NEW HAMPSHIRE
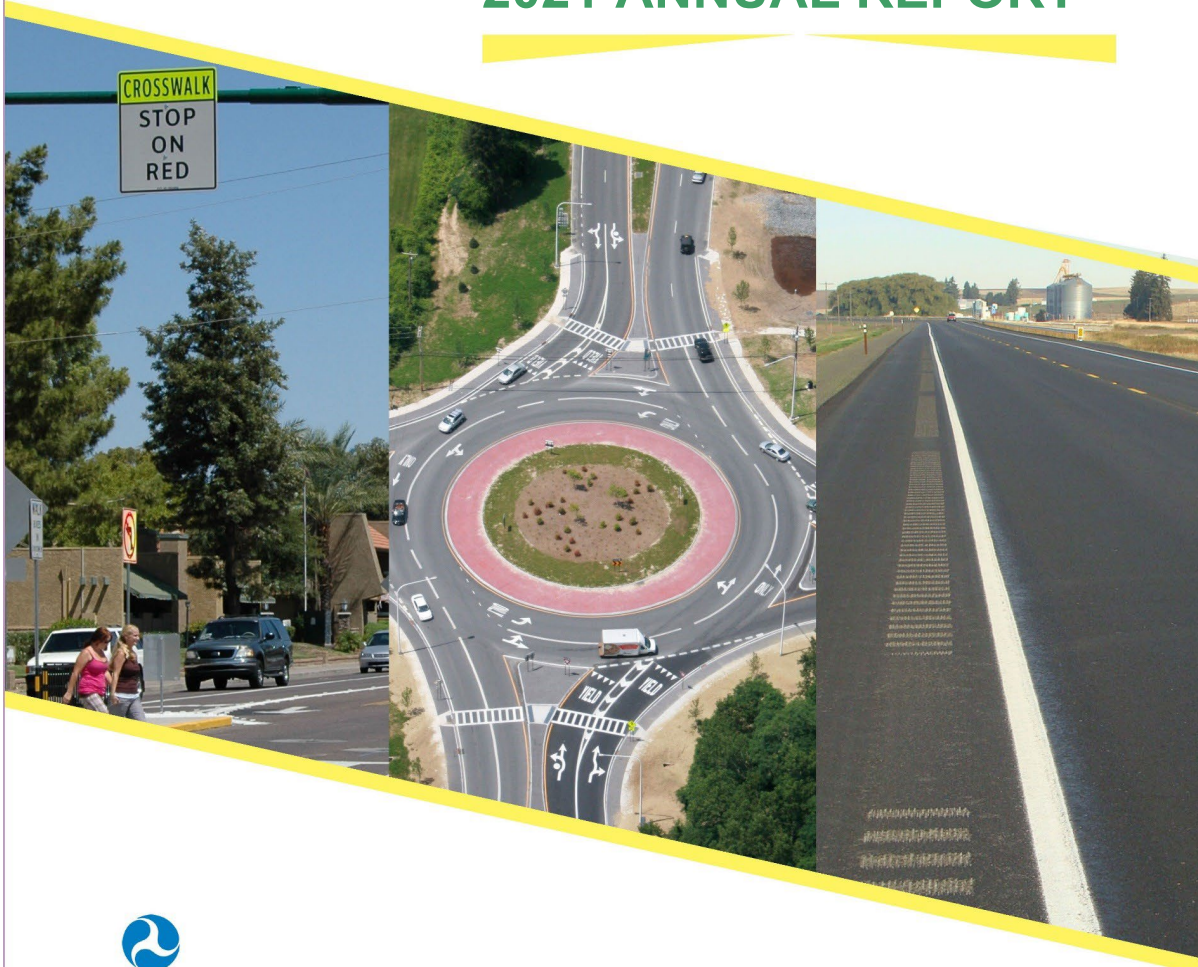
HIGHWAY SAFETY
IMPROVEMENT PROGRAM
2021 ANNUAL REPORT

U.S. Department of Transportation
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.

The ten critical emphasis areas include 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 focus of the HSIP is to enhance highway safety via infrastructure improvements. Crash types of special interest have been identified in the crash locations CEA.

2021 New Hampshire Highway Safety Improvement Program

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 prioritized. 23 USC 148(e)(2) makes clear that other federal-aid funds are eligible to support and leverage the safety program.

2021 New Hampshire Highway Safety Improvement Program

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.

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

- Traffic Engineering/Safety
- 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)

In addition to the selection of project candidates via 'naive' evaluation of screening results, other project candidates are identified via the Road Safety Audit program for which the regional planning commissions serve as liaisons between the NHDOT and communities. NHDOT also coordinates annually with the LTAP to publicize the RSA program to the communities.

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 non-infrastructure 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. NHDOT has also leveraged FHWA Technology Deployment Funds to create and air safety-related public service announcements on statewide radio stations.

