NEW YORK

HIGHWAY SAFETY
IMPROVEMENT PROGRAM
2019 ANNUAL REPORT

U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

Table of Contents

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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

This report is intended to satisfy reporting requirements under Section 148 of the Title 23, United States Code (23 U.S.C. 148) regulated under 23 CFR 924. MAP-21 and the FastAct reinforce the importance of the Highway Safety Improvement Program (HSIP). The goal of the program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Emphasis Areas

The New York State Department of Transportation continues to concentrate on the emphasis areas outlined in the 2017 Strategic Highway Safety Plan (SHSP). The emphasis areas in the plan include intersections, lane departures, driver behavior, vulnerable users, speed and older and younger drivers. The plan also emphasizes emergency response, data and automated/connected vehicles as cross cutting issues that affect all crash types. Site specific projects at high accident locations and systemic improvement projects are being implemented to meet crash goals.

The first ever statewide New York State Pedestrian Safety Action Plan (PSAP) was released in June 2016 and provides funds to improve pedestrian safety in urban areas. The PSAP adds pedestrian locations to the state's annual regional work program; implements pedestrian improvements at approximately 2,400 signalized intersections and 1,350 uncontrolled crosswalks and provides for pedestrian improvements on 5 pedestrian corridors. The PSAP also includes statewide pedestrian education and enforcement initiatives.

The New York State Department of Transportation contracted with VHB to develop a new safety system called CLEAR (Crash Location Engineering and Analysis Repository). The CLEAR system will replace the existing legacy systems that are used to manage and analyze crash data. The systems to be replaced include: Safety Information Management Systems (SIMS), Accident Location Information System (ALIS) and the Post Implementation Evaluation System (PIES).

HSIP Fund Administration

NYSDOT is using a hybrid approach to manage the Highway Safety Improvement Program funds. Approximately half of the funds are provided to the NYSDOT regions according to a formula that includes crashes, population and center line miles. The remaining funds are administered centrally by the NYSDOT Main Office and the Safety and System Optimization (SSO) team. The centrally managed funds are used to fund a call for projects program, the statewide Pedestrian Safety Action Plan (PSAP) and other statewide safety initiatives that support the emphasis areas in the Strategic Highway Safety Plan. Since FFY13 the statewide call for projects program has funded 113 state and local projects for a total of approximately $273M in HSIP funds. In 2018, the local call for PSAP projects funded 38 local projects for a total of approximately $40M in HSIP funds. The Pedestrian Safety Action Plan includes approximately $110M in HSIP funds to improve pedestrian safety at locations in New York State outside of New York City.

All Public Roads

The mandate to address the safety of all public roads has broadened the scope of work of the Department of Transportation and our partners, requiring a greater focus on emphasis areas in order to meet crash goals. The following initiatives support the "all public roads" mandate.

Projects on locally owned and state-owned roads are eligible for the call for projects programs. Crash data on the local system is available through New York's Safety Information Management Systems (SIMS). A local GIS route system is being developed. The new CLEAR application will enhance the state's ability to analyze crash data on the local system. Additional traffic counts are being taken on local roads.

2019 New York Highway Safety Improvement Program
Performance Indicators

The FastAct further integrated performance into the HSIP program. States are required to report five annual safety performance targets. The 2020 safety targets for New York State are shown below.

Performance Targets for 2020 (5-year average)

Number of Fatalities 1,040.4

Fatality Rate 0.826

Number of Serious Injuries 11,017.0

Serious Injury Rate 8.709

Number of Non-motorized Fatalities and Serious Injuries 2,626.8

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.

Approximately 50% of the HSIP funds in New York State are provided to the Regions according to a formula that includes crashes, miles and population. The remaining funds are administered by the Main Office for the implementation of statewide safety programs.

Where is HSIP staff located within the State DOT?

Operations

HSIP Administrators are located in the Safety Program Management Bureau within the Office of Traffic Safety and Mobility in the Main Office. There are traffic offices in both the Main Office in Albany and in each of the 11 regional offices throughout New York State. The regional traffic offices are responsible for program delivery.

How are HSIP funds allocated in a State?

- Central Office via Statewide Competitive Application Process
- Formula via Districts/Regions
- SHSP Emphasis Area Data
- Other-Periodic Call for Safety Projects

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

All public roads in New York State are eligible for HSIP funds including local roads and roads on tribal lands. The regions work with the Metropolitan Planning Organizations to determine which state and local HSIP projects to include in the capital program. A portion of the Region 11 allocation is provided to New York City for safety projects on local roads owned by New York City. The statewide call for safety projects has awarded HSIP funding to 40 local projects to be let between FFY13 - FFY20 for a total of about $91.6M in HSIP funding. The pedestrian safety action plan also provided $40M in HSIP funding for local municipalities to implement systemic treatments that improve safety for pedestrians.

All crashes on public roads, regardless of ownership are included in New York's crash data systems and are available for review and analysis. High crash locations on the state system are identified via an annual network screening process. Improvements to New York's crash data systems are underway and will provide enhanced analysis capabilities to identify high crash locations on local roads.

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

- Design
- Districts/Regions
- Local Aid Programs Office/Division
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety

Describe coordination with internal partners.

The New York State Department of Transportation formed a Statewide Safety System and Optimization team (SSO) with expertise in highway safety and system optimization. The multi disciplinary team is comprised of members from various Division and Regional Offices including Safety Programs Management and Coordination Bureau, System Optimization Bureau, Local Programs Bureau, Office of Modal Safety and Security, Policy and Planning Division, Office of Transportation Maintenance and Office of Design. The SSO team is responsible for the following:

- Providing long term guidance on safety and system optimization to ensure consistency with program update strategies;
- Providing clarification and guidance to the 11 NYSDOT regions;
- Developing technical guidance for safety strategies described in the program update;
- Developing support materials for NYSDOT Regions in preparing safety program proposals;
- Reviewing safety program proposals; and
- Monitoring regional programs over the life of the program to ensure safety and optimization goals are met.

Identify which external partners are involved with HSIP planning.

- FHWA
- Governors Highway Safety Office
- Law Enforcement Agency
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Tribal Agency
- Other-New York State Department of Health

Describe coordination with external partners.

New York State coordinates regularly with external partners on safety initiatives. For example:

- New York's 2017 Strategic Highway Safety Plan was developed in coordination with local, state, federal, tribal and private organizations throughout the state.
- NYSDOT coordinated with the Governors Traffic Safety Committee, and the MPO's to define the 2018, 2019 and 2020 safety targets.
- Conference calls are regularly held with MPO Directors, an MPO Safety Working Group and a Safety Working Group to coordinate and communicate ongoing safety efforts.

- The core team that developed the statewide Pedestrian Safety Action Plan included members from NYSDOT, FHWA, GTSC, DOH and the MPOs.
- The GTSC, FHWA, MPO's, local agencies and law enforcement are participating in the requirements definition and the conceptual design of the new safety management system called CLEAR.

Program Methodology

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

Yes
FileName:
RED BOOK Highway_Safety_Improvement_Program Procedures__Techniques.pdf

Select the programs that are administered under the HSIP.

- Bicycle Safety
- Horizontal Curve
- Intersection
- Local Safety
- Low-Cost Spot Improvements
- Pedestrian Safety
- Right Angle Crash
- Roadway Departure
- Rural State Highways
- Safe Corridor
- Sign Replacement And Improvement
- Skid Hazard

Program: Bicycle Safety

Date of Program Methodology:1/1/2010

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 Other-Priority (PILS)	Investigation	crashes Locations	Volume Population	Functional Roadside features	classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

- Excess proportions of specific crash types
- Relative severity index

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

Are local road projects identified using the same methodology as state roads?
No

Describe the methodology used to identify local road projects as part of this program.
Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Horizontal Curve

Date of Program Methodology:11/1/1989

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	Volume	Median width
Other-Priority Investigation Locations		Horizontal curvature
		Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Intersection

Date of Program Methodology:11/1/1989

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 Volume	Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Local Safety

Date of Program Methodology:1/1/2013

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	Volume	

What project identification methodology was used for this program?

- Crash frequency

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- selection committee

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

Rank of Priority Consideration

Ranking based on B/C:2
Available funding:1
Cost Effectiveness:2

Program: Low-Cost Spot Improvements

Date of Program Methodology:1/1/1999

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	Median	width
Other-Priority Investigation Locations Volume			Horizontal	curvature
(PILS)			Functional	classification
			Roadside features	

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Other-A project review and windshield survey is conducted as required by the SAFETAP program. Qualified staff decide upon the safety work to be done before, during and after construction to ensure safety is incorporated into maintenance projects.
- Other-Low cost spot improvements are often recommended as a result of a highway safety investigation.
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities or through the MPO planning process.

