



NEW JERSEY

HIGHWAY SAFETY IMPROVEMENT PROGRAM 2021 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

Photo Source:
NJ 2020 SHSP

Table of Contents

Disclaimer	3
Protection of Data from Discovery Admission into Evidence	3
Executive Summary	4
Introduction	8
Program Structure.....	8
Program Administration	8
Program Methodology	11
Project Implementation	22
Funds Programmed.....	22
General Listing of Projects	26
Safety Performance	31
General Highway Safety Trends.....	31
Safety Performance Targets.....	38
Applicability of Special Rules.....	42
Evaluation	44
Program Effectiveness	44
Effectiveness of Groupings or Similar Types of Improvements	45
Project Effectiveness	49
Compliance Assessment	52
Optional Attachments.....	55
Glossary.....	56

Disclaimer

Protection of Data from Discovery Admission into Evidence

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.23 U.S.C. 409 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

Executive Summary

The Fixing America's Surface Transportation Act (FAST Act) continues the Highway Safety Improvement Program (HSIP) as a core Federal-aid program to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads. HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

The reporting period for the 2021 Annual Safety Report (ASR) is the Calendar Year (CY) from January 1, 2020 to December 31, 2020.

Beginning in 2019, New Jersey updated the police crash report (NJTR-1) to be consistent with the federally required injury classifications (Killed, Suspected Serious Injury, Suspected Minor Injury, Possible Injury, and No Apparent Injury). As a result of this change, injuries not previously attributed to the serious injury classification might now be included in this number. For example, a crash victim with a broken arm that would have previously been classified as a Moderate Injury, is not classified as a Suspected Serious Injury. As a result, New Jersey saw a 116% increase in reported serious injuries in 2019 due to the changes in reporting. This large increase created a challenge in predicting anticipated totals for future years. 2020 was another unusual year, with a global pandemic and the impacts of the lockdowns. New Jersey was doubly impacted by the pandemic. In addition to the above mentioned MMUCC standards compliance change (Injury Classifications), the pandemic impacts were two fold as well – a decrease in vehicle miles traveled (VMT) and an increase in fatalities. New Jersey joins the other states in seeking guidance from FHWA on assessing the crash data for the 2020 outlier event.

Another development in CY 2020 was the communication from FHWA that New Jersey did not meet or make significant progress towards achieving its safety performance targets for 2019 due to the 2019 change in crash severity identification in the NJTR-1, in compliance with MMUCC standards. This required NJ to prepare and, formally, submit the HSIP Implementation Plan. NJDOT, in collaboration with the MPOs, submitted the HSIP Implementation Plan to the NJ FHWA Division Office on June 28, 2021.

New Jersey has analyzed roadway safety performance as described in Part 30 of this report "General Highway Safety Trends in the State for Past Five Years". New Jersey's five-year rolling average for the period of 2016-2020 for the number of fatalities slightly trickled downward approximately 2.8% while fatality rate has increased by approximately 19.2%, number of serious injuries increased by approximately 137.8%, serious injury rates also increased approximately 192.4% and the number of non-motorized fatalities and serious injuries increased approximately 131.6%. Over the same five-year period, the actual number of crashes resulting in fatalities and incapacitating injuries in each year has fluctuated. New Jersey's Vehicle Miles Traveled (VMTs) have been increasing on an annual basis over this five year period except for 2020 which dropped significantly due to the pandemic.

New Jersey also finalized the update to the NJ 2015 Strategic Highway Safety Plan (SHSP). The NJ 2020 SHSP reinforces New Jersey's commitment to a performance based, data-driven investment strategy aligning with a Towards Zero Death vision. The plan was developed with extensive collaboration, participation and coordination with state's safety stakeholders through a hierarchal organization structure of a Core Working Group, a Steering Committee, Emphasis Area Teams and the Executive Committee, in addition to robust public engagement through a series of Safety Summits and media presence including a user-friendly website (<http://www.saferoadsforallNJ.com>). NJ 2020 SHSP will support seven (7) Emphasis Areas with strategic plans capitalizing on the five E's – Engineering, Education, Enforcement, Emergency Response and Equity. The State continues to support the goals of NJ 2020 SHSP through the HSIP apportionments for state and local projects, transitioning seamlessly from NJ 2015 SHSP. NJ 2020 SHSP commits to a goal of 3% annual reduction in five-year rolling average for fatalities and serious injuries, while sustaining the robust collaboration during the implementation phase of the plan.

2021 New Jersey Highway Safety Improvement Program

We continue to develop highway safety improvement projects on the basis of both crash experience and crash potential to reduce fatal and serious injury crashes on all public roads understanding the benefits of systemic evaluation and deployment which provide an expanded comprehensive and proactive approach to road safety efforts, constantly evaluating ways to expand the deployment of systemic safety improvements.

Furthering these efforts, New Jersey has completed and shared the inventory and assessment of horizontal roadway curves on all roads, collector and above, for two of our three metropolitan regions, Delaware Valley Regional Planning Commission (DVRPC) and South Jersey Transportation Planning Organization (SJTPO). Similar effort in the remaining North Jersey Transportation Planning Authority (NJTPA) metropolitan region is underway. NJ's Horizontal Curve Inventory & Safety Assessment was presented at multiple seminars and received national acclaim.

Regional Mid-block Crosswalks Pedestrian Safety Improvements are being studied in Concept Development. Signal Backplates with Retroreflective Borders Program is also advancing. Coordination with our Intelligent Transportation System (ITS) and Bureau of Traffic Engineering (BTE) colleagues to seek advanced technology countermeasures for safety enhancement are continuing, such as Leading Pedestrian Intervals at signals, dynamic pedestrian presence detection and wrong way driving countermeasures.

In addition to exploring and developing systemic programs, New Jersey continues its effort with High Friction Surface Treatment (HFST) on roadway curves which experience high roadway departure crashes such as fixed objects and overturns. New Jersey continues to evaluate HFST installations, update the specifications and coordinate with our local, regional and federal partners.

In partnership with our federal and local partners, New Jersey continues its commitment to share information, guidance and knowledge with our safety partners through grant programs, Everyday Counts initiatives with Safe Transportation for Every Pedestrian (STEP – EDC-4, 5), Reducing Rural Roadway Departures in NJ (EDC-5), workshops, peer exchanges and increased participation in Road Safety Audits, Technical Evaluation Committees for selecting consultants on Capital projects and Technical Review Committees for selecting projects in the Local Safety Program.

One of the important steps in a performance based program is post-evaluation of deployed assets. NJ completed the systemic program of installing Centerline Rumble Strips (CLRS) along state roadways through multiple capital projects in 2016. The 3 year post deployment data, following a 6 month normalization period, is being collected and analyzed. COVID impacted the submission of crash data, leading to a delay in gathering the post-construction crash data for the program. NJ will start reporting on our findings and results with the 2022 HSIP Annual Safety Report.

HSIP is New Jersey's commitment to its safety partners. Continual evaluation and improvement is key to any successful program. To ensure robust and continuous involvement, New Jersey hosts quarterly meetings on its HSIP Portfolio with senior management lead and multi-agency/divisional participation. This provides an opportunity for risk assessment, portfolio updates, programming information, and collaborative decision making. New Jersey's HSIP model has received accolades at a national level.

Another noteworthy improvement has been in the streamlining of the Capital Project Delivery Process, including addition of six activities to the Network Diagram and Work Breakdown Structure (WBS) and creation of a Concept Development Checklist for Regional Horizontal Curve Signs Program. The activity changes have been submitted to NJ FHWA Division for review and approval.

Our Local Safety Program partners, the metropolitan organizations (MPOs) are a valued partner in the development, programming and construction of projects on our county and local roads through the HSIP Local Safety Program apportionments. The Local Safety Application has been revised with active participation of our MPO and NJ FHWA partners. Additional update of their accomplishments and efforts is presented below:

2021 New Jersey Highway Safety Improvement Program

NJTPA

The North Jersey Transportation Planning Authority (NJTPA) is the fourth largest MPO region in the nation, serving 6.7 million people in the 13 counties of northern New Jersey. The NJTPA continues to allocate and increase HSIP funding to our Subregions to address safety issues on county and local roads. The Local Safety Program (LSP) and the High Risk Rural Roads Program (HRRRP), which has been in place for over twelve years, provides funding for construction, Right of Way (ROW), and construction inspection. The Local Safety Engineering Assistance Program (LSEAP) has provided funding for preliminary engineering and final design since 2013. The Consultant Assistance with Local Safety Program Studies/Analysis began in 2019 and provides consultant support for the preparation of documents for application to the LSP/HRRRP bi-annual solicitation for projects.

In 2020, \$11.274 million in HSIP funding was authorized for design, construction and construction inspection of eight projects. Projects authorized for construction included \$8.061 million for an 11 intersection safety improvement project along Bloomfield Avenue in Essex County, \$1.062 million for ROW for a modern roundabout along a rural roadway in Monmouth County and \$2.150 million for six projects to advance to final design including three modern roundabouts. In November, NJTPA Board of Trustees approved \$104 million in funding for the FY 2020 LSP/HRRRP which the largest program to date. It will provide funding for improvement to 167 intersections, 8.9 miles of roadway and three modern roundabouts. A new Pedestrian Counts in the NJTPA Region effort commenced in 2020 which is a consultant-led effort to compile counts in a regional database which will aid multiple goals in the SHSP.

SJTPO

The South Jersey Transportation Planning Organization (SJTPO) is the MPO serving New Jersey's four southernmost counties, including Atlantic, Cape May, Cumberland, and Salem.

SJTPO has been actively advancing safety through both planning / engineering as well as safety education programs focused on user behavior. More information on SJTPO's safety education programs are available at www.sjtpo.org/education. Recognizing that safety needed attention beyond the \$2 million annual HSIP line item, SJTPO in partnership with its member jurisdictions, significantly updated its Project Evaluation Process to add a safety focus that works to incorporate safety in all projects funded through SJTPO. That updated process was adopted in July 2020 and was utilized for the 2020 solicitation of projects for the FY 2022-2031 Transportation Improvements Program (TIP). However, informally, SJTPO has been working since 2019 on this effort, beginning with Atlantic Avenue in Atlantic City, which was the top ranked bicycle and pedestrian crash corridor in the region. The request for Design funds for repaving was adjusted into a comprehensive safety assessment of the corridor, which is now advancing as Design for a Road Diet.

Other ongoing safety projects include centerline rumble strips in Cape May County, High friction Surface Treatment in Cumberland County, five roundabout projects with two in Cape May County, two in Salem County, and one in Cumberland County, intersection signalization in the City of Vineland, a Regional Curve Inventory and Safety Assessment that was completed in partnership with DVRPC, and preparing six bicycle and pedestrian corridor safety projects, two each in the Cities of Bridgeton, Millville, and Vineland based on the current Cumberland County Bicycle and Pedestrian Safety Action Plan effort. SJTPO is providing Design Assistance on two complex roundabout projects in Salem County and anticipates another similar effort for projects coming out of the Cumberland County Bicycle and Pedestrian Safety Action Plan effort in FY2023.

DVRPC

The Delaware Valley Regional Planning Commission (DVRPC) serves four counties in southern New Jersey (Burlington, Camden, Gloucester and Mercer) and two cities (Camden and Trenton). DVRPC did not conduct a formal project application solicitation in 2020 for the Local Federal HSIP and HRRR Programs, but continued to

2021 New Jersey Highway Safety Improvement Program

assist member counties with project advancement. During 2020, DVRPC participated in the update of the Local Safety Program Application with other MPOs and NJDOT and DVRPC established a new FY2022 Work Program project, New Jersey Local HSIP Program Assistance (2 Years) that will provide Local Safety Program support products to be used to satisfy the requirements of NJDOT's Local Safety Program including application elements and HSM analyses. DVRPC also solicited and accepted new Local Concept Development projects that could potentially become HSIP funded projects. They include the following: CR 614 (Tom Brown Road), CR 603 (Riverton Road) and New Albany Road Intersection Improvements in Burlington County, and CR 551 (Broadway) Elevation, Little Timber Creek to Route 130 and Erial Rd and College Drive Intersection in Camden County. Status of ongoing local safety TIP/STIP projects are as follows:

- Both systemic roundabouts, one in Burlington County (CR 541/Stokes Rd. & CR 648/Willow Grove Rd.) and another in Camden County at (Sicklerville Road/CR 705 and Erial Road/CR 706) authorized Preliminary Engineering in January of 2021 and are progressing towards Final Design authorization in federal FY22.
- Mt. Ephraim Avenue corridor-wide pedestrian and bicycle safety improvements in the City of Camden completed Local Concept Development in the spring of 2020 and is progressing towards authorization for Preliminary Engineering in federal FY22.
- The Mercer County Brunswick Circle Extension Roundabout at CR 583, US 206 (Princeton Ave) and CR 645 (Brunswick Circle Extension) is in final design and progressing towards construction authorization in federal FY22.
- Parkway Avenue (CR 634), Scotch Road (CR 611) to Route 31 (Pennington Road) in Mercer County completed Concept Development and was approved in the spring of 2020. Preliminary Engineering was authorized in September 2020 and is underway. The project is progressing towards Final Design authorization in federal FY23.

