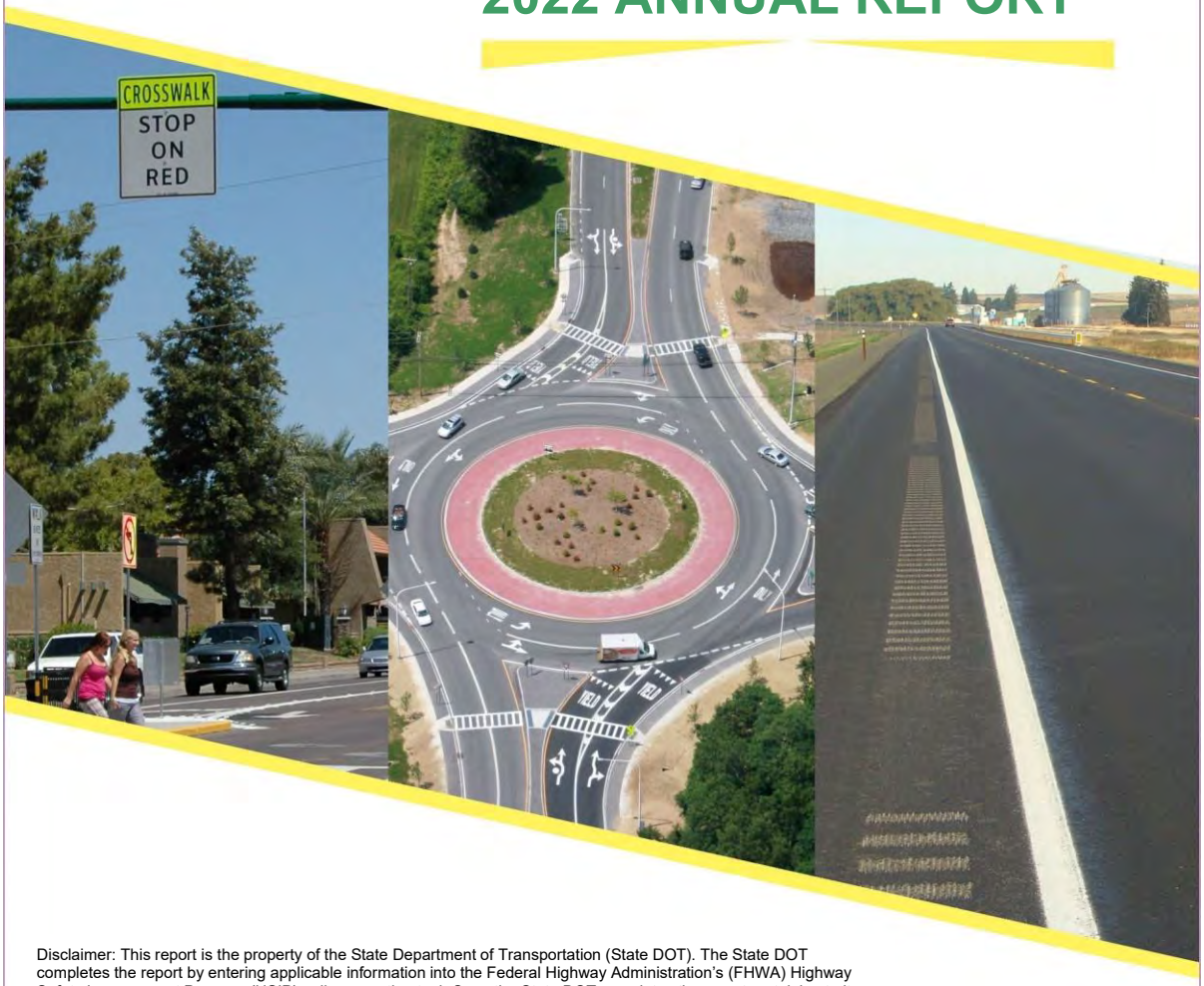
# NEW HAMPSHIRE

# HIGHWAY SAFETY IMPROVEMENT PROGRAM

## 2022 ANNUAL REPORT

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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. 407 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 purpose of the HSIP 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 toward that goal Maine DOT and VTrans have formed a tristate collaborative partnership with NHDOT to more effectively reach the collective regional goal. 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 migration from the former Crash Records 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-&#2;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. The NH SHSP is now in its third edition and the production of the next edition began in 2021.

# 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 administered centrally and 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 classes 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 seeking to acquire or develop volume data on the roads for which it is currently lacking as required for MIRE.

The NHDOT has begun learning about local road safety plans through the technical assistance of FHWA with the objective of piloting this initiative in the near future.

There are no tribal roads in New Hampshire.

### 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)

### 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**

- 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 | Exposure | Roadway |
|---|---|---|
| • All crashes<br>• Other-Run Off the Road | • Traffic<br>• Volume | • Functional classification<br>• 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**

- 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<br>• 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**

- 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**

- 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

The majority of systemic improvements involve treatments to address roadway departure crashes.

### 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 spot improvement 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)** | $7,731,232 | $7,995,814 | 103.42% |
| **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))** | $2,036,540 | $522,500 | 25.66% |
| **Other Federal-aid Funds (i.e. STBG, NHPP)** | $0 | $0 | 0% |
| **State and Local Funds** | $0 | $0 | 0% |
| **Totals** | $9,767,772 | $8,518,314 | 87.21% |

### 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?

$572,000

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

$553,478

Non-infrastructure investments included road safety audits and a participation in the periodic acquisition of statewide orthoimagery.

