NEW HAMPSHIRE
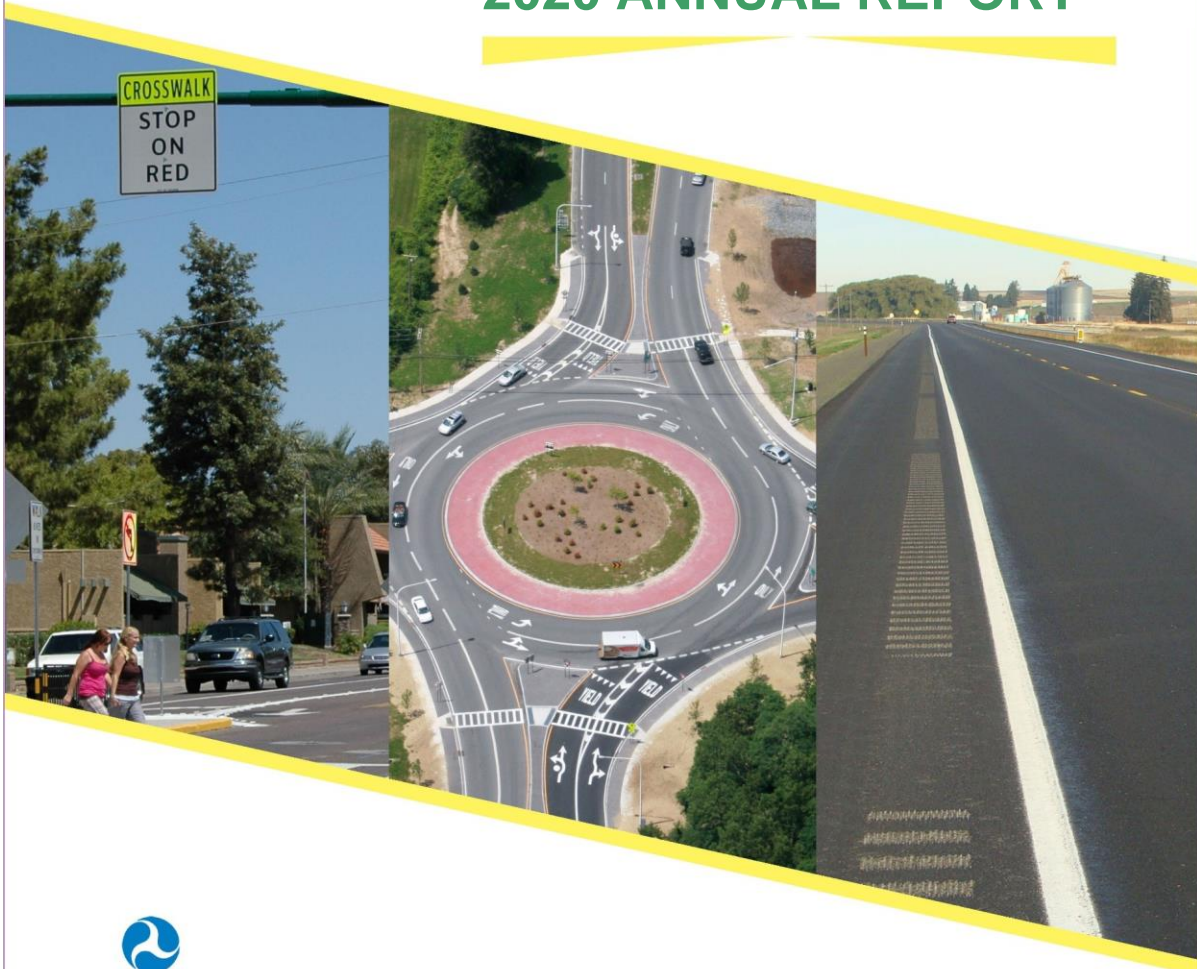
HIGHWAY SAFETY
IMPROVEMENT PROGRAM
2020 ANNUAL REPORT

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 overall purpose of this program is to achieve a significant reduction in fatalities and serious injuries on all public roads through the implementation of highway safety improvement projects. Infrastructure improvement projects are selected and justified by proven data-driven approaches. All highway safety improvement projects should be chosen and implemented with the goal of reducing fatalities and serious injuries on public roads and the achievement of state safety targets. Some projects will directly impact these performance measures through the implementation of engineering countermeasures, while others may advance the data systems and analysis capabilities of the state to more accurately identify locations with the highest potential for safety improvements, evaluate the performance of highway safety improvement projects, or identify high risk roadway characteristics and driver behaviors.

In 2006, FHWA established a new approach to advancing safety by focusing on performance. In order to effectively meet performance targets, States must apply limited resources to the areas that are most likely to achieve results. The requirement to develop and regularly update a Strategic Highway Safety Plan (SHSP) ensures that this approach is maintained. NH annually tracks and reports performance measures including the numbers and rates of fatalities and serious injuries. Several other performance measures of specific interest to the State are listed in the NH SHSP.

New Hampshire has embraced the goals and vision of the national Toward Zero Deaths (TZD) initiative. The State named its SHSP New Hampshire Driving Toward Zero in recognition of the national plan, and created a public outreach program with the same name to promote change in New Hampshire's safety culture (see nhdtz.com). The initiative recognizes that even one traffic death is unacceptable and sets the aggressive goal of reducing all deaths on the nation's highways, a goal virtually achieved in the aviation industry in the past several decades. Dozens of public and private stakeholders from across the State have come together in a collaborative effort to update and implement the strategies in the SHSP. The vision of Driving Toward Zero is embodied in NH's goal of reducing the number of fatalities and serious injuries by 50% by 2030, equaling an annual reduction of 3.4%. Maine and Vermont share this target, and to that end Maine DOT and VTrans have formed a tristate collaborative partnership with NHDOT to more effectively reach the collective regional goal. NHDOT has also incorporated the reduction of fatalities into our Balanced Scorecard, representing one of the twelve Strategic Objectives of the NHDOT.

The concept of a focused approach has been further reinforced with requirements for data-driven decision making and resource allocation. 23 USC 148(c)(2), as amended by 1401(a)(1) of SAFETEA-LU, Identification and Analysis of Highway Safety Problems and Opportunities, delineates specific requirements for identifying safety problems and evaluating countermeasures. NHDOT has implemented the guidelines of the Highway Safety Manual (HSM), part D, in the selection and evaluation of safety improvements, wherever applicable. MAP21 and the subsequent FAST ACT have continued building on the concept of a safety data system that has the capability to identify key safety problems, establish their relative severity, and then adopt strategic and performance based goals to maximize safety. Recent improvements to the NH data system include the recent migration from the former Crash Management System (CRMS) to the current crash and citation database known by the moniker VISION, the compilation of the Model Inventory of Roadway Elements (MIRE) fundamental data elements (FDE), and the completion of the National Highway Traffic Safety Administration (NHTSA) Traffic Records Assessment. One of the key findings of the Traffic Records Assessment was that performance measures for data quality are needed, including measures of timeliness, accuracy, completeness, uniformity, integration and accessibility in order to guide improvements to the data and data systems.

The States are required to define a clear linkage between the behavioral NHTSA-funded Highway Safety Program and the FHWA-funded HSIP via the State's SHSP. The 2012 version (2nd edition) of the NH SHSP identified nine critical emphasis areas (CEA) to be addressed by safety stakeholders in NH, listed below. In 2014, the Education and Public Outreach committee was created thus forming the tenth CEA. This committee has developed documentation that states the challenge, primary focus, and goals for this new emphasis area.

Ten critical emphasis areas: Distracted Driving, Impaired Driving, Speeding, Vehicle Occupant Protection, Teen Traffic Safety, Older Drivers, Vulnerable Roadway Users, Comprehensive Safety Data Improvement, Crash Locations, and Education and Public Outreach.

The 4 E's of safety (education, enforcement, engineering, and emergency medical services) should be considered in the selection and development of HSIP projects, however the primary intent of the HSIP is to target engineering improvements to infrastructure. Crash types of special interest have been identified in the crash locations CEA. The NH SHSP is now in its third edition and will be updated in 2021.

23 USC 148(a)(4) provides a sample listing of eligible highway safety improvement project types; however, it is important to note that only data-driven projects that target strategies identified in the State SHSP are eligible for funding in NH. Furthermore, given the limited funding available, funds should be prioritized to help ensure that projects with the greatest safety return will be the top priority.