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	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?
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	**Exposure**	**Roadway**
• All crashes	• Traffic	• Functional classification
• Other-Run Off the Road	• 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: 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	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: 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
- 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: 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

- All crashes

Exposure

- Traffic
- Volume

Roadway

- 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
- 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-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
- All crashes
- Other-Run Off the Road

Exposure
- Traffic
- Volume

Roadway
- Functional classification

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
- 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: 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
- 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?
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	**Exposure**	**Roadway**
• All crashes • Fatal and serious injury crashes only	• Traffic • Volume	• 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
- Fatal and serious injury crashes only
- Other-Run off the Road

Exposure
- Traffic
- Volume

Roadway
- 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?

50

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

While the NHDOT doesn't yet have a defined funding allocation to systemic projects, in recent years our investment in these types of improvements has been approximately 50%.

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)	$10,357,601	$10,355,545	99.98%
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))	$165,000	$165,000	100%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$0	$0	0%
Totals	$10,522,601	$10,520,545	99.98%

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?

$56,650

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

$56,218

Road safety audits and related engineering support.

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
Historically, NHDOT has neither transferred funds into or out of the HSIP. However, in FY 2021 NHDOT transferred accrued unexpended obligational authority in the amount of $4,792,769 out of HSIP. This will be reported in the 2021 HSIP Annual Report.

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 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. The NHDOT continues to pursue improvements to our safety analysis tools and capabilities, and intends to procure and implement safety management software in FY 2022.

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
BARNSTEAD - 14121E, Modify horizontal & vertical Alignments	Intersection geometry	Intersection realignment	1	Intersections	$2128	$2128	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	7,841	50	State Highway Agency	Spot	Intersections	Reduce intersection crashes
BOW - 42724, I-89 SB Exit 1 off ramp sign improvements	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Ramps	$22000	$22000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	19,224	40	State Highway Agency	Spot	Ramp Interchange	Reduce crashes at ramp interchange
CLAREMONT - 25621, Access Mgmt - Consolidate Drives	Access management	Change in access - close or restrict existing access	1	Intersections	$117849	$117849	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	20,219	35	City or Municipal Highway Agency	Spot	Intersections	Reduce intersection crashes
COLEBROOK-DIXVILLE - 41783, Guardrail upgrades along Tier 2 roads	Roadside	Barrier- metal	12000	LF of guardrail replacements	$36214	$36214	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1	1	State Highway Agency	Spot	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
CONWAY - 42522, US 302 and East Conway Rd intersection safety improvements	Intersection geometry	Intersection geometry - other	1	Intersections	$110000	$110000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	12,884	40	State Highway Agency	Spot	Intersections	Reduce intersection crashes
DERRY - 24861, Replace existing flashing beacon with traffic signals and construct Left Turn Lanes	Intersection traffic control	Modify control – new traffic signal	1	Intersections	$11000	$11000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	8,524	45	State Highway Agency	Spot	Intersections	Reduce intersection crashes
DISTRICT 1 - 43130, Guardrail upgrades along Tier 2 & 3 roads in District 1	Roadside	Barrier- metal	61	Miles	$22000	$22000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
DISTRICT 2 - 43132, Guardrail upgrades along Tier 2 & 3 roads in District 2	Roadside	Barrier- metal	60	Miles	$22000	$22000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails

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
															& terminal units
DURHAM - 42523, US 4 and Madbury Rd intersection safety improvements	Intersection geometry	Intersection geometry - other	1	Intersections	$110000	$110000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	10,007	40	State Highway Agency	Spot	Intersections	Reduce intersection crashes
LYME-ORFORD-PIERMONT-HAVERHILL - 41913, Guardrail upgrades along Tier 2 & 3 roadways	Roadside	Barrier- metal	18500	LF of guardrail replacements	$1548711	$1548711	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
NEWPORT-CROYDON-GRANT - 41914, Guardrail upgrades	Roadside	Barrier- metal	18000	LF of guardrail replacements	$38500	$38500	HSIP (23 U.S.C. 148)	Rural	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
NORTHFIELD-ASHLAND - 43134, I-93 Durable pavement marking upgrades	Roadway delineation	Improve retroreflectivity	37.5	Miles	$836059	$836059	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	1	1	State Highway Agency	Systemic	Lane Departure	Reduce lane departures - Wet reflective pavement markings
PELHAM-CHESTERFIELD - 29338, Install Intersection Conflict Warning Systems (ICWS)	Advanced technology and ITS	Intersection Conflict Warning System (ICWS)	2	Intersections	$398165	$398165	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Intersections	Reduce intersection crashes
PETERBOROUGH - 15698, NH 123 intersection safety improvements, install ICWS	Advanced technology and ITS	Intersection Conflict Warning System (ICWS)	1	Intersections	$144550	$144550	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	11,607	30	State Highway Agency	Systemic	Intersections	Reduce intersection crashes
ROCHESTER - 41849, Install TWLTL	Roadway	Roadway widening - travel lanes	0.5	Miles	$22740	$22740	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	12,867	50	State Highway Agency	Spot	Lane Departure	Reduce lane departures - TWLTL
ROCHESTER-FARMINGTON -	Roadway	Roadway widening - travel lanes	0.5	Miles	$929330	$929330	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	16,453	50	State Highway Agency	Spot	Lane Departure	Reduce lane