## 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?

$4,792,769
Historically, NHDOT has neither transferred funds into or out of the HSIP. However, in FY 2021 NHDOT transferred accrued unexpended obligational authority 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 via the use 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 the Highway Safety Manual and the companion Crash Modification Factor Clearinghouse 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Statewide 28134 | Roadway signs and traffic control | Curve-related warning signs and flashers | 5723 | Locations | $38500 | $38500 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Curve warning signs |
| Colebrook-Dixville 41783 | Roadside | Barrier end treatments (crash cushions, terminals) | 43 | Locations | $8928 | $8928 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Modernize guardrail systems |
| Lyme-Haverhill 41913 | Roadside | Barrier end treatments (crash cushions, terminals) | 95 | Locations | $6600 | $6600 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Modernize guardrail systems |
| Newport-Grantham 41914 | Roadside | Barrier end treatments (crash cushions, terminals) | 70 | Locations | $1252438 | $1252438 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Modernize guardrail systems |
| Portsmouth 42350 | Intersection traffic control | Intersection traffic control - other | 1 | Intersections | $1216444 | $1351604 | HSIP (23 U.S.C. 148) | Urban | Local Road or Street | 4,600 | 30 | City or Municipal Highway Agency | Road safety audit | Intersections | Traffic signals |
| Conway 42522 | Intersection traffic control | Modify control – Modern Roundabout | 1 | Intersections | $110000 | $110000 | HSIP (23 U.S.C. 148) | Rural | Principal Arterial-Other | 13,000 | 40 | State Highway Agency | Road safety audit | Intersections | Roundabout |
| Durham 42523 | Intersection traffic control | Modify control – Modern Roundabout | 1 | Intersections | $110000 | $110000 | HSIP (23 U.S.C. 148) | Urban | Principal Arterial-Other | 11,600 | 40 | State Highway Agency | Road safety audit | Intersections | Roundabout |
| Statewide 42953 | Roadway signs and traffic control | Curve-related warning signs and flashers | 120 | Miles | $110000 | $110000 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Curve warning signs |
| TSMO 42996 | Advanced technology and ITS | Advanced technology and ITS - other | 1 | Locations | $766700 | $766700 | HSIP (23 U.S.C. 148) | Multiple/Varies | Multiple/Varies | 0 | | State Highway Agency | Spot | Data | Collect and disseminate safety data |
| Brookline 43083 | Miscellaneous | Road safety audits | 1 | Intersections | $44000 | $44000 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 6,500 | 50 | State Highway Agency | Road safety audit | Intersections | Road safety audit |
| Claremont 43084 | Miscellaneous | Road safety audits | 0.5 | Miles | $44000 | $44000 | HSIP (23 U.S.C. 148) | Urban | Minor Arterial | 0 | | City or Municipal Highway Agency | Road safety audit | Intersections | Road safety audit |
| Meredith 43085 | Miscellaneous | Road safety audits | 5 | Intersections | $40250 | $40250 | HSIP (23 U.S.C. 148) | Rural | Local Road or Street | 4,300 | 30 | Town or Township | Road safety audit | Pedestrians | Road safety audit |