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.

Under the most recent federal legislation, the FAST Act, NJ is apportioned approximately \$60 million annually for the HSIP Program. This apportionment is distributed 50-60% to local roadways and 40-50% to state roads based on fatalities and serious injuries data. The local portion is distributed to the three (3) MPOs based on census data. Each MPO distributes HSIP funds into the different emphasis areas as described in the SHSP. The funds allocated to state roadways also get distributed into these different emphasis areas.

NJDOT develops an annual safety investment strategy for all HSIP funded activities and projects. The annual investment strategy demonstrates the linkage between the objectives of the SHSP and the projects/programs being developed and implemented to ensure that the focus is on the most effective safety improvements.

HSIP implementation steps for hot spot locations:

- Planning: Verify the identified location with any of the existing Safety Management System (SMS) lists
- Problem Identification: Identify the safety concerns
- Problem Screening Process: Develop the data needed for consideration of the Problem Statement by the Capital Program Committee (CPC).
- Concept Development: Includes the following -
 1. Verify that the project's purpose and need is consistent with the identified safety concern and NJ most current SHSP
 2. Prepare an initial cost estimate for at least two Safety Design Alternatives
 3. If the identified infrastructure improvements are greater than \$250,000 in cost then a Predictive Safety Analysis using the (HSM) will be required
- Design, ROW and Construction
- Post Construction Evaluation

The Systemic projects follow a similar process, with the difference being the Problem Statements are planned based on the risk analysis or selected countermeasures.

Where is HSIP staff located within the State DOT?

Planning

How are HSIP funds allocated in a State?

- Formula via MPOs
- SHSP Emphasis Area Data
- Other-Network screening for high crash locations

The allocation of HSIP funds for local and state roads is based on network screening lists for high crash locations, or risk based analysis and countermeasure selection for systemic projects. In addition to the screening for the local roads (county and municipal owned roads), there is also a competitive application process through each MPO.

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

Local Roadways are eligible for HSIP improvements through a competitive application process through their respective MPOs. All Local Roadways in New Jersey are covered by one of three MPOs – NJTPA, SJTPO, or DVRPC. NJDOT oversees the production of network screening lists for each of the MPO regions, including both County and Municipal owned roadways, which assist the MPOs in prioritizing their projects.

The local Screening Lists for each MPO include:

1. High Risk Rural Road Segment List
2. Roadway Corridor Segment List
3. Intersection List
4. Pedestrian/Bicycle Corridor Segment List
5. Pedestrian Corridor Segment List
6. Pedestrian/Bicycle Intersection List
7. Pedestrian Intersection List

The screening lists reflect NJ's commitment to address pedestrian, bicycle and intersection safety concerns in response to FHWA designation of NJ as a Pedestrian/Bicycle and Intersection Focus State.

The lists are shared through the MPOs with the local officials to assist in the selection of regional safety priority locations and develop, design and construct HSIP funded projects, improving safety along NJ's local roadways.

NJDOT is working with the MPOs in completing the Horizontal Curves Inventory and Safety Assessment - a systemic risk analysis for ALL horizontal curves on all NJ roadways with a functional classification of 'Collector' or above. DVRPC and SJTPO assessments are complete, and NJTPA will be complete in CY 2022. This analysis will allow the MPOs to develop systemic projects in their regions.

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

- Design
- Local Aid Programs Office/Division
- Operations
- Planning
- Traffic Engineering/Safety
- Other-Project Management
- Other-Environmental
- Other-ITS

2021 New Jersey Highway Safety Improvement Program

The HSIP Program is managed by the Bureau of Safety, Bicycle and Pedestrian Programs (BSBPP), which is part of Statewide Planning, through active and frequent coordination with internal and external stakeholders. Internal stakeholders include Design, Division of Local Aid, Operations, Planning, Project Management, Environmental, ITS, and Bureau of Traffic Engineering.

This coordination is critical for HSIP State portfolio to advance.

Describe coordination with internal partners.

NJDOT's Bureau of Safety, Bicycle & Pedestrian Programs (BSBPP), under the Assistant Commissioner of Planning, Multimodal and Grants Administration (PMGA) is responsible for crash analysis and program development. Bureau of Transportation Data Support (BTDS), also under the leadership of Assistant Commissioner of PMGA is responsible for gathering, verifying and sharing crash data. The Division of Project Management (DPM) under the Assistant Commissioner of Capital Program Management (CPM) is responsible for managing the generated projects through the project delivery process from Concept Development to Construction, seeking input from the subject matter experts in the Department.

New Jersey's HSIP Manual identifies the process for coordination and delivery of HSIP projects for roadways under state jurisdiction. This manual was updated in 2016. New Jersey plans on revising the HSIP Manual and Implementation Guide in CY 2021. Regular meetings are conducted between PMGA and staff from DPM to monitor and assist as the projects move through project development to advertisement. Quarterly meetings with BSBPP, BTDS, DPM, Capital Investment and Program Development (CIPD), Bureau of Environmental Engineering and other SME's are conducted led by the Office of Assistant Commissioner, PMGA.

NJDOT supports the advancement of projects under local jurisdiction by participating in the Technical Assistance Team for local safety projects. The Technical Assistance Team consist of NJDOT's Safety, Environmental, and Local Aid staff. NJDOT's Division of Local Aid, under the Assistant Commissioner of PMGA is responsible for coordinating with the MPOs in the selection, authorization and oversight of projects implemented on the local road network.

Identify which external partners are involved with HSIP planning.

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

Each state is mandated by the U.S. Department of Transportation to develop a Strategic Highway Safety Plan (SHSP) to guide the allocation of safety funding and resources to reduce highway fatalities and serious injuries on public roadways. A SHSP is required by the Federal Highway Administration (FHWA) Highway Safety Improvement Program (HSIP) as a condition to utilize federal HSIP funds. In the development of the SHSP, all of the external partners mentioned in the question, are involved. Only the selected external partners are involved in the HSIP planning process.

Describe coordination with external partners.

NJDOT coordinates with all the MPOs, Governors Highway Safety Office (Division of Highway Traffic Safety or DHTS) and FHWA on a regular basis. Daily phone calls, scheduled meetings or emails are the main way of communication. The NJ FHWA representative is always available to provide support and guidance.

2021 New Jersey Highway Safety Improvement Program

The same partners were involved in the setting of the performance safety targets.

Coordination with local government agencies is done through the MPOs. The three MPOs provide extensive support and assistance to their subregions in regards to their safety projects. Quarterly meetings are conducted between NJDOT and the MPOs to discuss any major concern and to keep track of the status of the projects and the funding.

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

The Assistant Commissioner of Planning, Multimodal and Grants Administration (PMGA) continues to conduct quarterly collaboration meetings with all three MPOs, Division of Project Management PMs, along with subject matter experts at the NJDOT. These meetings promote partnering with a focus on safety. NJDOT's Division of Local Aid coordinates with the MPOs on regular basis to ensure advancement of Local Safety Projects.

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.

- HRRR
- Intersection
- Local Safety
- Pedestrian Safety
- Roadway Departure
- Segments
- Other-Utility Pole Mitigation

In 2019, NJDOT made a few changes to the STIP programming, organization structure and implementation process. The changes are highlighted in **BOLD** and explained below and remains the same since 2019:

2021 STIP Programming for HSIP funds:

1. Highway Safety Improvement Program Planning
2. Local Safety/High Risk Rural Roads Program
3. Motor Vehicle Crash Record Processing
4. Utility Pole Mitigation Program
5. **Safety Programs**

In addition, some large projects are programmed as individual line items on the STIP. These large projects are funded with HSIP funds but are separated from the Programs and Sub-programs due to the size of the projects. These projects end up picking up the leftover funds from the programs already established. This way, a large project doesn't utilize the whole amount of funds designated to one program.

Furthermore, the criteria to include projects under the programs and sub-programs remains the same.

Safety Programs includes the following sub-programs:

2021 New Jersey Highway Safety Improvement Program

1. Pedestrian Improvement Program (including Bicycle Safety)
2. Intersection Improvement Program
3. Segment Improvement Program (Excluding at-intersection crashes)
4. Crash Reduction Programs for Roadway Departure and Fixed Object crashes.

Program: HRRR

Date of Program Methodology:9/16/2005

What is the justification for this program?

- Other-HRRRP is part of Local Safety Program

What is the funding approach for this program?

Other-HRRRP funding is part of Local Safety Funding

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

Roadway

- Functional classification
- Other-Rural

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO 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?

Yes

How are projects under this program advanced for implementation?

- Competitive application process
- 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).

Relative Weight in Scoring

Available funding:20

Ranking based on net benefit:60

2021 New Jersey Highway Safety Improvement Program

Other-Project to address established safety problem as shown through crash history, risk-based (systemic) :20

Total Relative Weight:100

The HRRR Program focuses on reducing fatalities. The identification of locations along rural roadways with safety concerns is based on the historical crash trends.

Rural roads are characterized by lower traffic volumes, leading to lesser number of crashes and an even smaller subset of severe crashes. Therefore, it is important for New Jersey to identify the location with a historical trend of high number of total crashes.

The severity of the historical trends is captured by the Equivalent Property Damage Only (ePDO) methodology.

The HRRR methodology has changed to:

Federal rules require that states define High Risk Rural Roads (HRRR) in conjunction with the NJ 2020 SHSP. Safety improvements on roads that meet the state's definition of a HRRR may be eligible for federal HRRR Program funds. First, to be eligible as a HRRR, the road segment must have a functional classification as either a rural major collector, a rural minor collector, or a rural local road. In addition to the classification, to qualify for HRRR funds, a data-driven analysis must identify the road segment as having significant safety risks. The FHWA directs that each state develop its own methodology for identifying segments with significant safety risks with FHWA approval.

New Jersey's approved methodology for identifying a road segment as a HRRR is that the rural road segment must demonstrate fatal and incapacitating injury crashes per mile higher than the average for the segment on rural roadways with similar geometric features (Also known as homogeneous segments, defined based on a variety of factors, such as functional class, speed limit, two-lane versus multilane, etc.). Rural major or minor collector segments and local road segments with similar roadway geometric features are referred to as peer groups. The number of fatal and incapacitating injuries for a particular segment are compared to the average number of fatal and incapacitating injuries for peer group segments within the same metropolitan planning organization boundary to determine if the segment in question exceeds the average for the peer group. Segments that exceed the average for the peer group are classified as having a significant safety risk and thus, a HRRR segment.

High risk locations may also be identified through means such as field reviews, safety assessments, Road Safety Audits, and local knowledge and experience. Using information from observations in the field can identify high risk locations that may not be identified through data analysis or by identifying roadway characteristics. High risk rural roadway characteristics that are correlated with specific severe crash types such as cross-section width, lack of shoulders, substandard alignment, and hazardous roadside may be considered for systemic improvements across multiple HRRR segments. Systemic treatments generally involve the widespread implementation of low-cost safety countermeasures such as rumble strips, high friction surface treatment on high risk curves, and back plates with retroreflective borders on traffic signals to increase visibility. NJDOT assessed 5,704 individual rural road segments in 2018. Of those, 41 segments were identified as HRRR in the South Jersey Transportation Planning Organization Region across Atlantic, Cape May, Cumberland, and Salem counties; 54 HRRR segments were identified in the North Jersey Transportation Planning Authority region across Hunterdon, Monmouth, Morris, Ocean, Somerset, Sussex, and Warren counties; and 17 HRRR segments were identified in the Delaware Valley Regional Planning Commission region across Burlington, Gloucester, Mercer, and Camden counties.

Program: Intersection

Date of Program Methodology:1/1/2015

What is the justification for this program?

2021 New Jersey Highway Safety Improvement Program

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

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

Roadway

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)

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-Using the ranking to identify priorities, NJDOT selects and implements projects.

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 net benefit:1

Cost Effectiveness:1

The HSIP Programs are focused on reducing fatalities and serious injuries. The identification of a hotspot location is based on the historical crash trends.

