




FLORIDA

# HIGHWAY SAFETY IMPROVEMENT PROGRAM 2023 ANNUAL REPORT



THE FIRST RECIPIENT OF THE  
**JEANNETTE ROUSE  
SAFETY AWARD.**

 Disclaimer: This report is the property of the State Department of Transportation (State DOT). The State DOT completes the report by entering applicable information into the Federal Highway Administration's (FHWA) Highway Safety Improvement Program (HSIP) online reporting tool. Once the State DOT completes the report pertaining to its State, it coordinates with its respective FHWA Division Office to ensure the report meets all legislative and regulatory requirements. FHWA's Headquarters Office of Safety then downloads the State's finalized report and posts it to the website (<https://highways.dot.gov/safety/hsip/reporting>) as required by law (23 U.S.C. 148(h)(3)(A)).

**Photo Source:**

Photo image courtesy of Florida Department of Transportation

Table of Contents

Disclaimer ..... 3  
    Protection of Data from Discovery Admission into Evidence ..... 3  
2.Executive Summary ..... 4  
Introduction ..... 6  
Program Structure..... 6  
    Program Administration ..... 6  
    Program Methodology ..... 12  
Project Implementation ..... 24  
    Funds Programmed..... 24  
    General Listing of Projects ..... 26  
Safety Performance ..... 27  
    General Highway Safety Trends..... 27  
    Safety Performance Targets..... 33  
    Applicability of Special Rules..... 38  
Evaluation ..... 39  
    Program Effectiveness ..... 39  
    Effectiveness of Groupings or Similar Types of Improvements ..... 40  
    Project Effectiveness ..... 45  
Compliance Assessment..... 46  
Optional Attachments..... 50  
Glossary..... 51

## **Disclaimer**

### ***Protection of Data from Discovery Admission into Evidence***

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

23 U.S.C. 407 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

## 2.Executive Summary

The Florida Department of Transportation (FDOT) and its traffic safety partners continue their commitment to eliminate fatalities and serious injuries with the view that the death of any person is unacceptable. FDOT is pleased to provide this report documenting Florida's HSIP program, the data-driven analysis of safety trends, HSIP funded infrastructure investments in the 2022 state fiscal year, and the evaluation of program and project effectiveness toward achieving Florida's safety performance target of zero fatalities and serious injuries. Understanding that zero fatalities cannot be reached within 2022, Florida developed data models to forecast fatal and serious injuries that are statistically expected to occur as we diligently strive to drive down fatalities and serious injuries to our ultimate vision of zero.

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP is a main component of the Florida Strategic Highway Safety Plan (SHSP), the statewide plan focused on accomplishing zero fatal or serious injuries on all public roads. The HSIP also introduces Florida to a Safe System approach promoted by the Federal Highway Administration (FHWA). The Safe System approach addresses all elements of a safe transportation system in an integrated manner.

Florida updated the SHSP in 2021 in coordination with statewide, regional, and local traffic safety partners. FDOT received an allocation of approximately \$156 million in HSIP funds during the 2022 state fiscal year from July 1, 2022 through June 30, 2023. FDOT used HSIP funds to complete over 1,100 items across almost 500 projects. Systemic safety improvements were addressed by about \$18 million in HSIP funds.

Specific program accomplishments in our top emphasis areas include:

- Multiple programs and SHSP emphasis areas were addressed by 334 project items totaling over \$53 million
- The intersection safety program completed 441 project items totaling \$52 million
- The pedestrian and bicyclist safety program completed 201 project items totaling over \$28 million
- The lane departure safety program completed 103 project items totaling almost \$10 million
- The rail crossing safety program completed 70 project items for about \$10 million
- The safety data program completed 1 project item total about \$499 thousand
- The speeding and aggressive driving safety program completed 4 project items totaling nearly \$52 thousand

Program work regarding roadway ownership include:

- State roadways were addressed by 879 project items totaling over \$128 million
- Local roadways were addressed by 275 project items totaling \$27 million

Miscellaneous project items such as road safety audits, preliminary engineering, public information or education, traffic engineering studies, and transportation statistics was supported with about \$9 million.

This year Florida reports reductions in fatalities, the fatality rate, serious injuries, the serious injury rate, and the number of non-motorized fatalities in 2022 when compared to the values reported in 2021. Further, the majority

## 2023 Florida Highway Safety Improvement Program

of these metrics were lower than the forecasted projections for 2022 based on 5-year rolling averages. A statistical analysis of HSIP funded projects through the history of the Florida program including all injury severities shows statistically significant crash reduction for lane departure (19%), rural (15%), injury (14%), fatal (13%), night (11%), wet surface (11%), left turn (8%), rear end (6%), angle (6%), and pedestrian (5%) crashes. A comparative study of HSIP funded projects from 2016 through 2019 with three years of crash data before and after each project shows a statewide average benefit-cost ratio of 24.2:1 and an average 19% reduction in fatal and serious injury crash rates specifically in the corridors where those investments were made. Furthermore, HSIP investments of \$209.2 million correspond with \$5.06 billion present value of fatal and serious injury reductions over 10 years. Further program evaluation results in our top emphasis areas are included in the Evaluation section of this report.

This report's cover imagery features the winners of FDOT's Statewide Annual Safety Award. The award honors the memory of Jeanette Rouse, a valued FDOT employee instrumental in the development of Florida's Community Traffic Safety Team (CTST) program. CTSTs provide vital support to implementing the Strategic Highway Safety Plan. Winners of this award are recognized for their significant contributions toward our target of zero fatalities and serious injuries. This year's winner is John Easterling, the Traffic Operations Engineer of Florida's Turnpike Enterprise. John established and clearly communicated a vision for his team and the future of Traffic Operations to improve safety on the Turnpike system by promoting innovative ideas and the use of advanced technologies.

## 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*

#### **3. Describe the general structure of the HSIP in the State.**

The HSIP is guided by the Florida SHSP, which provides a framework for eliminating highway fatalities and serious injuries on all public roads. The SHSP identifies Florida's key safety needs and guides investment decisions toward strategies and countermeasures with the greatest potential to save lives and prevent injuries. It is a data-driven, multi-year plan establishing statewide strategies and emphasis areas. The Florida SHSP introduces Florida to a Safe System approach promoted by the Federal Highway Administration to address all elements of a safe transportation system in an integrated manner.

Twelve emphasis areas are the primary focus for Florida's traffic safety improvement efforts organized into three categories – Roadways, Road Users, and User Behavior – supported by traffic records and information systems and accompanied by an additional category of evolving safety issues. The 4 Es of traffic safety (i.e., Engineering, Education, Enforcement, and Emergency Response) continue to be key approaches. Additionally, the 4 Is (i.e., Information Intelligence, Innovation, Insight into Communities, and Investments and Policies) provide broader and more inclusive thinking.