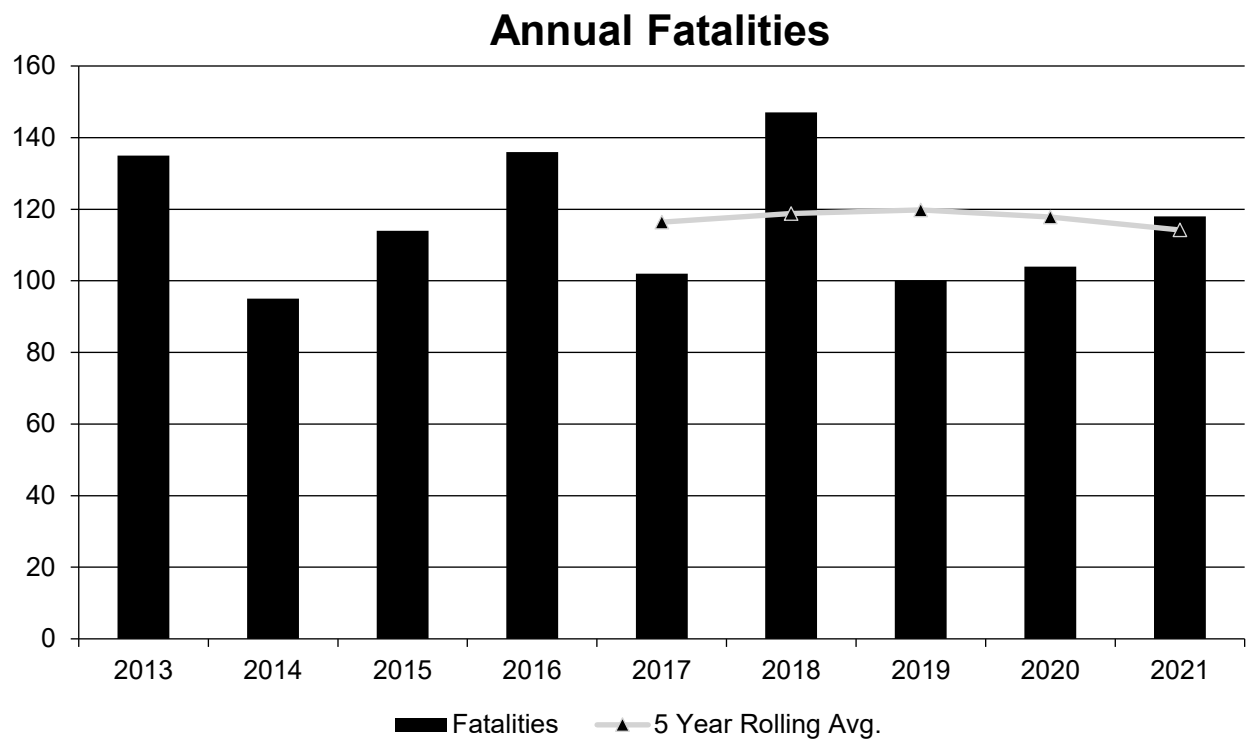
| PROJECT NAME | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST($) | TOTAL PROJECT COST($) | FUNDING CATEGORY | LAND USE/AREA TYPE | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | SHSP EMPHASIS AREA | SHSP STRATEGY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Highway Agency | | | |
| District 1 E Guardrail 43130 | Roadside | Barrier end treatments (crash cushions, terminals) | 50 | Locations | $1446974 | $1446974 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Modernize guardrail systems |
| Statewide W Guardrail 43131 | Roadside | Barrier end treatments (crash cushions, terminals) | 88 | Locations | $85800 | $85800 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Modernize guardrail systems |
| District 2 Guardrail 43132 | Roadside | Barrier end treatments (crash cushions, terminals) | 30 | Locations | $104500 | $104500 | HSIP (23 U.S.C. 148) | Rural | Multiple/Varies | 0 | | State Highway Agency | Systematic | Roadway Departure | Modernize guardrail systems |
| Statewide 43246 | Miscellaneous | SHSP Development | 1 | SHSP | $165000 | $165000 | HSIP (23 U.S.C. 148) | N/A | N/A | 0 | | All public roads | N/A | SHSP | SHSP |
| Stratham-Greenland 43272 | Roadway delineation | Roadway delineation - other | 2.1 | Miles | $110000 | $110000 | HSIP (23 U.S.C. 148) | Urban | Minor Arterial | 12,300 | 50 | State Highway Agency | Road safety audit | Intersections | Two-way left turn lane |
| Peterborough-Chesterfield 43333 | Advanced technology and ITS | Intersection Conflict Warning System (ICWS) | 3 | Intersections | $55000 | $55000 | HSIP (23 U.S.C. 148) | Multiple/Varies | Multiple/Varies | 0 | | State Highway Agency | Road safety audit | Intersections | ICWS monitoring |
| Statewide 43368 | Miscellaneous | Data collection | 1 | Statewide | $440000 | $440000 | HSIP (23 U.S.C. 148) | N/A | N/A | 0 | | Statewide | N/A | Data | Orthoimagery |
| Statewide 43404 | Miscellaneous | Data analysis | 1 | Statewide | $82500 | $82500 | HSIP (23 U.S.C. 148) | N/A | N/A | 0 | | All public roads | N/A | Data | Collect and disseminate safety data |
| Chichester 43406 | Miscellaneous | Road safety audits | 1 | Intersections | $44000 | $44000 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 0 | | State Highway Agency | Road safety audit | Intersections | Road safety audit |
| Jaffrey 43407 | Miscellaneous | Road safety audits | 1 | Intersections | $44000 | $44000 | HSIP (23 U.S.C. 148) | Rural | Minor Arterial | 0 | | State Highway Agency | Road safety audit | Intersections | Road safety audit |
| Milton 43408 | Miscellaneous | Road safety audits | 1 | Intersections | $44000 | $44000 | HSIP (23 U.S.C. 148) | Rural | Major Collector | 0 | | State Highway Agency | Road safety audit | Intersections | Road safety audit |
| Bow-Concord 43340 | Roadway delineation | Improve retroreflectivity | 31.3 | Miles | $1715530 | $1715530 | HSIP (23 U.S.C. 148) | Multiple/Varies | Principal Arterial-Interstate | 0 | | State Highway Agency | Systematic | Lane Departure | Durable pavement markings |