Crashes are stochastic events, and the severity of the crash is dictated by variables and circumstances that are complex behavioral integrated models. It is hard to discern that certain locations with prevalence of severe crashes one year does not rank on the severity safety index the following year.

These are some of the reasons why, as safety practitioners, New Jersey chooses to identify the locations using all crashes. The severity of the historical trends is captured by the Equivalent Property Damage Only (EPDO) methodology. Our network screening lists have been revised recently to help us identify locations with high EPDO scores.

Program: Local Safety

Date of Program Methodology:9/16/2005

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety
- Other-60% of NJ's injury and fatality events occur on local roadways

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

Exposure

Roadway

- All crashes

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO 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?

Yes

How are projects under this program advanced for implementation?

- Competitive application process
- Other-Priority given to State's focus areas
- 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).

Relative Weight in Scoring

Available funding:20

Ranking based on net benefit:60

Other-Project to address established safety problem as shown through crash history, risk-based (systemic) analysis and/or local roadway knowledge:20

Total Relative Weight:100

2021 New Jersey Highway Safety Improvement Program

The HSIP Programs are focused on reducing fatalities and serious injuries. The identification of a hotspot location is based on the historical crash trends.

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These are some of the reasons why, as safety practitioners, New Jersey chooses to identify the locations using all crashes. The severity of the historical trends is captured by the Equivalent Property Damage Only (EPDO) methodology. The local network screening lists have been revised recently to help identify locations with high EPDO scores.

Program: Pedestrian Safety

Date of Program Methodology:9/16/2011

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?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
<ul style="list-style-type: none">• Other-Pedestrian Crashes	<ul style="list-style-type: none">• Other-NJ is a pedestrian focus state	

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)
- Other-Pedestrian generators

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-Using the ranking to identify priorities, NJDOT selects and implements projects.

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 net benefit:1

Other-FHWA Ped Focus State:1

This program includes Pedestrian and Bicycle Safety.

The HSIP Programs are focused on reducing fatalities and serious injuries. The identification of a hotspot location is based on the historical crash trends.

Crashes are stochastic events, and the severity of the crash is dictated by variables and circumstances that are complex behavioral integrated models. It is hard to discern that certain locations with prevalence of severe crashes one year does not rank on the severity safety index the following year.

These are some of the reasons why, as safety practitioners, New Jersey chooses to identify the locations using all crashes. The severity of the historical trends is captured by the Equivalent Property Damage Only (EPDO) methodology. Our network screening lists have been revised recently to help us identify locations with high EPDO scores.

Program: Roadway Departure

Date of Program Methodology:9/16/2008

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?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
<ul style="list-style-type: none">• All crashes	<ul style="list-style-type: none">• Lane miles	<ul style="list-style-type: none">• Roadside features• Other-Horizontal Curvature

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)

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-Sites identified based on methodology developed for systemic treatment for roadway departure crashes
- Other-Using the ranking to identify priorities, NJDOT selects and implements projects

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 net benefit: 1

The HSIP Programs are focused on reducing fatalities and serious injuries. The identification of a hotspot location is based on the historical crash trends.

Crashes are stochastic events, and the severity of the crash is dictated by variables and circumstances that are complex behavioral integrated models. It is hard to discern that certain locations with prevalence of severe crashes one year does not rank on the severity safety index the following year.

These are some of the reasons why, as safety practitioners, New Jersey chooses to identify the locations using all crashes. The severity of the historical trends is captured by the Equivalent Property Damage Only (EPDO) methodology. Our network screening lists have been revised recently to help us identify locations with high EPDO scores.

Program: Segments

Date of Program Methodology: 2/1/2016

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?

Funding set-aside

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Volume
- Lane miles

Roadway

What project identification methodology was used for this program?

- Equivalent property damage only (EPDO Crash frequency)

2021 New Jersey Highway Safety Improvement Program

- Other-Exposure is taken into consideration

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-Using the ranking to identify priorities, NJDOT selects and implements projects

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 net benefit:1

Cost Effectiveness:1

The HSIP Programs are focused on reducing fatalities and serious injuries. The identification of a hotspot location is based on the historical crash trends.

Crashes are stochastic events, and the severity of the crash is dictated by variables and circumstances that are complex behavioral integrated models. It is hard to discern that certain locations with prevalence of severe crashes one year does not rank on the severity safety index the following year.

These are some of the reasons why, as safety practitioners, New Jersey chooses to identify the locations using all crashes. The severity of the historical trends is captured by the Equivalent Property Damage Only (EPDO) methodology. Our network screening lists have been revised recently to help us identify locations with high EPDO scores.

Program: Other-Utility Pole Mitigation

Date of Program Methodology:10/1/2015

What is the justification for this program?

- Other-To mitigate some of the Lane Departure crashes involving a utility pole

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

Exposure

Roadway

2021 New Jersey Highway Safety Improvement Program

- Other-Fixed Object crashes
- Roadside features

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?

No

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

How are projects under this program advanced for implementation?

- Other-by ranking

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-Field investigation:1

What percentage of HSIP funds address systemic improvements?

12

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

- Other-Centerline Rumble Strips
- Other-Systemic Roundabout Pilot Program

See attached calculations in the file called "Q#16 List of Projects from Portfolio"

What process is used to identify potential countermeasures?

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

Does the State HSIP consider connected vehicles and ITS technologies?

No

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

Yes

Please describe how the State uses the HSM to support HSIP efforts.

The HSM is a helpful tool used to assess and prioritize HSIP investments. HSM analysis quantifies safety performance. It is used to evaluate different safety improvement alternatives, with every effort made to select the alternative with benefit cost ratio greater than 1.0, subject to the constraints presented for calculating pedestrian safety benefits.

The NJ HSIP Manual and Implementation Guide requires that HSM Analysis be performed and approved for at least three alternatives during concept development for a project to be considered for HSIP funding eligibility. The HSM analysis is one of the key variables in the selection of a Preliminary Preferred Alternative (PPA).

NJDOT has developed New Jersey-specific calibration factors that are applied to currently used HSM Safety Performance Functions (SPF) in accordance with calibration guidance in the HSM. These calibration factors have been used for all HSM Analyses submitted since September 2020. Their applicability will be reviewed after the release of HSM, 2nd Edition.

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

NJDOT will initiate the revision and update of our HSIP Manual and Implementation Guide in 2021 with active participation of key stakeholders.

NJDOT proposes to initiate the revision of the Network Screening Lists in 2021.

Additionally, NJDOT has submitted the revised Capital Project Delivery Process that included three additional activities to align with the HSIP Program delivery. The following are the activities added to the Capital Project Delivery Process:

1. Conduct HSM Analysis
2. HSM Analysis Review
3. Eligibility Approval

Additionally, a Limited Scope Concept Development (LSCD) Checklist for Regional Horizontal Curve Sign Program. The LSCD Checklist will help in reducing the delivery time for the horizontal curve sign projects, enabling NJ to build a shelf of construction ready projects.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

Calendar Year

The NJDOT decided to select calendar year as the reporting period to be consistent with the reporting period of crashes and to be more precise in the reporting of the projects that get authorized during that period. Most of the HSIP authorizations in the NJDOT are processed during the months of August and September and the report is finalized during the month of August.

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	\$53,760,000	\$29,599,131	55.06%
HRRR Special Rule (23 U.S.C. 148(g)(1))	\$3,333,210	\$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))	\$0	\$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	\$0	\$0	0%
State and Local Funds	\$0	\$0	0%
Totals	\$57,093,210	\$29,599,131	51.84%

Being that the reporting period is Calendar Year 2020 the programmed funds are calculated as follows:

3/4 of the programmed funds for FFY 2020 plus 1/4 of the programmed funds for FFY 2021.

Values are based on the 2020-2029 STIP.

\$0.000 million has been authorized in Calendar Year 2020 under the HRRR.

Approximately \$0.050 million for CY 21 and \$0.000 million for CY 22 are programmed to be authorized under HRRR so far.

It has been determined that the HRRR special rule does not apply to New Jersey for the 2021.

Attached are the following supporting documents:

2021 New Jersey Highway Safety Improvement Program

1. "Q#23 List of Projects from Portfolio" showing the calculations for obligated funds for: Total HSIP, HRRRP, Non-infrastructure, Local projects, and Systemic improvements.
1. "Q#23 Programmed Vs Obligated Funds" showing the calculations for the Programmed funds. The file has two tabs.

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

\$22,000,000

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

\$14,651,607

Being that the reporting period is Calendar Year 2020, the programmed funds were calculated by taking $\frac{3}{4}$ of the programmed funds in the STIP for the FFY 2020 plus $\frac{1}{4}$ of the programmed funds for FFY 2021 as follows: $(\frac{3}{4})$ of the programmed funds for FFY 20 + $(\frac{1}{4})$ of the programmed funds for FFY 21 $(\frac{3}{4}) * 22,000,000 + (\frac{1}{4}) * 22,000,000 = 22,000,000$

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

\$6,500,000

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

\$6,781,000

The STIP Programming is based on Federal Fiscal Year (FFY) and the HSIP Annual Report is based on Calendar Year (CY). This creates challenges in understanding and reporting the programming.

For the purposes of calculation, the programming is reported as $\frac{3}{4}$ of the programmed funds in STIP for FFY 2020 and $\frac{1}{4}$ of the programmed funds in FFY 2021. However, this does not provide a complete picture, as all the FFY 2021 programmed funds are available for obligation in October (which is technically still CY 2020).

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?

\$40,000,000

A total of \$40,000,000.00 were transferred from ZS30 (HIGHWAY SAFETY IMP PROG FAST) to Z240 (SURFACE TRANSP BLOCK GRTS-FLEX) in February 28, 2020.

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

STIP Programs Programmed amounts Vs. (Obligated amounts)

- 1) Highway Safety Improvement Program Planning \$4.000 M (\$4.02 M)

2021 New Jersey Highway Safety Improvement Program

2) Motor Vehicle Crash Record Processing \$2.500 M (\$4.724 M)

3) Safety Programs \$14.000 M (\$8.167 M)

4) Local Safety/ High Risk Rural Roads Program \$22.000 M (\$14.651 M)

5) Utility Pole Mitigation \$0.175 M (\$0.000 M)

Usually, NJDOT has no impediments to obligate non-infrastructure funds under HSIP Planning and under Motor Vehicle Crash Record Processing and the year 2020 was not different in that respect.

Regarding State roadway projects, under Safety Programs and individually programmed in the STIP, some of them programmed for 2020 were moved to 2021 for various reasons such as

- Additional time needed to complete the HSM analysis
- Additional time needed to complete the consultant selection
- Pending resolution of support from the municipality
- Slow Capital Delivery Process for bundled projects
- Change in scope, ROW, and environmental challenges
- Legal concerns with utility companies

Also, under Safety Programs, last year the construction phase for the project "Route 82, Caldwell Avenue to Lehigh Avenue" estimated to be approximately \$10.000 million programmed for 2020 was authorized in 2021, therefore, resulting in a big impact on the programmed funds. This situation could happen again. Since the safety projects implement substantive safety instead of quick fixes, some projects grow in scope and cost. When such projects slip to the following year, they present a challenge in portfolio management.

All the current projects under Safety Programs are hot spot selections and are required to follow the Capital Project Delivery Process that had no standardized activities for HSIP projects. Additionally, New Jersey is one of very few states who work with the utility companies and move or relocate the utilities on their projects. Finally, ROW, access, and environmental challenges introduce delays. Moving forward, NJDOT is taking the following measures to improve obligations while accounting for inherent delays in the system:

- Adding HSIP activities to the Capital Delivery Process
- Develop a robust Systemic Program
- Propose and progress multiple problem statements to over program funds
- Review HSIP eligibility for non-traditional safety projects such as ITS

Local projects usually do not have major impediments to fully obligate the apportioned HSIP funds. However, 2020 was unusual, largely due to the pandemic. In 2020 some local projects were deferred due different reasons such as ROW acquisition delay, long time processing CED approval, a County needed to acquire approximately 40 ROEs for sidewalk/curb ramp improvements, and Newark and Jersey City experienced some delays. NJTPA uses approximately 80% of the local safety funds and often has projects on the shelf to fill the gap left by projects moved to the following year. However, in 2020 this was not the case. NJTPA and NJDOT expect the obligation rate to get better by 2022, accounting for the continuing impacts of the pandemic in 2021.

The Utility Pole Mitigation Program authorized none of its programmed funds in 2020. As mentioned earlier, NJDOT and the DAG's Office are coordinating with utility companies and FHWA to address the concerns and it is expected that the disagreements will end soon.