Emphasis areas within the Roadways category are Lane Departures and Intersections. The Road Users category includes Pedestrians and Bicyclists, Aging Road Users, Motorcyclists and Motor Scooter Users, Commercial Motor Vehicle Operators, and Teen Drivers. Emphasis areas included in the User Behavior category are Impaired Driving, Occupant Protection, Speeding and Aggressive Driving, and Distracted Driving. Additional evolving emphasis areas have been identified to be of interest that we will begin to monitor, including Work Zones, Drowsy and Ill Driving, Rail Crossings, Roadway Transit, Micromobility, and Connected and Automated Vehicles.

The Florida SHSP also defines a framework for implementation activities to be carried out through strategic safety coalitions and specific activities by FDOT, other state agencies, metropolitan planning organizations, local governments, and other traffic safety partners. The Florida HSIP is the program is managed by the Central Office with district staff performing project activities such as conducting safety studies, project scoping, public involvement, and coordinating with production staff on programming safety projects. To be eligible for HSIP funds, all safety improvement projects must (1) address a SHSP emphasis area, (2) be identified through a data-driven process, and (3) contribute to a reduction in fatalities and serious injuries. The roles in administering and implementing the HSIP are as follows:

- The FDOT State Safety Office (SSO) manages the HSIP and evaluates the program's effectiveness. The SSO determines the eligibility of projects for funding approval and provides policies, tools, and guidelines to assist the Districts, Turnpike Enterprise, and local agencies with implementing the HSIP.

## 2023 Florida Highway Safety Improvement Program

- The FDOT Districts and Turnpike Enterprise manage project funding and are responsible for delivering highway safety improvement projects. Each District has a District Safety Engineer (DSE) and supporting staff that identify, plan, design, and implement HSIP projects with support from the SSO. Each District also works with Metropolitan Planning Organizations (MPO), Transportation Planning Organizations (TPO), and local jurisdictions to assist them in improving safety within their District.
- The Federal Highway Administration (FHWA) assists with program strategy, oversees all Federal-aid expenditures, and assures the HSIP meets federal requirements. FHWA also offers technical assistance and training to FDOT and local agencies.
- Florida's MPOs, TPOs, and local agencies are integral to addressing the safety problems on all public roads. MPOs, TPOs, and local agencies coordinate with FDOT's Districts to identify and implement effective off-system highway safety improvement projects. Local agencies also develop and implement locally administered projects (LAPs) as well as Local Road Safety Plans (LRSP) to improve safety in their jurisdictions.
- Partner organizations serve as ambassadors of traffic safety and help promote the vision of Driving Down Fatalities. Partners include charities, community groups, universities, and professional associations responsible for supplemental programs that improve safety beyond road engineering, which helps achieve the HSIP's goals.
- Community Traffic Safety Teams (CTST) are multi-jurisdictional, with members from city, county, state, and occasionally federal agencies, as well as private industry representatives and local citizens. CTSTs integrate the 4E approach to safety (engineering, enforcement, education, and emergency services) to help solve local traffic safety problems and promote public awareness of traffic safety. Many effective HSIP projects are initiated through CTSTs.
- Florida's road users are the most important stakeholder in the HSIP. Each HSIP project aims to improve the safety and quality of life for road users. The HSIP is most effective when the public is engaged in safety, provides feedback during the development of HSIP projects, and actively reports safety concerns to FDOT and local government agencies.

The SHSP was developed in close coordination with the state's long-range transportation plan, the Florida Transportation Plan (FTP). The FTP establishes the goal of "Safety and security for Florida's residents, businesses, and visitors," with the target of zero transportation fatalities or serious injuries for all modes. The FTP is guided by a 35-member Steering Committee, who also provided guidance to the update of this SHSP through the FTP Safety Subcommittee. The FTP Safety Subcommittee, comprised of key transportation and safety partners, met six times to review traffic safety data, discuss FTP and SHSP strategies, and provide input on emphasis areas. In addition to aligning with the FTP, we considered the goals and targets set in the Highway Safety Improvement Program (HSIP), the HSP, the strategic plans of statewide traffic safety coalitions and programs, the safety components of the Florida Freight Mobility and Trade Plan (FMTP), and the long-range transportation plans of Florida's 27 metropolitan planning organizations (MPOs). To have a broader reach, we also considered plans from other agencies such as the Department of Elder Affairs' State Plan on Aging, the Florida Department of Health's (FDOH) State Health Improvement Plan (SHIP), and the Emergency Medical Services (EMS) State Plan.

[Source: Florida Department of Transportation FY 2024 Highway Safety Plan, 2023]

[Source: Florida HSIP Guidelines Manual, 2021]

[Source: Florida Strategic Highway Safety Plan, 2021]

#### **4. Where is HSIP staff located within the State DOT?**

Other-Engineering and Operations, State Safety Office

FDOT is decentralized with a Central Office and seven District Offices. The FDOT organizational structure is

## 2023 Florida Highway Safety Improvement Program

available through [fdot.gov](http://fdot.gov). The primary Central Office contacts for the HSIP are in FDOT SSO ([www.fdot.gov/Safety/co-staffdirectory.shtm](http://www.fdot.gov/Safety/co-staffdirectory.shtm)) and follow below.

Lora Hollingsworth, Chief Safety Officer, FDOT SSO, (850) 414-4177

Brenda Young, State Safety Engineer, FDOT SSO, (850) 414-4146

Rupert Giroux, Safety Data Coordinator, FDOT SSO, (850) 414-4072

Benjamin Jacobs, Crash Records and Research Coordinator, FDOT SSO, (850) 414-4007

District Safety Engineers

(<https://www.fdot.gov/safety/safetyengineering/safetyengineeringcontacts.shtm>).

[Source: Florida HSIP Guidelines Manual, 2021]

### 5. How are HSIP funds allocated in a State?

- Formula via Districts/Regions
- Other-Central Office

FDOT focuses HSIP funding on highway safety improvement projects that are:

- Low cost (typically under \$1,000,000).
- Shorter-term, with concept to construction in under three years.
- Implemented on a public road.
- Addressing a problem known to result in fatalities and serious injuries as identified in the Florida SHSP.

23 USC 148(c) indicates a focused, data-driven approach should be used for safety problem identification, countermeasure analysis, and resource allocation. Safety funds should be used on the most effective countermeasures at the locations with the greatest needs. The Department actively uses the AASHTO Highway Safety Manual (HSM) and other data-driven approaches discussed throughout the Florida HSIP Guidelines Manual.

[Source: Florida HSIP Guidelines Manual, 2021]

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

Many counties in Florida develop and implement Local Road Safety Plans (LRSPs). An LRSP should be consistent with the Florida SHSP and focus on specific, high priority emphasis areas and strategies for local road safety. HSIP funds can be used to develop LRSPs, which are a proven safety countermeasure. LRSPs support strategic safety management of off-system roads through the identification, analysis, and prioritization of roadway safety opportunities and improvements on the local system. For example, local areas with a large proportion of rural roads may use data to show a focus on reducing fatal and serious injury run-off-road crashes. Counties and other local agencies should consider developing and implementing LRSPs to:

- Define local safety priorities.