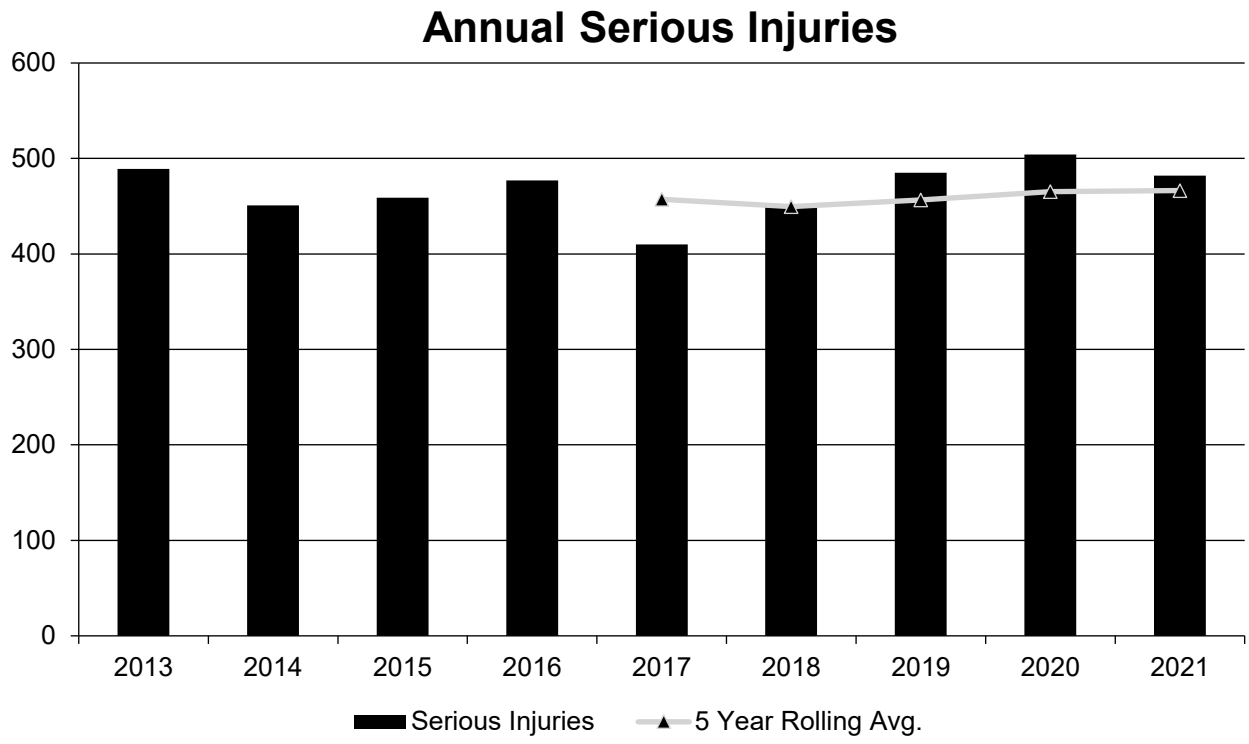
# Safety Performance

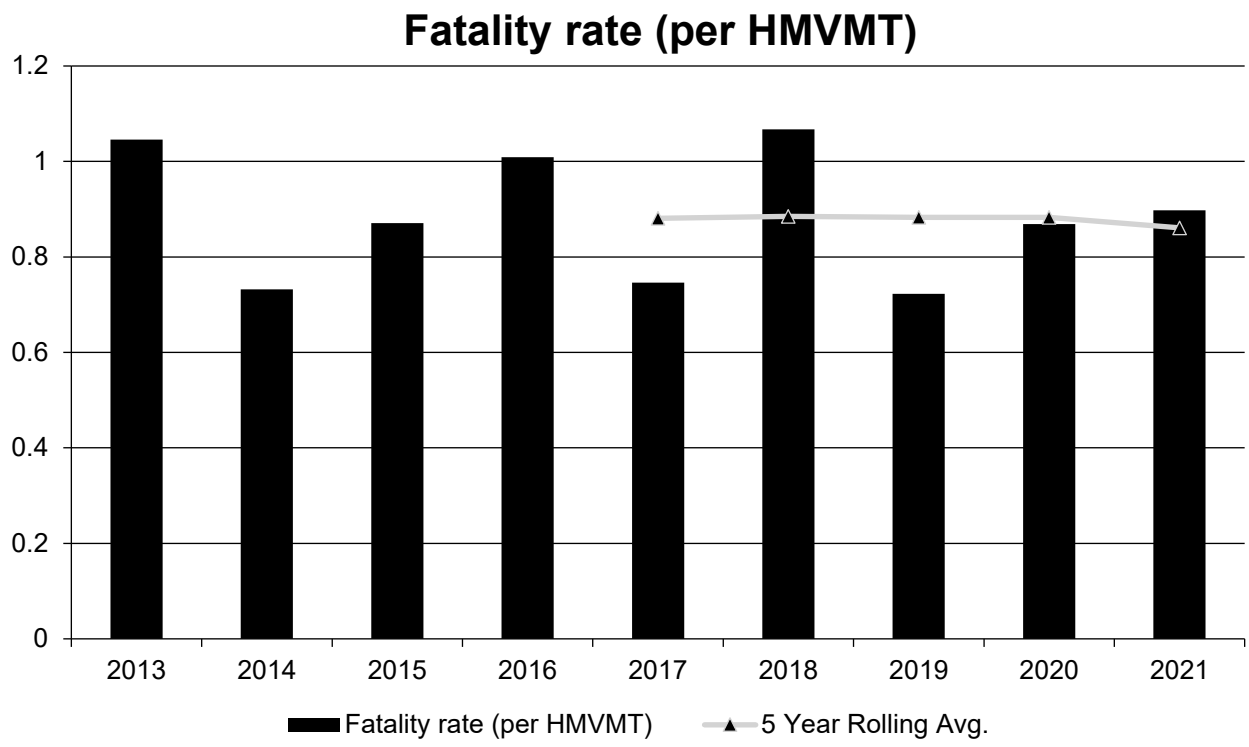
## *General Highway Safety Trends*

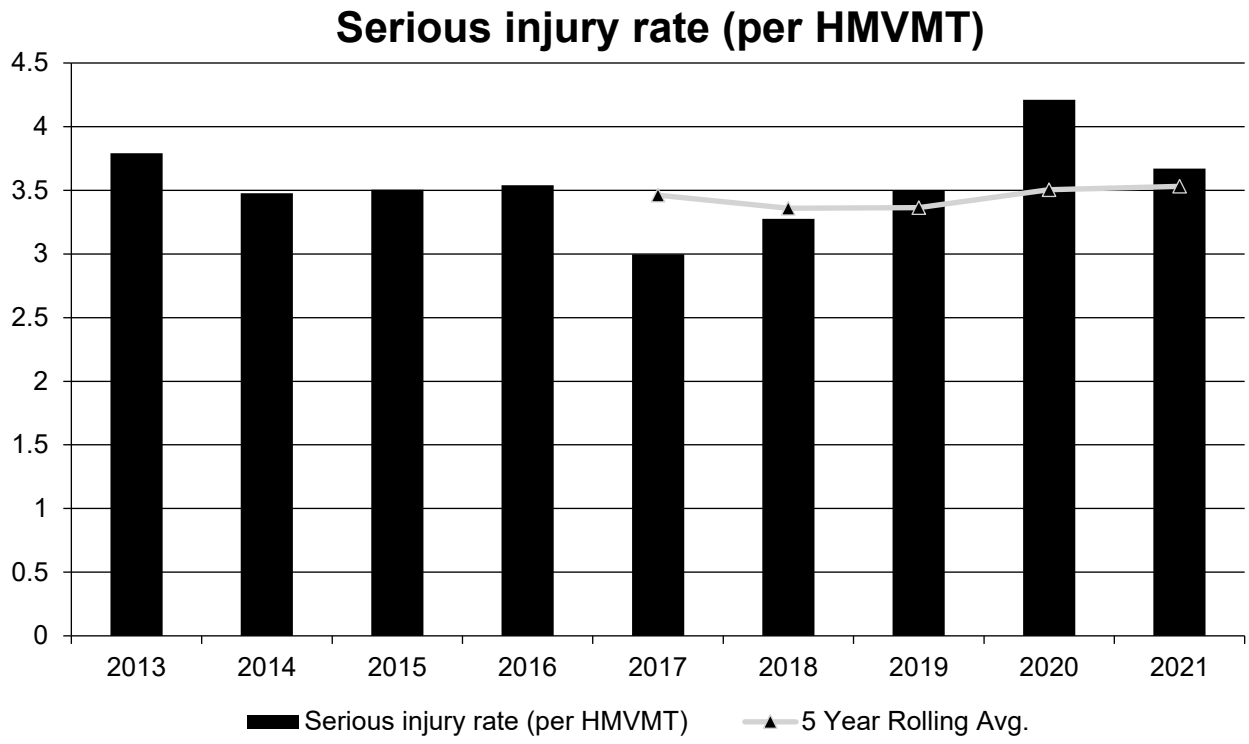
### Present data showing the general highway safety trends in the State for the past five years.