New Jersey did not meet or make significant progress in meeting its 2019 safety targets requiring NJDOT to develop and submit HSIP Implementation Plan to FHWA. While working on the 2021 ASR, NJDOT was also

2021 New Jersey Highway Safety Improvement Program

developing the HSIP Implementation Plan. As part of the HSIP Implementation Plan, NJDOT outlined Program Opportunities and HSIP Action Plan for FFY 2022. Some of the opportunities outlined in the HSIP Implementation Plan include the following:

- Educate internal and external partners on the Safe System Approach.
- Increase the implementation of pedestrian and bicycle infrastructure projects with a focus on underserved communities.
- Streamline BSBPP proactive assistance to DPM and MPOs with the consultant selection process on HSIP-funded projects to increase the efficiency and programming of projects, both in time and cost.
- Procure and manage consultant services for the Safety Resource Center to continue to implement and evaluate the NJ 2020 SHSP.
- Conduct Annual Summits to update stakeholders on the status and progress of the SHSP actions and goals while maintaining partnerships for future plans and initiatives.

Attached is a copy of the 2021 HSIP Implementation Plan.

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
2021 MV Crash Records - Planning					\$4724000	\$4724000	HSIP (23 U.S.C. 148)			0		Statewide Planning		Statewide Planning	
2021 Staff Work Program - Safety - Planning					\$2057000	\$2057000	HSIP (23 U.S.C. 148)			0		Statewide Planning		Statewide Planning	
Int. Imp. Program & Safety Corridor Prog with ROW - South (five intersections) - ROW	Intersection traffic control	Intersection traffic control - other	5	Intersections	\$1225884	\$1225884	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Improve the visibility of traffic signals. Improve pedestrian operations. Improve signs, pavement markings.
Intersection Improvement Program, Contract 2017-1 (three intersections) - CON	Intersection traffic control	Intersection traffic control - other	3	Intersections	\$2701000	\$2701000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	0		State Highway Agency	Spot	Intersections	Improve signalized and unsignalized intersections that are at high risk for pedestrian fatalities and serious injuries.
NJ 7 , Mill St (CR 672) to Park Ave (CR 646) - FD	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.25	Miles	\$1766640	\$1766640	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	15,101	30	State Highway Agency	Spot	Pedestrians	Improve pedestrian and bicyclist visibility and operations at signalized intersections. Implement Road Diet. Improve lighting.
Route 15 & Berkshire Valley Road (CR 699) - ROW	Intersection traffic control	Intersection traffic control - other	1	Intersections	\$976000	\$976000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	55,520	55	State Highway Agency	Spot	Intersections	Focus efforts to reduce right angle and left turn crashes at high-risk signalized and unsignalized intersections on all roads.

2021 New Jersey Highway Safety Improvement Program

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
Route US 30 and Mill Road (CR 651) - CON	Intersection traffic control	Modify traffic signal – modernization/replacement	1	Intersections	\$1497000	\$1497000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	29,502	45	State Highway Agency	Spot	Intersections	Improve the visibility of traffic signals and pedestrians. Improve geometry/layout. Improve signs, pavement markings, overall lighting.
Cape May County Centerline Rumble Strip Project - CON	Roadway	Rumble strips – center	34.27	Miles	\$852000	\$852000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		County Highway Agency	Systemic	Roadway Departure	assist road owners in implementing countermeasures and the latest safety hardware
CR 583, US 206 (Princeton Ave) and Brunswick Circle extension - FD	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$300000	\$300000	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	23,067	25	County Highway Agency	Spot	Intersections	Install roundabout
Essex – Bloomfield Avenue (CR 603) from North/South Mountain Avenue to Maple Avenue - CON	Intersection traffic control	Modify traffic signal – modernization/replacement	11	Intersections	\$8061184	\$8061184	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	14,400	25	County Highway Agency	Spot	Intersections	Improve visibility of traffic signals: 12" heads placed over lanes, dedicated and aligning left-turn lanes, pedestrian increased walk times
Essex - Roundabout - Walnut St & West Hobart Gap Rd - Livingston - FD	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$261468	\$261468	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	9,200	45	County Highway Agency	Systemic	Intersections	Modern roundabout
Five Points Roundabout - FD	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$175000	\$175000	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	2,300	25	County Highway Agency	Systemic	Intersections	Focus efforts to reduce right angle and left turn crashes at high-risk signalized and unsignalized intersections on all roads.

2021 New Jersey Highway Safety Improvement Program

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
Garden Road & Mill Road Traffic Signalization - ROW	Intersection traffic control	Modify control – new traffic signal	1	Intersections	\$263000	\$263000	HSIP (23 U.S.C. 148)	Urban	Major Collector	10,213	45	City Municipal Highway Agency or	Spot	Intersections	Focus efforts to reduce right angle and left turn crashes at high-risk signalized and unsignalized intersections on all roads.
HRRR- Monmouth - Stage coach Road (CR 524), corridor, HFST, safety edge, chevron signs, (HRRR) - Phase II - FD	Roadway	Pavement surface – high friction surface	0.6	Miles	\$247000	\$247000	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,450	50	County Highway Agency	Spot	Lane Departure	Implement shoulder and centerline rumble strips, reflective pavement markers, HSFT, 8" edgeline, chevron signs
Hudson - JF Kennedy Boulevard (CR 501) and Paterson Plank Road - 2 corridors - FD	Intersection traffic control	Modify traffic signal – modernization/replacement	41	Intersections	\$882264	\$882264	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	24,000	25	County Highway Agency	Spot	Intersections	Improve visibility of traffic signals, Improve pedestrian/bicycle visibility, protected bike lanes with bike signal (2 blocks)
Hudson - JF Kennedy Boulevard (CR 501) from Sip to Bergen Ave - 5 intersections -Phase II - FD	Intersection traffic control	Modify traffic signal – modernization/replacement	5	Intersections	\$391525	\$391525	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other Freeways & Expressways	24,000	25	County Highway Agency	Spot	Intersections	Improve visibility of traffic signals, Improve pedestrian/bicycle visibility, LPIs, protected bike lanes (2 blocks)
Monmouth - Roundabout Stage Coach Road (CR 524) - Millstone Rd, Paint Island Spring Rd - ROW	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$1062000	\$1062000	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,000	50	County Highway Agency	Systemic	Intersections	Modern roundabout
Newark - Roundabout	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$155909	\$155909	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	8,000	25	City Municipal or	Systemic	Intersections	Modern roundabout

2021 New Jersey Highway Safety Improvement Program

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
- Backus St, Chestnut St, Wheeler Point Rd, Elm Rd, Gothard St, Denbigh St- Ironbound - FD												Highway Agency			
Parkway Avenue (CR 634), Scotch Road (CR 611) to Route 31 (Pennington Road) - PE	Pedestrians and bicyclists	Medians and pedestrian refuge areas	2.2	Miles	\$1026000	\$1026000	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	10,899	40	County Highway Agency	Spot	Pedestrians and Bicyclists	implement road diet
Passaic - Roundabout - North Haledon Ave & Manchester Ave - North Haledon - FD	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$212257	\$212257	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	2,100	25	County Highway Agency	Systemic	Intersections	Modern roundabout
Roundabout at CR 541 (Stokes Rd) and CR 648 (Willow Grove Rd), Shamong Twp - PE	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$281000	\$281000	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	2,205	50	County Highway Agency	Systemic	Intersections	Install roundabout
Salem County Roundabout (Six Points) - FD	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$182000	\$182000	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	2,464	50	County Highway Agency	Systemic	Intersections	Focus efforts to reduce right angle and left turn crashes at high-risk signalized and unsignalized intersections on all roads.
Sicklerville Road (CR 705) and Erial Road (CR 706) Systemic Roundabout - PE	Intersection traffic control	Modify control – Modern Roundabout	1	Intersections	\$299000	\$299000	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	12,948	45	County Highway Agency	Systemic	Intersections	Install roundabout

2021 New Jersey Highway Safety Improvement Program

Attached is a file called "Q#29 List of projects from Portfolio" with calculations for:

- Total HSIP authorizations
- HRRRP authorizations
- Non-infrastructure authorizations
- Local authorizations
- Systemic authorizations
- State roadway authorizations (CPM)

HSIP Project cost = HSIP authorization amount that occurred in calendar year 2020 for the phase being reported

TOTAL Project cost = Total authorization amount that occurred in calendar year 2020 including other funds used for the phase being reported.

In this case, all HSIP Project cost = TOTAL Project cost.

Some cells are blank because have multiple answers or because the question does not apply for the listed authorization.

Non-Federal Match – Toll Credit

Toll Credits were created in the *Transportation Equity Act for the 21st Century*(TEA-21), and are to be used as credits toward the non-federal matching share of programs authorized by Title 23 (except for the emergency relief program) and for transit programs authorized by Chapter 53 of Title 49.

The amount of credit earned is based on revenues generated by the toll authority (i.e., toll receipts, concession sales, right-of-way leases or interest), including borrowed funds (i.e., bonds, loans) supported by this revenue stream, that are used by the toll authority to build, improve or maintain highways, bridges and/or tunnels that serve interstate commerce. The federal government has allowed state and local governments to use toll credits as part of the local matching funds in regard to transit grants. This allowance results from the recognition that different modes of transportation are interconnected. Capital expenditures to reduce congestion in a particular corridor benefit all modes of transportation in that corridor, be they automobiles, transit buses, or a rail system.

With the assumption that federal funds apportionments will continue to remain flat and a steady or increasing request for additional credits will continue, there is an expectation for the available balance of toll credits to accrue over the next 10 years. With new credits outpacing usage, New Jersey expects to have sufficient toll credits to continue to utilize the soft match of federal funds over the entire 10 year plan.

