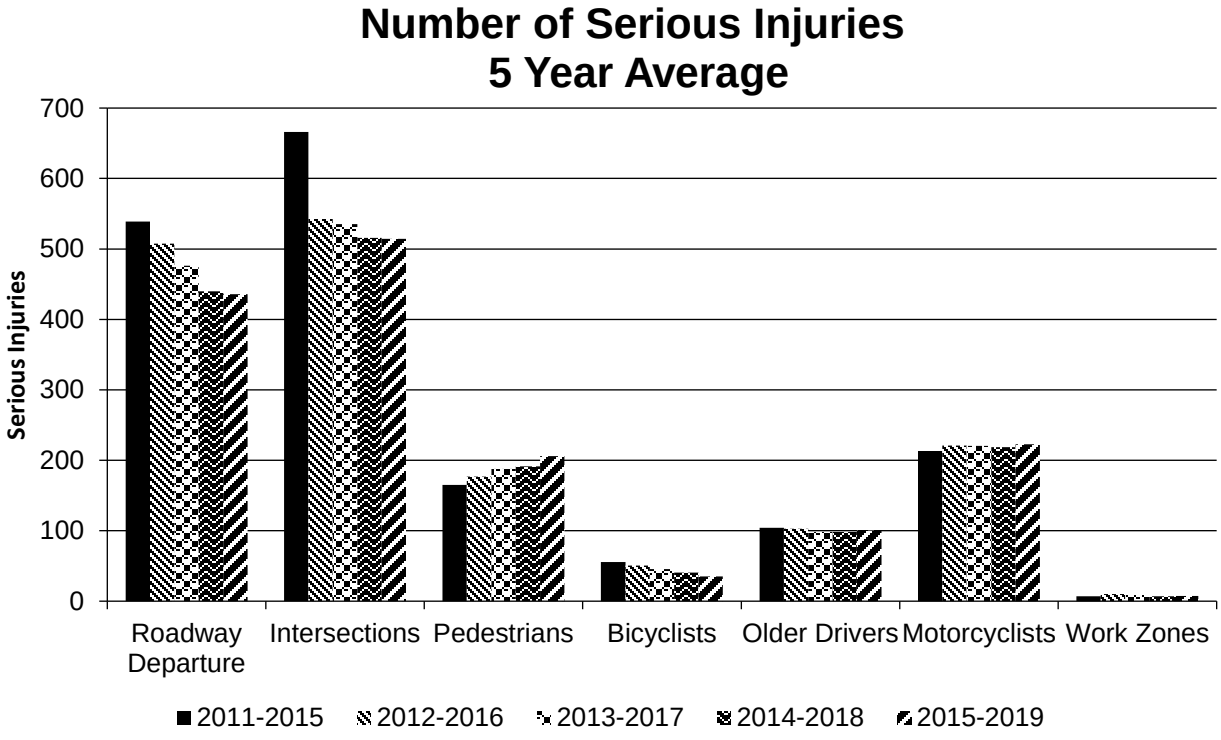
Present and describe trends in SHSP emphasis area performance measures.