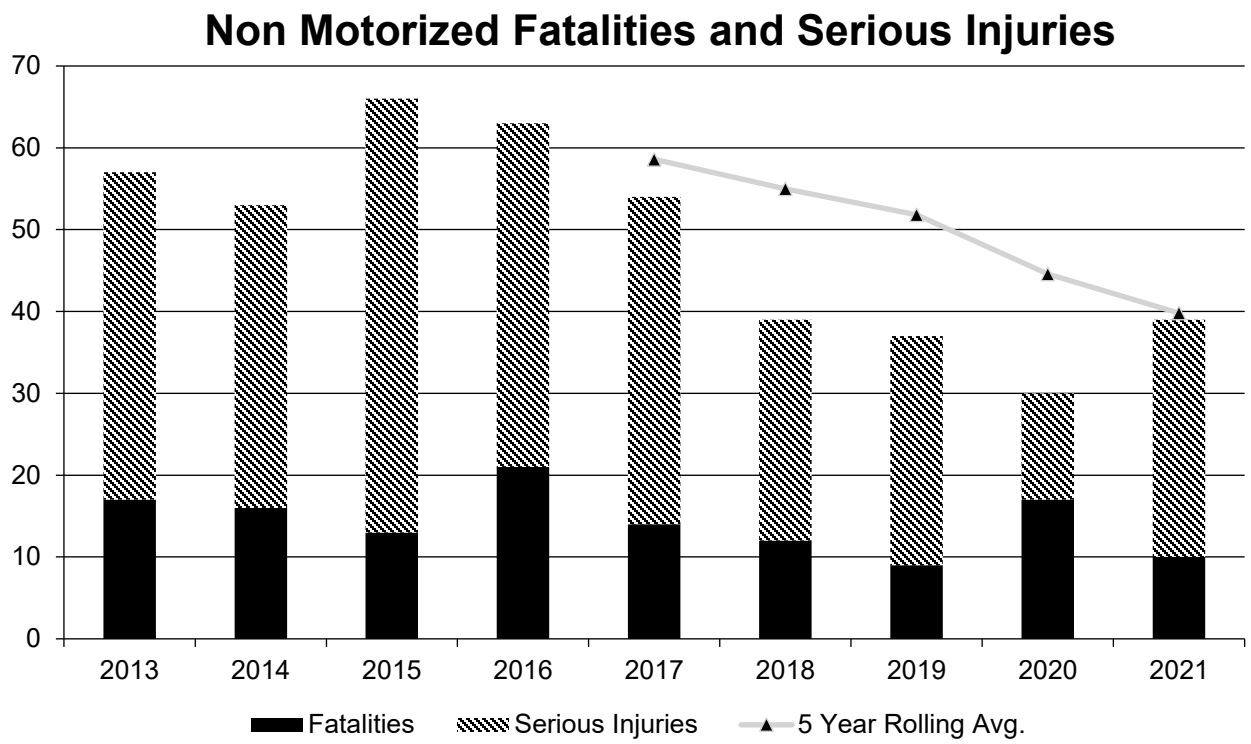
| PERFORMANCE MEASURES | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|
| Fatalities | 135 | 95 | 114 | 136 | 102 | 147 | 100 | 104 | 118 |
| Serious Injuries | 489 | 451 | 459 | 477 | 410 | 451 | 485 | 504 | 482 |
| Fatality rate (per HMVMT) | 1.046 | 0.732 | 0.871 | 1.009 | 0.746 | 1.067 | 0.723 | 0.869 | 0.898 |
| Serious injury rate (per HMVMT) | 3.790 | 3.477 | 3.505 | 3.540 | 2.997 | 3.275 | 3.501 | 4.211 | 3.670 |
| Number non-motorized fatalities | 17 | 16 | 13 | 21 | 14 | 12 | 9 | 17 | 10 |
| Number of non-motorized serious injuries | 40 | 37 | 53 | 42 | 40 | 27 | 28 | 13 | 29 |


Annual Fatalities
160
140
120
100
80
60
40
20
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
600
500
400
300
200
100
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.2
1
0.8
0.6
0.4
0.2
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious injury rate (per HMVMT)
5 Year Rolling Avg.




## Describe fatality data source.

FARS

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

**Year 2021**

| 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 Private | 0 | | 0 | |
| Rural Principal Arterial (RPA) - Interstate | | | | |
| Rural Principal Arterial (RPA) - Other Freeways and Expressways | | | | |
| Rural Principal Arterial (RPA) - Other | | | | |
| Rural Minor Arterial | | | | |
| Urban Principal Arterial (UPA) - Other | | | | |

| Functional Classification | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|
| Freeways and Expressways | | | | |
| Rural Principal Arterial (RPA) - Interstate | 5.8 | | 0.53 | |
| Rural Minor Collector | | | | |
| Urban Local Road or Street | 12.2 | | 1.24 | |
| Rural Major Collector | | | | |
| Rural Local Road or Street | | | | |
| Rural Major Collector | 8.8 | | 1.05 | |
| Urban Principal Arterial (UPA) - Interstate | 6.8 | | 0.34 | |
| Urban Minor Arterial | 9.2 | | 0.57 | |
| Urban Principal Arterial (UPA) - Other Freeways and Expressways | | | | |
| Urban Principal Arterial (UPA) - Other | | | | |
| Urban Major Collector | 4.6 | | 0.55 | |
| Urban Principal Arterial (UPA) - Other | 12 | | 0.77 | |
| Urban Minor Arterial | | | | |
| Urban Minor Collector | | | | |
| Urban Major Collector | | | | |
| Urban Local Road or Street | | | | |

## Year 2021

| 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 | 73.8 | 260.4 | 0.78 | 2.7 |
| County Highway Agency | | | | |
| Town or Township Highway Agency | | | | |
| City or Municipal Highway Agency | | | | |
| State Park, Forest, or Reservation Agency | | | | |
| State Toll Authority | | | | |
| 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 | | | | |
| City or Municipal Highway Agency | | | | |
| State Highway Agency | | | | |

## *Safety Performance Targets*

### Safety Performance Targets

## Calendar Year 2023 Targets *

### *Number of Fatalities:111.6*

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

Fatalities in the last decade have shown wide variation over a one to two-year cycle, with the number of 2019 and 2020 fatalities being among the lowest values for the decade, but with the annual number of fatalities having climbed in 2021 despite the substantially reduced traffic volumes. The slightly declining trend computed by the data is not indicative of anticipated performance. Specifically, the very poor performance seen in 2018 continues to heavily influence the computed trend line. The actual performance that will ultimately be reported for 2023 will no longer include this data point; therefore, the 2023 target has been computed presuming that the 2021 annual performance (i.e., countering the rising trend since 2019) will be repeated. 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:466.4*

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

The number of serious injuries had been increasing since 2017 but declined in 2021. Also worth noting is that despite the substantial reduction in vehicle miles traveled in 2020 during the COVID-19 pandemic, the number of serious injuries was the highest since 2012, resulting in a spike in the serious injury rate.

The rising trend computed by the data is not acceptable to determine a target as it would be contrary to the core objective of the state's Driving Toward Zero initiative. Therefore, it is recommended that the computed value for 2021 performance, 466.4 serious injuries, be maintained and adopted as the 2023 target. 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:0.857*

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

Similar to the number of fatalities, the slightly declining trend computed by the data is not indicative of anticipated performance. Specifically, the very poor performance seen in 2018 continues to heavily influence the computed trend line. The actual performance that will ultimately be reported for 2023 will no longer include this data point; therefore, the 2023 target has been computed presuming that the 2021 annual performance (i.e., countering the rising trend since 2019) will be repeated. 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:3.532*

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

The rate of serious injuries had been increasing since 2017 but declined in 2021. Also worth noting is that despite the substantial reduction in vehicle miles traveled in 2020 during the COVID-19 pandemic, the number of serious injuries was the highest since 2012, resulting in a spike in the serious injury rate.