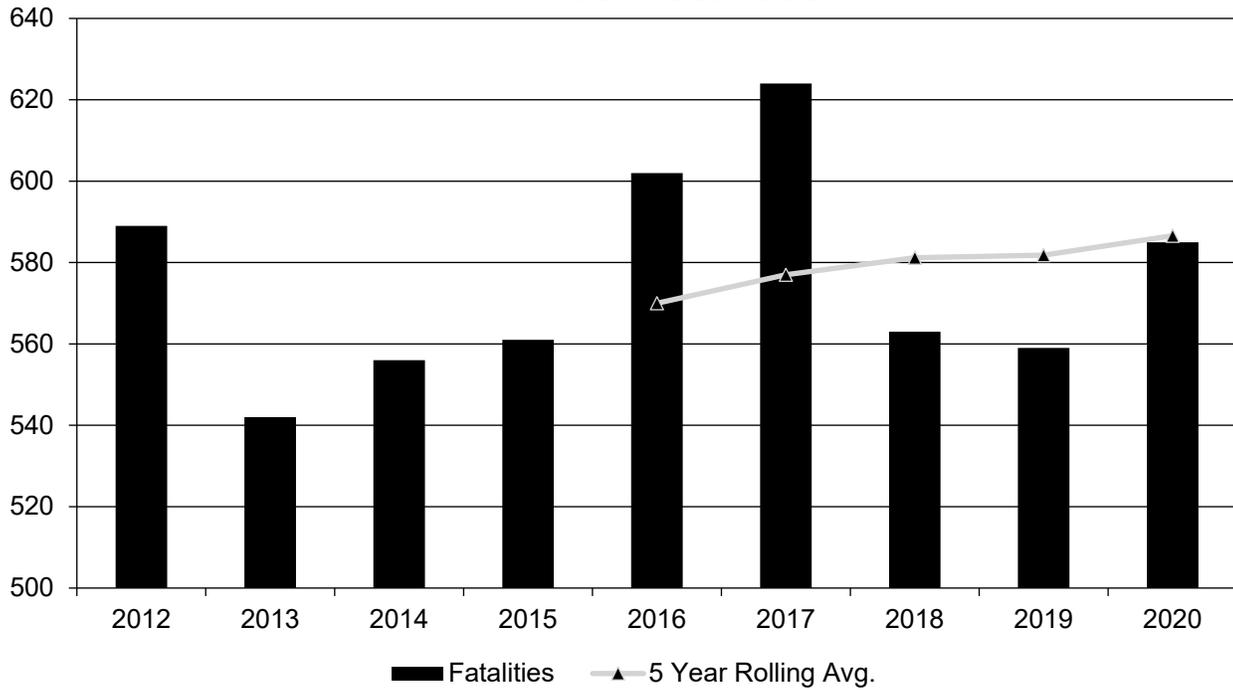
Safety Performance

General Highway Safety Trends

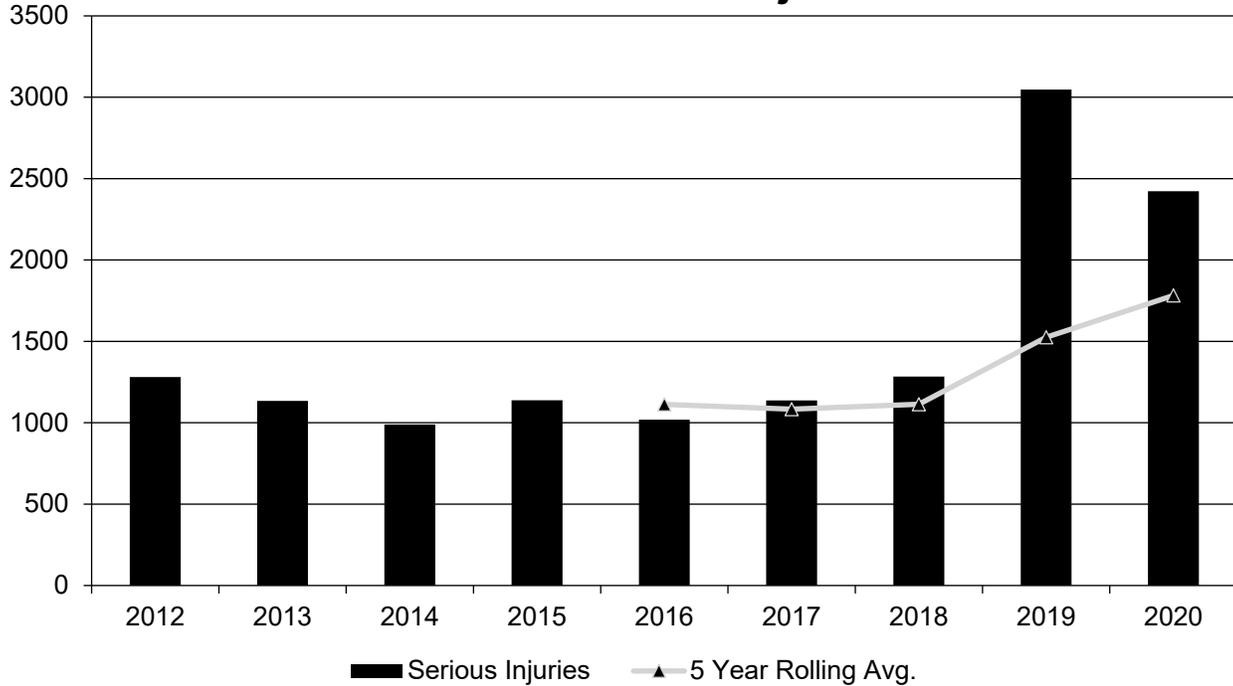
Present data showing the general highway safety trends in the State for the past five years.

PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fatalities	589	542	556	561	602	624	563	559	585
Serious Injuries	1,281	1,134	990	1,138	1,019	1,137	1,284	3,047	2,423
Fatality rate (per HMVMT)	0.790	0.730	0.740	0.740	0.780	0.810	0.730	0.710	0.930
Serious injury rate (per HMVMT)	1.730	1.520	1.320	1.510	1.320	1.470	1.660	3.900	3.860
Number non-motorized fatalities	170	143	179	188	181	200	191	188	197
Number of non-motorized serious injuries	281	209	179	205	205	202	234	630	697

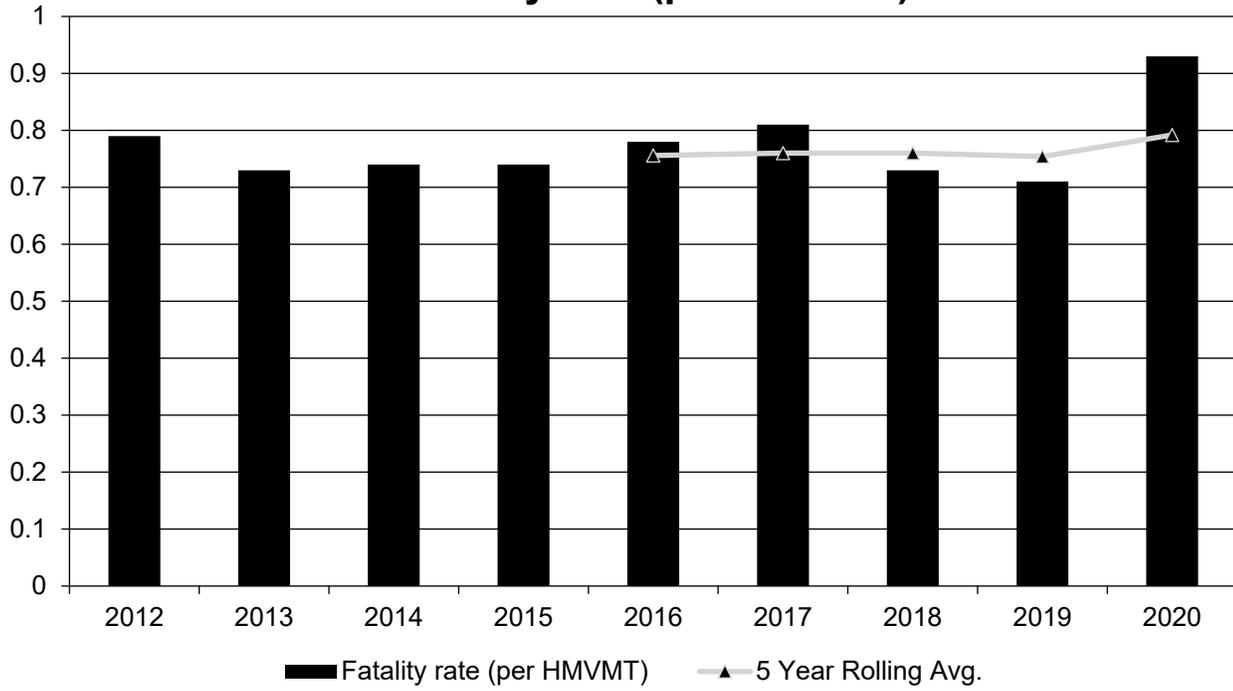
Annual Fatalities



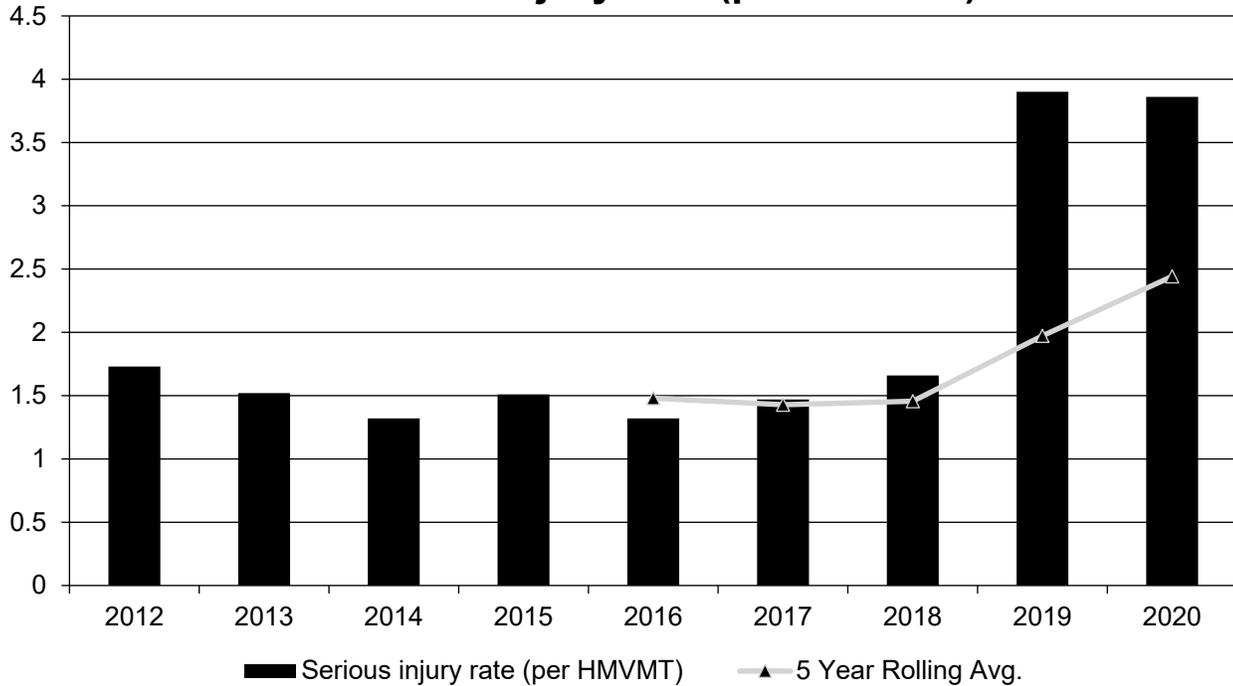
Annual Serious Injuries



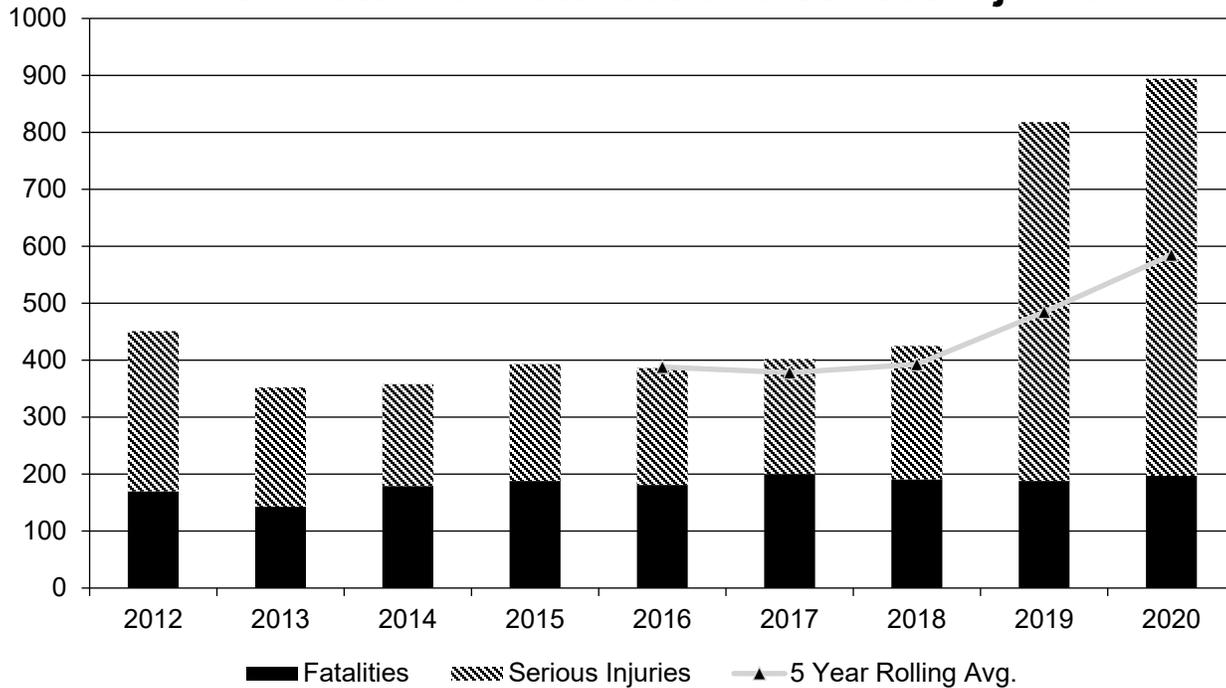
Fatality rate (per HMVMT)



Serious injury rate (per HMVMT)



Non Motorized Fatalities and Serious Injuries



1. VMTs for 2020 are not available. 2020 is estimated based on FHWA Traffic Volume Trends . Note that 2012 & 2016 are adjusted for Leap Years (366 days).

2. 2010-2019 Number of Fatalities is based on available FARS data as of 4/23/2021.

3. 2020 Number of Fatalities are based on available NJ State Police Fatal Accident Investigation Unit as of 3/31/2021.

4. 2010-2018 Number of Serious Injuries is based on available NJDOT data (DOT-ARD database) as of 3/29/2020. 2019 Number of Serious Injuries is based on available NJDOT data (DOT-ARD database) as of 3/31/2021. 2020 numbers are estimated based on calculations using available data including Number of Serious Injuries available NJDOT data (DOT-ARD database) as of 3/31/2021.