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
42243, Install TWLTL															departures - TWLTL
SALEM-MANCHESTER - 14634H, I-93 durable pavement marking upgrades	Roadway delineation	Improve retroreflectivity	37	Miles	$1114669	$1114669	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	1	65	State Highway Agency	Systemic	Lane Departure	Reduce lane departures - Wet reflective pavement markings
SWANZEY - 40485, Construct Roundabout	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	$352066	$352066	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,664	30	State Highway Agency	Spot	Intersections	Reduce intersection crashes
STATEWIDE - 40842, Install rumble strips	Roadway	Rumble strips – other	70	Miles	$71500	$71500	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Lane Departure	Reduce roadway & lane departures
STATEWIDE - 41897, Guardrail upgrades along Tier 2 & 3 roadways in Districts 1 & 3	Roadside	Barrier- metal	11350	LF of guardrail replacements	$1576528	$1576528	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
STATEWIDE - 42953, Curve warning sign improvements	Roadway signs and traffic control	Curve-related warning signs and flashers	133	Miles	$551864	$551864	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes
STATEWIDE - 43131, Guardrail upgrades along Tier 2 & 3 roads in Districts 2 & 4	Roadside	Barrier- metal	67	Miles	$22000	$22000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
STATEWIDE - 40803, Guardrail upgrades along Tier 2 roads	Roadside	Barrier- metal	17700	LF of guardrail replacements	$26213	$26213	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
STATEWIDE - 40841, Evaluate & modify NHDOT rumble strip policy	Miscellaneous	Data collection	1	Rumble strip policy review/update	$1913	$1913	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Statewide	Lane Departure	Reduce roadway & lane departures

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 - 41269, Guardrail upgrades	Roadside	Barrier- metal	13500	LF of guardrail replacements	$117362	$117362	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
STATEWIDE - 41338, Upgrade signal heads with retroflective backpates	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	192	Intersections	$35383	$35383	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Intersections	Reduce intersection crashes
STATEWIDE - 41899, Guardrail upgrades along Tier 2 & 3 roads in Districts 4 & 5	Roadside	Barrier- metal	10350	LF of guardrail replacements/upgrades	$989107	$989107	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Guardrails & terminal units
STATEWIDE - 41909, Replace cable guardrail in Districts 1 & 3	Roadside	Barrier- metal	11150	LF of guardrail replacements	$1051488	$1051488	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Roadway Departure	Reduce roadway departure crashes - Cable Guardrails
STATEWIDE - 41931, Road safety audits and support for 2019-2020	Miscellaneous	Road safety audits	0	Support for road safety audits	$27500	$27500	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	Varies	Statewide	To perform Road Safety Audits	Road Safety Audits
STATEWIDE - 42241, Road safety audits & safety engineering support by NHDOT	Miscellaneous	Road safety audits	0	NHDOT engineering support	$60025	$60025	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	Varies	Statewide	To perform Road Safety Audit & engineering support	Road Safety Audits
STATEWIDE - 42996, TSMO ITS Technologies	Advanced technology and ITS	Advanced technology and ITS - other	1	Locations vary & are determined by need	$330000	$330000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1	1	State Highway Agency	Systemic	Education & Enforcement	Education
FARMINGTON - 42569, RSA at NH 11 & Central St intersection	Miscellaneous	Road safety audits	1	Locations	$35726	$35726	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	11,060	45	State Highway Agency	Spot	Intersections	Reduce intersection crashes
BARRINGTON - 42570, RSA at NH 125 & Beauty Hill Rd intersection	Miscellaneous	Road safety audits	1	Locations	$32929	$32929	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	18,845	50	State Highway Agency	Spot	Intersections	Reduce 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
ROCHESTER - 42571, RSA at Old Dover Rd & Tebbetts Rd intersection	Miscellaneous	Road safety audits	1	Locations	$28477	$28477	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	4,342	35	City & State owned	Spot	Intersections	Reduce intersection crashes

The AADT and Speed Limits for Statewide projects will vary. The number 1 was entered to represent "varies".