The rising trend computed by the data is not acceptable to determine a target as it would be contrary to the core objective of the state's Driving Toward Zero initiative. Therefore, it is recommended that the computed value for 2021 performance, 3.532 fatalities per 100 MVMT, be maintained and adopted as the 2023 target. This 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:37.0*

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

Trend analysis indicates a declining trend and a 2023 target value of 33.2 non-motorized fatalities and serious injuries. Because achieving this target would require safety performance significantly better than all prior years, a more modest target of 37.0 is recommended. This more achievable target has been computed by assuming the current annual performance of 39 fatalities and serious injuries would be maintained.

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. In addition, the new focus on and HSIP allocation for non-motorized safety will renew and sustain consistent improvement in this measure.

### 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, NHTSA, 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 trend lines and draft targets, modified the targets as appropriate to consider the influence of external factors, and composed narratives to document and explain the selected targets. These draft targets were reviewed with the NHDOT HSIP Committee, the NHOHS, the FHWA NH Division, and the NH metropolitan planning organizations, and approved by the NHDOT commissioner. The adopted 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 2022 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** | 120.0 | 114.2 |

| | | |
|---|---|---|
| **Number of Serious Injuries** | 456.4 | 466.4 |
| **Fatality Rate** | 0.884 | 0.861 |
| **Serious Injury Rate** | 3.353 | 3.531 |
| **Non-Motorized Fatalities and Serious Injuries** | 45.9 | 39.8 |

Annual crash performance over the last decade has exhibited wide relative variation, 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 most severe crashes are behavioral including impairment, speeding, and distraction or inattention, compounded by a relatively low usage rate of passenger restraints. Because rural roadway departure (RwD) crashes are over-represented in NH's fatal and serious injury 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 risk factors. In addition, NHDOT's HSIP has been trending toward a greater emphasis on systemic and systematic improvements, as advocated by the 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.

With regard to serious injury crashes, the 2020 peak experienced in NH and elsewhere, despite the substantially reduced traffic volumes, caused a significant spike in the serious injury rate and elevated the five-year averages for both the number and rate of serious injuries.

## *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 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| Number of Older Driver and Pedestrian Fatalities | 23 | 23 | 20 | 30 | 25 | 24 | 23 |
| Number of Older Driver and Pedestrian Serious Injuries | 72 | 80 | 80 | 67 | 67 | 72 | 51 |

# 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 recent project implemented 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. The NHDOT is also gathering information, with the technical assistance of FHWA, on local road safety plans with the intent of piloting this tool in the near future.

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

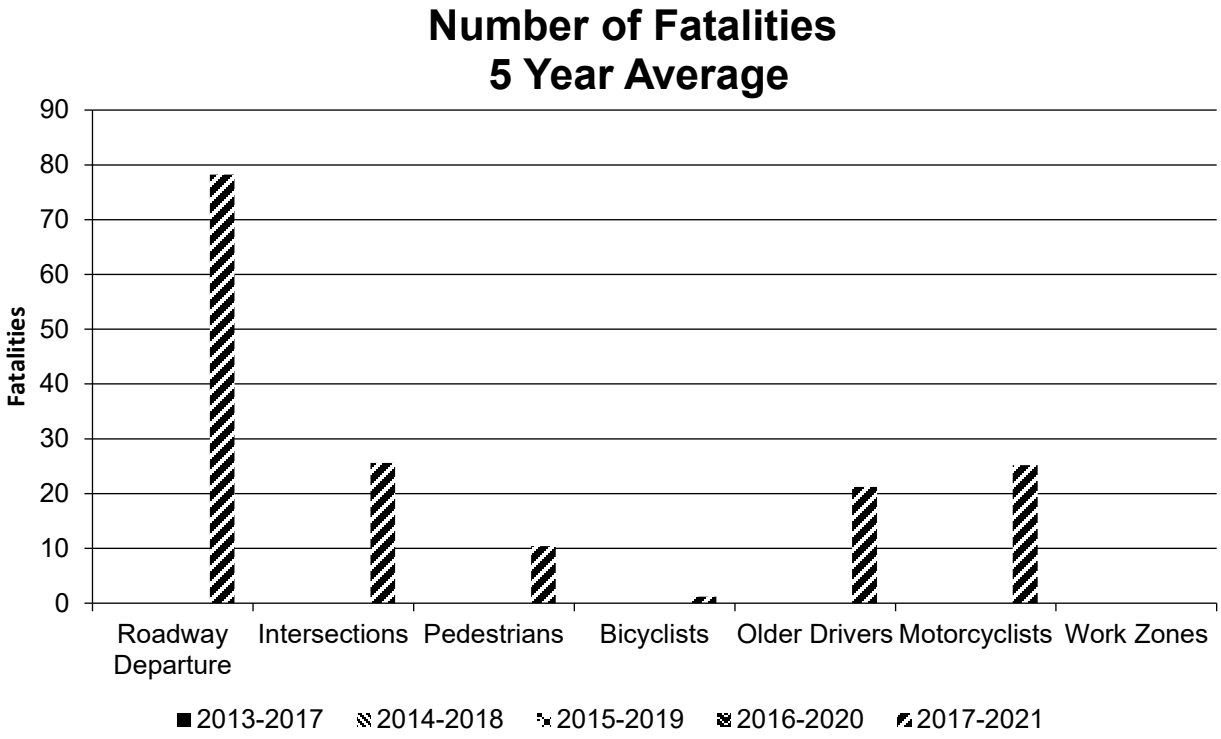
In response to common noise complaints related to rumble strips, but in recognition of their proven safety value, NHDOT has updated our guidelines to incorporate 'sinusoidal' rumble strips in our standard practice. Using guidance from other State DOTs, the NHDOT selected a 'sinusoidal' design that retains the rumble strip's safety benefit while reducing their undesirable exterior noise.