Describe fatality data source.

FARS

For Functional Classification and Ownership: Fatalities for 2015-2019 are from FARS and fatalities for 2020 are from NJDOT-ARD.

For Emphasis Areas: All fatalities are from NJDOT-ARD except the following:

- For “Ped-Bike” and “Older Driver” fatalities for 2015-2019 are from FARS and fatalities for 2020 are from NJSP.
- For “Motorcycle” and “Young Drivers” and “Work Zone”: fatalities for 2015-2019 are from FARS and fatalities for 2020 are from ARD.

For General Trends and Safety Performance Target calculations:

2021 New Jersey Highway Safety Improvement Program

2010-2019 Number of Fatalities is based on available FARS data as of 4/23/2021.

2020 Number of Fatalities are based on available NJ State Police Fatal Accident Investigation Unit as of 3/31/2021.

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

Year 2020

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	6.6	13	0.56	1.16
Rural Principal Arterial (RPA) - Other Freeways and Expressways	5.2	5.2	1.13	1.13
Rural Principal Arterial (RPA) - Other	8.6	21.4	1.26	3.2
Rural Minor Arterial	11.6	20.2	1.78	3.09
Rural Minor Collector	1.8	6.8	1.12	4.2
Rural Major Collector	17.4	33	2.14	4.16
Rural Local Road or Street	14	12.6	1.66	1.55
Urban Principal Arterial (UPA) - Interstate	55.8	110	0.38	0.75
Urban Principal Arterial (UPA) - Other Freeways and Expressways	55	113.6	0.44	0.93
Urban Principal Arterial (UPA) - Other	184.6	462.6	1.17	2.95
Urban Minor Arterial	114	392.8	1.03	3.56
Urban Minor Collector	3.4	10	0.5	1.53
Urban Major Collector	35.4	129.6	0.79	2.87
Urban Local Road or Street	50.6	110.8	0.46	1.04
Not a Reportable HPMS Trafficway	2.8			

2021 New Jersey Highway Safety Improvement Program

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Not a HPMS Reportable Trafficway				

2021 New Jersey Highway Safety Improvement Program

Year 2020

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	249.2	559	0.84	1.9
County Highway Agency	168.8	544.6	1.16	3.77
Town or Township Highway Agency				
City or Municipal Highway Agency	96.2	241.8	1.89	4.77
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency	1.8	0.6	0.98	0.3
Private (Other than Railroad)				
Railroad				
State Toll Authority	51	82.8	0.38	0.62
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				
Other	1.8	0.2	0.01	0

Functional Classification:

Fatalities for 2015-2019 are from FARS. Fatalities for 2020 are from NJDOT-ARD.

Serious injuries for 2015-2020 are from NJDOT-ARD.

Fatalities and Serious Injuries for 2018-2019 have been updated.

2021 New Jersey Highway Safety Improvement Program

Functional Class categories rely on crashes having milepost information, any crash that does not have this information is excluded.

2020 VMT data provided by NJDOT on July 2, 2021.

Ownership:

Fatalities for 2015-2019 are from FARS. Fatalities for 2020 are from NJDOT-ARD.

Serious injuries for 2015-2020 are from NJDOT-ARD.

Fatalities and Serious Injuries for 2018-2019 have been updated.

Because the Jurisdiction categories rely on crashes having milepost information, any crash that does not have this information is excluded.

2020 VMT data provided by NJDOT on July 2, 2021.

Provide additional discussion related to general highway safety trends.

NJ wants to highlight the anomalous traffic patterns, data gaps and the models being rendered unusable in 2020, continuing the trend from 2019 Serious Injury Reporting change in 2019. Combined these two years are considered outlier events. We are seeking guidance from FHWA on how to present and use these years, especially 2020, moving forward.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2022 Targets *

Number of Fatalities:565.0

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

2010-2019 Number of Fatalities is based on available FARS data as of 4/23/2021.

2020 Number of Fatalities is based on available NJ State Police Fatal Accident Investigation Unit as of 3/31/2021.

With guidance from the 2020 NJ SHSP, NJ established 3.0% annual reduction of fatalities.

Number of Serious Injuries:2537.2

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

2010-2018 Number of Serious Injuries is based on available NJDOT data (DOT-ARD database) as of 3/29/2020.

2019 Number of Serious Injuries is based on available NJDOT data (DOT-ARD database) as of 3/31/2021.

2021 New Jersey Highway Safety Improvement Program

2020 numbers are estimated based on calculations using available data including Number of Serious Injuries available NJDOT data (DOT-ARD database) as of 3/31/2021.

The serious injury targets are projected to be 3.0% annual reductions on a weighted non-COVID related serious injury numbers.

Fatality Rate:0.766

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

The VMTs were also weighted using the FHWA COVID data, and the projections based on INRIX reporting of the daily percent traffic based on 2019 volumetric data.

A 3.0% annual reduction is projected for fatality rate target.

Serious Injury Rate:3.440

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

The VMTs were also weighted using the FHWA COVID data, and the projections based on INRIX reporting of the daily percent traffic based on 2019 volumetric data.

A 3.0% annual reduction is projected for serious injury rate target.

Total Number of Non-Motorized Fatalities and Serious Injuries:754.1

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

VMTs for 2020, 2021 & 2022 are not available. 2020 is estimated based on FHWA Traffic Volume Trends (https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm).

For 2021 and 2022, the team reviewed the INRIX volumetric factor trends (passenger VMT to historical passenger VMT) for 2020 to April 2021 and decided, due to the anomalies in the data, to assign a weight to each quarter for 2021 for an overall VMT of 95% of 2019; and CY 2022 VMT to be equal to 2019.

A 3.0% annual reduction is projected for non-motorized fatalities and serious injuries target.

Note that 2012 & 2016 VMTs are adjusted for Leap Years (366 days).

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

The NJDOT took the lead to establish the five safety performance targets. Several meetings with the MPOs and DHTS took place during the process. The New Jersey Division FHWA Safety Engineer also attended these meetings and offered input in an advisory capacity. Throughout the process, the NJDOT coordinated with MPOs and DHTS to:

- a) share data for the measures
- b) develop and discuss methods to set statewide targets
- c) discuss preliminary targets using the methodology that was agreed upon in earlier meetings

The targets submitted have the concurrence of DHTS, MPOs and NJDOT leadership.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State’s 2020 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	582.8	586.6
Number of Serious Injuries	1167.9	1782.0
Fatality Rate	0.744	0.792
Serious Injury Rate	1.489	2.442
Non-Motorized Fatalities and Serious Injuries	407.9	585.0

This year was an anomalous year because of the Pandemic. Any projections and models were rendered unusable compounding the impacts of the change in reporting serious injuries on the New Jersey police reports.

The attached excel file called "Progress meeting 2020 SPT" describes the progress toward meeting the State's 2020 Safety Performance Targets.

NJDOT’s target setting process included coordination with NJ’s three Metropolitan Planning Organizations (MPOs) and FHWA’s NJ Division Office, along with NJ’s Division of Highway Traffic Safety (DHTS) to ensure a consistent approach for target setting. The identified targets reflect coordination and collaboration with NJ’s Governor’s Highway Safety Representative. The selected targets for number of fatalities, fatality rates, and number of serious injuries are consistent with the targets which will be reported in NJ’s Highway Safety Plan by the Division of Highway Traffic Safety.

The targets were established after careful consideration of previous trends (statistical forecasting to predict probable outcomes), recently built projects and the current socioeconomic environment. The targets are based on five year rolling average values and are reported to satisfy federal requirements with the understanding that New Jersey’s safety vision is to achieve zero deaths on all public roads. This long-term safety vision requires time to change attitudes and behaviors and to construct infrastructure improvements to reduce the frequency and severity of crashes.

Number of Fatalities:

Outcome: 586.6

Target: 582.8

The target was not met. The outcome was with 0.65% greater than the target.

Fatality Rate:

Outcome: 0.792

2021 New Jersey Highway Safety Improvement Program

Target: 0.744

The target was not met. The outcome was with 6.45% greater than the target.

Number of Serious Injuries:

Outcome: 1782.0

Target: 1167.9

Baseline: 1110.8 (submitted in 2019 ASR)

The target was not met and the outcome was not better than baseline. The outcome was with 52.6% greater than the target and 60.42% greater than the baseline.

Serious Injury Rate:

Outcome: 2.442

Target: 1.489

Baseline: 1.449

The target was not met and the outcome was not better than the baseline. The outcome was 64.0% greater than the target and 68.53% greater than the baseline.

Number of Non-Motorized Fatalities and Serious Injuries:

Outcome: 585.0

Target: 407.9

Baseline: 392.7

The target was not met and the outcome was not better than the baseline. The outcome was 43.42% greater than the target and 48.97% greater than the baseline.

The five year rolling average targets above, incorporating serious injuries, indicate a large increase. This is a result of a large spike in reported serious injuries in 2019 crashes. Beginning in 2019, New Jersey updated the police crash report to be consistent with the federally required injury classifications (Killed, Suspected Serious Injury, Suspected Minor Injury, Possible Injury, and No Apparent Injury). As a result of this change, injuries not previously attributed to the serious injury classification are now included in this number. For example, a crash victim with a broken arm that would have previously been classified as a Moderate injury, is now classified as Suspected Serious Injury. As a result, New Jersey saw an 88.71% increase in reported serious injuries in 2020 compared to 2018 due to the changes in reporting in 2019. This large increase creates a challenge in predicting anticipated totals for future years. New Jersey expects the five year rolling average to increase over the next few years until the data stabilizes.

Applicability of Special Rules

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

No

\$0.000 million has been authorized in Calendar Year 2020 under the HRRR.

Approximately \$0.050 million for CY 21 and \$0.000 million for CY 22 are programmed to be authorized under HRRR so far.

It has been determined that the HRRR special rule does not apply to New Jersey for the 2021.

The HRRR methodology changed to: Federal rules require that states define High Risk Rural Roads (HRRR) in conjunction with the NJ 2020 SHSP. Safety improvements on roads that meet the state’s definition of a HRRR may be eligible for federal HRRR Program funds. First, to be eligible as a HRRR, the road segment must have a functional classification as either a rural major collector, a rural minor collector, or a rural local road. In addition to the classification, to qualify for HRRR funds, a data-driven analysis must identify the road segment as having significant safety risks. The FHWA directs that each state develop its own methodology for identifying segments with significant safety risks with FHWA approval. New Jersey’s approved methodology for identifying a road segment as a HRRR is that the rural road segment must demonstrate fatal and incapacitating injury crashes per mile higher than the average for the segment on rural roadways with similar geometric features (Also known as homogeneous segments, defined based on a variety of factors, such as functional class, speed limit, two-lane versus multilane, etc.). Rural major or minor collector segments and local road segments with similar roadway geometric features are referred to as peer groups. The number of fatal and incapacitating injuries for a particular segment are compared to the average number of fatal and incapacitating injuries for peer group segments within the same metropolitan planning organization boundary to determine if the segment in question exceeds the average for the peer group. Segments that exceed the average for the peer group are classified as having a significant safety risk and thus, a HRRR segment.

High risk locations may also be identified through means such as field reviews, safety assessments, Road Safety Audits, and local knowledge and experience. Using information from observations in the field can identify high risk locations that may not be identified through data analysis or by identifying roadway characteristics. High risk rural roadway characteristics that are correlated with specific severe crash types such as cross-section width, lack of shoulders, substandard alignment, and hazardous roadside may be considered for systemic improvements across multiple HRRR segments.

Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.

PERFORMANCE MEASURES	2014	2015	2016	2017	2018	2019	2020
Number of Older Driver and Pedestrian Fatalities	75	84	86	95	103	88	81
Number of Older Driver and Pedestrian Serious Injuries	111	140	102	119	148	347	182

2014-2019 Drivers and Pedestrians Fatalities are from FARS.

2021 New Jersey Highway Safety Improvement Program

2020 Drivers Fatalities are from 2020 NJSP Fatal report.

2014-2020 Drivers and Pedestrian Serious Injuries are from NJDOT-ARD database.

2014-2020 Pedestrian SI counts are updated using a more accurate query.

Driver counts are of drivers only; excludes all other persons involved in the crash (pedestrian, occupants, etc.).

Pedestrian counts are of pedestrians and cyclists who were involved in a crash that has an older driver.

Older Driver and Pedestrian Special Rule applies to NJ in Federal Fiscal Year 2021.