## 2023 Florida Highway Safety Improvement Program

- Prioritize safety investments on off-system public roadways.
- Communicate safety improvement opportunities to stakeholders.
- Apply for HSIP funding.

LRSP development mimics the SHSP development process but focuses on local issues and needs. LRSPs should have a prioritized list of issues, risks, actions, and improvements that can be used to reduce fatalities and serious injuries on off-system roads. The Federal Highway Administration's (FHWA's) Developing Safety Plans: A Manual for Local Road Owners outlines the LRSP development process and contains an LRSP template. To assist with coordination with local governments on all Florida roadways, FDOT develops and uses Geographic Information Systems (GIS) that all agencies can use. The FDOT SSO works with internal and external partners to develop and provide GIS analysis to support the districts with identifying locations for safety improvement on local roads. The FDOT Open Data Hub provides a platform through which local partners use FDOT data for their own safety improvement analyses. The FDOT SSO also developed several analyses of non-motorist (cyclist or pedestrian) involved crashes and intersection crashes. FDOT SSO works with internal and external partners to identify on local roads. Coordination between FDOT District Safety Engineers and the Community Traffic Safety Teams (CTSTs) identifies other local projects and training opportunities.

FDOT expanded the program of LRSPs to include counties in Florida with significant opportunities to improve traffic safety. The team completed LRSPs for ten counties across multiple Districts. Local representatives will manage their respective safety plans in coordination with FDOT district representatives.

[Source: Florida HSIP Guidelines Manual, 2021]

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

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

### **8. Describe coordination with internal partners.**

The FDOT SSO is responsible for administering the HSIP statewide. The FDOT SSO issues guidance and policy related to HSIP and approves HSIP projects for inclusion in the FDOT Work Program and Statewide Transportation Improvement Program (STIP). The FDOT SSO is responsible for coordinating the HSIP with other roadway safety programs and initiatives within FDOT and external partners.

The FDOT Districts are responsible for investigating roadway safety issues within their jurisdictions, evaluating options to address those issues, proposing projects for HSIP funding, and implementing those projects. Districts also report performance measures to support project evaluation. Several Districts organized Safety business units under the direction of a District Safety Administrator. FDOT Districts also coordinate safety improvement efforts with local jurisdictions and assists them in coordinated efforts to reduce fatal and serious injuries within the District.

## 2023 Florida Highway Safety Improvement Program

Many FDOT business areas coordinate and support effective administration of the HSIP. These offices and business areas include planning, design, operations, finance, construction, maintenance modal development, the Safe Routes to School Program, Local Agency Program and the Work Program Office. All FDOT offices work with FDOT SSO to provide appropriate attention and consideration to all project decisions.

[Source: FDOT SSO Staff, 2022]

[Source: Florida HSIP Guidelines Manual, 2021]

[Source: FDOT Mission, Vision, and Values, 2022]

[Source: Florida Strategic Highway Safety Plan, 2021]

### **9. Identify which external partners are involved with HSIP planning.**

- Academia/University
- FHWA
- Governors Highway Safety Office
- Law Enforcement Agency
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Tribal Agency
- Other-Community Traffic Safety Team (CTST)
- Other-FACERS

FACERS is the Florida Association of County Engineers and Roadway Superintendents. Other SHSP partners are involved with HSIP planning. They include the Florida Department of Highway Safety and Motor Vehicles (FLHSMV), Florida Highway Patrol (FHP), Florida Sheriffs Association (FSA), Florida Police Chiefs Association (FPCA), Federal Motor Carrier Safety Administration (FMCSA), and National Highway Traffic Safety Administration (NHTSA).

### **10. Describe coordination with external partners.**

The 2021 SHSP was updated through collaboration with Florida's traffic safety partners. It aligns with and builds on the FTP, the long-range transportation plan for the State of Florida. Both plans share the vision of zero fatalities and serious injuries on the roadway system to protect Florida's 21 million residents and more than 131 million annual visitors. Partners who reviewed and approved the SHSP include:

- Florida Department of Transportation
- Florida Department of Highway Safety and Motor Vehicles
- Florida Highway Patrol
- Florida Sheriffs Association
- Florida Police Chiefs Association
- Metropolitan Planning Organization Advisory Council
- Florida Rail Enterprise
- Florida Association of County Engineers and Road Superintendents
- Federal Highway Administration
- National Highway Traffic Safety Administration
- Federal Motor Carrier Safety Administration

## 2023 Florida Highway Safety Improvement Program

The update process included:

- Alignment with Other State Plans – In addition to aligning with the FTP, the SHSP considers the goals and targets set in the Highway Safety Improvement Plan (HSIP), the Highway Safety Plan (HSP), the strategic plans of statewide traffic safety coalitions and programs, the safety components of the Florida Freight Mobility and Trade Plan (FMTP), and the long-range transportation plans of Florida’s 27 metropolitan planning organizations (MPO).
- Review and Analysis of Safety and Related Data – The SHSP is built on extensive analysis of traffic crash data collected by law enforcement officers statewide and submitted to the Florida Department of Highway Safety and Motor Vehicles (FLHSMV), the official repository of crash records for the State of Florida. All data reported in the SHSP are from FLHSMV from 2015-2019 unless otherwise noted. For the update, the five-year traffic crash data (2015-2019) are compared with the previous five-year period (2011-2015) data to evaluate the highest contributing factors to Florida’s safety performance.
- Partner and Public Engagement – The update began with a Vision Zero workshop in May 2019. The following year included outreach via FTP and SHSP partner briefings and webinars, safety coalition meetings, and conferences such as the FDOT Transportation Planning Exchange (TransPlex) and the Florida Transportation Symposium. The FTP Steering Committee and its Safety Subcommittee helped to guide development. The subcommittee included safety partners from federal and state agencies, MPOs, regional planning councils, local governments, law enforcement, and many other transportation and safety partners. The ongoing work of the state’s traffic safety coalitions, with representatives from over 100 key safety partners and advocates, is reflected in their respective emphasis areas. In addition, FDOT expanded virtual engagement placing emphasis on groups representing traditionally underserved populations. FDOT interviewed leadership and staff of, conducted briefings to, and participated in webinars with organizations working with persons with disabilities, older adults, low-income residents, public health issues, housing issues, rural and agricultural communities, and other groups that in the past may not have had significant input in long-range transportation planning activities.

[Source: Florida Department of Transportation FY 2024 Highway Safety Plan, 2023]

[Source: Florida HSIP Guidelines Manual, 2021]

[Source: FDOT State Safety Office, Safety Programs website (<https://www.fdot.gov/Safety/programs/programs.shtm>), as of 2023-06-13]

[Source: FDOT State Safety Office, Traffic Safety Coalitions website (<https://www.fdot.gov/safety/safety-coalitions/coalitionsresources.shtm>), as of 2023-06-13]

[Source: Florida Strategic Highway Safety Plan, 2021]

### **11. Have any program administration practices used to implement the HSIP changed since the last reporting period?**

No-This question will not appear on the report output when the report status changes to “Final”

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

Prioritized lists of safety needs are maintained by each District and Central Office verifies whether proposed projects are eligible for HSIP funding. Districts authorize and fund eligible HSIP projects according to procedures consistent with the Office of Work Program and Budget.