Safety Performance

General Highway Safety Trends

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

PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fatalities	108	135	95	114	136	102	147	101	104
Serious Injuries	623	489	451	459	477	410	451	485	504
Fatality rate (per HMVMT)	0.838	1.046	0.732	0.871	1.009	0.746	1.067	0.729	0.869
Serious injury rate (per HMVMT)	4.832	3.790	3.477	3.505	3.540	2.997	3.275	3.501	4.211
Number non-motorized fatalities	9	17	16	13	21	14	12	9	17
Number of non-motorized serious injuries	50	40	37	53	42	40	27	28	13

Annual Fatalities
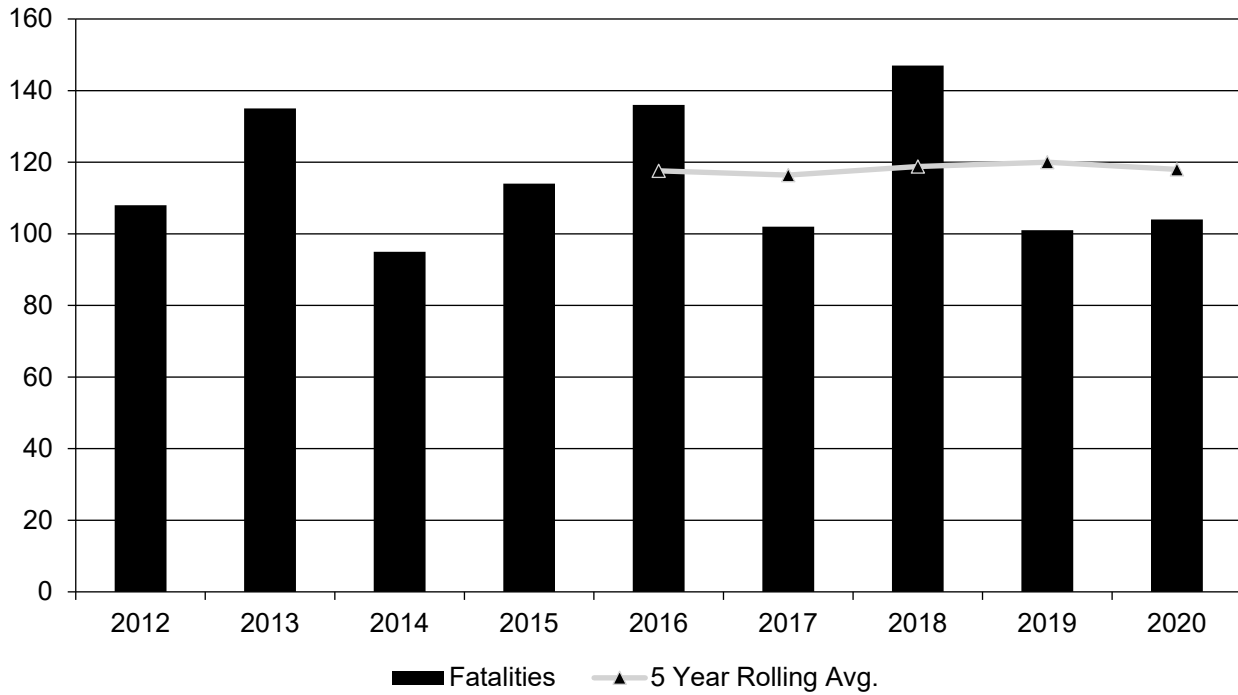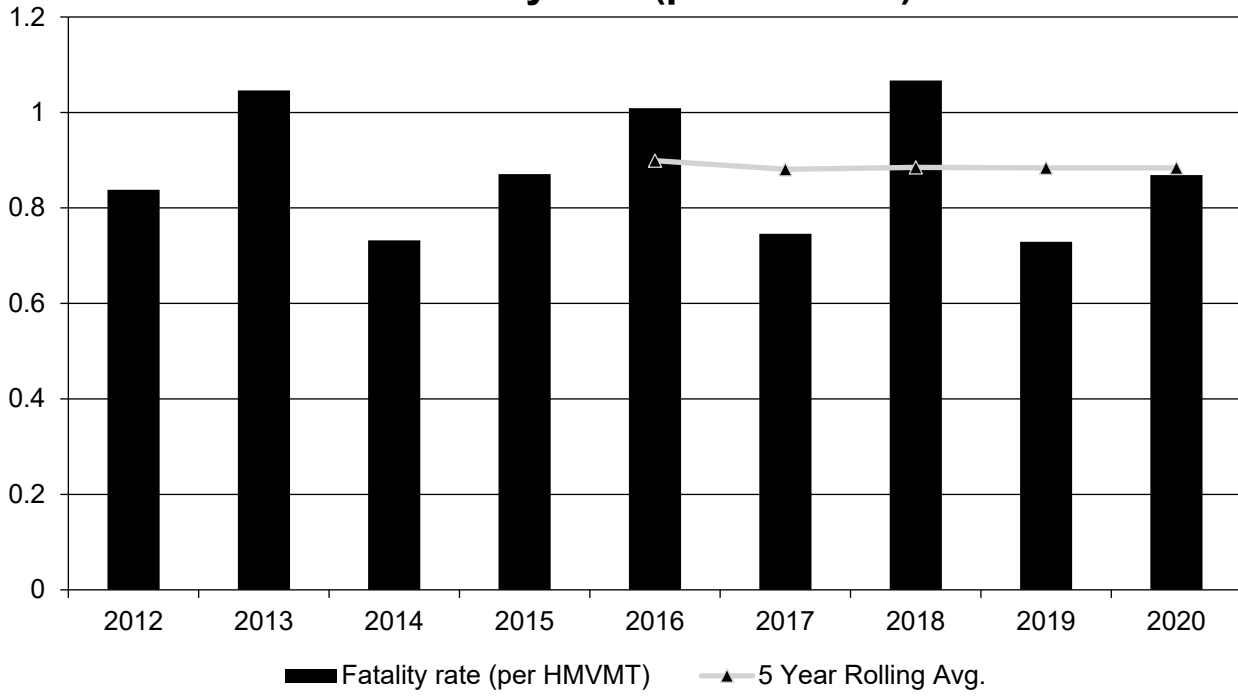