NJ 2020 SHSP, Other Vulnerable Road Users team has been informed of the Special Rule for Older Drivers and Pedestrians to be consider in the development of their action plans. NJDOT will try to incorporate older drivers into the current 2020 SHSP emphasis areas. However, it is required that the Special Rule be incorporated in the following update, which will be 2025 NJ SHSP.

See attached memo called "Q#39 - FFY 21 Older Drivers and Pedestrians"

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries
- Economic Effectiveness (cost per crash reduced)
- Lives saved

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

NJDOT currently evaluates the safety projects funded by HSIP based on before and after crash data and the Benefit Cost Ratio. The HSIP Safety Performance Targets charts, which includes fatalities, serious injuries and their rates, gives us an idea how New Jersey is performing in the area of traffic and pedestrian safety.

NJDOT, with assistance from the FHWA, has begun planning an evaluation effort to improve their HSIP evaluation process. The evaluation effort will be conducted to provide direction and improve decisions and processes to NJDOT's HSIP evaluation process of countermeasures, projects and programs.

NJDOT updates the HSIP Portfolio quarterly, tracking the projects within the program in terms of authorizations and delivery. The HSIP Program will be evaluated using the following metrics, starting 2021:

1. Return on Investment – Post-deployment Benefit Cost Evaluation (Systemic Programs funded by HSIP)
2. HSIP Funding Assessment (Dashboard) – Obligated vs. Authorized funds
3. Construction of projects initiated through the HSIP portfolio (Dashboard) – using HSIP or other funds

See attached information from the Dashboard.

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

Explanation:

- RSAs completed – Measured by the number of RSAs completed
- HSIP Obligations – Comparing the HSIP obligations each year
- Increased awareness of safety and data-driven process – Number of training classes, conferences and webinars
- Increased focus on local road safety – Number of trainings on Local Safety Application, revision of the local safety application, participation in Local Safety Application Technical Review Committees, Number of HSM

2021 New Jersey Highway Safety Improvement Program

Analysis reviewed for the local applications

- More systemic programs – Comparing the number of Systemic Programs initiated each year.

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

A noteworthy improvement has been in the streamlining of the Capital Project Delivery Process, including addition of six activities to the Network Diagram and Work Breakdown Structure (WBS) and the creation of a Concept Development Checklist for Regional Horizontal Curve Signs Program. These activities have been submitted to NJ FHWA Division for review and approval while the CD checklist has been approved.

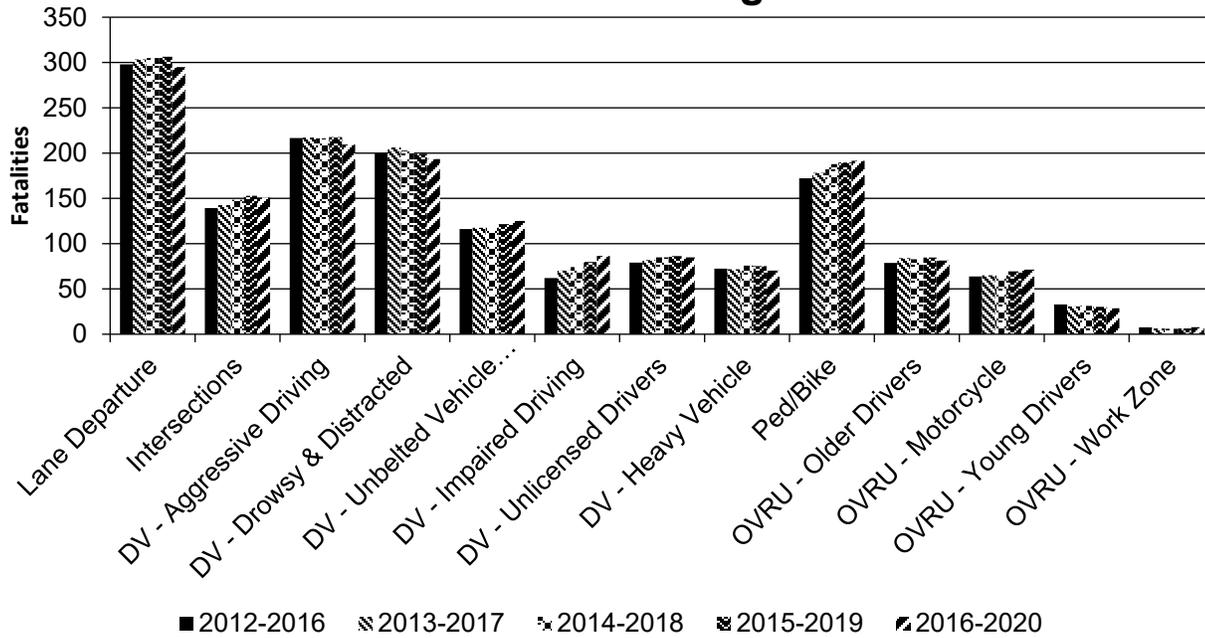
Effectiveness of Groupings or Similar Types of Improvements

Present and describe trends in SHSP emphasis area performance measures.

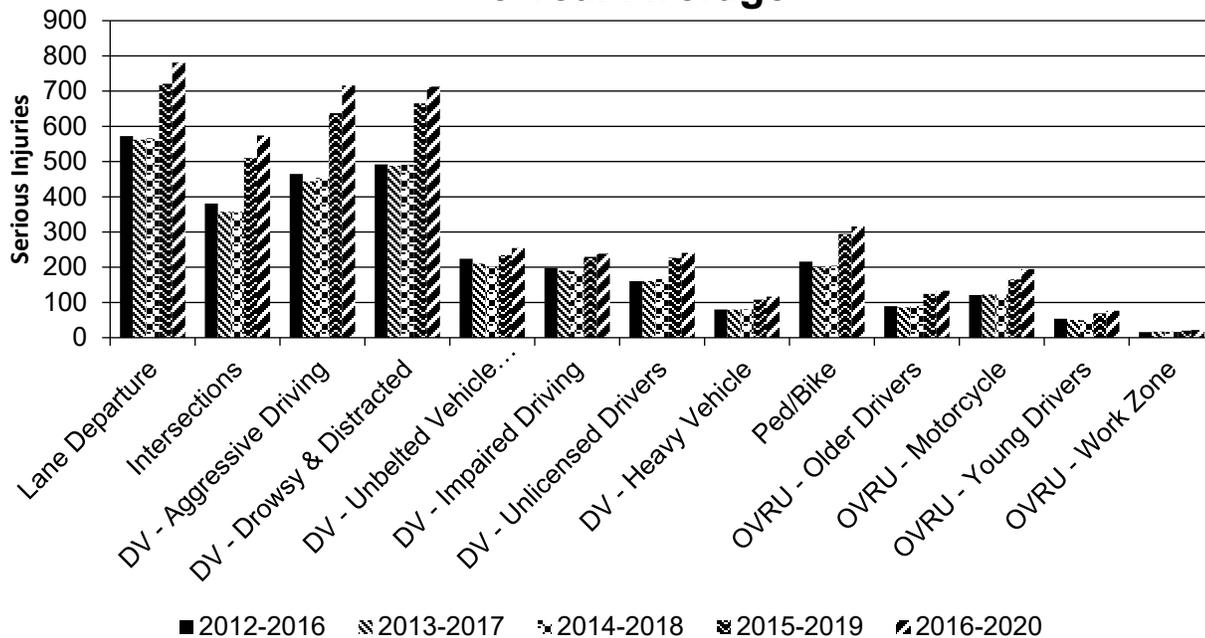
Year 2020

SHSP Emphasis Area	Targeted Crash Type	Number Fatalities (5-yr avg)	of	Number Serious Injuries (5-yr avg)	of	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure		295		781		0.39	1.05
Intersections		150.8		574		0.2	0.77
DV - Aggressive Driving		209.4		715.8		0.28	0.96
DV - Drowsy & Distracted		193.4		712.8		0.26	0.95
DV - Unbelted Vehicle Occupants		125		254.4		0.17	0.34
DV - Impaired Driving		86.4		238.6		0.11	0.32
DV - Unlicensed Drivers		84.8		240.8		0.11	0.32
DV - Heavy Vehicle		70.2		116.6		0.09	0.16
Ped/Bike		191.4		315.8		0.26	0.42
OVRU - Older Drivers		81.4		133.2		0.11	0.18
OVRU - Motorcycle		71.4		194.6		0.09	0.26
OVRU - Young Drivers		28.6		76.6		0.04	0.1
OVRU - Work Zone		7.8		21.6		0.01	0.03

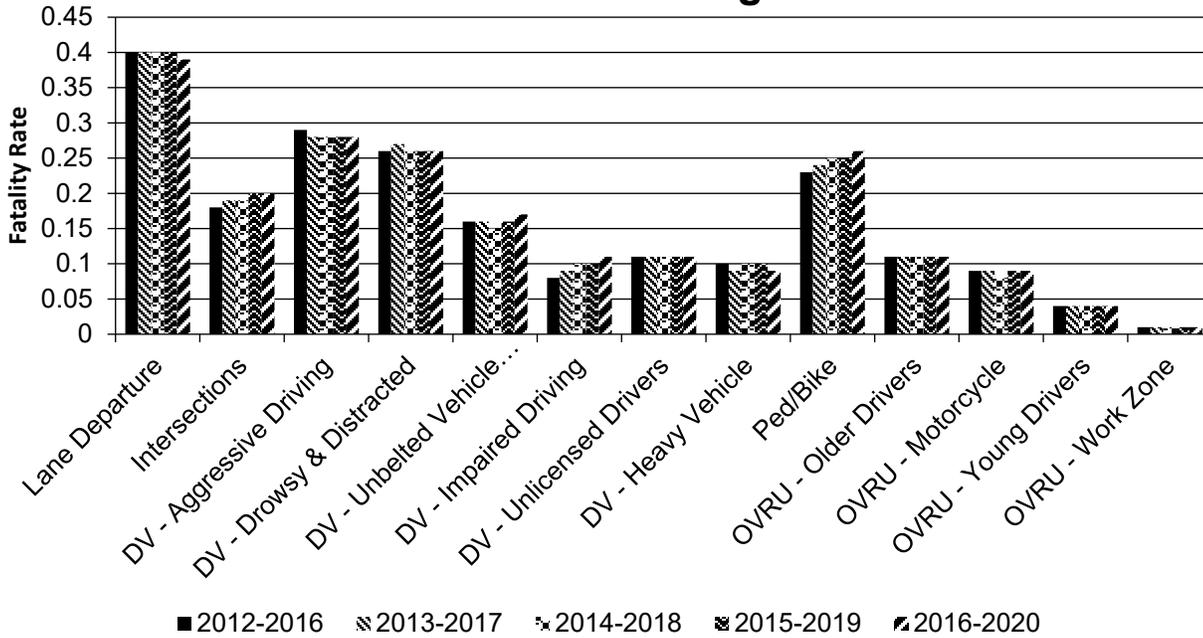
Number of Fatalities 5 Year Average



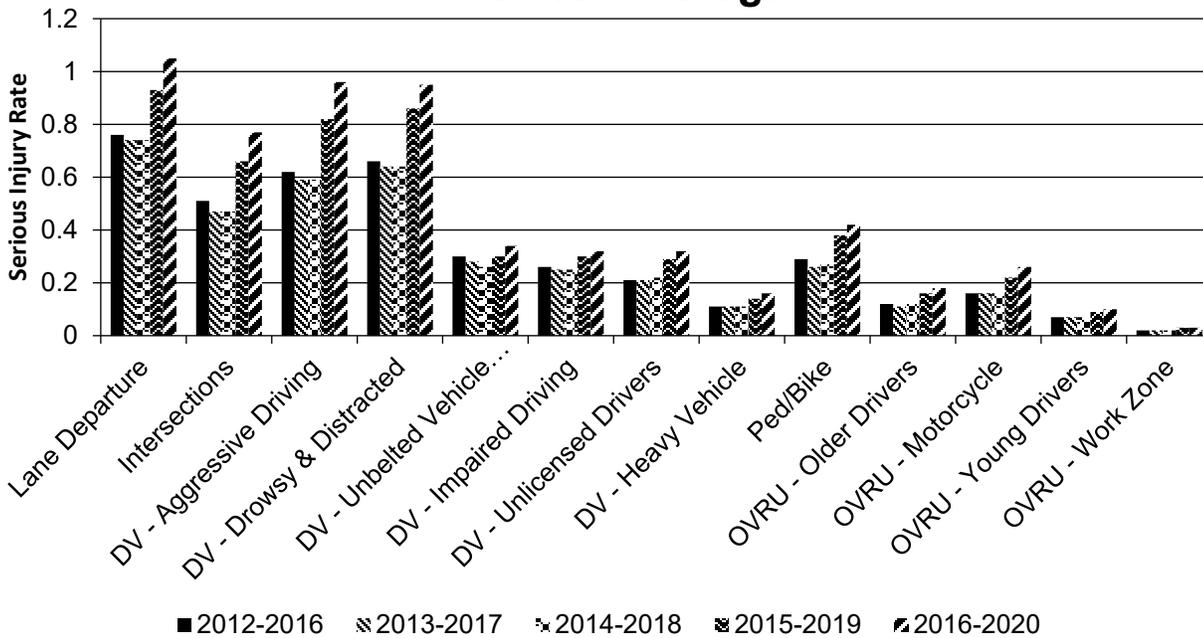
Number of Serious Injuries 5 Year Average



Fatality Rate (per HMVMT) 5 Year Average



Serious Injury Rate (per HMVMT) 5 Year Average



The list of emphasis areas from 2020 SHSP is about the same as the list from 2015 SHSP except for three differences.