How are projects under this program advanced for implementation?

- Other- Many nominal safety improvements are incorporated into maintenance work
- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Pedestrian Safety

Date of Program Methodology:11/1/1989

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?
Funding set-aside

What data types were used in the program methodology?

Crashes

Exposure

Roadway

Other-Crashes involving pedestrians
Other-Priority Investigation Locations
(PILS)

Volume
Population

Median   width
Horizontal   curvature
Functional   classification
Roadside   features
Other-Intersection features; crosswalk
features; pedestrian islands etc.

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Other-Risk factors
- Relative severity index

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

Are local road projects identified using the same methodology as state roads?
No

Describe the methodology used to identify local road projects as part of this program.
Local road projects are typically identified via local municipalities or through the MPO planning process. A local call for projects in 2018 provided $40M in HSIP funding for pedestrian improvements under this program.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Right Angle Crash

Date of Program Methodology:1/1/1989

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-Priority Investigation Locations (PILS)	Volume	Functional classification Other-Intersection features; speed limit etc.

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Roadway Departure

Date of Program Methodology:1/1/1989

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-Priority Investigation Locations Volume (PILS)		Median width Horizontal curvature Functional classification Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Other- CARDs are recommended for projects that will put >=40 mm of asphalt and meet the following: 1) there is no raised median or TWLTL, 2) the CARD quantity is >=1500'; 3) the posted speed >=45 mph; 4) the AADT >=2,000; and 4) the roadway width >=13'.
- Other-High risk factors for roadway departure crashes were identified in a statewide systemic analysis. Additional systemic programs will be investigated in the upcoming years to decrease roadway departures.
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process

How are projects under this program advanced for implementation?

- Other-Centerline and shoulder rumblestrips (CARDS and SHARDS) are approved systemic treatments.
- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Rural State Highways

Date of Program Methodology:1/1/2010

What is the justification for this program?

- Other-The State of New York's evaluation of HRRR aligns with 23 USC 148 (a)(1) and defines significant safety risks as having 'an accident rate per mile above the average crash rate per mile established for the region'

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 Other-Priority Investigation Locations (PILS)	crashes Volume	

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

- Excess proportions of specific crash types
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Safe Corridor

Date of Program Methodology:1/1/2012

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 Other-Priority Investigation Locations (PILS)	crashes Volume	Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Sign Replacement And Improvement

Date of Program Methodology:1/1/1995

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 Volume	Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Other-Signs needing improvement can be identified during a SAFETAP review or a Highway Safety Investigation. Some regions have implemented a replacement program where signs are replaced on a defined schedule.
- Relative severity index

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

Yes

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

No

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

Local road projects are typically identified via local municipalities and the MPO planning process.

How are projects under this program advanced for implementation?

- Other-The Priority Investigation Location process mentioned above.
- 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:2
Available funding:1
Cost Effectiveness:2

Program: Skid Hazard

Date of Program Methodology:1/1/1995

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- Locations are identified where the percentage of wet road accidents is twice the normal proportion for the same county and facility type. Other-Priority Investigation Locations (PILS)	Volume	Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Relative severity index

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

No

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

How are projects under this program advanced for implementation?

- Other-Locations with >= twice the normal percentage of wet road crashes are identified and friction tested. Tested locations which demonstrate one or more low friction test numbers (FN40 of 32) are treated.

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

Other-Locations with low friction test numbers (FN40 of 32) require treatment.:1

What percentage of HSIP funds address systemic improvements?

20

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

- Install/Improve Pavement Marking and/or Delineation

2019 New York Highway Safety Improvement Program
- Install/Improve Signing
- Other-Bridge Hit Mitigation (planned)
- Other-Pedestrian Countdown Timers
- Other-Pedestrian Improvements identified in Pedestrian Safety Action Plan
- Rumble Strips
- Wrong way driving treatments

The percent of HSIP spent on systemic improvements varies from year to year. $110M of HSIP was set-aside for the Pedestrian Safety Action Plan in 2017. The plan includes the installation of systemic pedestrian treatments at over 3,700 uncontrolled crosswalks and signalized intersections on the state roadway system in urban areas outside of NYC. The plan also included $40M in HSIP funding for systemic pedestrian treatments on local and county roads in urban areas outside NYC.

What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Stakeholder input

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

Describe how the State HSIP considers connected vehicles and ITS technologies.

The future vision is that Connected Vehicle and Automated Vehicle technology will provide the opportunity to dramatically improve safety by decreasing the number and severity of crashes caused by human error and environmental factors on New York State roads. While guidance, testing, standards, legislation and best practices continue to evolve, it is important for transportation operating agencies to be involved in the national issues and take advantage of the technology as it is deployed.

New York State strategies noted in the 2017 SHSP include:

1. Remain involved in national activities that support the development of CAV technologies, standards and best practices, including the National Pooled Fund Study Group.
2. Express support for the pending NHTSA Notice of Proposed Rule Making for V2V communications utilizing 5.9 GHz dedicated short range communications for light vehicles.
3. Urge NHTSA to follow up with a similar Notice of Proposed Rule Making for heavy vehicles.
4. Support, encourage and participate in the development of a New York State legislative and regulatory framework that allows for the testing and deployment of Connected and Autonomous Vehicles.
5. Support the development of national regulations for both light and heavy vehicles.
6. Continue the networking of existing traffic signals and other roadside systems in a flexible, standardized framework.
7. Improve and standardize GIS mapping and spatial capabilities using the New York State GIS Platforms.
8. Continue to develop an understanding of the technology and short term and long term implications.
9. Support the fusion of the latest generation of automobile based sensor systems that provide advanced safety features such as automated braking, driver attention detection, forward collision warning, blind

spot warning, lane departure assistance, etc. with V2V real time communications between vehicles to increase the vehicle's situational awareness.

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 State's Safety Information Management System (SIMS) is used to identify High Accident Locations on the state system every year.
The regions use the Highway Safety Manual as an additional source of information when performing highway safety investigations.
The CLEAR application will be use HSM methods for network screening and evaluation.
The HSM is currently used as a resource to conduct evaluations.

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

The vision and mission statements as stated in the 2017 New York State Strategic Highway Safety Plan are:

Vision: Roads in New York will be safer to travel for all users.

Mission: New York safety partners will advocate for those who travel by any mode, and deliver data driven safety programs to decrease the number of injuries and fatalities that occur on public roads in New York state. Together we will work to ensure safety is a top priority in all engineering, education, enforcement and emergency medical service activities.

The 2017 Strategic Highway Safety Plan includes the following emphasis areas and cross cutting issues: Intersections, Lane Departures, Vulnerable Users, Age-related (older and younger drivers), Road User Behavior, Speed, Emergency response, Improvements to Data and Automated and Connected Vehicles

Intersections

From 2011-2015, 46 percent of fatalities and serious injuries in New York State were intersection-related. New York will take a multifaceted approach to solving intersection-related issues that considers the intersection design, accommodates users from all modes, and implements improvements both systemically and at intersections with a crash history. Examples of strategies include developing an Intersection Safety Action Plan, implementing intersection treatments systemically, improving the enforcement of traffic laws at intersections and supporting the use of technology and traffic incident management to improve safety at intersections. In 2018 intersection related fatalities were 41.7 percent of total fatalities.

Travel Lane Departures

Lane departure fatalities and serious injuries made up almost one-fourth of the total fatalities and serious injuries in New York (24 percent) between 2011-2015. To address the wide array of contributing factors to lane departure crashes, New York will take an approach that considers both site-specific and systemic countermeasures, as well as opportunities for education and enforcement. Strategies include the development of a Lane Departure Action Plan, and the implementation of systemic improvements that decrease the number and severity of lane departure crashes. In 2018, lane departure fatalities were 30.3% of total fatalities.

Centerline Audible Roadway Delineators (CARDS)

Engineering Instruction EI-13-021 lays out the framework and criteria for installing centerline rumble strips on eligible roads across the state. Any project that places at least 0.75" of asphalt and meets the geometric/operating criteria is required to install CARDS as part of the project. Because of the low cost and proven effectiveness of centerline rumble strips, this new policy is an important tool in reducing both head-on and run-off road crashes. As of March 2019, approximately 4,394 miles of CARDS have been installed.