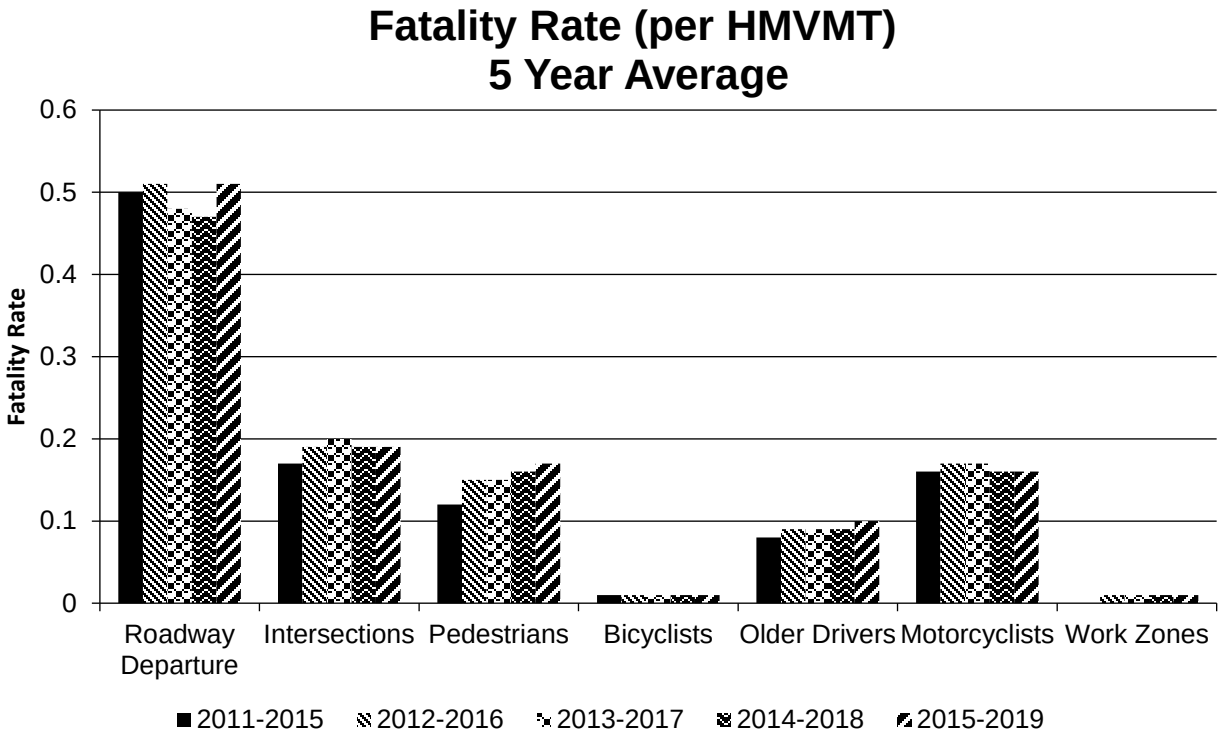
Year 2019

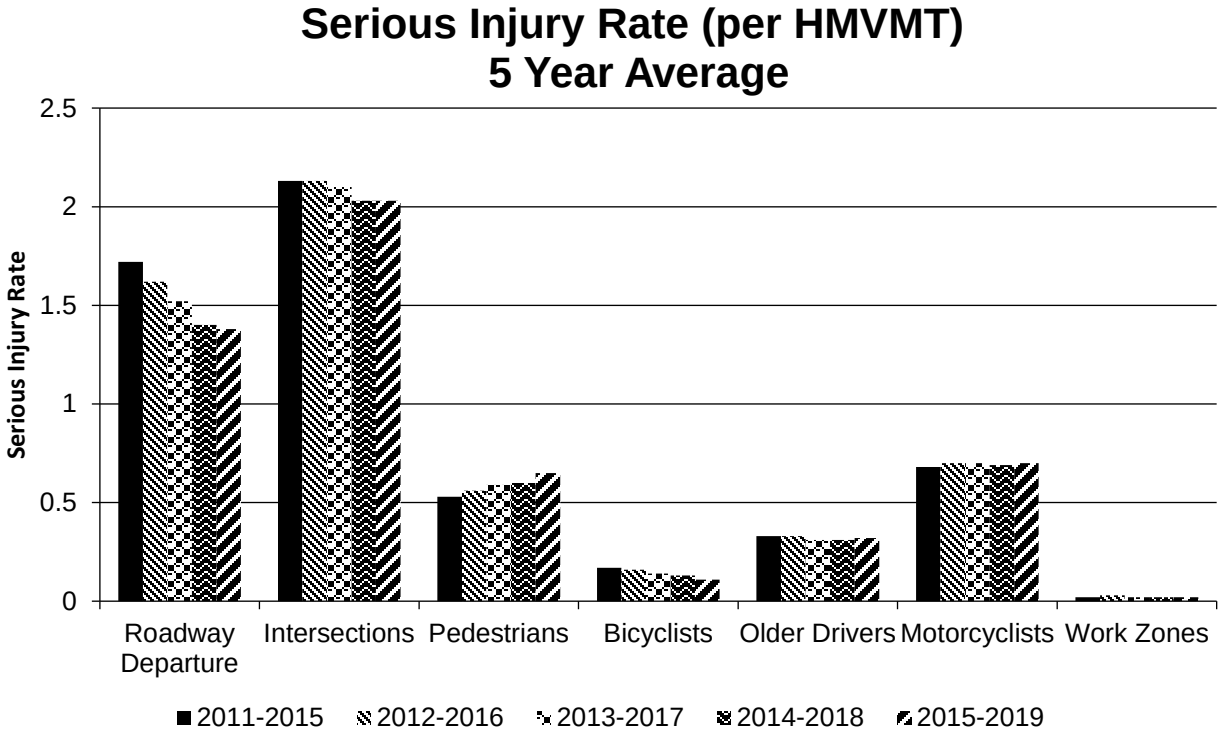
SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Roadway Departure		162.8	435.6	0.51	1.38