23 USC 148(e)(2) makes clear that other federal-aid funds are eligible to support and leverage the safety program. Improvements to safety features, such as guardrail, that are routinely provided as part of a broader Federal-aid project should be funded from the same source funds as the broader project, rather than with HSIP funds, when that safety feature is included in the broader project. This allows the HSIP funds to be reserved for stand-alone safety projects thereby allowing for true targeting of safety needs. This is consistent with the provision of separate funding for safety projects and with FHWA's long-standing position on the use of safety funds.

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.

The NH HSIP is governed by a committee chaired by the NHDOT Assistant Director of Project Development and includes representatives from the NHDOT Bureaus of Highway Design, Traffic, Highway Maintenance, and Planning; RPCs, MPOs, municipalities, and the FHWA NH Division. The monthly committee meetings review the selection and progress of HSIP projects and initiatives, and program finances. Regional Planning Commissions are encouraged to incorporate the HSIP principle of data driven project selection in their Transportation Improvement Plan development.

Where is HSIP staff located within the State DOT?

Design

How are HSIP funds allocated in a State?

- SHSP Emphasis Area Data

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

Municipally-maintained local roads and intersections are included in the screening with State-maintained sites and are evaluated using the same methodology. Traffic data are not available for the majority of rural collector or rural and urban local roads (functional class 8, 9, and 19), and therefore the volumes are estimated based on similar roads that have measured data. Urban and rural local roads are categorized separately from the other functional classes in network screening to account for the lower reliability of this estimated volume data. The State is working to improve volume data on the roads for which it is currently lacking. In addition, the State has involved municipal partners in two Every Day Counts 5 initiatives that will proceed in fiscal year 2020.

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

- Design
- Districts/Regions
- Governors Highway Safety Office
- Local Aid Programs Office/Division
- Maintenance
- Operations

- Planning
- Other-Administration

Describe coordination with internal partners.

The State's HSIP is centrally administered. The NHDOT selects candidates for improvement using historical network screening results which are then corroborated with recent crash data. While this project identification and selection method is more 'naive' and less rigorous than desired, it is nevertheless data-driven. The candidate locations are then disseminated to the NHDOT's safety partners via the HSIP Committee for review and comment. For all the candidate locations, the Committee will consider the scope and cost of the anticipated improvements in relation to the overall program funding constraints, and the improvement's expected benefit/cost ratio. Candidates not selected into the HSIP may be recommended for consideration via other funding programs.

The NHDOT Safety Section continues to work with the assistance of the FHWA NH Division to regain and sustain the necessary tools and expertise for a rigorous data-driven safety program.

Identify which external partners are involved with HSIP planning.

- FHWA
- Governors Highway Safety Office
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)

Describe coordination with external partners.

The HSIP committee meets monthly with internal and external partners. The NHDOT Bureau of Highway Design - Safety Section prepares and disseminates (by email) meeting agendas and notes, program financial data, and relevant project reports. This information is reviewed and discussed at the monthly meetings, with key items voted upon when necessary as dictated by the NHDOT HSIP Policy.

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

The FAST Act disqualified the use of HSIP funds for noninfrastructure projects. The NHDOT continues to work with our safety partners via the SHSP to advance non-infrastructure safety initiatives utilizing funding from NHTSA or other public or private sources.

Program Methodology

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

Select the programs that are administered under the HSIP.

- Bicycle Safety
- Horizontal Curve
- HRRR

- Intersection
- Left Turn Crash
- Local Safety
- Low-Cost Spot Improvements
- Median Barrier
- Pedestrian Safety
- Right Angle Crash
- Roadway Departure
- Rural State Highways
- Segments
- Shoulder Improvement
- Sign Replacement And Improvement

Program: Bicycle Safety

Date of Program Methodology:10/1/2013

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
- All crashes
- Other-EPDO

Exposure
- Traffic
- Volume

Roadway
- Other-Site Subtype

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)
- Expected crash frequency with EB adjustment

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?

- Other-HSIP Committee evaluation

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: Horizontal Curve

Date of Program Methodology:10/1/2013

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
- All crashes
- Other-Run Off the Road

Exposure
- Traffic
- Volume

Roadway
- Functional classification
- Other-Site Subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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?

- Other-HSIP Committee evaluation

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: HRRR

Date of Program Methodology:10/1/2013

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

- Fatal and serious injury crashes only
- Other-Run Off the Road

Exposure

- Traffic
- Volume

Roadway

- Other-site subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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?

- Other-HSIP Committee evaluation

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: Intersection

Date of Program Methodology:10/1/2013

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
- All crashes
- Other-Run Off the Road

Exposure
- Traffic
- Volume

Roadway
- Functional classification
- Other-Site Subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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?

- Other-HSIP Committee evaluation

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: Left Turn Crash

Date of Program Methodology:10/1/2013

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 • Other-Run Off the Road	• Traffic • Volume	• Other-site subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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?

- Other-HSIP Committee evaluation

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: Local Safety

Date of Program Methodology:10/1/2013

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 • Volume	• Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Other-RSA local agency

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?

- Competitive application process
- Other-HSIP Committee evaluation

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: Low-Cost Spot Improvements

Date of Program Methodology:10/1/2013

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
- Other-Run Off the Road

- Traffic
- Volume

- Other-site subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment
- Other-RSA request from local agencies

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?

- Competitive application process
- Other-HSIP Committee evaluation

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: Median Barrier

Date of Program Methodology:10/1/2013

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	• Functional classification

- Other-Run Off the Road
- Volume

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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.
no medians on local roads

How are projects under this program advanced for implementation?

- Other-HSIP Committee evaluation

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:10/1/2013

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	**Exposure**	**Roadway**
• Fatal crashes only		

- Fatal and serious injury crashes only

What project identification methodology was used for this program?

- Crash frequency
- Equivalent property damage only (EPDO Crash frequency)
- Excess expected crash frequency using method of moments
- Expected crash frequency with EB adjustment

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?

- Competitive application process
- Other-HSIP Committee evaluation

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).

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

Program: Right Angle Crash

Date of Program Methodology:10/1/2013

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 • Volume	• Other-site subtype

- Other-Run Off the Road

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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?

- Other-HSIP Committee evaluation

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: Roadway Departure

Date of Program Methodology:10/1/2013

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 • Other-EPDO	• Traffic • Volume	• Other-Site Subtype

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)
- Expected crash frequency with EB adjustment

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.
EPDO

How are projects under this program advanced for implementation?

- Other-HSIP Committee evaluation

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: Rural State Highways

Date of Program Methodology:10/1/2013

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
- All crashes
- Fatal and serious injury crashes only

Exposure
- Traffic
- Volume

Roadway
- Horizontal curvature
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment

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?

- Competitive application process
- Other-HSIP Committee evaluation
- 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
Ranking based on B/C:50
Available funding:50

Program: Segments

Date of Program Methodology:10/1/2013

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 • Other-Run off the Road	• Traffic • Volume	• Median width • Other-Site subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment

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?

- Competitive application process
- Other-HSIP Committee evaluation
- 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
Ranking based on B/C:50
Available funding:50

Program: Shoulder Improvement

Date of Program Methodology:10/1/2013

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
- All crashes
- Fatal and serious injury crashes only

Exposure
- Traffic
- Volume

Roadway
- Roadside features

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)
- Expected crash frequency with EB adjustment

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?

- Competitive application process
- Other-HSIP Committee evaluation
- 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
Ranking based on B/C:50
Available funding:50

Program: Sign Replacement And Improvement

Date of Program Methodology:10/1/2013

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

- Fatal and serious injury crashes only
- Other-Run Off the Road

Exposure

- Traffic
- Volume

Roadway

- Other-site subtype

What project identification methodology was used for this program?

- Expected crash frequency with EB adjustment
- Other-Run off the Road

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?

- Other-HSIP Committee evaluation

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

What percentage of HSIP funds address systemic improvements?

40

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Horizontal curve signs
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Rumble Strips
- Upgrade Guard Rails

The portion of HSIP funds spent on systemic or systematic improvements varies. FY 2019 funding of systemic / systematic improvements was approximately 40%. It is anticipated that this percentage will increase over time as our program approach trends toward a higher proportion of systemic improvements with a focus on rumble strips, durable pavement markings, uncontrolled pedestrian crossings, and other worthwhile improvements. NHDOT is working with FHWA NH on a data-driven process to optimize the portion of our program directed toward systemic and systematic improvements.

What process is used to identify potential countermeasures?