## 2023 Florida Highway Safety Improvement Program

Additionally, Department leadership approves statewide initiatives that implement safety treatments across the State. Recommendations for and implementations of safety initiatives are informed by the Pareto principle, root cause analysis, and countermeasure assessments by FDOT SSO.

[Source: FDOT HSIP Guidelines Manual, 2021]

[Source: FDOT Office of Work Program and Budget, 2023]

### ***Program Methodology***

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

Yes

File Name:

[florida hsip manual v2021 F \(2021-08-12\).pdf](#)

The FDOT SSO regularly reviews and updates the Florida HSIP Guidelines Manual, which clearly describes HSIP planning, implementation, and evaluation processes.

[Source: Florida HSIP Guidelines Manual, 2021]

#### **14. Select the programs that are administered under the HSIP.**

- Bicycle Safety
- Intersection
- Pedestrian Safety
- Skid Hazard
- Other-Lane Departure

The HSIP is guided by the Florida SHSP, which outlines a framework for implementation activities to eliminate fatalities and reduce serious injuries on Florida's public roads. Our data driven SHSP focuses on 12 Emphasis Areas addressing and 6 Evolving Emphasis Areas including those selected from the list above, and they are reflected by the programs that are administered under the HSIP.

#### **Administered HSIP Programs**

Traffic Records is the first Emphasis Area since data is the foundation of any improvement efforts for traffic safety. The remaining 11 Emphasis Areas (i.e., HSIP programs) organized into categories are crashes involving:

- Roadways
- Lane Departure
- Intersection
- Road Users
- Pedestrians and Bicyclists

## 2023 Florida Highway Safety Improvement Program

- Aging Road Users
- Motorcyclists and Motor Scooter Riders
- Commercial Motor Vehicle Operators
- Teen Drivers
- User Behavior
- Impaired Driving
- Occupant Protection
- Speeding and Aggressive Driving
- Distracted Driving
- Evolving Emphasis Areas include crashes involving:
  - Work Zones
  - Drowsy and Ill Driving
  - Rail Crossings
  - Roadway Transit
  - Micromobility
  - Connected and Automated Vehicles

### **Program Methodology**

Since the last update of the SHSP in 2016, FDOT and traffic safety stakeholders reviewed and updated program methodologies regularly.

### **Program Justification**

Justification for the programs is that they (1) address Florida SHSP priorities and (2) are FHWA focused approaches to safety.

### **Data Types for Program Methodologies**

The data types used in the program methodologies include:

- Crash
  - fatal and serious injury crashes
  - all crashes

## 2023 Florida Highway Safety Improvement Program

- Exposure
  - traffic
  - volume
  - population
- Roadway
  - horizontal curvature
  - functional classification
  - roadside features
  - context classification

### **Project Identification**

Project identification methodologies used for these programs are:

- crash frequency,
- crash rate,
- excess expected crash frequency,
- over-representation of crashes,
- crash tree diagrams, and
- applications of safety performance functions (SPFs).

### **Local Roads**

Local roads (non-state owned and operated) are included or addressed in the Florida HSIP programs.

### **Local Road Methodologies**

Local road projects are identified through the same methodologies used for state roads.

### **Program Advancement for Implementation**

Projects under the Florida HSIP programs are advanced for implementation by identifying locations through GIS analysis by Central Office or vetting through the districts. District submitted projects are evaluated using a benefit-cost ratio greater than 1.

### **Prioritization Processes**

Central Office and the Districts use several methods to prioritize HSIP projects. They include:

## 2023 Florida Highway Safety Improvement Program

- ranking based on the benefit-cost ratio,
- ranking based on net benefit,
- net present value,
- available funding, and
- cost effectiveness.

[Source: Florida HSIP Guidelines Manual, 2021]

[Source: FDOT State Safety Office, 2023]

[Source: FDOT Work Program and Budget Office, 2023]

### **15.Program: Bicycle Safety**

***Date of Program Methodology:9/1/2021***

***What is the justification for this program?***

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

***What is the funding approach for this program?***

Competes with all projects

***What data types were used in the program methodology?***

#### **Crashes**

- All crashes
- Fatal and serious injury crashes only

#### **Exposure**

- Traffic
- Volume
- Population

#### **Roadway**

- Functional classification
- Roadside features

***What project identification methodology was used for this program?***

- Crash frequency
- Crash rate

***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?***

## 2023 Florida Highway Safety Improvement Program

- Other-Contributing factors such as time of day (75% of fatal pedestrian and bicycle crashes occur during dusk or dark hours)
- Other-Locations are identified through GIS analysis by Central Office or vetted through the districts. District submitted projects are evaluated using a Benefit Cost Ratio greater than 1.

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

### Rank of Priority Consideration

Ranking based on B/C:5

Available funding:5

Ranking based on net benefit:5

Cost Effectiveness:5

Other-Net Present Value:5

## **15.Program: Intersection**

**Date of Program Methodology:7/1/2019**

**What is the justification for this program?**

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

**What is the funding approach for this program?**

Competes with all projects

**What data types were used in the program methodology?**

### Crashes

- All crashes
- Fatal and serious injury crashes only

### Exposure

- Traffic
- Volume
- Population

### Roadway

- Functional classification
- Roadside features
- Other-Mile Point
- Other-Context classification

**What project identification methodology was used for this program?**

- Crash frequency
- Crash rate
- Excess expected crash frequency using SPFs

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

Yes



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

Yes

**How are projects under this program advanced for implementation?**

- Other-Districts coordinate with staff for projects and submit to Central Office for approval.

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

**Rank of Priority Consideration**

Ranking based on B/C:5

Available funding:5

Ranking based on net benefit:5

Cost Effectiveness:5

Other-Net Present Value:5

**15.Program: Pedestrian Safety**

**Date of Program Methodology:9/1/2021**

**What is the justification for this program?**

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

**What is the funding approach for this program?**

Competes with all projects

**What data types were used in the program methodology?**

**Crashes**

- All crashes
- Fatal and serious injury crashes only

**Exposure**

- Traffic
- Volume
- Population

**Roadway**

- Functional classification
- Roadside features

**What project identification methodology was used for this program?**

- Crash frequency
- Crash rate
- Other-Contributing factors such as time of day (75% of fatal pedestrian and bicycle crashes occur during dusk or dark hours)
- Other-Projects are identified using GIS analysis of crash locations and 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

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

**Rank of Priority Consideration**

Ranking based on B/C:5

Available funding:5

Ranking based on net benefit:5

Cost Effectiveness:5

Other-Net Present Value:5

## **15.Program: Skid Hazard**

**Date of Program Methodology:7/1/2021**

**What is the justification for this program?**

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

**What is the funding approach for this program?**

Competes with all projects

**What data types were used in the program methodology?**

### **Crashes**

- All crashes
- Fatal and serious injury crashes only

### **Exposure**

- Traffic
- Volume
- Population

### **Roadway**

- Horizontal curvature
- Functional classification
- Roadside features
- Other-Friction Number

**What project identification methodology was used for this program?**

- Crash frequency
- Crash rate

2023 Florida Highway Safety Improvement Program

- Excess expected crash frequency using SPFs
- Other-Locations with a high proportion of wet weather crashes are included in the screening process for skid hazard project locations.