Annual Serious Injuries
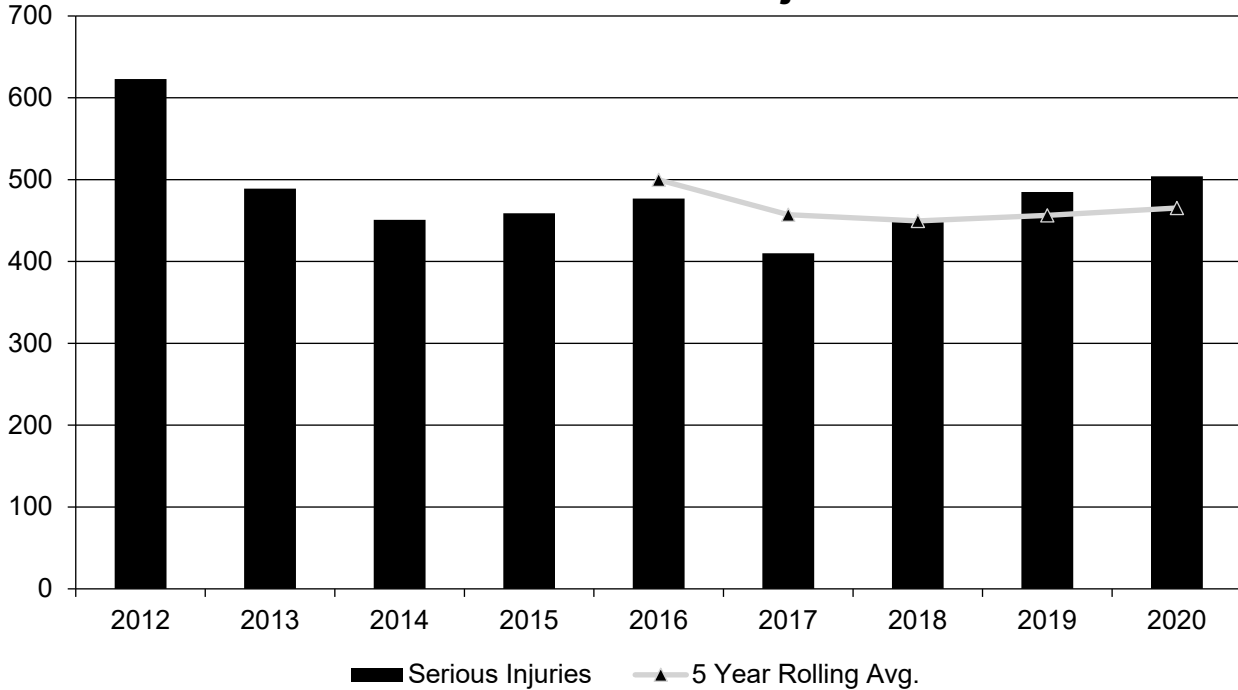
Fatality rate (per HMVMT)

Serious injury rate (per HMVMT)