- Crash data analysis
- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Stakeholder input

Does the State HSIP consider connected vehicles and ITS technologies?
No

NHDOT has been following technological developments cooperatively with regional DOTs, but has not begun to implement specific infrastructure improvements to support connected vehicles and emerging ITS technologies.

Does the State use the Highway Safety Manual to support HSIP efforts?
Yes

Please describe how the State uses the HSM to support HSIP efforts.
The NHDOT uses the Highway Safety Manual, Part D, to support our project selection and evaluation of improvement alternatives. Crash modification factors are selected from the HSM and the CMF Clearinghouse website. The NHDOT strives to achieve an initial benefit-cost ratio of at least 2.0 for new projects to ensure that as the projects' scopes and costs evolve through the project development process, a favorable b-c ratio (greater than 1.0) can be sustained.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.
Federal 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)	$7,289,251	$8,016,988	109.98%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$957,888	$1,506,207	157.24%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$0	$0	0%
Totals	$8,247,139	$9,523,195	115.47%

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%

Local safety projects are eligible for consideration for HSIP funding, but no specific program funding level has been established. Local projects are commonly identified via road safety audits. There are no tribal roads in NH.

How much funding is programmed to non-infrastructure safety projects?
$201,500

How much funding is obligated to non-infrastructure safety projects?
$201,500

Funding for non-infrastructure initiatives is limited to the execution of our annual road safety audit program. Funding apportionment is not fixed, but is adjusted according to need.

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%

NHDOT historically has not transferred funds into or out of HSIP.

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

The State of New Hampshire Highway Fund, comprised of revenue from motor vehicle fuel taxes and other fees, is devoted to State-funded highway operations and maintenance. Thus New Hampshire's Federal highway funding, rather than being matched by State funds, is matched by Federal funds in the form of turnpike toll credits. The result is that highway safety funding in New Hampshire is entirely reliant on Federal funding. Any interruption of Federal highway funding would lead to a cessation of New Hampshire's highway safety program. Also, this lack of State highway funds also prevents the State of New Hampshire from being able to leverage the limited Federal safety funds by matching them with State funds, which could support an expanded safety program.

Describe any other aspects of the State's progress in implementing HSIP projects on which the State would like to elaborate.

The NHDOT road safety audit application and selection process provides a predictable and objective means for communities to have their priority safety concerns addressed in a timely manner. Furthermore, the use of Highway Safety Manual guidance provides a data driven process for selecting and evaluating countermeasures.

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
Lancaster-Shelburne 41204	Roadside	Barrier- metal	4.7	Miles	$51070	$51070	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Statewide 40803	Roadside	Barrier- metal	3.4	Miles	$47401	$47401	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Rochester 41849	Roadway	Roadway - restripe to revise separation between opposing lanes and/or shoulder widths	0.5	Miles	$109337	$109337	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	15,245	50	State Highway Agency	Road safety audit applicant	Crash locations	Two-way left turn lane
Derry 24861	Intersection traffic control	Intersection traffic control - other	1	Intersections	$244286	$244286	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	12,740	45	State Highway Agency	Spot	Intersections	Improve control
Colebrook-Dixville 41783	Roadside	Barrier- metal	2.2	Miles	$9158	$9158	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Fitzwilliam 16211	Speed management	Traffic calming feature	0.4	Miles	$22000	$22000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	5,211	35	State Highway Agency	Road safety audit	Crash locations	Traffic calming
Statewide 41604	Roadside	Barrier- metal	3.1	Miles	$280059	$280059	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Statewide 28139	Roadway signs and traffic control	Curve-related warning signs and flashers	720	Curves	$742212	$742212	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Curve warning signs
Statewide 41269	Roadside	Barrier- metal	2.0	Miles	$1109311	$1109311	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Statewide 28134	Roadway signs and traffic control	Curve-related warning signs and flashers	1420	Curves	$1168034	$1168034	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve curve warning signs
Ossipee 29315	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$3034577	$3034577	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	4,244	40	State Highway Agency	Road safety audit	Intersections	Reducing intersection crashes

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 42424	Intersection traffic control	Modify traffic signal - add flashing yellow arrow	14	Intersections	$667480	$667480	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Intersections	Reducing intersection crashes
Tilton 29358	Intersection traffic control	Intersection flashers - add overhead (continuous)	1	Intersections	$63195	$63195	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	17,270	40	State Highway Agency	Road safety audit	Intersections	Improve driver awareness of intersections
Swanzey 40485	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$1422527	$1422527	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,069	30	State Highway Agency	Road safety audit	Intersections	Reducing intersection crashes
Claremont 25621	Access management	Change in access - close or restrict existing access	2	Access points	$407000	$407000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	20,543	30	City or Municipal Highway Agency	Road safety audit	Intersections	Reducing intersection crashes
Farmington 16212	Roadway	Roadway - restripe to revise separation between opposing lanes and/or shoulder widths	0.9	Miles	$9582	$9582	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	16,928	40	State Highway Agency	Road safety audit	Lane Departure	Reducing intersection / driveway crashes
Northumberland-Stratford 41898	Roadside	Barrier- metal	1.6	Miles	$16500	$16500	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Statewide 41909	Roadside	Barrier- metal	2.3	Miles	$55000	$55000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Statewide 41899	Roadside	Barrier- metal	1.8	Miles	$71500	$71500	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Pelham-Chesterfield 29338	Intersection traffic control	Intersection flashers - add "when flashing" warning sign-mounted	2	Intersections	$33000	$33000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Road safety audit	Crash locations	Reducing intersection crashes
Statewide 41897	Roadside	Barrier- metal	2.3	Miles	$88000	$88000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Rochester-Farmington 42243	Roadway	Roadway - restripe to revise separation between opposing lanes	.6	Miles	$66000	$66000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	16,928	50	State Highway Agency	Systemic	Crash locations	Reduce intersection / driveway crashes

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
		and/or shoulder widths													
Lyme-Orford-Piermont-Haverhill 41913	Roadside	Barrier- metal	1	Miles	$55000	$55000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Newport-Croydon-Grantham 41914	Roadside	Barrier- metal	1	Miles	$55000	$55000	HSIP (23 U.S.C. 148)	Rural	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve guardrail
Chester 41848	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$110000	$110000	HSIP (23 U.S.C. 148)	Rural	Major Collector	9,078	30	State Highway Agency	Road safety audit	Intersections	Reduce intersection crashes
Durham 42523	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$55000	$55000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	11,305	40	State Highway Agency	Spot	Intersections	reduce intersection crashes
Conway 42522	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	$55000	$55000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	8,676	40	State Highway Agency	Spot	Intersections	Reduce intersection crashes
Statewide 40841	Roadway	Rumble strips - center	1	Modification of design guidelines	$55000	$55000	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Systemic	Lane Departure	Reducing lane departure crashes
Statewide 40921	Non-infrastructure	Road safety audits	1	Locations	$16500	$16500	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Spot	Crash locations	Shared strategy: promote road safety audit program
Statewide 41418	Intersection traffic control	Intersection flashers - add stop sign-mounted	3	Intersections	$11000	$11000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	Crash locations	Reducing intersection crashes
Statewide 42241	Non-infrastructure	Road safety audits	3	Locations	$55000	$55000	HSIP (23 U.S.C. 148)	N/A	N/A	0		State Highway Agency	Spot	Crash locations	Shared strategy: promote road safety audit program
Manchester 42445	Non-infrastructure	Road safety audits	1	Locations	$33000	$33000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	9,302	40	State Highway Agency	Spot	Crash locations	Shared strategy: promote road safety audit program
Farmington 42569	Non-infrastructure	Road safety audits	2	Intersections	$33000	$33000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	12,208	45	State Highway Agency	Spot	Crash locations	Shared strategy: promote road

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
															safety audit program
Barrington 42570	Non-infrastructure	Road safety audits	1	Locations	$33000	$33000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	17,095	50	State Highway Agency	Spot	Crash locations	Shared strategy: promote road safety audit program
Rochester 42571	Non-infrastructure	Road safety audits	1	Intersections	$33000	$33000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	5,144	30	State Highway Agency	Spot	Crash locations	Shared strategy: promote road safety audit program
Bow 42724	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Interchanges	$6600	$6600	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	23,533	40	State Highway Agency	Spot	Crash locations	Focus strategy: improve driver awareness of intersections