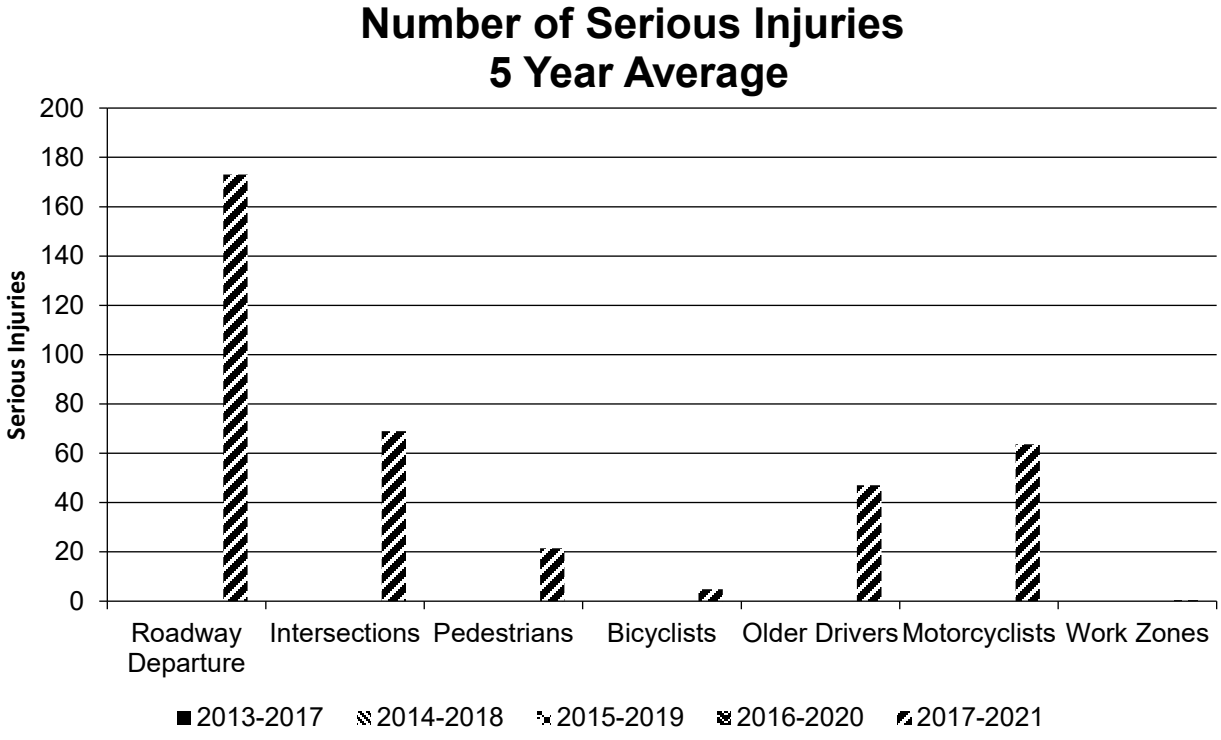
## *Effectiveness of Groupings or Similar Types of Improvements*

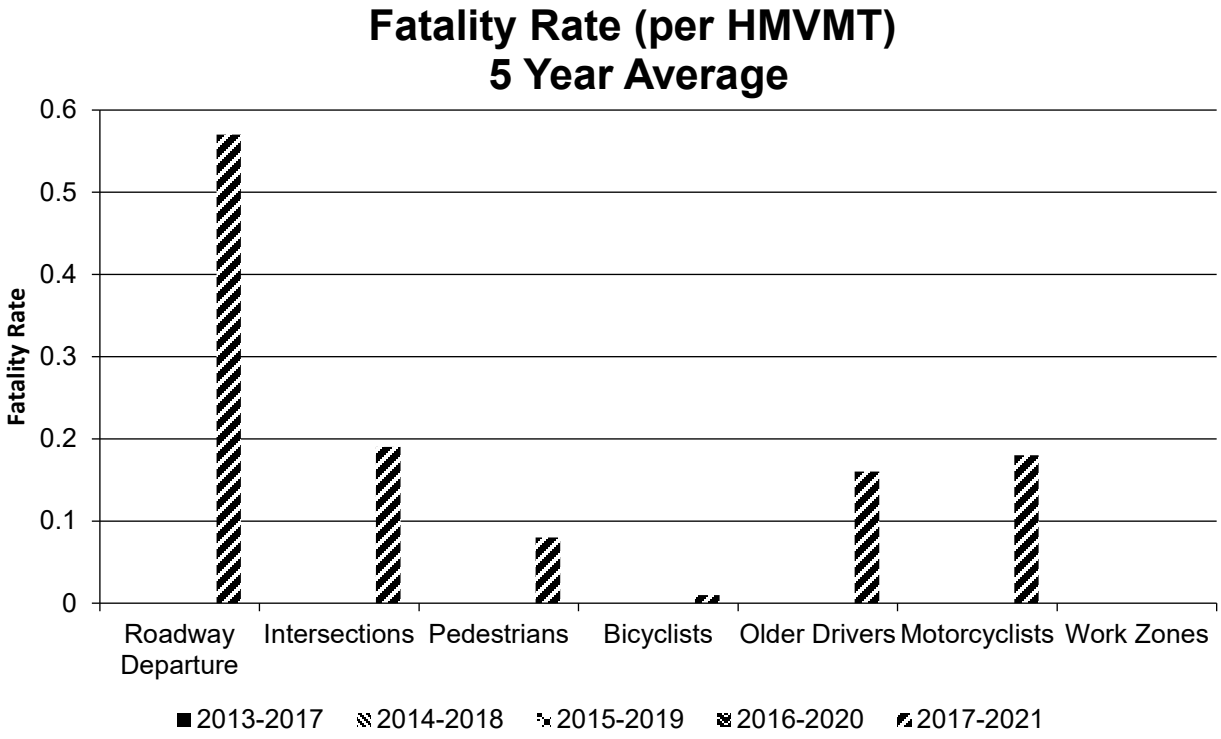
### Present and describe trends in SHSP emphasis area performance measures.