- First, Railcar-Vehicle emphasis area is not included in 2020 SHSP.

2021 New Jersey Highway Safety Improvement Program

- Second, the emphasis areas “Aggressive Driving”, “Drowsy & Distracted”, “Unbelted Vehicle Occupants”, “Impaired Driving”, “Unlicensed Drivers”, and “Heavy Vehicle” are grouped and called “Driver Behavior (DV)” in the 2020 SHSP.
- Third, the emphasis areas “Older Drivers”, “Motorcycle”, “Young Drivers”, and “Work Zone” are grouped and called “Other Vulnerable Road Users (OVRU)” in the 2020 SHSP.
- Emphasis areas “Lane Departure”, “Intersections”, and “Ped-Bike” remain the same.

All Emphasis Areas are now adopting the 2020 SHSP Emphasis Areas queries. Please see the attached "Q#44 - Emphasis_Areas_Definition_Matrix" for parameters pertaining to each Emphasis Area. Therefore, counts for 2015-2019 are updated and may be different to prior ASR reports.

Total Persons count for all emphasis areas include occupants, pedestrians, and cyclists except for emphasis areas “Older Drivers”, “Young Drivers”, “Unbelted Occupants”, and “Ped-Bike”.

All fatalities and serious injury count for the emphasis areas are from ARD with the following exceptions:

- For “Ped-Bike” and “Older Driver” fatalities for 2015-2019 are from FARS and fatalities for 2020 are from NJSP.
- For “Motorcycle” and “Young Drivers” and “Work Zone”: fatalities for 2015-2019 are from FARS and fatalities for 2020 are from ARD.

FARS has a filter for “Intersections” and for “Drowsy & Distracted” but the parameters used are not known. Therefore, ARD was used instead for these emphasis areas.

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

No

NJDOT installed Centerline rumble stripes as part of a Systemic Program, and the construction was completed in October 2016. According to Highway Safety Manual, the post-deployment evaluation should include at least three (3) years of safety data following a six (6) month period of normalization. BSBPP has collected the safety data for the contracts for the first two years with CY 2020 pending. CY 2020 safety data will be available by July 2021.

BSBPP will continue collecting and analyzing the safety data. It is anticipated that post-deployment evaluation reports for the Program will be shared in the 2022 ASR.

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)
SJTPO Salem County Construction of Centerline Rumble Strips	Various	Roadway delineation	Roadway delineation - other	59.00	75.00	1.00		2.00	3.00	31.00	24.00	93.00	102.00	57.36
SJTPO Cumberland County Construction of Centerline Rumble Strips	Various	Roadway delineation	Roadway delineation - other	690.00	826.00	11.00	9.00	16.00	11.00	344.00	322.00	1061.00	1168.00	49.79
SJTPO Chestnut Avenue & Brewster Road, Traffic Signal Replacement	Urban Major Collector	Intersection traffic control	Modify control – new traffic signal	24.00	15.00					6.00	8.00	30.00	23.00	0
SJTPO Oak Road & West Avenue Signalization	Urban Local Road or Street	Intersection traffic control	Modify control – new traffic signal	6.00	3.00					6.00	1.00	12.00	4.00	14.43
SJTPO Wheat Road & East Avenue Signalization	Urban Minor Arterial	Intersection traffic control	Modify control – new traffic signal	11.00	3.00					14.00	8.00	25.00	11.00	8.33
SJTPO Tilton and Fire Roads, Signal Improvements	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Modify control – new traffic signal	35.00	37.00			1.00		20.00	10.00	56.00	47.00	17.68
SJTPO Tilton Road Pedestrian Safety Project	Urban Principal Arterial (UPA) - Other	Pedestrians and bicyclists	Pedestrians and bicyclists – other	128.00	105.00		1.00	3.00	1.00	57.00	52.00	188.00	159.00	0
SJTPO Airport Circle Elimination	Urban Principal Arterial (UPA) - Other	Intersection geometry	Intersection geometry - other	127.00	119.00			1.00	1.00	21.00	33.00	149.00	153.00	0
DVRPC CR 545 and Old York Road (CR 660),	Rural Major Collector	Intersection geometry	Intersection geometry - other	5.00	2.00					5.00		10.00	2.00	1.74

2021 New Jersey Highway Safety Improvement Program

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)
Roundabout (DB #D1405)														
DVRPC BURLINGTON COUNTY 603/606 ROUNDABOUT*	Rural Arterial	Minor Intersection geometry	Intersection geometry - other	10.00						4.00		14.00		2.4
NJTPA Essex-Lyons Avenue (CR 602) - Phase I from Stuyvesant Avenue to Cordier Street	Urban Arterial	Minor Intersection traffic control	Modify traffic signal - modernization/replacement	47.00	76.00				1.00	45.00	77.00	92.00	154.00	0
NJTPA Essex - Chancellor Avenue (CR 601) - Phase I from 40th Street to Fabyan Place	Urban Arterial	Minor Intersection traffic control	Modify traffic signal - modernization/replacement	40.00	59.00					32.00	36.00	72.00	95.00	0
NJTPA Morris - South Salem Street (CR 665) and Franklin Road	Urban Arterial	Minor Intersection traffic control	Modify traffic signal - modernization/replacement	9.00	13.00					23.00	1.00	32.00	14.00	26.13
NJTPA Somerset - Mountain Avenue (CR 642)	Urban Arterial	Minor Roadway	Restripe roadway to revise separation between opposing lanes and/or shoulder widths					1.00		5.00	3.00	6.00	3.00	2.57

Projects with B/C zero are projects that did not result in a positive B/C. The following are further analysis for the projects with B/C zero.

NJTPA:

Essex-Lyons Avenue (CR 602) - Phase I from Stuyvesant Avenue to Cordier Street: There was no post-construction benefit in the 3 years following construction completion. Further analysis indicates all intersections with the exception of Lincoln Place had an increase in total crashes. Injury crashes increased by 70% and PDO crashes increased by 62%. Using the same time periods for a pre- and post- comparison: crashes along all of Lyons Avenue (all types and severities) within the boundaries of Essex County increased by 78%.

Essex - Chancellor Avenue (CR 601) - Phase I from 40th Street to Fabyan Plac: There was no post-construction benefit in the 3 years following construction completion. Further analysis indicates three intersections had a decrease, one remained equal and four had an increase in total crashes. Injury crashes increased by 13% and PDO crashes increased by 48%. Using the same time periods for a pre- and post- comparison: crashes along all of Lyons Avenue (all types and severities) within the boundaries of Essex County increased by 59%.

SJTPO

Cumberland County – Chestnut Avenue & Brewster Road, Traffic Signal Replacement: Improvements included signal replacement to incorporate dedicated left turn phasing and pedestrian accommodations. The three-year post-construction analysis has shown a negative benefit of -0.60. SJTPO conducted further analysis, broadening out the pre- and post-construction analysis to a five year period. In that analysis, the intersection demonstrated a positive performance of 1.32.

Atlantic County – Tilton Road Pedestrian Safety Project: The overall safety performance of the corridor has improved. However, a single fatality skewed the post construction analysis. As the Network Screening Lists weight fatal and serious injury crashes equally (K=A) and this analysis weights K (fatal) crashes as 18.87 times the weight of A (disabling injury) crashes, it is of note that while this analysis resulted in a B/C ratio of -37.25, a K=A analysis results in a positive ratio of 5.99. In locations with relatively low numbers, a single fatal crash will skew the analysis results. It is of further note that while the project was pedestrian safety focused, the fatality did not involve a bicyclist or pedestrian.

Atlantic County – Airport Circle Elimination: This project was a very complex one, which included redesigning one of the region's older traffic circles. The project included many elements that resulted in a hybrid circle, with Delilah Road bisecting the circle, and the Tilton Road/Amelia Earhart movements accommodated in the circle. The intersection is now controlled by a traffic signal system, providing full actuation and four distinct phases. All approaches are under signalized control, with the exception of Amelia Earhart Boulevard, which is yield sign controlled. The three-year post-construction analysis has shown a negative benefit. Crashes increased through the circle's series of intersections. Evident injury and property damage crashes were down, however, complaint of pain crashes were up, resulting in a negative performance of -1.93. Expanding out to a 5 year pre and post analysis nets similar results. SJTPO will engage the County to discuss any opportunities for possible adjustments.

Compliance Assessment

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

08/18/2020

What are the years being covered by the current SHSP?

From: 2021 To: 2025

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

2025

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		50
	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	80					100	65		
	Begin Point Segment Descriptor (10) [10]	100	100					100	100		50
	End Point Segment Descriptor (11) [11]	100	100					100	100		50
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	50	50								
	Functional Class (19) [19]	100	100					100	100		20
Median Type (54) [55]	100	100									

2021 New Jersey Highway Safety Improvement Program

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
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	50		
	Average Annual Daily Traffic (79) [81]	100	80					90	5		
	AADT Year (80) [82]	100	80								
	Type of Governmental Ownership (4) [4]	100	100					100	100		30
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]			70	70						
	AADT for Each Intersecting Road (79) [81]			100	80						
	AADT Year (80) [82]			100	80						
	Unique Approach Identifier (139) [129]			100	80						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [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	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]					100	100				
	Ramp AADT (191) [181]					65	35				
	Year of Ramp AADT (192) [182]					65	35				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		97.22	93.89	96.25	88.75	93.64	88.18	98.89	80.00	0.00	40.00

*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.

On the actions the State will take moving forward to meet the requirement to have complete access to the MIRE FDE on all public by September 30, 2026:

1. Some of the current MIRE FDEs are stored in the SLD database.
2. The NJDOT Information Tech Unit will continue to upload the available MIRE FDE to Business Objects (TransINFO) NJDOT website so that the MIRE FDE would be available/accessible to all NJDOT or MPOs.
3. Procuring funds to collect all Annual Average Daily Traffic (AADT) is a critical issue.
4. The NJDOT's BDTS is currently collecting many of the required MIRE FDE and developed a plan for the collection and/or update of the remaining required elements. Through BTDS's Data Warehouse Maintenance (DWM), HPMS Contract and TMS contracts the following MIRE FDE will be collected in the short-term (1-3 years):
 - 131. Intersection/Junction Traffic Control
 - 79. Annual Average Daily Traffic – on the approach leg of the intersection/junction and local Paved Roads – Non-State owned AADT
 - 191. Ramp AADT
 - Annual Average Daily Traffic (79) Non-State Local Paved Roads

Optional Attachments

Program Structure:

Q#16 List of Projects from Portfolio.xlsx

Q#13 - 2016 HSIP Manual.pdf

Project Implementation:

Q#27 NJDOT_HSIP_ImplementationPlan_FinalCommDraft_6.23.21.pdf

Q#23 Programmed Vs Obligated funds.xlsx

Q#23 List of Projects from Portfolio.xlsx

Q#29 List of Projects from Portfolio.xlsx

Safety Performance:

Q#34 Alt 5 HSIP PM Targets 2022_3 2020 Annual F-2019 Annual SI_Weighted - PedSI_6.xlsx

Q#34 - Safety Performance Targets 8-20-21 signed letter.pdf

Q#39 - FFY 21 Older Drivers and Pedestrians.pdf

Evaluation:

Q#41 HSIP Performance Dashboard_ASR.pdf

Q#44 - Emphasis_Areas_Definition_Matrix.pdf

Q#46 - MPOs Evaluations.xlsx

Compliance Assessment:

Glossary

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

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

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

HMVMT: means hundred million vehicle miles traveled.

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

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

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

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

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

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

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

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

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