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	90	108	135	95	114	136	102	147	101
Serious Injuries	462	623	489	451	459	477	410	451	485
Fatality rate (per HMVMT)	0.708	0.838	1.046	0.732	0.871	1.009	0.746	1.067	0.729
Serious injury rate (per HMVMT)	3.632	4.832	3.790	3.477	3.505	3.540	2.997	3.275	3.501
Number non-motorized fatalities	9	9	17	16	13	21	14	12	9
Number of non-motorized serious injuries	43	50	40	37	53	42	40	27	28

Annual Fatalities
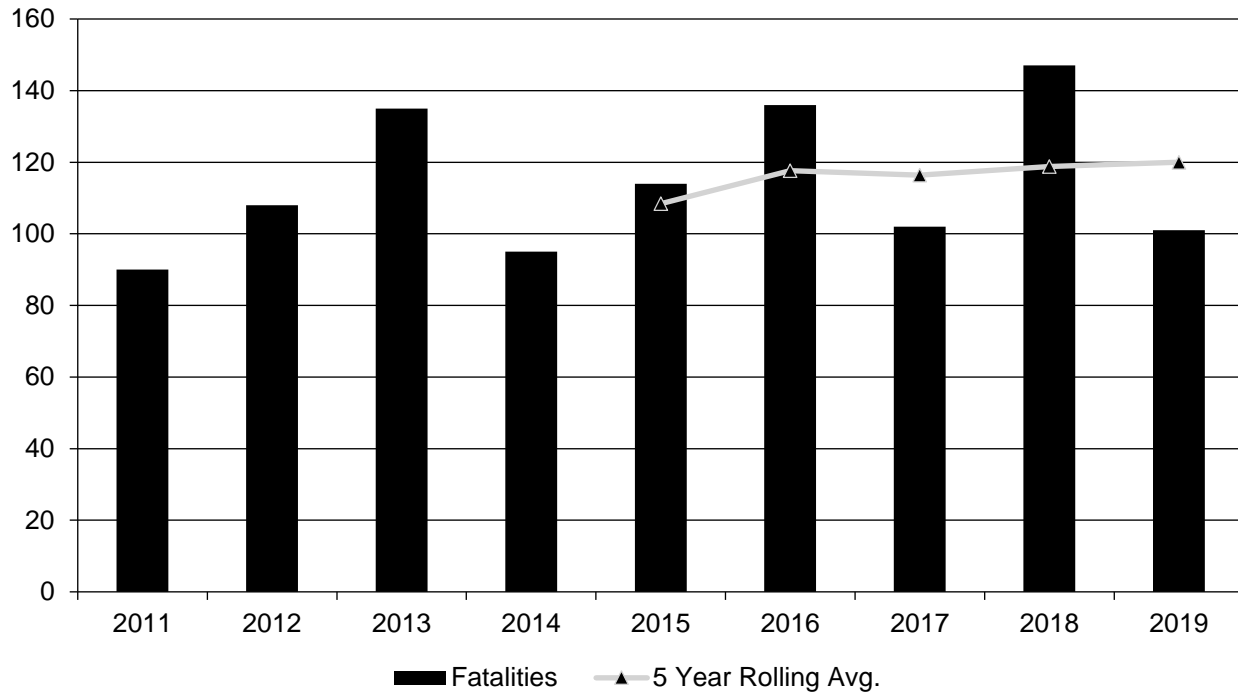
Annual Serious Injuries

Fatality rate (per HMVMT)

Legend: ■ Fatality rate (per HMVMT)   ▲ 5 Year Rolling Avg.

Serious injury rate (per HMVMT)

Legend: ■ Serious injury rate (per HMVMT)   ▲ 5 Year Rolling Avg.