Skid Accident Reduction Program (SKARP)

The SKARP program incorporates safety considerations into pavement maintenance activities. SKARP identifies sections of pavement experiencing an unusually high proportion of wet road accidents; friction tests them and schedules treatment for sections experiencing both high wet road accidents and low friction numbers. The frictional quality of NYSDOT owned pavements has improved since the program's inception. A summary of PIL testing from 1996 through 2014 shows a decline in the number of sites requiring treatment, from 91 sites in 1996 to 9 sites in 2018.

Safety Appurtenance Program (SAFETAP)

The SAFETAP program is designed to ensure that roadside safety considerations are incorporated in the Departments preventive maintenance single course overlay projects. Under SAFETAP, a team of agency experts conduct a project review of preventive maintenance paving project sites to decide upon simple, low cost safety improvements to be implemented at the time of construction, or soon after construction. Over 8,300 safety recommendations have been made since SFY14/15 and over 3,800 of the recommendations were completed by the end of SFY18-19.

Vulnerable Users

Vulnerable users include pedestrians, bicyclists, motorcyclists, and those who work on the roadway. New York will consider infrastructure improvements, as well as opportunities to enhance education, enforcement, emergency response, and data processes in its approach to reduce fatalities and serious injuries of vulnerable users of the roadway network. In June of 2016, NYSDOT announced its first ever statewide Pedestrian Safety Action Plan. The plan includes Engineering, Education and Enforcement measures to improve pedestrian safety. Engineering improvements include the implementation of systemic countermeasures at thousands of signalized intersections and mid-block crosswalks in urban areas between 2016 and 2021.

Pedestrian locations were also added to NYSDOT's annual regional work program where the NYSDOT regions study 20% of the identified Priority Investigation Locations (PILs) each year to determine what improvements can be made to improve pedestrian safety.

Safer Corridors for Pedestrians:

In 2012 NYSDOT developed a process to evaluate corridors to improve pedestrian safety. To maximize effectiveness, the process emphasizes coordination among the Department and other local, state and federal partners. Solutions involve not only engineering measures, but also enforcement campaigns and educational efforts. The PSAP also includes pedestrian improvements at the following 5 pedestrian corridors:

1) Erie Boulevard, City Syracuse and Town DeWitt, Onondaga county
2) US 62 Niagara Falls Boulevard, Town of Amherst, Town of Tonawanda, Erie county
3) US 11, Village of Malone, Franklin county
4) Route 59/45, Spring Valley, Rockland county
5) Route 25A, Town of Huntington, Town of Brookhaven, Suffolk county

Complete Streets

On a statewide basis, the New York State Department of Transportation continues to apply Complete Street provisions in its project planning, programming and delivery processes.

Pedestrian/Bicycle Unit

The Pedestrian Bicycle Unit has been working to develop a strategic planning dialogue with the Pedestrian and Bicycle Coordinators in 11 Regions. The Unit provides coordination and staff support for the pedestrian safety initiatives and is managing an over-haul of the NY bicycle map. The project will integrate the existing bicycle network information in a single data layer and engage stakeholders in defining specific data and system requirements that will enable a more flexible and efficient management of bicycle travel options. The Unit also provides coordination/facilitation and technical/management support for the Pedestrian Safety Action Plan and the Empire State Trail statewide project.

Empire State Trail

Under a Governor Cuomo initiative NYSDOT is partnering with the Hudson River Valley Greenway to progress the Empire State Trail. The trail when completed in 2020 will be the largest statewide multi-use trail in the nation. The state will develop 350 miles of new trail to create a 750 mile trail spanning from the New York Harbor to the Canadian Border and from Lake Erie along the Erie Canal to Albany. The trail will involve work by 6 NYSDOT Regions 1, 2, 3, 4, 5, 7, and 8 and cover over 220 miles of on-road connections. NYSDOT will also be issuing highway work permits for certain trail crossings throughout the State.

Pedestrian Countdown Timers

Pedestrian crashes account for about 25% of all fatal crashes in New York and remain an emphasis area in New York State's Strategic Highway Safety Plan. The goal for pedestrian countdown timers is to ensure that they are installed at all eligible state-owned signals. As of the end of March 2019, countdown timers have been installed at approximately 2,770 (85.9%) of the 3,225 eligible signals.

Age Related

The SHSP identifies young drivers as those that are 20 and younger. Drivers that are 65 and older represent the older driver group. From 2011-2015, 7,881 drivers in both age groups were killed or seriously injured in a motor vehicle crash. During the 5-year period, 28 percent of fatal and serious injury crashes involved a young or older driver. Decreasing the number of age-related fatalities and serious injuries will be achieved through a multidisciplinary approach incorporating engineering designs to accommodate users of all ages as well as education and enforcement initiatives.

Road User Behavior and Speed

As advancements in vehicle and roadway design continue to improve safety, human behavior continues to be the biggest variable in crash risk. Creating a culture of responsible road users is essential to making a significant impact in the reduction of crashes, fatalities, and injuries. New York will implement roadway improvements that decrease the incidence of distracted and drowsy driving such as flashing beacons, and centerline and edge-line rumble strips as well as improvements that influence driver speed such as signing and speed feedback devices, roundabouts, complete streets and road diets. Education and enforcement efforts are most important to build awareness and promote safer driving habits.

Emergency Response and Traffic Incident Management

2019 New York Highway Safety Improvement Program

A traffic incident is any non-recurring event (such as a vehicle crash, a vehicle breakdown, work zone, or a special event) that causes a reduction in roadway capacity or an abnormal increase in traffic demand that disrupts the normal operation of the transportation system. Traffic incidents are an important concern in New York State because they can result in a safety issue and are a significant cause of congestion delays. In response to this problem, NYSDOT has fostered the development of a Statewide Traffic Incident Management (TIM) Program. A TIM Steering Committee was formed to guide the advancement of the statewide TIM Program in New York State. This Committee has been meeting regularly for 10 years to foster relationships among agencies, determine issues of statewide significance relating to TIM, and to develop training and guidelines for the emergency responder community to use in their everyday efforts to keep themselves and the public safe. The TIM Steering Committee assisted in the advancement of the Move Over law and also provided education on the law to executives and safety stakeholders. The Committee will continue to support similar efforts in the future.

Improvements to Data

Status of Crash Data

This report is based on crash data from the Fatality Accident Reporting System (FARS), NYSDOT's Safety Information System (SIMS) and NYSDMV's Accident Information System (AIS). Crash records and roadway characteristics are analyzed to identify Priority Investigation Locations (PILs). A highway safety investigation is conducted at 20% of the state PILs annually. Crash data has traditionally included fatal, injury, property damage crashes over $1,000 (reportable) and property damage accidents under $1,000 (non-reportable). Additional factors used in developing the PIL list are traffic volumes, divided or undivided and the number of travel lanes. All PILs studied are on the State system with the exception of some New York City locations.

The Department continues to partner with the NYS Department of Motor Vehicles (NYSDMV), the Governor's Traffic Safety Committee, State Police and other key stakeholders to mutually re-engineer the accident and traffic violation records systems to address safety data information needs. The State continues to use a strategic planning approach to improve its various information systems as articulated in the Traffic Safety Information Systems Strategic Plan. The status of improvements that directly affect the Safety Information Management System (SIMS) are:

Crash Records

The fatal, injury, and electronically submitted Property Damage Only (PDO) crash data is almost complete through 12/31/18. The policies surrounding the processing of PDO crashes have changed from year to year. Therefore, it is not possible to compare PDO crash data from year to year.

Traffic and Criminal Software (TraCS)

Use and Dissemination Agreements for use of the software have been signed by more than 500 different police agencies across the state in 57 counties. This represents more than one-third of all law enforcement agencies in NYS who have committed to using the software. As of January 31, 2019, 500 agencies are transmitting data through the TraCS system. The software reduces the workload at NYSDMV decreasing the time it takes to process each crash report.

CLEAR (Crash Location Engineering and Analysis Repository)

A new safety data transfer process that transfers data from NYSDMV to NYSDOT has been designed and is being tested. The transfer process is phase one of a project to replace NYSDOT's legacy safety data systems with a new system called CLEAR. CLEAR will utilize the new safety data warehouse, integrate with the other NYSDOT enterprise systems, and enhance NYSDOT's ability to perform safety planning, analysis and evaluation on all public roads. The planned implementation timeframe is the end of 2020.

Traffic count AADTs are required to develop crash rates for the state and local system. The Department has complete traffic volume data for almost 44,000 miles of the approximately 117,000 miles of highway in New York. The remaining 73,000 miles are primarily local streets. The Department and counties continue to partner in a statewide county traffic count program designed to capture traffic volume data on county owned roads. In 2018, the Department took 2,105 traffic counts on 2,760.15 miles of non-federal aid roads.