Non Motorized Fatalities and Serious Injuries

Legend: Fatalities — Serious Injuries — 5 Year Rolling Avg.
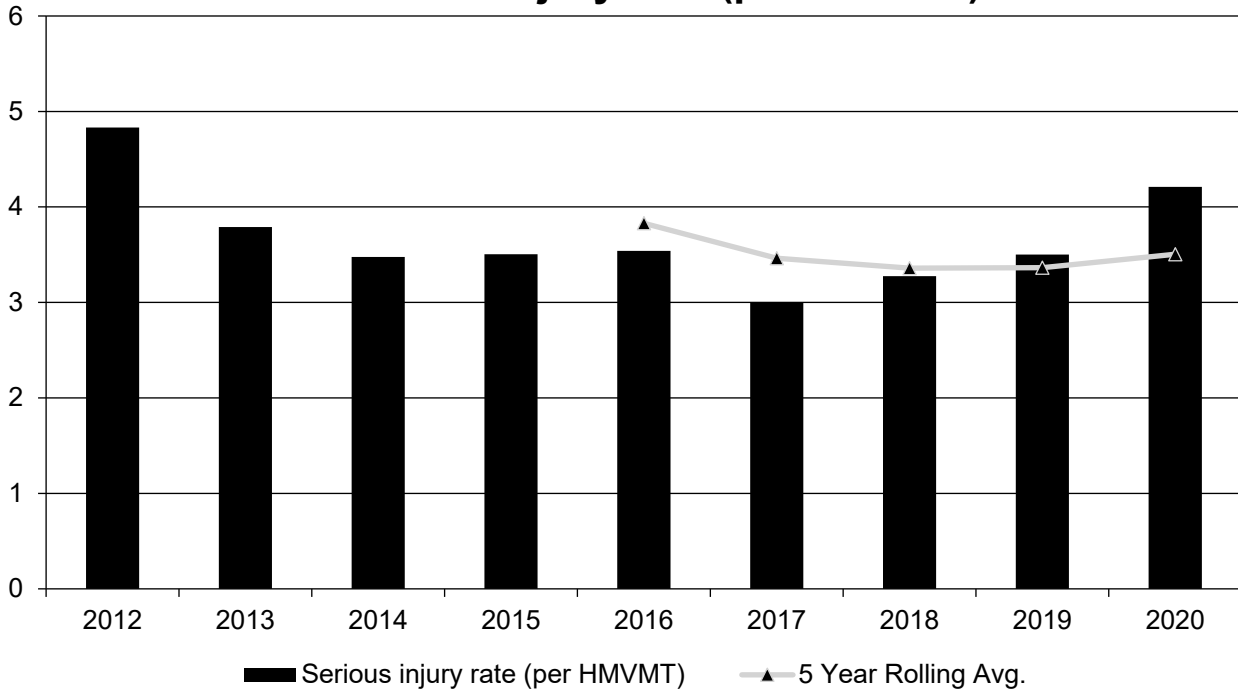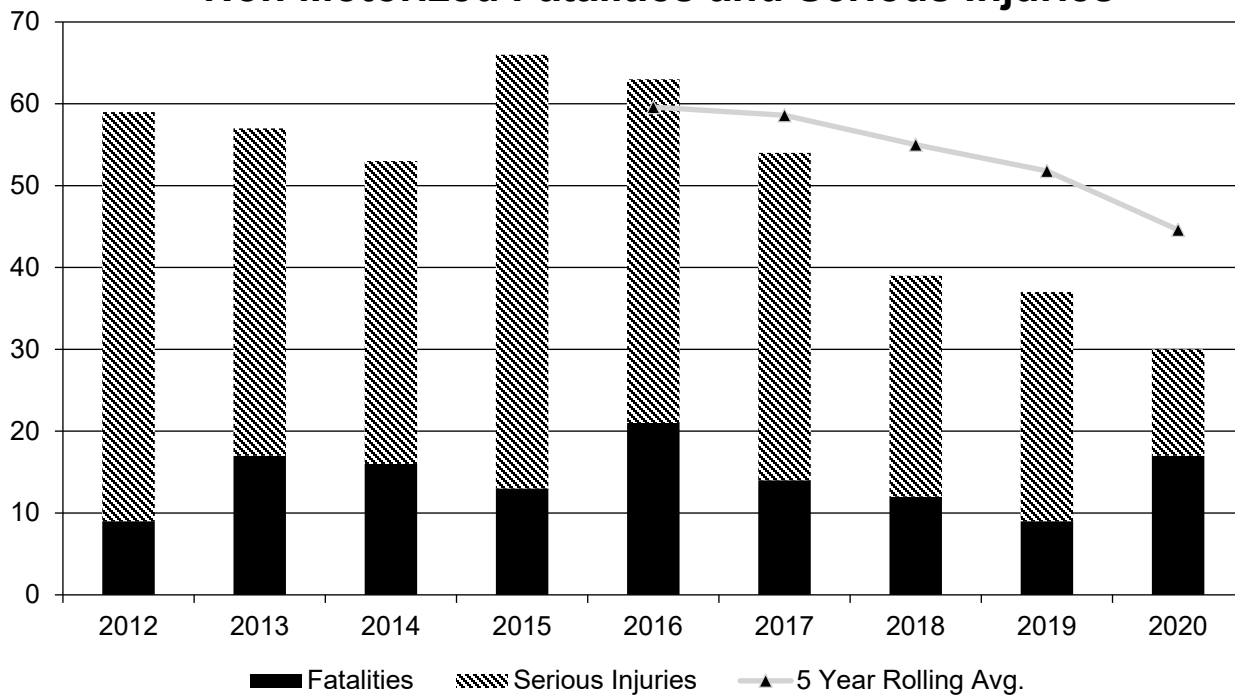
Describe fatality data source.