Non Motorized Fatalities and Serious Injuries
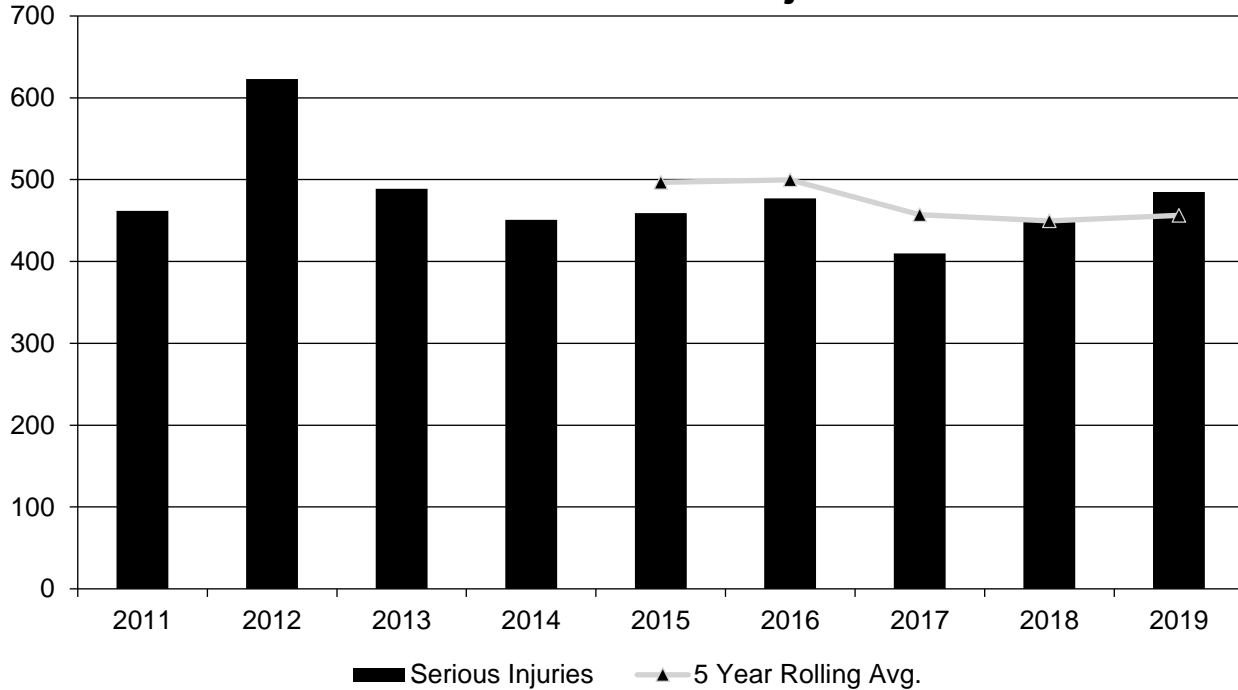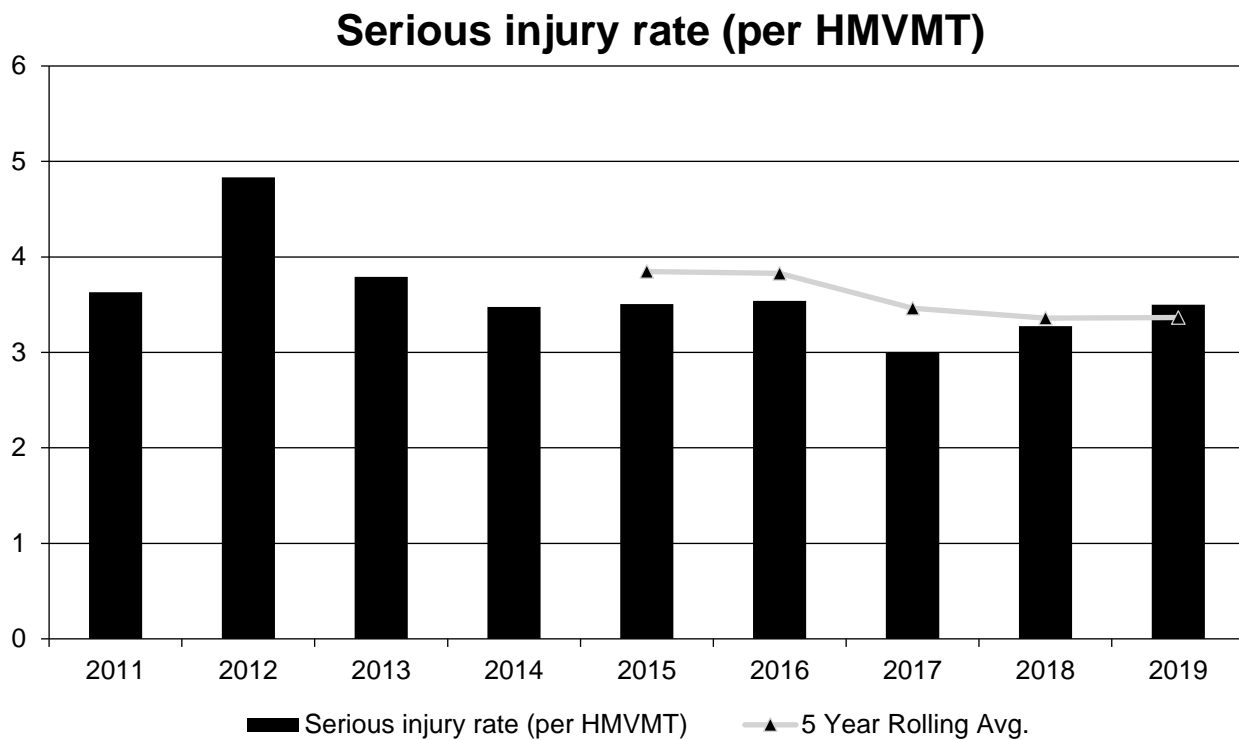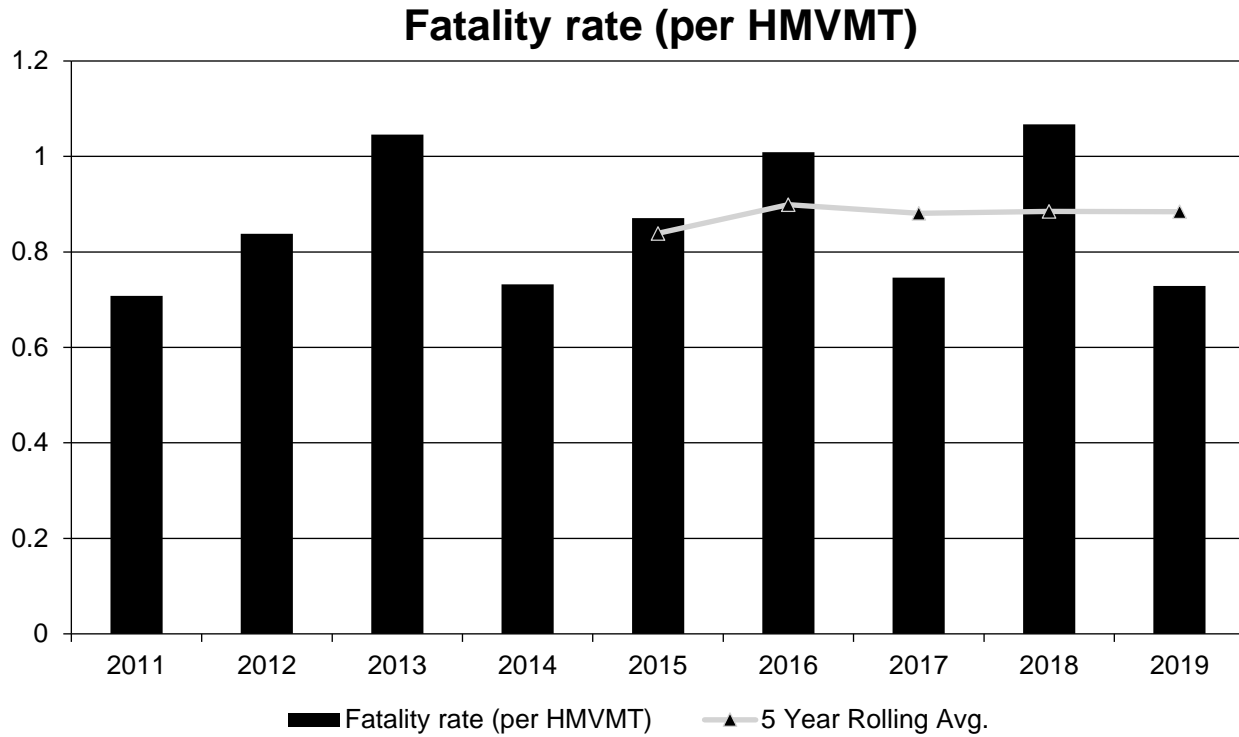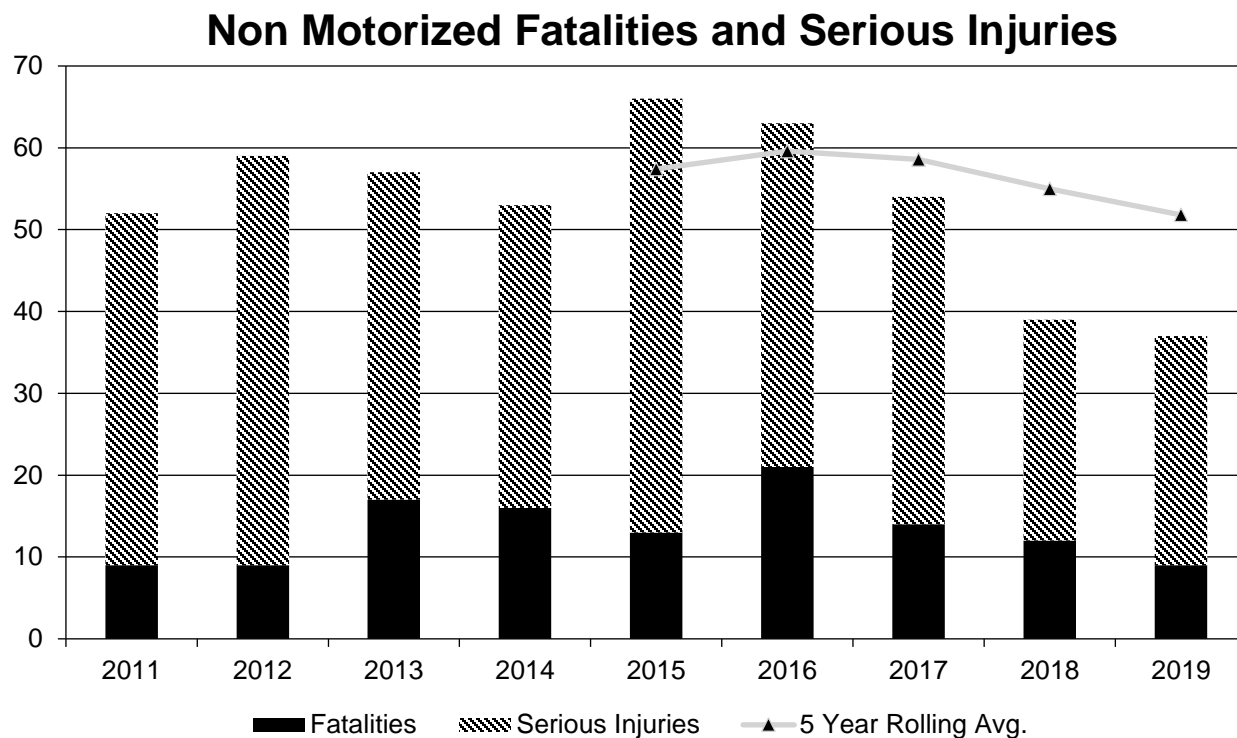
Describe fatality data source.

FARS

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

Year 2015

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	5.71	13.77	0.55	1.33
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other				
Rural Minor Arterial				
Rural Minor Collector				
Rural Major Collector				

2020 New Hampshire Highway Safety Improvement Program

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 Local Road or Street				
Urban Principal Arterial (UPA) - Interstate				
Urban Principal Arterial (UPA) - Other Freeways and Expressways				
Urban Principal Arterial (UPA) - Other				
Urban Minor Arterial				
Urban Minor Collector				
Urban Major Collector				
Urban Local Road or Street				
other				

Year 2016

Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency				
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				
other	0.35	2.36	0	0.02

Safety Performance Targets

Safety Performance Targets

Calendar Year 2021 Targets *

Number of Fatalities:120.0

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

The 2019 five-year average is 120.0 fatalities. Fatalities in the last decade have shown wide variation over a one to two-year cycle, with the number of 2019 fatalities being among the lowest values for the decade. The five year average of the number of fatalities also increased from 2018 to 2019, but with the five-year average trend line mostly attenuating the large annual variation. The rising trend computed by the data is not acceptable as a target for the NHDOT as it would be contrary to the core objective of the state's Driving Toward Zero initiative, thus a level trend has been selected as the target. A 2021 target of 120.0 fatalities (i.e., maintaining the 2019 five-year average) has been adopted.The randomness in the annual performance prevents strict adherence to the SHSP goal of a 50% reduction in fatalities by 2030 in the setting of annual targets. Rather, this target has been set based on data of the actual performance. However, NHDOT's fundamental effort through the SHSP is to reduce fatalities on NH roadways, and the NHDOT will continue to identify and pursue infrastructure improvements consistent with the relevant SHSP critical emphasis areas to reduce fatalities.