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)
Intersections		61	514.2	0.19	2.03
Pedestrians		53.6	206	0.17	0.65
Bicyclists		3.2	35	0.01	0.11
Older Drivers		32	100.2	0.1	0.32
Motorcyclists		50.2	222.8	0.16	0.7
Work Zones		4.2	7.4	0.01	0.02


Number of Fatalities
5 Year Average
Fatalities
180
160
140
120
100
80
60
40
20
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019


Number of Serious Injuries
5 Year Average
Serious Injuries
700
600
500
400
300
200
100
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019





For 2015-2018, FARS was used for the number of fatalities for all SHSP emphasis areas. All other crash data is from the UCONN crash data repository.
The HMVMT data source is FHWA Table VM-2 for 2018.
In some cases, data was updated from previous years in order to reflect the most up-to-date information.
Lane departure cannot be accurately separated from roadway departure data so all the crash data is combined on a single line.

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)
US Rte 44 from US Rte 5 to Mary Street	Urban Principal Arterial (UPA) - Other	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists	230.00	190.00	1.00		10.00	4.00	99.00	89.00	340.00	283.00	3.85

There were "0" fatalities in the after period. The tool will not allow a zero to be entered.

Compliance Assessment

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

05/18/2017

What are the years being covered by the current SHSP?

From: 2017 To: 2021

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

2021

Update is currently underway via State Project 170-3516.

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					90	99	65	99
	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					99	99		
	Surface Type (23) [24]	100	100					90	99		
	Begin Point Segment Descriptor (10) [10]	100	100					90	99	65	99
	End Point Segment Descriptor (11) [11]	100	100					90	99	65	99
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								
	Functional Class (19) [19]	100	100					99	99	100	90

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
	Median Type (54) [55]	95	50								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					99	99		
	Average Annual Daily Traffic (79) [81]	100	100					99	99		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					99	99	99	90
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					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	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Beginning of Ramp Terminal (197) [187]										
	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	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):		**99.72**	**97.22**	**100.00**	**100.00**	**100.00**	**100.00**	**95.00**	**99.00**	**78.80**	**95.40**

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

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.

go to https://portal.ct.gov/DOT/Programs/Traffic-Records
Select TRCC Traffic Records Strategic Plan
MIRE FDE section begins on page 36

Optional Attachments

Program Structure:

Highway Safety Improvement Program Guide.docx
Project Implementation:

Safety Performance:

Evaluation:

Compliance Assessment:

Glossary

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

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

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

HMVMT: means hundred million vehicle miles traveled.

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

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

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

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

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

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

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

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

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