Local Highway Route System

The local roads LRS build was completed and included in its entirety to the FHWA with the June 2018 HPMS submission. The Department continues to identify roadways and reverse directions that can be added to the State LRS.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.
State Fiscal Year

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$104,718,621	$104,071,621	99.38%
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))	$13,630,602	$8,664,602	63.57%
Other Federal-aid Funds (i.e. STBG, NHPP)	$98,393,404	$95,747,484	97.31%
State and Local Funds	$120,644,562	$113,810,082	94.34%
Totals	$337,387,189	$322,293,789	95.53%

Data Source is NY PSS System. Obligated amounts include status of actual and approved. Programmed Funds include status of actual, approved and planned.

How much funding is programmed to local (non-state owned and operated) or tribal safety projects?
$25,765,441

How much funding is obligated to local or tribal safety projects?
$25,668,441

Data Source is the NY PSS System. Obligated amounts include the status's of actual and approved.
Programmed Funds include the status's of actual, approved and planned.
The funding amounts include HSIP funds on locally let projects.

How much funding is programmed to non-infrastructure safety projects?
$500,000

How much funding is obligated to non-infrastructure safety projects?
$0

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

$0

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

$0

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

Impediments to obligating HSIP funds include project delays for reasons not limited to safety projects such as environmental approvals, right of way/easement issues, community issues, other funding needs, resource issues, historic issues, NYS permit issues etc. The complicated process required to implement projects that use federal aid including HSIP can also be an impediment, especially for local governments. In addition, the Federal Obligation Limitation that exists on all federal funding also serves as an impediment to obligating safety funds. The following describes some of the approaches used to overcome those obstacles for HSIP projects.

Statewide Call for Projects
The application process for the statewide HSIP call for projects requires an applicant to identify all potential barriers to a timely implementation. The barriers are one of the factors taken into consideration during the project selection process. Thus, a project with good safety benefits but significant impediments to a timely implementation may be denied funding in favor of another safety project with less risk.

Design Services Agreement
Design resources are sometimes limited at the regional level especially for larger projects. The department has a statewide design services agreement that can be used to fund contract services to assist with design or other urgent safety project needs. The contract is funded via HSIP dollars specifically set aside for that purpose. Design services agreements are also being used for PSAP field assessments and design.

Marchiselli
The department will continue to support programs such as the Marchiselli Highway Improvement Program which provides funding assistance to local municipalities for approved projects. The Marchiselli program requires state and local governments to share in the cost of approved local projects. The projects are typically funded in shares of 80% Federal, 15% State and 5% local.

Low Cost Counter Measures
The NYSDOT is encouraging and implementing more low cost and systemic safety counter measures which typically have less impediments to a timely implementation and are often easier for local municipalities to implement.

Toll Credits
Toll credits have been used for the local match for many HSIP projects. Using toll credits can assist local governments that don't have access to funds for the required federal match.

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
A list of HSIP projects has been uploaded.										0					

Safety Performance
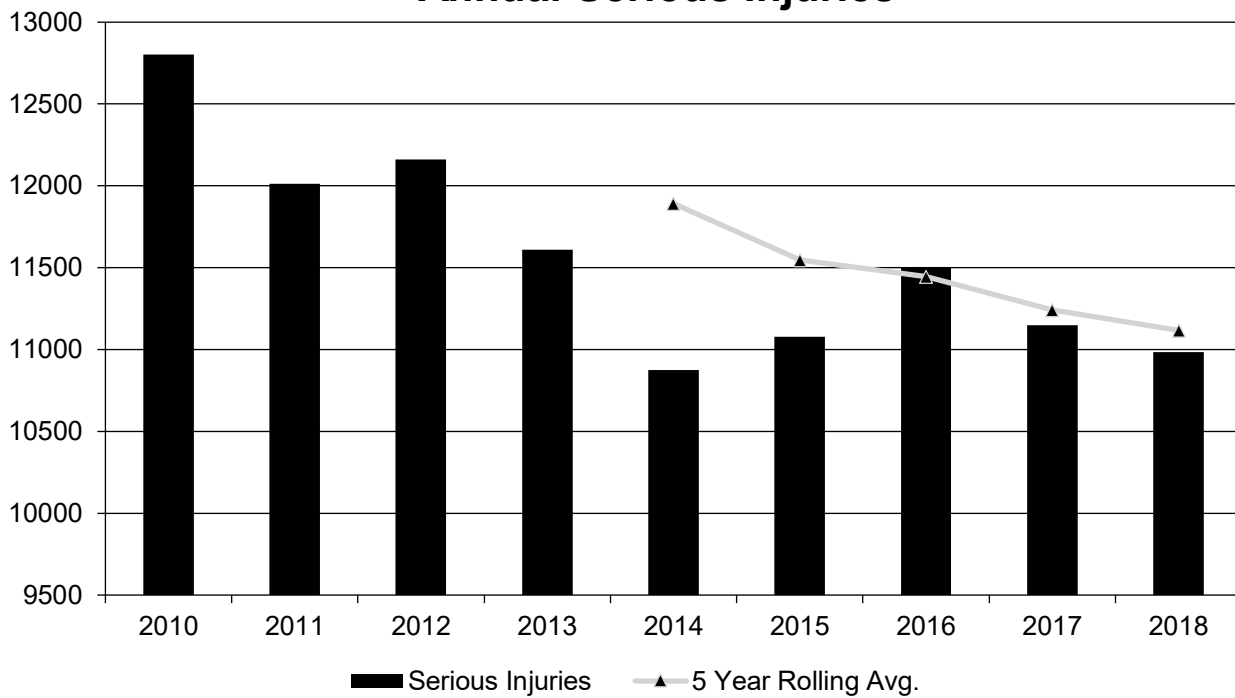
General Highway Safety Trends

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

PERFORMANCE MEASURES	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fatalities	1,201	1,171	1,180	1,202	1,041	1,136	1,041	999	921
Serious Injuries	12,802	12,012	12,163	11,609	10,874	11,077	11,501	11,148	10,985
Fatality rate (per HMVMT)	0.915	0.956	0.963	0.967	0.840	0.933	0.853	0.809	0.746
Serious injury rate (per HMVMT)	9.754	9.804	9.924	9.335	8.771	9.102	9.427	9.028	8.894
Number non-motorized fatalities	347	350	353	382	314	353	357	293	296
Number of non-motorized serious injuries	2,656	2,599	2,725	2,696	2,378	2,240	2,407	2,261	2,310

Annual Fatalities

Legend: Fatalities — 5 Year Rolling Avg.
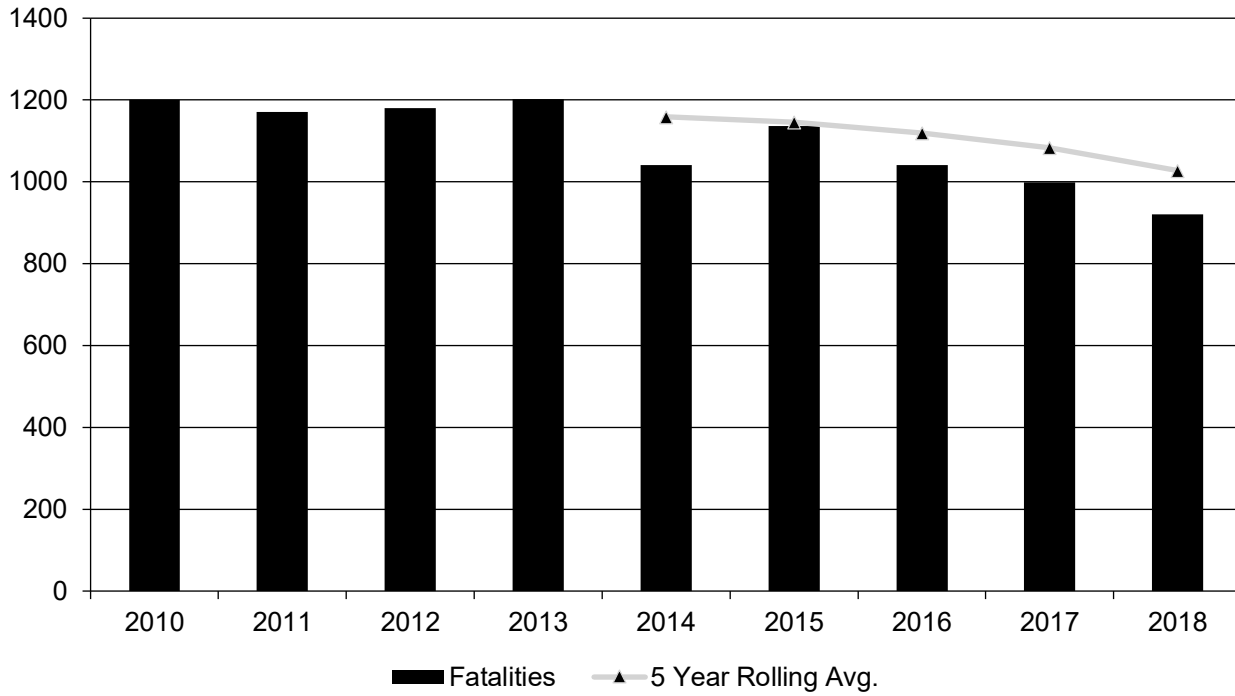
Annual Serious Injuries

Legend: Serious Injuries — 5 Year Rolling Avg.