**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

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

**Rank of Priority Consideration**

Ranking based on B/C:5

Available funding:5

Ranking based on net benefit:5

Cost Effectiveness:5

Other-Net Present Value:5

**15.Program: Other-Lane Departure**

**Date of Program Methodology:1/2/2023**

**What is the justification for this program?**

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

**What is the funding approach for this program?**

Competes with all projects

**What data types were used in the program methodology?**

**Crashes**

- All crashes
- Fatal and serious injury crashes only

**Exposure**

- Traffic
- Volume
- Population

**Roadway**

- Horizontal curvature
- Functional classification
- Roadside features
- Other-Mile post

**What project identification methodology was used for this program?**

- Crash frequency
- Crash rate
- Excess expected crash frequency using SPFs
- Excess proportions of specific crash types

**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

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

**Rank of Priority Consideration**

Ranking based on B/C:5

Available funding:5

Ranking based on net benefit:5

Cost Effectiveness:5

Other-Net present value:5

**16. What percentage of HSIP funds address systemic improvements?**

11

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Clear Zone Improvements
- High friction surface treatment
- Horizontal curve signs
- Install/Improve Lighting
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Pavement/Shoulder Widening
- Rumble Strips
- Upgrade Guard Rails
- Wrong way driving treatments

## 2023 Florida Highway Safety Improvement Program

The list does not include all improvement types because queries of FDOT Work Program and Budget systems are limited to available work mix fields.

[Source: FDOT Office of Work Program and Budget, MADDOG system, HSIP Funds for FY 2022/2023]

### 17. What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Stakeholder input
- Other-FHWA resources
- Other-Risk-Based Root Cause Analysis

### 18. Does the State HSIP consider connected vehicles and ITS technologies?

Yes

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

FDOT Transportation Systems Management and Operations (TMSO) Program focuses on six primary areas – (1) Connected Vehicle, (2) Management/Deployments, (3) ITS Communications, (4) ITS Software and Architecture, the (5) Statewide Arterial Management Program (STAMP), and (6) Managed Lanes. Four of the TMSO areas address connected vehicles and ITS technologies.

The **Connected Vehicle** initiative uses leading edge technologies to quickly identify roadway hazards and alert drivers. Among others, these technologies include:

- Wireless communications
- Vehicle sensors
- Global positioning system navigation

**Management/Deployments** promotes ITS deployments on Florida's roadways, develops standards, maintains the ITS Strategic Plan, and implements a systems engineering process to support procurement and deployment of ITS. Management/Deployments also deploys advanced traveler information systems and 511; develops and updates the ITS standards and specifications; provides technical support and assistance to FDOT District Offices and other partners; and promotes and coordinates the statewide use of robust, non-proprietary ITS standards.

**ITS Communications** guides deployment of a communications backbone to serve ITS deployments on major corridors; manages and updates the Florida ITS Operations Network to support ITS deployments; manages the maintenance program for the Florida ITS Operations Network to support ITS deployments and various ITS research and development initiatives; manages the Federal Communications Commission statewide radio license database; and manages the Wireless General Manager Agreement, a resource sharing public/private partnership which places commercial wireless carriers on FDOT rights-of-way, with American Tower Corporation.

**ITS Software and Architecture** manages the SunGuide ® Software System for freeway and incident management, transportation management center interoperability, and data archiving; manages the Statewide

## 2023 Florida Highway Safety Improvement Program

ITS Architecture to promote integrated ITS regions, corridors, and projects; coordinates ITS training to enhance the quality and quantity of the State's ITS workforce; and oversees Unified traffic information and management system for the State of Florida ITS traffic data.

[Source: FDOT Transportation Systems Management and Operations website (<https://www.fdot.gov/traffic/its/tsmo.shtm>) as of 2023-06-13]

### **19. 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 Florida Department of Transportation (FDOT) supports research to configure and customize the Highway Safety Manual (HSM) methods to Florida's roadways.

Safety Engineering from the FDOT State Safety Office (SSO) maintains a website for Safety Analysis Methods and Resources. The website contains information on safety analyses based for location-specific analysis, systemic analysis, and predictive analysis.

FDOT uses a risk-based approach to systemically analyze safety performance of roadways. Using risk factors we identify locations to implement safety improvements to prevent crashes. Safety Performance Functions (SPFs) are developed from crash data from similar sites, all adjusted to presumed "base" conditions. Crash Modification Factors (CMFs) are then applied to convert from the base conditions to the conditions at the location being studied. Additionally, a local calibration factor is also applied based on local crash experience on similar roadway sites. Empirical methods may also be applied if both a SPF and actual crash data are available.

FDOT HSM resources and tools address HSM Part B (Roadway Safety Management Process), HSM Part C (Predictive Method), Crash Modification Factors (CMFs), in-house training, and access to external resources. Regarding HSM Part B, FDOT uses network screening and a dashboard highlighting safety needs. For HSM Part C, FDOT utilizes Intersection Control Evaluation (ICE), spreadsheet tools and crash cost calculations, and developmental work for Florida-based SPFs and CMFs for intersections in context classifications C3R, C3C and C4.

FDOT network screening includes:

- Safe Strides 2 Zero (SS2Z) – conducting an annual screening of signalized intersections on the SHS. Identifies high crash signalized intersections and is shown in the Safety Needs List Dashboard.
- 2020 Pedestrian & Bicycle Network Screening – a risk-based evaluation of pedestrian and bicycle safety on the SHS utilizing roadway characteristics and ped and bike demand characteristics. Results are available on eTraffic.

The Safety Assessment dashboard enables FDOT project scoping staff to incorporate safety needs into any work program project. The Dashboard consists of the Traffic Operations' Statewide Safety Initiatives and the over-lapping safety needs priorities identified by each district.

[Source: Safety Analysis Methods & Resources by FDOT Safety Engineering, (<https://www.fdot.gov/safety/safetyengineering/safetyanalysismethods.shtm>) as of 2023-06-13]

[Source: Florida HSIP Guidelines Manual, 2021]

[Source: FDOT Highway Safety Manual User Guide, 2015]

**20. Have any program methodology practices used to implement the HSIP changed since the last reporting period?**

No-This question will not appear on the report output when the report status changes to “Final”

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

FDOT implements highway safety improvement projects in several ways (1) predictive analytics-based projects, (2) systemic projects, (3) hotspot projects, (4) policy-based projects, and (5) data and analysis projects. FDOT incorporates a combination of these types of projects within the HSIP. Each type addresses serious crash risks and safety problems in a different way, creating a diversified portfolio of investments in safety improvements. However, the HSIP does not have to include projects of each type every year. Districts are encouraged to use discretion to address their safety concerns with projects that provide the greatest opportunity to reduce fatalities and serious injuries.