Number of Serious Injuries:456.4

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

The computed 2021 target represents a 4.3% annual reduction from the 2019 five-year average. The computed target is substantially lower than any historical values within the analysis period, as the trend line is still strongly influenced by the peak in serious injuries in 2021. A 2021 target of 456.4 serious injuries is hereby adopted as it would be a more achievable goal consistent with the observed safety performance in recent years, yet would still represent nearly the best serious injury performance in the last decade.The randomness in the annual performance prevents strict adherence to the SHSP goal of a 50% reduction in fatalities by 2030 in the setting of annual targets. Rather, this target has been set based on data of the actual performance. However, NHDOT's fundamental effort through the SHSP is to reduce serious injuries on NH roadways, and the NHDOT will continue to identify and pursue infrastructure improvements consistent with the relevant SHSP critical emphasis areas to reduce serious injuries.

Fatality Rate:0.884

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

The 2019 five-year average fatality rate is 0.884 per HMVMT. Fatalities in the last decade have shown wide variation over a one to two-year cycle, with the 2019 fatality rate being among the lowest recorded values for the decade. The annual fatalities rates and the five-year averages exhibit similar patterns seen in the numbers of fatalities, with proportionally large annual variations. The computed trend line predicts a slowly rising trend to 2021. This rising trend computed by the data is not acceptable to the NHDOT as a target as it would be contrary to the core objective of the state's Driving Toward Zero initiative. A 2021 target fatality rate of 0.884 fatalities per HMVMT (i.e., maintaining the 2019 five-year average) is hereby adopted.The randomness in the annual performance prevents strict adherence to the SHSP goal of a 50% reduction in fatalities by 2030 in the setting of annual targets. Rather, this target has been set based on data of the actual performance. However, NHDOT's fundamental effort through the SHSP is to reduce fatalities on NH roadways, and the NHDOT will continue to identify and pursue infrastructure improvements consistent with the relevant SHSP critical emphasis areas to reduce fatalities.

Serious Injury Rate:3.353

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

The predicted 2021 target computed from trend analysis represents a 5.9% annual reduction from the 2019 five-year average. The computed target is substantially lower than any historical values within the analysis period (with the exception of 2017) and would not be sustainable target. A 2021 target serious injury rate of 3.353 fatalities per HMVMT is adopted as it would present a more achievable goal while still representing better performance than has been observed in the decade.The randomness in the annual performance prevents strict adherence to the SHSP goal of a 50% reduction in fatalities by 2030 in the setting of annual

targets. Rather, this target has been set based on data of the actual performance. However, NHDOT's fundamental effort through the SHSP is to reduce serious injuries on NH roadways, and the NHDOT will continue to identify and pursue infrastructure improvements consistent with the relevant SHSP critical emphasis areas to reduce serious injuries.

Total Number of Non-Motorized Fatalities and Serious Injuries:45.9

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

Trend analysis predicts a strongly declining trend and a 2021 target value of 45.9 non-motorized fatalities and serious injuries. This target value of 45.9 is hereby adopted as it would be consistent with the performance trend since 2015 and would represent a realistic performance level consistent with the desired trend.The randomness in the annual performance prevents strict adherence to the SHSP goal of a 50% reduction in fatalities by 2030 in the setting of annual targets. As a result, this target has been set based on data of the actual performance; however, the strong downward trend in the actual performance is favorable and is in line with SHSP goals, NHDOT will continue to identify and pursue infrastructure improvements consistent with the SHSP critical emphasis area for vulnerable users.

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

Building upon the successful target-setting practices that had been developed and documented in prior years, the NHDOT began the annual target-setting with a meeting among the safety stakeholders. A meeting among the principal participants in the target setting, including the NHDOT, the NH Office of Highway Safety (NHOHS), a representative MPO, and the FHWA NH Division was held in April 2019 to review and confirm the target-setting process to be undertaken. Using data provided by the NH Department of Safety (NHDOS) and Division of Motor Vehicles, the NHDOT compiled the data, computed draft targets, modified the targets as appropriate to consider the influence of potential external factors, and composed narratives to document and defend the selected targets. These draft targets were reviewed with the NHDOT HSIP Committee and the NHOHS, as well as NHDOT and NHDOS leadership for concurrence. The accepted targets for the three common safety performance measures (number of fatalities, rate of fatalities, number of serious injuries) were published by the NHOHS in their annual Highway Safety Plan.

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	116.4	120.0
Number of Serious Injuries	433.2	456.4
Fatality Rate	0.879	0.884
Serious Injury Rate	3.207	3.364
Non-Motorized Fatalities and Serious Injuries	53.4	51.8

Annual fatal crash performance over the last decade has exhibited wide relative variation on a one or two-year cycle, with no clear causative factors, either favorable or unfavorable, having been identified by the NHDOT or

the NH Office of Highway Safety. The most common contributing factors in NH's fatalities are behavioral including impairment, speeding, and distraction or inattention, combined with a relatively low usage rate of passenger restraints. Because rural roadway departure (RwD) crashes are over-represented in NH's fatal crashes, and to counter these common contributing behavioral factors, NHDOT coordinates closely with the NH Office of Highway Safety as they apply NHTSA funds toward addressing these behavioral risk factors. In addition, NHDOT's HSIP has been trending toward a greater emphasis on systemic and systematic improvements, as recommended by the Every Day Counts 5*FORRRwD (Focus on Reducing Rural Roadway Departures)* initiative, including guardrail modernization and curve warning sign improvements, and soon to include a renewed deployment of rumble strips and the installation of durable and wet-reflective pavement markings. All of these are proven countermeasures for reducing RwD crashes.

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	22	33	23	23	20	30	25
Number of Older Driver and Pedestrian Serious Injuries	65	57	72	80	80	67	67

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries

Project locations are reviewed by 'naïve' evaluation of before/after safety performance.

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

NHDOT's HSIP program is data driven using crash data to select candidate locations for improvement and CMFs to select and evaluate countermeasures based on their benefit/cost ratios. This creates a program that relies heavily on data and improves locations based on the severity of crashes and cost effective improvements.

NHDOT's HSIP program also includes systemic projects. These projects improve safety statewide and have included several types of projects including the following: construction of median barriers on divided highways, installation of horizontal curve warning signs to reduce roadway departure crashes on curves (and to comply with MUTCD), installation of retroreflective backplates on traffic signals, installation of centerline and shoulder rumble strips, and replacement of deficient guardrail and terminal units to meet current safety standards. A future initiative will install durable wet-reflective markings on interstates and freeways.

NHDOT feels these programs have reduced fatalities and serious injuries on NH roadways because these are all proven safety countermeasures, but this has not been corroborated with program or system-wide data analysis.

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

- \# RSAs completed
- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- More systemic programs
- Organizational change
- Policy change

At the start of FY 2018 the NHDOT Bureau of Highway Design expanded its Safety Section, which historically been comprised of one or two individuals, to five individuals to provide a more robust level of program support.

The NHDOT aims to continue to expand our road safety audit (RSA) program by encouraging communities, via the regional planning commissions (RPC) and municipal planning organizations (MPO), to apply for RSAs. The RSA candidates are screened according to crash history, and the program has delivered worthwhile projects. The NHDOT also continues to deliver systemic projects with a recent emphasis on installing rumble strips, improving deficient guardrail elements, installing MUTCD-compliant curve warning signs, and enhancing

signalized intersections with retroreflective backplates.

A planned initiative will continue system signal improvements by installing flashing yellow arrows to control permissive left turns currently operating under a green ball signal indication. Both the flashing yellow arrows and retroreflective backplates initiatives are planned to be expanded to municipal roadways as well.

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

In response to frequent noise complaints related to 'standard' rumble strips, but in recognition of the proven safety value of rumble strips, NHDOT has updated our guidelines to incorporate 'sinusoidal' rumble strips in our standard practice. Using guidance from other State DOTs, the NHDOT was able to select a 'sinusoidal' design that provides the safety benefit proven to reduce lane departure crashes while reducing their undesirable exterior noise.