Fatality rate (per HMVMT)

Fatality rate (per HMVMT)   5 Year Rolling Avg.
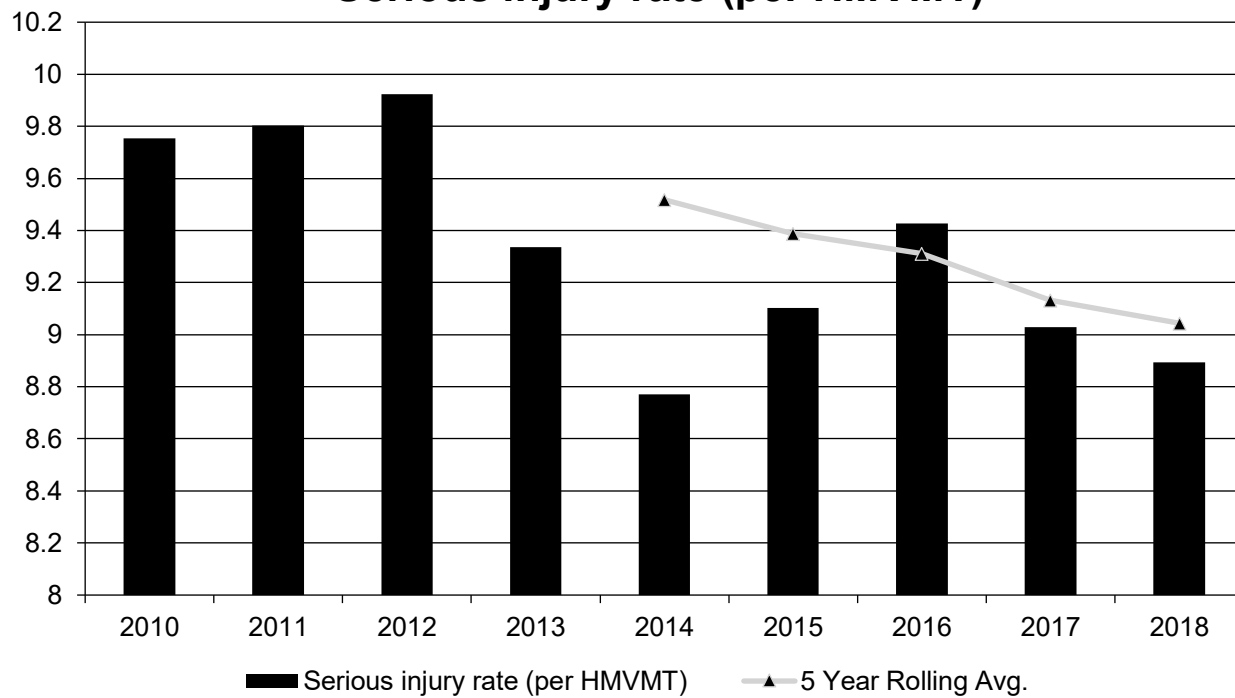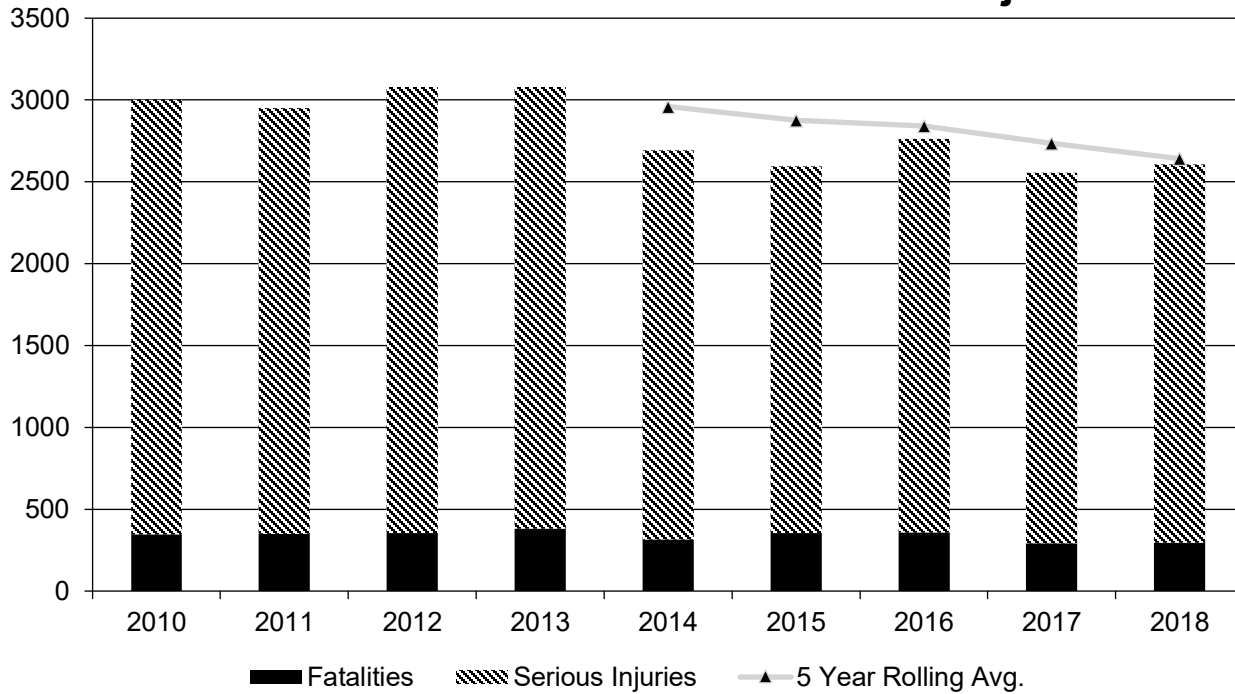
Serious injury rate (per HMVMT)

Serious injury rate (per HMVMT)   5 Year Rolling Avg.
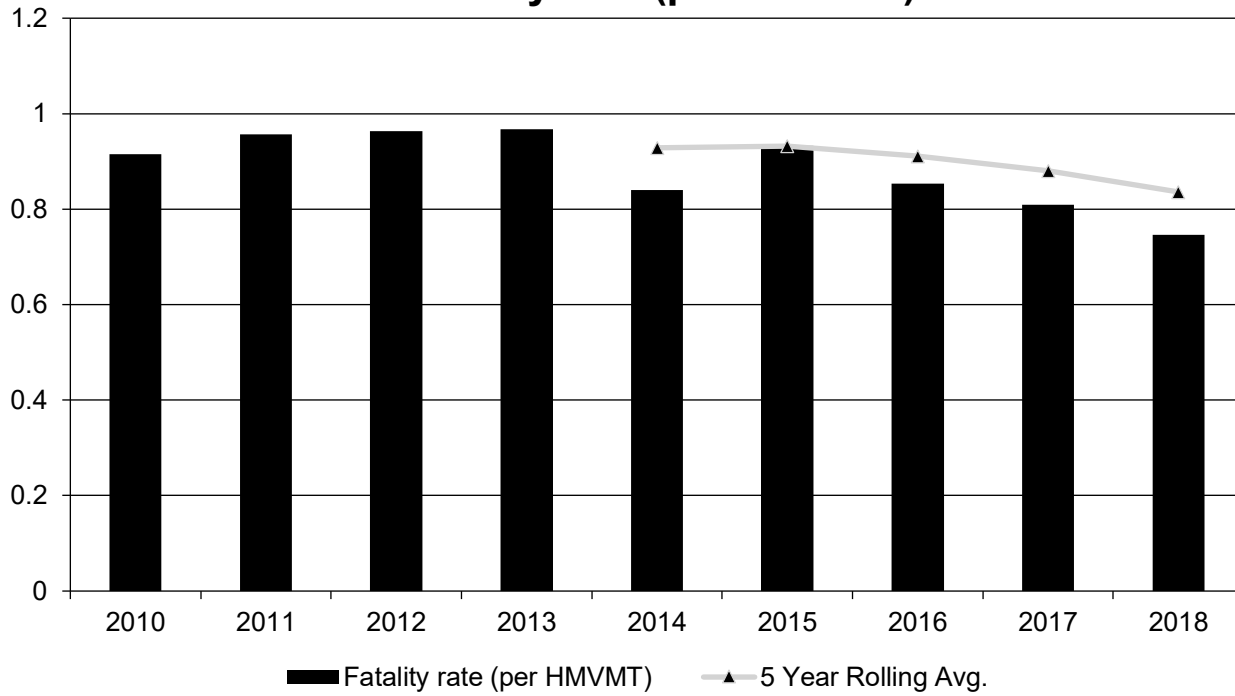
Non Motorized Fatalities and Serious Injuries