Systemic projects focus on mitigating highly prevalent crash types or contributing factors in the SHSP that result in large numbers of fatalities and serious injuries across the network. FDOT tries to address these issues as cost-efficiently as possible. FDOT leverages the mobilization and other fixed costs of existing projects (e.g., resurfacing, restoration, rehabilitation) and promotes using cost-effective countermeasures to existing non-HSIP projects. Hotspot projects focus on the roadway segments, corridors, intersections, or ramps with highest overall potential for safety improvement across the network. FDOT supports improvement projects that are feasible, cost-effective, and address serious or fatal injuries for emphasis areas in the Florida SHSP. Geometric and operational characteristics are also considered for these projects. Policy-based projects are improvements to bring roadway design or operational features up to a standard. Policy-based countermeasures (also called nominal or systematic) often aim to reduce liability as well as crash risk, such as updating old roadside hardware to current designs or meeting sign retro-reflectivity standards. Data and analysis projects enhance the delivery of the HSIP by advancing planning, implementation, and evaluation methods. FDOT recommends projects that are strategic with a clear goal to help reduce fatalities and serious injuries.

[Source: Florida HSIP Guidelines Manual, 2021]

## Project Implementation

### Funds Programmed

#### 22. Reporting period for HSIP funding.

State Fiscal Year

Financial data is based on fund codes associated with the Highway Safety Improvement Program (HSIP).

[Source: FDOT Office of Work Program and Budget, MADDOG system, FY2022/2023, as of 2023-03-28]

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	\$156,321,139	\$156,308,772	99.99%
HRRR Special Rule (23 U.S.C. 148(g)(1))	\$18,190	\$18,190	100%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	\$0	\$0	0%
Penalty Funds (23 U.S.C. 154)	\$0	\$0	0%
Penalty Funds (23 U.S.C. 164)	\$0	\$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	\$0	\$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	\$0	\$0	0%
State and Local Funds	\$0	\$0	0%
<b>Totals</b>	<b>\$156,339,329</b>	<b>\$156,326,962</b>	<b>99.99%</b>

Financial data is based on fund codes associated with the Highway Safety Improvement Program (HSIP).

[Source: FDOT Office of Work Program and Budget, MADDOG system, FY2022/2023, as of 2023-03-28]

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

\$27,554,253

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

\$27,554,247

Financial data is based on fund codes associated with the Highway Safety Improvement Program (HSIP).



## 2023 Florida Highway Safety Improvement Program

[Source: FDOT Office of Work Program and Budget, MADDOG system, FY2022/2023, as of 2023-03-28]

### **25. How much funding is programmed to non-infrastructure safety projects?**

\$1,783,036

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

\$1,783,036

Financial data is based on fund codes associated with the Highway Safety Improvement Program (HSIP).

[Source: FDOT Office of Work Program and Budget, MADDOG system, FY2022/2023, as of 2023-03-28]

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

\$18,086,509

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

\$18,086,509

Financial data is based on fund codes associated with the Highway Safety Improvement Program (HSIP).

[Source: FDOT Office of Work Program and Budget, MADDOG system, FY2022/2023, as of 2023-03-28]

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

We do not report any impediments to obligating HSIP fund at this time.

[Source: FDOT State Safety Office, 2023]

### **28. Does the State want to elaborate on any other aspects of its progress in implementing HSIP projects?**

No-This question will not appear on the report output when the report status changes to "Final"

**General Listing of Projects**

**29. 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
Please see attachment					\$0					0					

Financial data is based on fund codes associated with the Highway Safety Improvement Program (HSIP).

[Source: FDOT Office of Work Program and Budget, MADDOG system, FY2022/2023, as of 2023-03-28]