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)
Lane Departure		36.4	149	0.25	1.15
Roadway Departure		39.4	203.8	0.3	1.53
Intersections		19.8	106.6	0.15	0.81
Pedestrians		10.2	34.6	0.08	0.26
Bicyclists		1	7.2	0.01	0.05
Older Drivers		22.8	52.8	0.17	0.4
Motorcyclists		19.4	89.2	0.15	0.68
Work Zones		2	7.2	0.01	0.06
Data		108.8	497	0.82	3.75

Number of Fatalities
5 Year Average

■ 2011-2015   ⧨ 2012-2016   ⟋ 2013-2017   ⧈ 2014-2018   ◪ 2015-2019
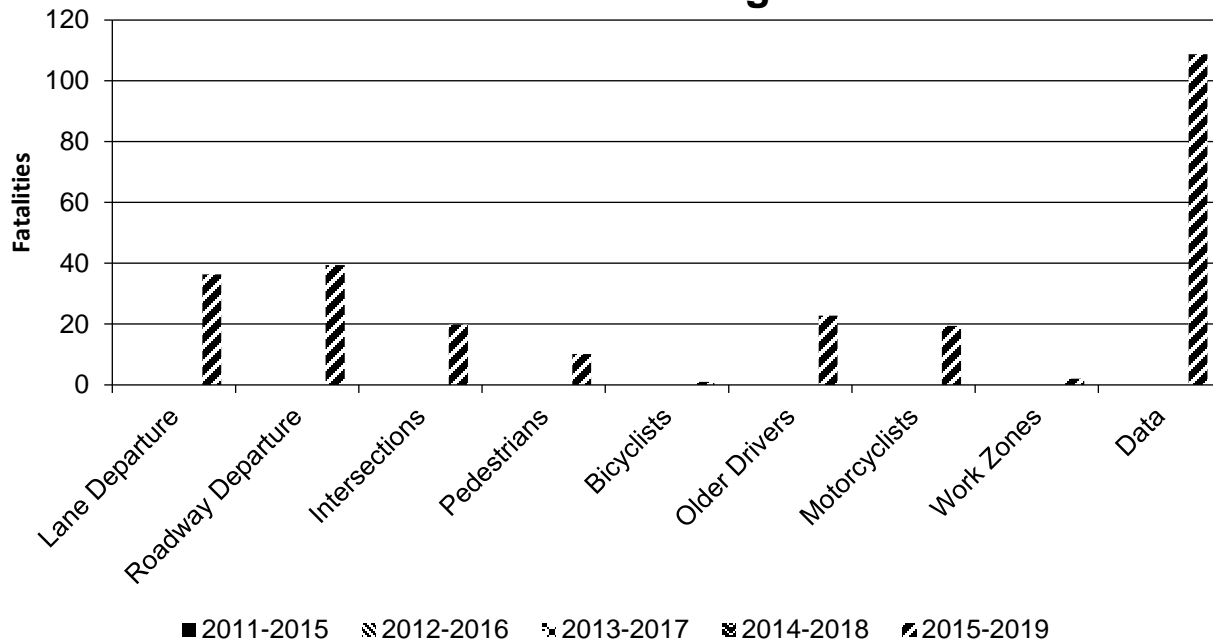
Number of Serious Injuries
5 Year Average

■ 2011-2015   ⧨ 2012-2016   ⟋ 2013-2017   ⧈ 2014-2018   ◪ 2015-2019

Fatality Rate (per HMVMT)
5 Year Average

■ 2011-2015 ☒ 2012-2016 ↘ 2013-2017 ▨ 2014-2018 ▰ 2015-2019

Serious Injury Rate (per HMVMT)
5 Year Average

■ 2011-2015 ☒ 2012-2016 ↘ 2013-2017 ▨ 2014-2018 ▰ 2015-2019
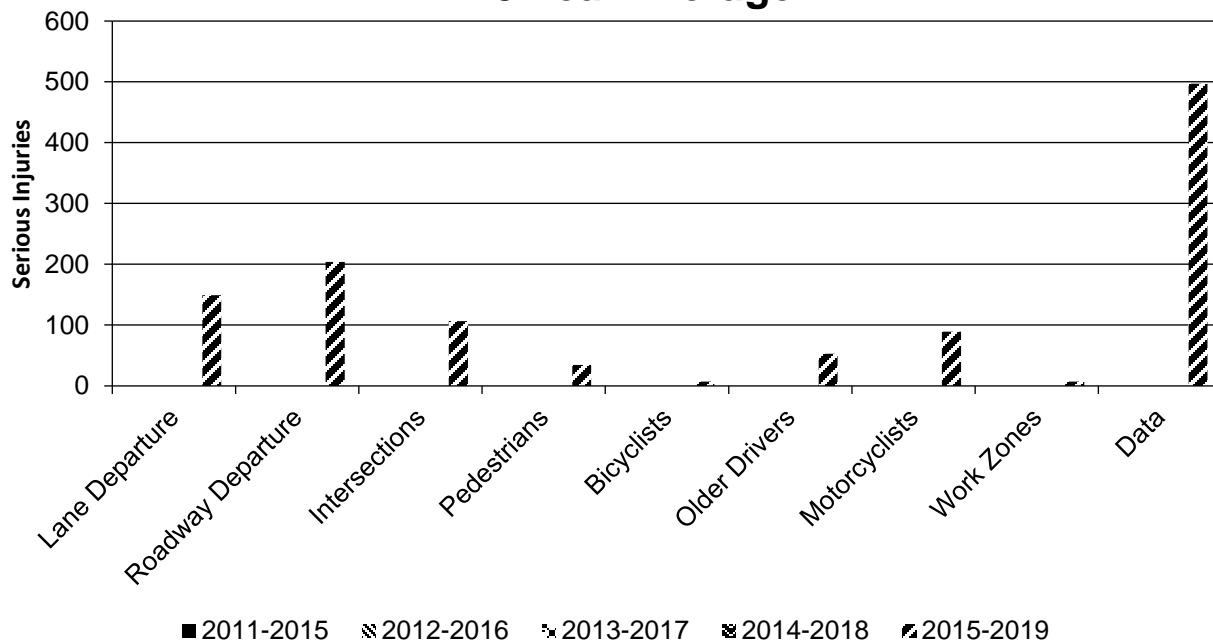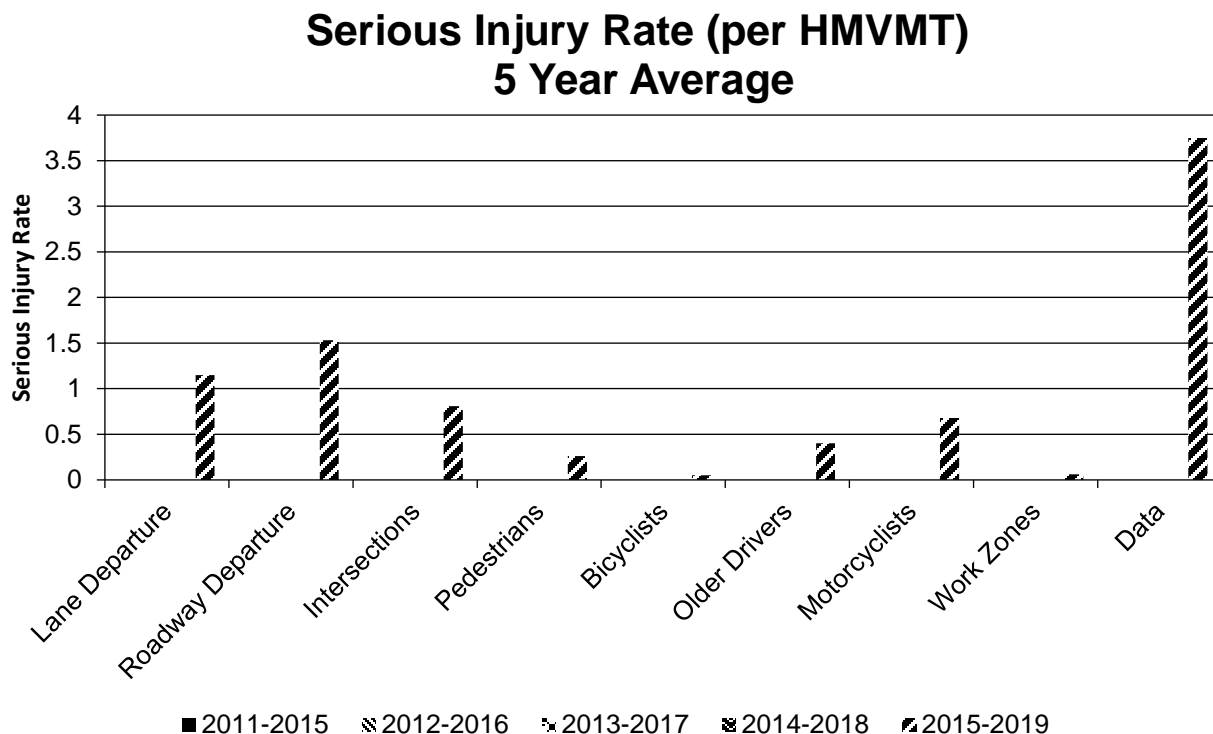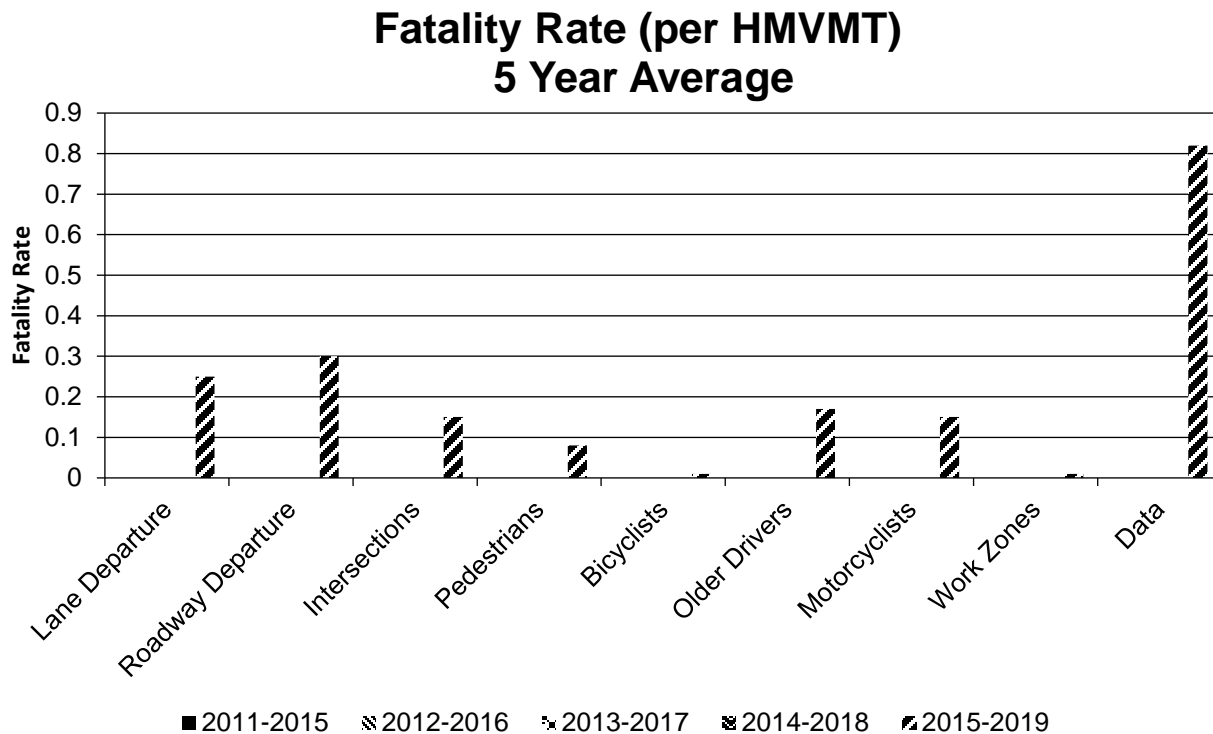
Has the State completed any countermeasure effectiveness evaluations during the reporting period?