Data Sources
Fatalities 2010-2017: FARS
Fatalities 2018: NYS Department of Motor Vehicles System (AIS) data snapshot as of 7/15/2019. 2018 data is preliminary
Serious Injuries 2010-2018: NYS Department of Motor Vehicles System (AIS) data snapshot as of 7/15/2019. 2018 data is preliminary

Describe fatality data source.

FARS

2018 fatality data is not available from FARS at this time so preliminary fatality numbers from New York State's Accident Information System (AIS) and New York State's Traffic Safety Statistical Repository (TSSR) are reported.

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

Year 2018

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	16.8	113	0.01	0.09
Rural Principal Arterial (RPA) - Other Freeways and Expressways	5	21	0	0.02

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) - Other	48.2	311	0.04	0.25
Rural Minor Arterial	46.2	306.6	0.04	0.25
Rural Minor Collector	46.6	359.6	0.04	0.29
Rural Major Collector	50.4	417	0.04	0.34
Rural Local Road or Street	24.8	214.2	0.02	0.17
Urban Principal Arterial (UPA) - Interstate	59	625.8	0.05	0.51
Urban Principal Arterial (UPA) - Other Freeways and Expressways	65	545.4	0.05	0.44
Urban Principal Arterial (UPA) - Other	210.8	2,268.4	0.17	1.85
Urban Minor Arterial	227.2	2,470.2	0.19	2.01
Urban Minor Collector				
Urban Major Collector	93	1,212.6	0.08	0.99
Urban Local Road or Street	72.6	1,091.4	0.06	0.89
Other or Unknown	80	1,255.8	0.07	1.02

Year 2018

Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	404.8	3,461.4	0.33	2.81
County Highway Agency	202.6	1,657.4	0.17	1.35
Town or Township Highway Agency	80.2	775.2	0.07	0.63
City or Municipal Highway Agency	254.8	3,827.2	0.21	3.11
State Park, Forest, or Reservation Agency	0	4	0	0
Local Park, Forest or Reservation Agency	0	0.8	0	0
Other State Agency	0.2	3.8	0	0
Other Local Agency	0	2.4	0	0
Private (Other than Railroad)				
Railroad				
State Toll Authority	21.4	211	0.02	0.17
Local Toll Authority	0.8	18.8	0	0.02
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation	0.8	8.4	0	0.01
UNKNOWN	80	1,241.6	0.07	1.01

Crash data was merged with the Roadway Inventory System and buffered to derive the functional classification and roadway ownership for each crash. Statistics by functional classification and ownership are therefore approximate.

Provide additional discussion related to general highway safety trends.

The Vehicle Miles of Travel (VMT) was re-submitted and re-loaded into HPMS for years 2011-2017. Therefore, rates and associated trends look somewhat different compared to the HSIP 2018 Annual Report.

Safety Performance Targets

Calendar Year 2020 Targets *

Number of Fatalities:1040.4

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

The following method was used to define the target: 1) Estimated the existing trend by using a linear trend line which is a clear, straightforward method and recommended by FHWA. The 5 year moving average (current year plus four preceding years) was used as the data point for each year. 2) The 2020 forecast was generated using the FORECAST function in Excel. 3) The forecast was adjusted for reasonability by reviewing external factors and applying a 4% cap. The targets are consistent with the goals identified in the 2017 Strategic Highway Safety Plan.

Number of Serious Injuries:11017.0

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

The following method was used to define the target: 1) Estimated the existing trend by using a linear trend line which is a clear, straightforward method and recommended by FHWA. The 5 year moving average (current year plus four preceding years) was used as the data point for each year. 2) The 2020 forecast was generated using the FORECAST function in Excel. 3) The forecast was adjusted for reasonability by reviewing external factors and applying a 2% cap. The targets are consistent with the goals identified in the 2017 Strategic Highway Safety Plan.

Fatality Rate:0.826

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

The following method was used to define the target: 1) Estimated the existing trend by using a linear trend line which is a clear, straightforward method and recommended by FHWA. The 5 year moving average (current year plus four preceding years) was used as the data point for each year. 2) The 2020 forecast was generated using the FORECAST function in Excel. 3) The forecast was adjusted for reasonability by reviewing external factors and applying a 4% cap. The targets are consistent with the goals identified in the 2017 Strategic Highway Safety Plan.

Serious Injury Rate:8.709

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

The following method was used to define the target: 1) Estimated the existing trend by using a linear trend line which is a clear, straightforward method and recommended by FHWA. The 5 year moving average (current year plus four preceding years) was used as the data point for each year. 2) The 2020 forecast was generated using the FORECAST function in Excel. 3) The forecast was adjusted for reasonability by reviewing external factors and applying a 2% cap. The targets are consistent with the goals identified in the 2017 Strategic Highway Safety Plan.

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

NYSDOT communicates regularly with the Metropolitan Planning Organizations and the Governors Traffic Safety Committee during the target setting process. NYSDOT produces a fact sheet for the MPOs that identifies the targets and describes the process used to set them.

Does the State want to report additional optional targets?
No

Describe progress toward meeting the State's 2018 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.

The progress noted below is based upon preliminary 2018 data for fatalities and serious injuries. There is no 2018 dataset available in FARS which is the official source of fatality data, and the New York State's Accident Information System (AIS) has preliminary 2018 serious injury data available at this time. Additional 2018 crash reports need to be processed before the State dataset is considered final.

Based upon the data that is available at this time, it appears that NY will either meet or improve over the 2016 baseline for 5 out of 5 targets.

- Fatalities: It appears that NY will meet the 2018 fatality target of 1,086 as well as the 2018 fatality rate target of 0.87.
- Serious Injuries: It appears that NY has improved over the 2016 baseline for the number of serious injuries and the serious injury rate but will not meet the targets of 10,854 and 8.54. respectively.
- Non-motorized Fatalities and Serious Injuries: It appears that NY will meet the 2018 target of 2,843.

New York recently resubmitted VMT for 2011 through 2017. The VMT was resubmitted due to a change in the methodology used to estimate VMT on non-Fed Aid roads beginning in 2016. The earlier method was an update of an old baseline using growth/decline patterns. The updated method provides a more accurate estimate of VMT because it relies on more extensive traffic count data collected over the prior few years. The updated method shows a substantial decrease in rural minor collector VMT starting in 2016, resulting in inconsistent trends in the 5-yr moving averages for fatality and serious injury rates. The VMT was recalculated and resubmitted to the HPMS system for years 2011-2017 so that all years used in the 5-year moving averages are based upon VMT estimates using a consistent method. Because VMT was adjusted down (resulting in higher rates), it will be more difficult for NY to meet the rate targets for years 2018-2020.

Applicability of Special Rules

Does the HRRR special rule apply to the State for this reporting period?
No

This assumes that the resubmitted VMT and associated change in crash rates for high risk rural roads will be accepted by FHWA.

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	2011	2012	2013	2014	2015	2016	2017
Number of Older Driver and Pedestrian Fatalities	197	209	232	201	211	196	211
Number of Older Driver and Pedestrian Serious Injuries	973	1,043	1,130	1,036	1,090	1,095	1,068

Special Rule does not apply for older drivers and pedestrians.