FARS

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

Year 2020

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	5.8		0.53	
Rural Principal Arterial (RPA) - Other Freeways and Expressways	0.4		0.29	
Rural Principal Arterial (RPA) - Other	18		1.65	
Rural Minor Arterial	10.4		0.92	
Rural Minor Collector	8.4		1.16	
Rural Major Collector	8.8		1.05	

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	10		2.67	
Urban Principal Arterial (UPA) - Interstate	6.8		0.34	
Urban Principal Arterial (UPA) - Other Freeways and Expressways				
Urban Principal Arterial (UPA) - Other	12		0.77	
Urban Minor Arterial	9.2		0.57	
Urban Minor Collector				
Urban Major Collector	4.6		0.55	
Urban Local Road or Street	12.2		1.24	
Rural Private	0		0	
Urban Private	0		0	

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 2022 Targets *

Number of Fatalities:117.8

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

The 2020 five-year average is 117.8 fatalities. Fatalities in the last decade have shown wide variation over a one to two-year cycle, with the number of 2020 fatalities being among the lowest values for the decade. The slight 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 2022 target of 117.8 fatalities (i.e., maintaining the 2020 five-year average) has been adopted. The target supports SHSP goals by reflecting the increasing reliance on the implementation of proven systematic roadway departure countermeasures to address this critical emphasis area, and the improved safety performance that will result.

Number of Serious Injuries:465.4

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

2020 saw the highest number of serious injuries, despite reduced traffic volumes caused by the COVID pandemic. Nevertheless, the computed trend line predicts declining crashes. Closer inspection of the trend line and computed target value of 439.4 revealed that meeting this target would require far superior safety performance in 2021 and 2022 than has been observed in the past decade. Therefore, a more achievable target of 465.4, equal to the 2020 five-year average, has been adopted. This more sustainable target would still require safety performance better than recent years. The target supports SHSP goals by reflecting the increasing reliance on the implementation of proven systematic roadway departure countermeasures to address this critical emphasis area, and the improved safety performance that will result.

Fatality Rate:0.874

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

The 2020 five-year average fatality rate is 0.883 per HMVMT. Fatalities in the last decade have shown wide variation over a one to two-year cycle, with the 2020 fatality rate being near the mean 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 falling trend to 2022. This falling trend is favorable and achievable based on recent performance, thus a target of 0.874 fatalities per HMVMT has been adopted. The target supports SHSP goals by reflecting the increasing reliance on the implementation of proven systematic roadway departure countermeasures to address this critical emphasis area, and the improved safety performance that will result.

Serious Injury Rate:3.506

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

Similar to serious injury numbers reported above, 2020 saw a sharp peak in serious injury rate due to the combined influences of increased serious injuries despite the substantially reduced traffic volumes. Nevertheless, the computed trend line predicts declining crashes. Closer inspection of the trend line and computed target value of 3.206 revealed that meeting this target would require far superior safety performance in 2021 and 2022 than has been observed in the past decade. Therefore, a more achievable target of 3.506, equal to the 2020 five-year average, has been adopted. This more sustainable target would still require safety performance better than recent years. The target supports SHSP goals by reflecting the increasing reliance on the implementation of proven systematic roadway departure countermeasures to address this critical emphasis area, and the improved safety performance that will result.

Total Number of Non-Motorized Fatalities and Serious Injuries:38.0

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

Trend analysis predicts a strongly declining trend and a 2022 target value of 38.0 non-motorized fatalities and serious injuries. This target value is hereby adopted as it would be consistent with the strongly favorable

performance trend since 2015 and would represent a realistic performance level consistent with the desired trend. The target supports SHSP goals by reflecting the planned expanded use of systematic pedestrian crossing improvements to address this critical emphasis area, and the improved safety performance that will result.

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 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, the NHOHS, NHDOT and NHDOS leadership, and the NH municipal planning organizations. 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 2020 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	118.8	118.0
Number of Serious Injuries	448.0	465.4
Fatality Rate	0.885	0.884
Serious Injury Rate	3.269	3.505
Non-Motorized Fatalities and Serious Injuries	51.6	44.6

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* 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	2014	2015	2016	2017	2018	2019	2020
Number of Older Driver and Pedestrian Fatalities	33	23	23	20	30	25	24
Number of Older Driver and Pedestrian Serious Injuries	57	72	80	80	67	67	72

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 and focuses heavily on systematic 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, replacement of deficient guardrail and terminal units to meet current safety standards, and installation of durable pavement markings on divided highways. 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

The NHDOT aims to continue to expand our RSA program by encouraging communities, via the RPCs and MPOs, 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 to improve our inclusion of local roads in our HSIP.