No

The NHDOT does not presently have the resources to conduct rigorous evaluations of countermeasure effectiveness; however, the NHDOT is an active participant in the project advisory committee of the FHWA pooled fund study for the Evaluation of Low-Cost Safety Improvements, which provides valuable data regarding the effectiveness of proven safety countermeasures to support program decisions.

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)
Barnstead 16200 (2013)	Rural Principal Arterial (RPA) - Other	Intersection geometry	Auxiliary lanes - add left-turn lane	14.00	3.00			2.00		2.00	1.00	18.00	4.00	
Barrington 16201 (2013)	Rural Principal Arterial (RPA) - Other	Intersection geometry	Auxiliary lanes - add left-turn lane	10.00	5.00					3.00	4.00	13.00	9.00	
Candia 16413 (2013)	Rural Minor Collector	Intersection geometry	Intersection geometrics - re-assign existing lane use	4.00	18.00			1.00		3.00	4.00	8.00	22.00	
Pittsfield 24842 (2014)	Rural Minor Arterial	Intersection traffic control	Modify traffic signal - add flashing yellow arrow	5.00	9.00			1.00		3.00		9.00	9.00	
Loudon 24941 (2015)	Rural Principal Arterial (RPA) - Other	Intersection geometry	Auxiliary lanes - add right-turn lane	8.00	16.00	1.00		1.00		5.00	1.00	15.00	17.00	
Swanzey 15697A (2015)	Rural Minor Arterial	Roadside	Removal of roadside objects (trees, poles, etc.)	7.00	5.00					8.00		15.00	5.00	
Barrington 16178 (2015)	Rural Major Collector	Intersection geometry	Intersection geometry - other	9.00	3.00					2.00	1.00	11.00	4.00	
Lee 15692 (2015)	Rural Principal Arterial (RPA) - Other	Intersection traffic control	Modify control - modifications to roundabout	108.00	225.00			1.00	3.00	22.00	32.00	131.00	260.00	
Lebanon 29362 (2016)	Urban Minor Arterial	Pedestrians and bicyclists	Pedestrian beacons		6.00	1.00					1.00	1.00	7.00	
Rochester 27873 (2016)	Rural Minor Arterial	Non-infrastructure		5.00	2.00					2.00	1.00	7.00	3.00	
Swanzey 15697 (2016)	Rural Minor Arterial	Intersection traffic control	Modify control - two-way stop to roundabout	13.00	5.00					1.00	1.00	14.00	6.00	
Keene 26765 (2016)	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Modify control - two-way stop to roundabout	7.00	15.00					6.00	1.00	13.00	16.00	

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)
Derry 15690 (2016)	Urban Minor Arterial	Roadway	Roadway widening - travel lanes	6.00	8.00			1.00		9.00	3.00	16.00	11.00	

Compliance Assessment

What date was the State's current SHSP approved by the Governor or designated State representative?
07/19/2017

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

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					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

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]	80	2								
	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]			5	5						
	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]					5					
	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]					5					
	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):		98.89	94.56	88.13	88.13	82.73	81.82	100.00	100.00	100.00	100.00

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]
Data collection on median type has been paused, and other incomplete MIRE elements have not yet progressed, due to limited resources and other priorities. Data collection on median type is anticipated to resume soon.

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.

NHDOT has completed data collection for all but four of the Fundamental Data Elements. Those remaining elements are median type, intersection/junction traffic control, unique interchange identifier, and interchange type. All FDEs will be collected on roads with function class 1 through 7. Data collection is nearing completion for median types on State roads, while the data collection is in its early stages for the remaining incomplete FDEs. Much of the data for the incomplete FDEs is available, but in formats incompatible with GIS. The collection and management of the MIRE FDEs occurs within the NHDOT's Bureau of Planning and Community Assistance - GIS Section and is stored in the roadway data inventory. We use an ArcGIS environment along with an Oracle database. This data is also shared on 'NH GRANIT', which is NH's statewide GIS clearinghouse. Most elements are collected and updated on an annual basis by staff in the Planning and Community Assistance Bureau. Existing collection methodologies include collection by visiting sites and entering data into a laptop, or using aerial imagery and other forms of imagery to locate elements. Nightly scripts are run to aggregate the data. We continue to investigate the use of more modern methods of data collection such as with tablets and mobile devices, via Lidar, and with other emerging technologies. All data collection and entry is currently done by NHDOT staff. The Bureau of Planning and Community Assistance assigns one staff person at approximately 50% of their time plus a supervisor. NHDOT will continue to maintain the MIRE data and fund the collection of the data leveraging existing GIS tools and within the limitations of our resources.

Optional Attachments

Program Structure:

New Hampshire HSIP Guidance2013.doc
Project Implementation:

Safety Performance:

2021 Safety Target Summary draft 15jun20.pdf
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.