For purposes of this calculation, the terms "Annual rate, year XXXX" (or AR, year XXXX") means the following

Fatalities + Serious Injuries for drivers and pedestrians 65 years of age and older, year XXXX/Population of drivers and pedestrians 65 years of age and older, year XXXX

1. Calculate Rate for 2017

Calculate the following to two decimal places, then round to the nearest tenth:

AR 2017 + AR 2016 + AR 2015 + AR 2014 + AR 2013

2. Calculate Rate for 2015:

Calculate the following to two decimal places, then round to the nearest tenth:

AR 2015 + AR 2014 + AR 2013 + AR 2012 + AR 2011

3. Compare Rates for 2017 to Rate for 2015

If the rate for 2017 (under step #1) exceeds the rate for 2015 (under step #2), the Special Rule applies

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

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

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

The fatality rate in New York has been below 1.0 per 100M VMT since 2007. The number of fatalities and the fatality rate have continued on a downward trend in New York at a time when many states are experiencing an increase. The number of serious injuries and the serious injury rates have been on a downward trend although the annual numbers were up in 2015 and 2016. Projects funded with HSIP and completed between 2011 and 2015 show a significant decrease in fatal and serious injury crashes post implementation.

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

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

Effectiveness of Groupings or Similar Types of Improvements

Present and describe trends in SHSP emphasis area performance measures.

Year 2018

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure		314.8	2,539.8	0.26	2.07
Intersections		418.8	5,669.2	0.34	4.62
Pedestrians		278.2	1,755	0.23	1.43
Bicyclists		39.2	564.2	0.03	0.46
Older Drivers		90.4			
Motorcyclists		146	1,044.4	0.12	0.85

Number of Fatalities
5 Year Average

Legend: ■ 2010-2014 ▧ 2011-2015 ▨ 2012-2016 ▨ 2013-2017 ▨ 2014-2018
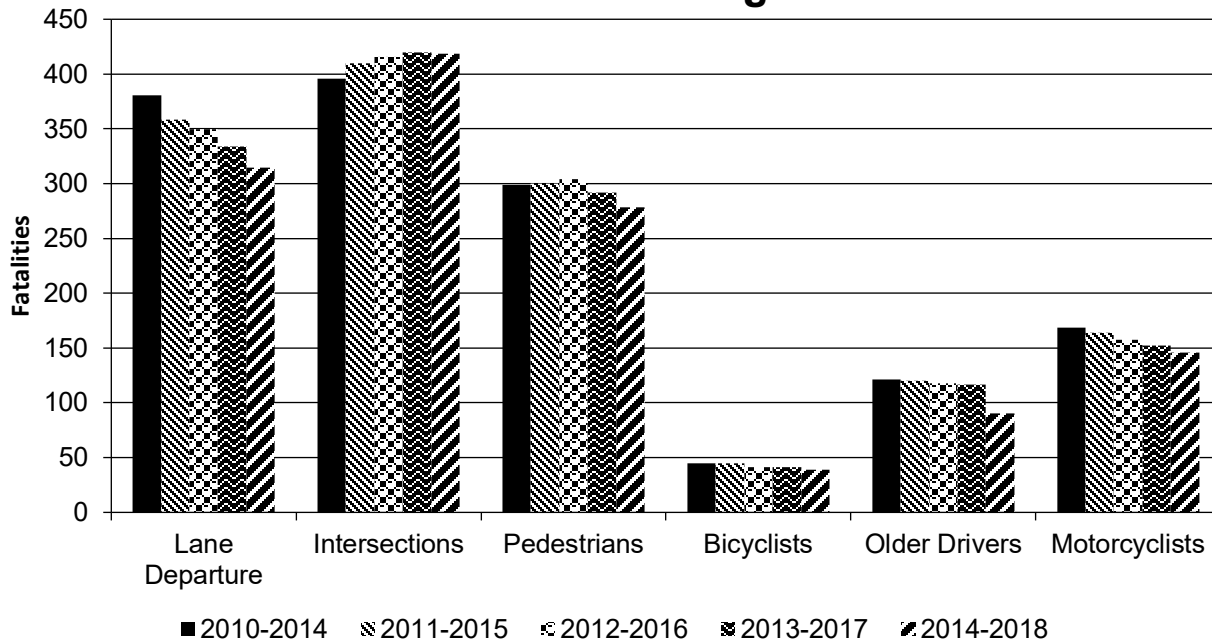
Number of Serious Injuries
5 Year Average
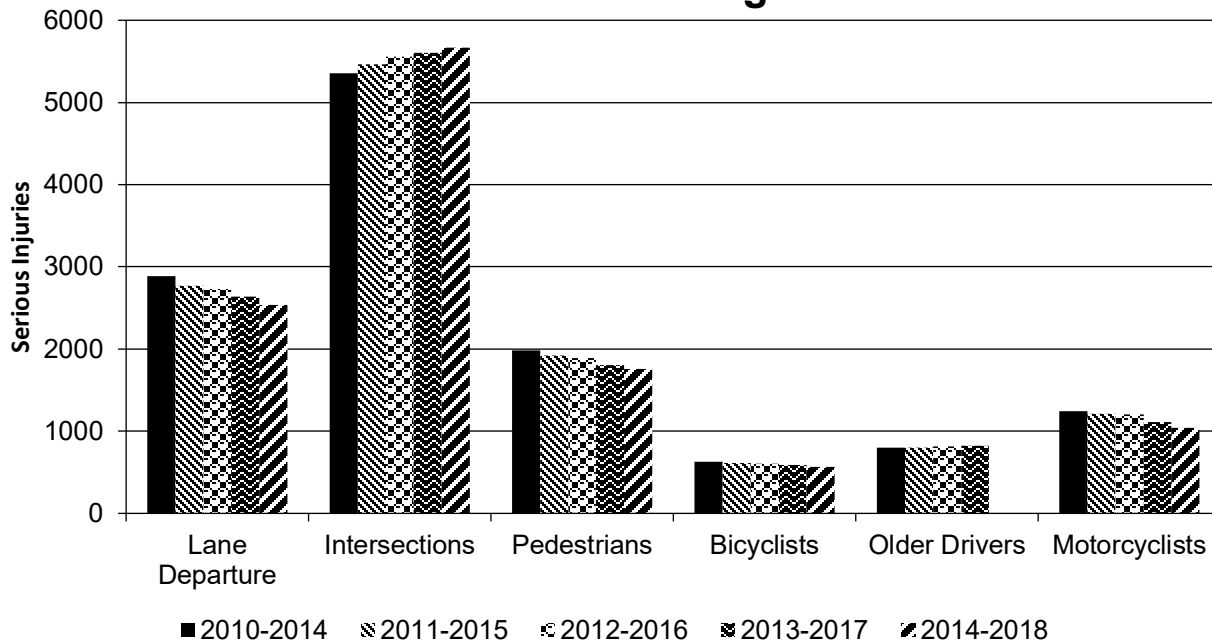
Legend: ■ 2010-2014 ▧ 2011-2015 ▨ 2012-2016 ▨ 2013-2017 ▨ 2014-2018