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

In response to common noise complaints related to rumble strips, but in recognition of their proven safety value, 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.

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)
Pittsfield - 24842, NH 28 & NH107, Upgrades to existing signal system	Rural Minor Arterial	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	6.00	7.00			1.00		3.00		10.00	7.00	
Gilford - 16207, NH 11A/Belknap Mountain Rd/School House Hill Rd, Modify vertical alignment	Urban Major Collector	Alignment	Vertical alignment or elevation change	10.00	8.00	1.00		2.00		6.00	3.00	19.00	11.00	
Rindge - 16210, US 202 & Forristall Rd, Construct offset right turn lane	Rural Major Collector	Intersection geometry	Add/modify auxiliary lanes	5.00	1.00			1.00		2.00	2.00	8.00	3.00	
Loudon - 24941, NH 106/Staniels Rd/Josiah Bartlett Rd, Install traffic signal & turn lanes	Rural Principal Arterial (RPA) - Other	Intersection geometry	Add/modify auxiliary lanes	9.00	19.00	2.00		1.00		5.00	1.00	17.00	20.00	
Barrington - 16178, US 202 & NH 9, Convert existing Y-intersection to a T configuration	Rural Major Collector	Intersection geometry	Intersection realignment	12.00	4.00					3.00		15.00	4.00	
Lee - 15692, US 4 & NH 125, Replace existing traffic circle with 2 lane roundabout	Rural Principal Arterial (RPA) - Other	Intersection traffic control	Modify control – Modern Roundabout	119.00	283.00			1.00	4.00	28.00	39.00	148.00	326.00	

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)
Lebanon - 29362, NH 10/Oak Ridge Rd/Gould Rd, Install Pedestrian beacon	Urban Minor Arterial	Pedestrians and bicyclists	Pedestrian beacons		5.00	1.00					1.00	1.00	6.00	
Rochester - 27873, US 202 & Estes Rd, Building demolition for sightline improvement	Rural Minor Arterial	Roadside	Removal of fixed objects (trees, poles, etc.)	5.00	2.00					2.00	1.00	7.00	3.00	
Swanzey - 15697, NH 12/Lake St/Swanzey Factory Rd, Install Roundabout	Rural Minor Arterial	Intersection traffic control	Modify control – Modern Roundabout	12.00	6.00					1.00	2.00	13.00	8.00	
Keene - 26765, NH 9 & Base Hill Rd, Install Roundabout	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Modify control – Modern Roundabout	10.00	21.00					8.00	2.00	18.00	23.00	
Derry - 15690, NH 28, Install Left Turn lane and traffic signals	Urban Minor Arterial	Intersection geometry	Add/modify auxiliary lanes	6.00	10.00			1.00		12.00	5.00	19.00	15.00	
Seabrook - 16444, US 1, Widening to provide additional SB thru lane	Urban Minor Arterial	Roadway	Roadway widening - travel lanes	20.00	51.00					7.00	7.00	27.00	58.00	
Lancaster - 16208, US 2 & US 3, Install Roundabout	Rural Principal Arterial (RPA) - Other	Intersection traffic control	Modify control – Modern Roundabout	1.00	22.00					1.00	1.00	2.00	23.00	
Milford - 13692B, NH 101, Install TWLTL	Urban Principal Arterial (UPA) - Other	Roadway	Roadway widening - travel lanes	22.00	23.00					8.00	4.00	30.00	27.00	

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)
Meredith - 16470, NH 104 & Meredith Center Rd, Construct offset right turn lane	Rural Minor Arterial	Intersection geometry	Add/modify auxiliary lanes	6.00	4.00					2.00	1.00	8.00	5.00	
Farmington - 16212, NH 11, Install TWLTL	Rural Minor Arterial	Roadway	Roadway widening - travel lanes	4.00	8.00					2.00	1.00	6.00	9.00	
Belmont - 16203, NH 106 & Seavey Rd, Construct turn lanes	Rural Principal Arterial (RPA) - Other	Intersection geometry	Add/modify auxiliary lanes	3.00	3.00							3.00	3.00	
Rochester - 22712, Salmon Falls Rd, Modify Horizontal alignment of 2 curves	Urban Minor Arterial	Alignment	Horizontal curve realignment	6.00	4.00					2.00	2.00	8.00	6.00	

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?

2022

The 2022 to 2026 Strategic Highway Safety Plan is under development in the summer of 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]	82	53								
	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):		99.00	97.39	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]

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 and consistent progress has been made on non-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.
NHDOT will benefit from FHWA technical assistance in FY 2021 and 2022 to enable the completion of the incomplete MIRE FDEs prior to the 2026 deadline.

Optional Attachments

Program Structure:

New Hampshire HSIP Guidance2013.doc
Project Implementation:

Safety Performance:

Evaluation:

HSIP_Report_Q_44.xlsx
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.