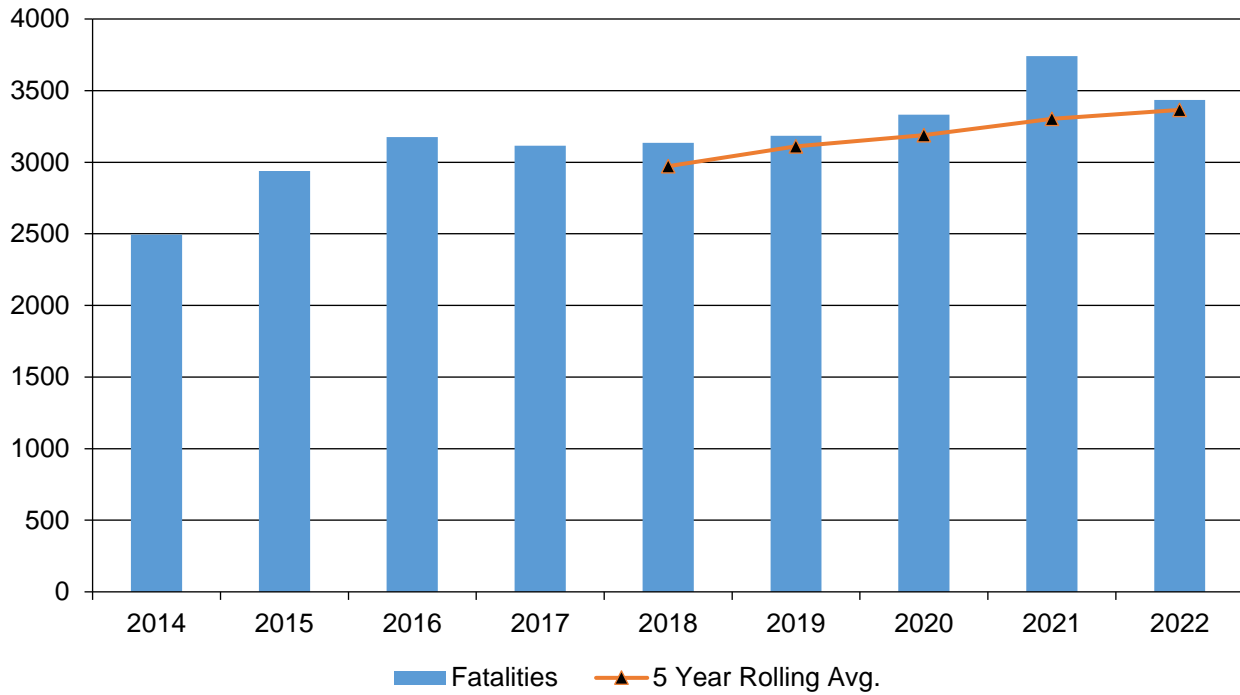
## Safety Performance

### General Highway Safety Trends

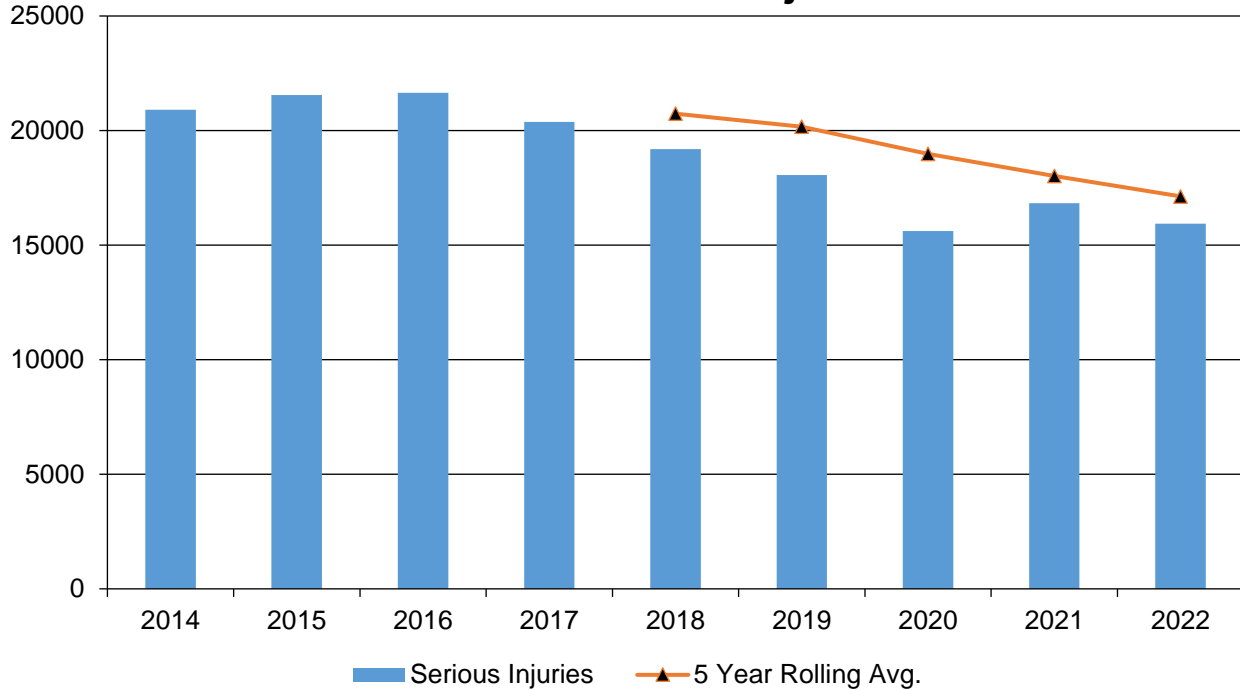
30. Present data showing the general highway safety trends in the State for the past five years.

PERFORMANCE MEASURES	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fatalities	2,494	2,939	3,176	3,116	3,135	3,185	3,332	3,741	3,434
Serious Injuries	20,912	21,551	21,645	20,380	19,196	18,063	15,614	16,826	15,940
Fatality rate (per HMVMT)	1.241	1.422	1.480	1.424	1.413	1.411	1.605	1.667	1.440
Serious injury rate (per HMVMT)	10.404	10.426	10.084	9.313	8.654	8.002	7.521	7.499	6.684
Number non-motorized fatalities	741	785	807	787	880	890	884	1,015	961
Number of non-motorized serious injuries	2,563	2,596	2,523	2,414	2,381	2,298	2,024	2,171	2,243