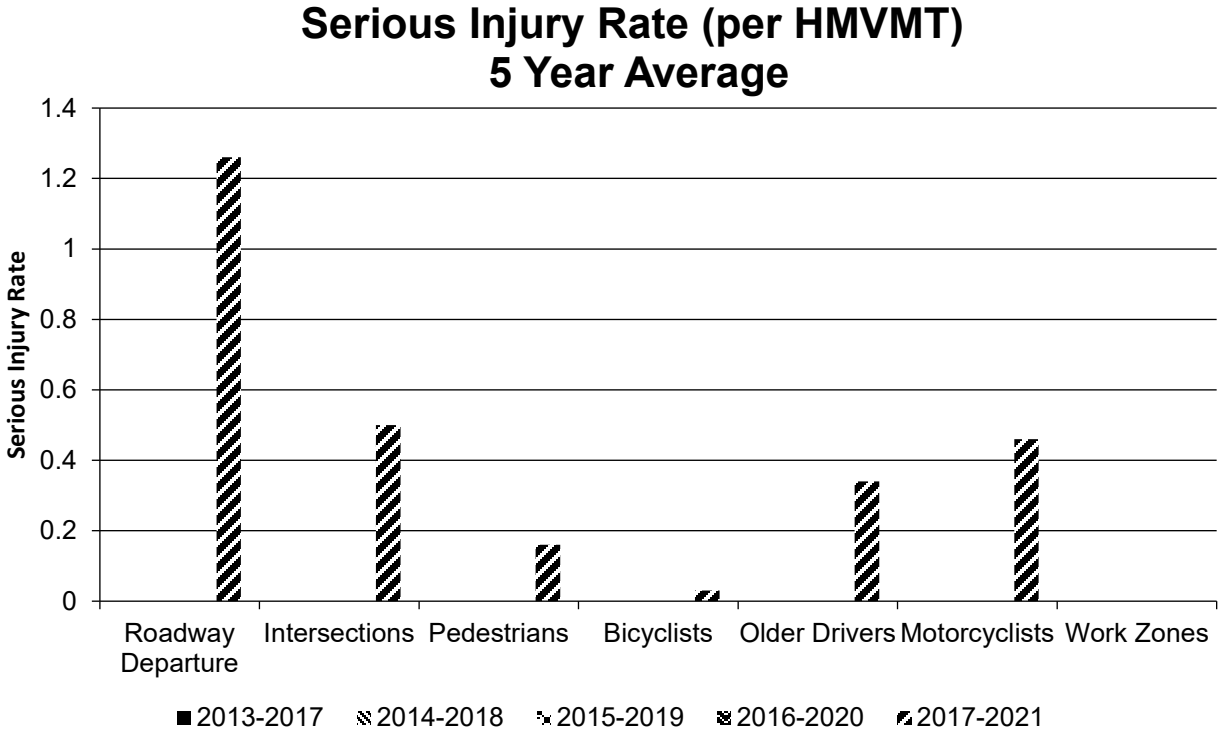
**Year 2021**

| SHSP Emphasis Area | Targeted Crash Type | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|---|---|---|---|---|---|
| Roadway Departure | | 78.2 | 173 | 0.57 | 1.26 |
| Intersections | | 25.6 | 69 | 0.19 | 0.5 |
| Pedestrians | | 10.4 | 21.4 | 0.08 | 0.16 |
| Bicyclists | | 1.2 | 4.8 | 0.01 | 0.03 |
| Older Drivers | | 21.2 | 47 | 0.16 | 0.34 |
| Motorcyclists | | 25.2 | 63.6 | 0.18 | 0.46 |
| Work Zones | | 0 | 0.4 | 0 | 0 |


Number of Fatalities
5 Year Average
Fatalities
90
80
70
60
50
40
30
20
10
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021


Number of Serious Injuries
5 Year Average
Serious Injuries
200
180
160
140
120
100
80
60
40
20
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
Work Zones
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021




**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 | |
| Barnstead - 14121E, NH 28 / Peacham Rd safety improvements | Rural Minor Arterial | Intersection geometry | Add/modify auxiliary lanes | 3.00 | 3.00 | | | | | 5.00 | 1.00 | 8.00 | 4.00 | |
| Fitzwilliam 16211 - NH 12 / NH 119 safety improvements | Rural Principal Arterial (RPA) - Other | Intersection geometry | Splitter island – install on one or more approaches | 3.00 | 16.00 | | | | | 4.00 | 1.00 | 7.00 | 17.00 | |
| Derry 24861 - NH 28 Bypass / English Range Rd safety improvements | Urban Minor Arterial | Intersection traffic control | Modify control – new traffic signal | 4.00 | 11.00 | | | | | 6.00 | 10.00 | 10.00 | 21.00 | |
| Concord 24921 - NH 106 / NH 9 signal improvements | Urban Principal Arterial (UPA) - Other | Intersection traffic control | Modify traffic signal timing – left-turn phasing | 10.00 | 1.00 | | | 2.00 | | 5.00 | | 17.00 | 1.00 | |
| Henniker 28735 - | Rural Local Road or Street | Pedestrians and bicyclists | Install new crosswalk | 7.00 | 3.00 | | | | | | | 7.00 | 3.00 | |

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Western Ave ped/bike improvements | | | | | | | | | | | | | | |
| Brookline 40092 - NH 13 / NH 130 safety improvements | Rural Minor Arterial | Intersection geometry | Add/modify auxiliary lanes | 2.00 | 3.00 | 1.00 | | | | 2.00 | | 5.00 | 3.00 | |
| Canterbury-Northfield 41057 - I93 NB exit 23 off ramp safety improvements | Rural Principal Arterial (RPA) - Interstate | Intersection traffic control | Modify control – other | 9.00 | 20.00 | | | | | 4.00 | 4.00 | 13.00 | 24.00 | |

## 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 2022-2026 edition of the NH SHSP was completed and published on August 1, 2022 and approved by FHWA.

### 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 | | | | | | | | |

| 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 |
| | Functional Class (19) [19] | 100 | 100 | | | | | 100 | 100 | 100 | 100 |
| | Median Type (54) [55] | 87 | 58 | | | | | | | | |
| | 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] | | | | | 10 | | | | | |

| ROAD TYPE | *MIRE NAME (MIRE NO.) | NON LOCAL PAVED ROADS - SEGMENT | | NON LOCAL PAVED ROADS - INTERSECTION | | NON LOCAL PAVED ROADS - RAMPS | | LOCAL PAVED ROADS | | UNPAVED ROADS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE | STATE | NON-STATE |
| | Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187] | | | | | 100 | 100 | | | | |
| | 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] | | | | | 10 | | | | | |
| | 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):** | | **99.28** | **97.67** | **88.13** | **88.13** | **83.64** | **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 will supervise temporary reassigned winter construction staff and/or summer interns to compete the FDE requirements.

NHDOT will benefit from FHWA technical assistance in FY 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:

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.