Fatality Rate (per HMVMT)
5 Year Average

Legend: ■2010-2014 ▨2011-2015 ▨2012-2016 ▨2013-2017 ▨2014-2018

Serious Injury Rate (per HMVMT)
5 Year Average

Legend: ■2010-2014 ▨2011-2015 ▨2012-2016 ▨2013-2017 ▨2014-2018
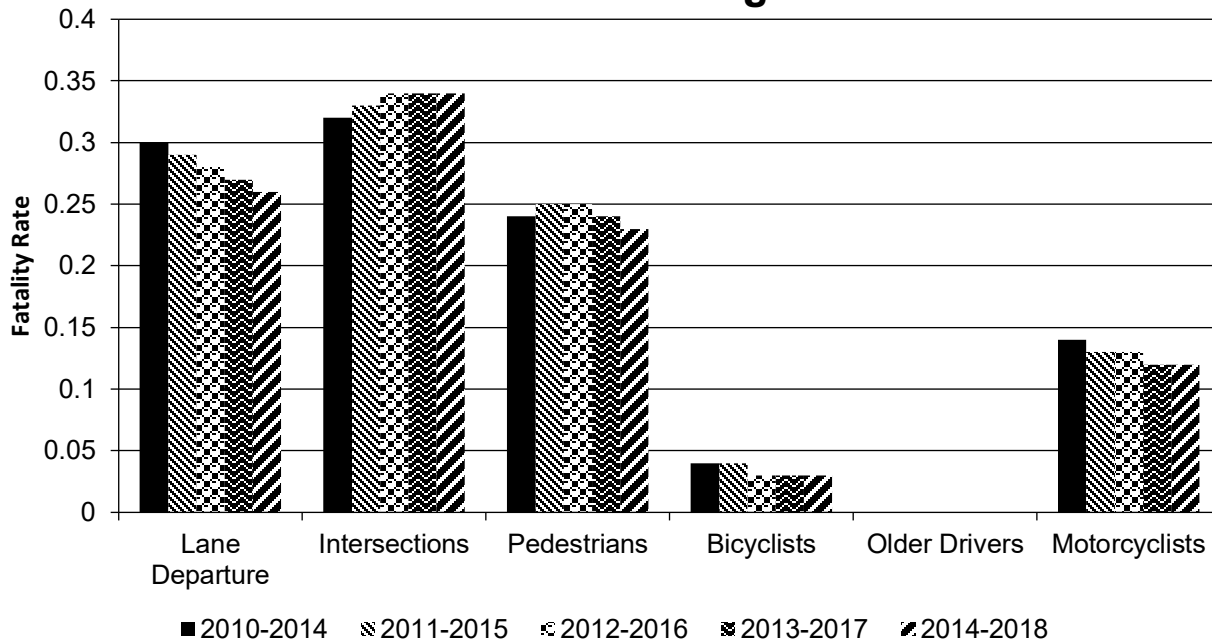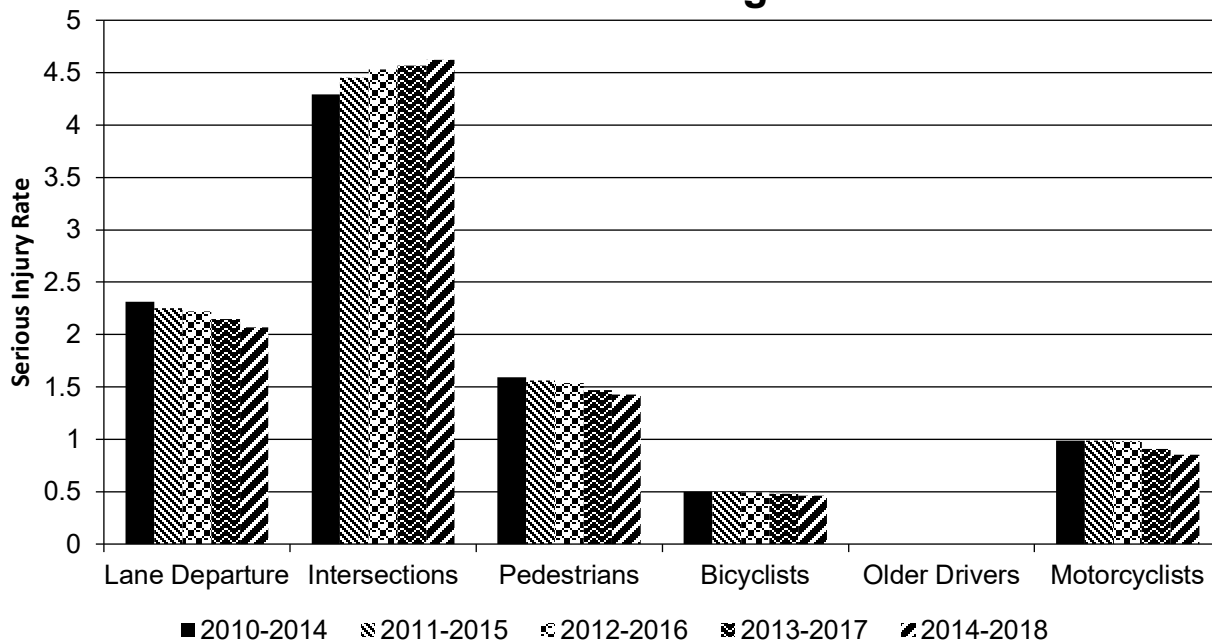
The source is NYS Department of Motor Vehicles System (AIS) data snapshot as of 7/15/2019. 2018 data is preliminary.

Has the State completed any countermeasure effectiveness evaluations during the reporting period?

Yes

Please provide the following summary information for each countermeasure effectiveness

2019 New York Highway Safety Improvement Program evaluation.

CounterMeasures:	Countermeaures and projects are evaluated in the Post Implementation Evaluation System (PIES).
Description:	See https://www.dot.ny.gov/divisions/operating/osss/highway/accident-analysis-toolbox for results
Target Crash Type:	
Number of Installations:	
Number of Installations:	
Miles Treated:	
Years Before:	
Years After:	
Methodology:	
Results:	See https://www.dot.ny.gov/divisions/operating/osss/highway/accident-analysis-toolbox
File Name:	Hyperlink

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)
Optional question														

Compliance Assessment

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

06/13/2017

What are the years being covered by the current SHSP?

From: 2017 To: 2022

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

2022

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

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	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
ROADWAY SEGMENT	Segment Identifier (12)	100	100					100	100	100	100
	Route Number (8)	100	100								
	Route/Street Name (9)	100	100								
	Federal Aid/Route Type (21)	100	100								
	Rural/Urban Designation (20)	100	100					100	100		
	Surface Type (23)	100	99.8					31.4	99.5		
	Begin Point Segment Descriptor (10)	100	100					100	100	100	100
	End Point Segment Descriptor (11)	100	100					100	100	100	100
	Segment Length (13)	100	100								
	Direction of Inventory (18)	100	100								
	Functional Class (19)	100	100					100	100	100	100
	Median Type (54)	99.8	98.7								
	Access Control (22)	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	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	One/Two Way Operations (91)	100	100								
	Number of Through Lanes (31)	100	100					100	100		
	Average Annual Daily Traffic (79)	99.1	84.3					24.9	16.8		
	AADT Year (80)	99.1	84.3								
	Type of Governmental Ownership (4)	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120)			100	100						
	Location Identifier for Road 1 Crossing Point (122)										
	Location Identifier for Road 2 Crossing Point (123)										
	Intersection/Junction Geometry (126)			100	100						
	Intersection/Junction Traffic Control (131)			100	100						
	AADT for Each Intersecting Road (79)			40.4	40.4						
	AADT Year (80)			40.4	40.4						
	Unique Approach Identifier (139)										
INTERCHANGE/RAMP	Unique Interchange Identifier (178)					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197)					100	100				
	Location Identifier for Roadway at Ending Ramp Terminal (201)					100	100				
	Ramp Length (187)					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	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	Roadway Type at Beginning of Ramp Terminal (195)					100	100				
	Roadway Type at End Ramp Terminal (199)					100	100				
	Interchange Type (182)					100	100				
	Ramp AADT (191)					80.4	59.7				
	Year of Ramp AADT (192)					80.4	59.7				
	Functional Class (19)					100	100				
	Type of Governmental Ownership (4)					100	100				
Totals (Average Percent Complete):		**99.89**	**98.17**	**47.60**	**47.60**	**96.44**	**92.67**	**84.03**	**90.70**	**100.00**	**100.00**

*Based on Functional Classification

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.

New York State Department of Transportation is currently working on several Enterprise projects that will capture, maintain, and utilize MIRE segment, ramp and junction data elements. Current project design efforts are focusing on identifying official sources of data, data fields needed by different program areas, and version control.

For segments, a new Enterprise application for roadway data called SEE is in development. The new application will allow the program area to manage data for dual carriageways and will improve the workflow of integrating with the milepoint LRS. Additional local roads are being built to help the safety program locate crashes and meet Federal requirements to map all public roads. Data for these roads will be coming from a new collection effort using FUGRO. FUGRO is a company that collects roadway and right of way GIS data such as sign locations and structures. The Traffic and Safety program is also developing a new Enterprise safety application. The "Crash Location and Engineering Analysis" (CLEAR) project will implement Transcend Spatial's Intersection analyzer application to add additional MIRE elements captured from the roadway data and calculate an MEV value for crash rate analysis. The integration of all these elements through multiple Enterprise systems with different business needs is no small task and the New York State department of Transportation is working to ensure we have the most accurate and up to date data.

Did the State conduct an HSIP program assessment during the reporting period?

The State produces an HSIP report every quarter. The report communicates progress against established goals including:

- Trends related to fatalities, serious injuries and emphasis areas;
- Highway Safety investigations completed by Region;
- Number of wet road crash locations studied and skid test results;
- HSIP funds obligated by Region;
- Miles of rumble strips installed; and
- Number of sites improved via Pedestrian Safety Action Plan.

The State also does a before/after crash analysis of projects funded with HSIP.

Optional Attachments

Program Structure:

RED BOOK Highway_Safety_Improvement_Program Procedures__Techniques.pdf
Project Implementation:

HSIP_Project_List_08122019.xlsx
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.