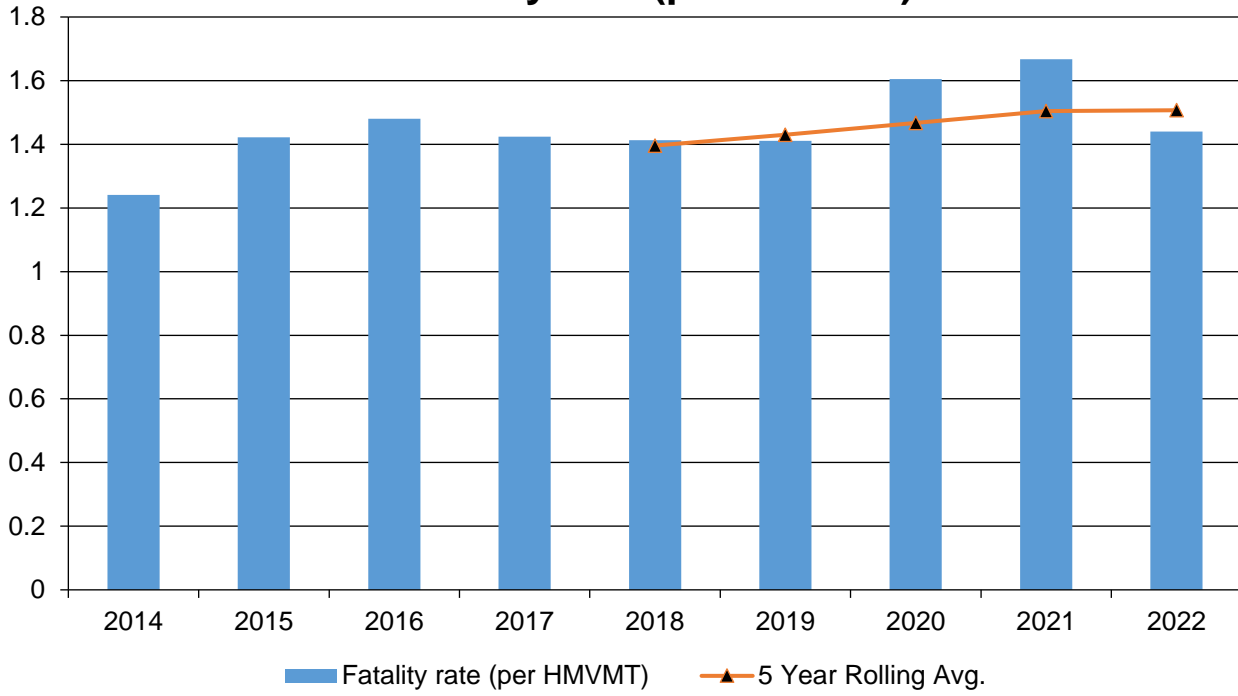
### Annual Fatalities



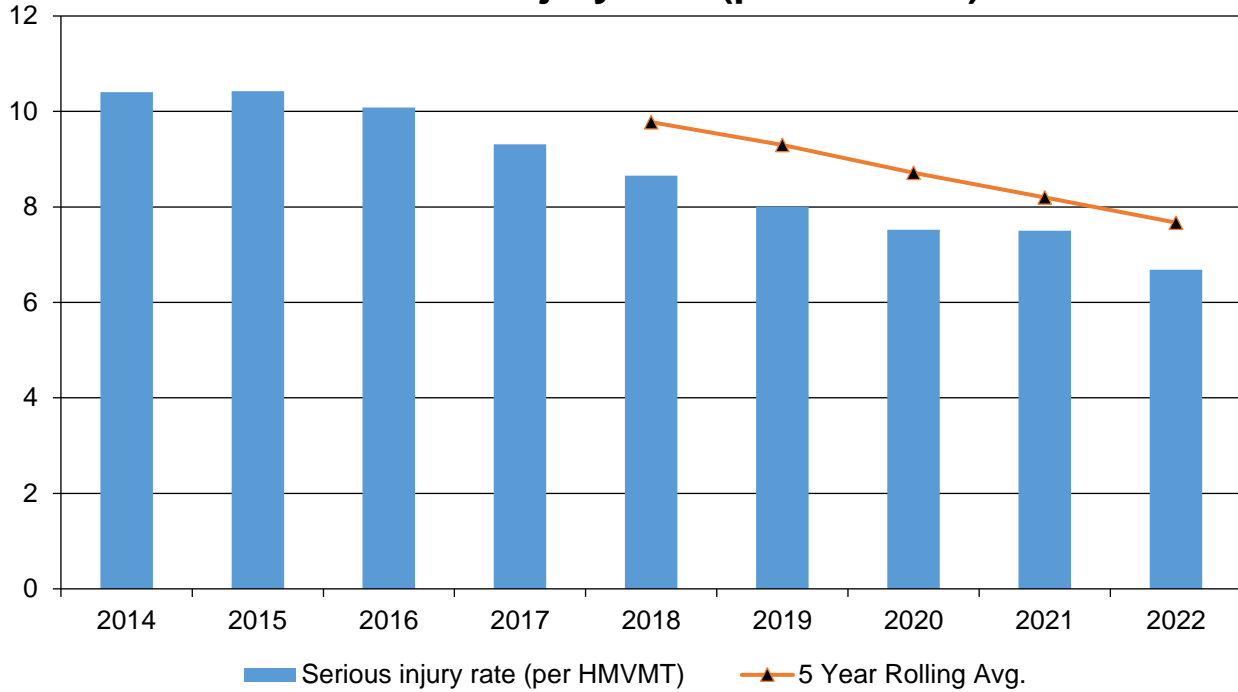
### Annual Serious Injuries



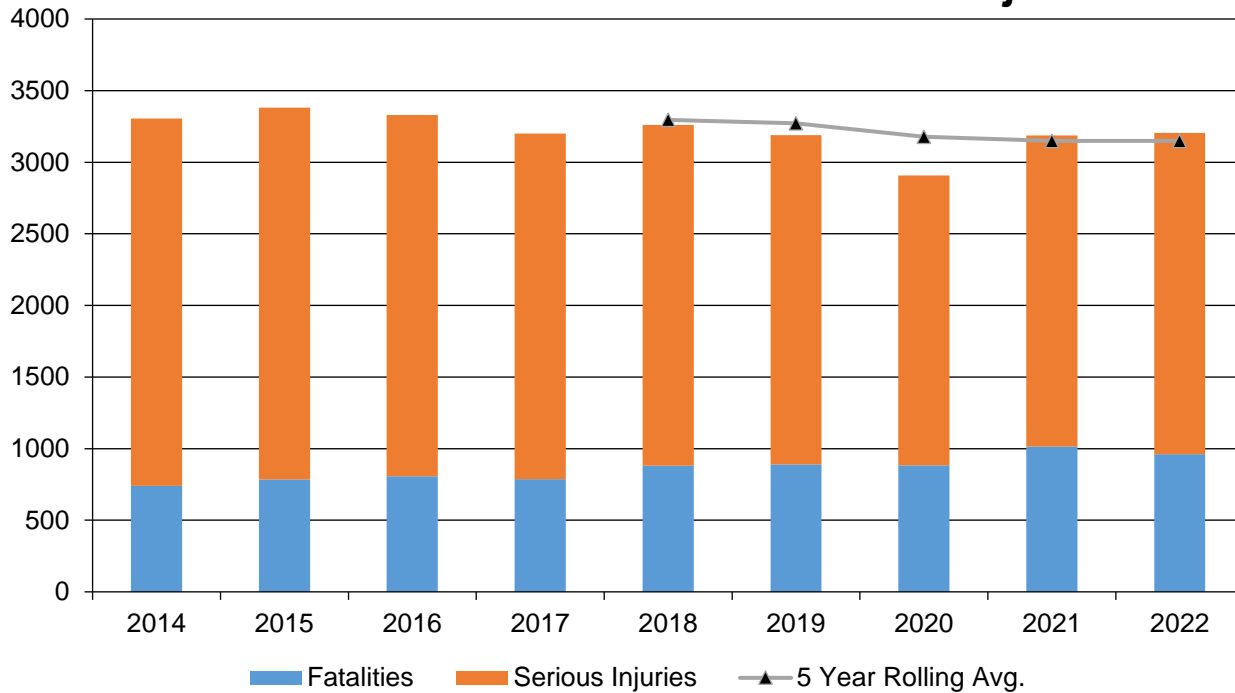
### Fatality rate (per HMVMT)



### Serious injury rate (per HMVMT)



## Non Motorized Fatalities and Serious Injuries



The latest reported year for performance measures is based on the latest available (1) official crash records from FLHSMV and (2) vehicular miles travelled from FDOT Transportation Data and Analytics.

[Source: Florida Highway Safety Improvement Program Annual Report, 2022]

[Source: Traffic Crash Facts, 2021]

[Source: Florida Crash Dashboard ( <https://www.flhsmv.gov/traffic-crash-reports/crash-dashboard/> ) by FLHSMV as of 2023-06-13]

[Source: FDOT Public Mileage Report, 2009-2020]

### 31. Describe fatality data source.

State Motor Vehicle Crash Database

Florida Highway Safety and Motor Vehicles (FLHSMV) is the official repository of crash records for the State of Florida. FLHSMV supports the state motor vehicle crash database. Access to the data is available through the Traffic Crash Facts annual report or through the Florida Crash Dashboard. FLHSMV reports fatality data to the Fatality Analysis Reporting System (FARS).

[Source: Traffic Crash Facts Annual Report, 2021]

[Source: Florida Crash Dashboard ( <https://www.flhsmv.gov/traffic-crash-reports/crash-dashboard/> ) as of 2023-06-13]

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

Year 2022

2023 Florida Highway Safety Improvement Program

<b>Functional Classification</b>	<b>Number of Fatalities (5-yr avg)</b>	<b>Number of Serious Injuries (5-yr avg)</b>	<b>Fatality Rate (per HMVMT) (5-yr avg)</b>	<b>Serious Injury Rate (per HMVMT) (5-yr avg)</b>
Rural Principal Arterial (RPA) - Interstate	95	356	0.86	3.22
Rural Principal Arterial (RPA) - Other Freeways and Expressways	244.6	788	11.15	35.97
Rural Principal Arterial (RPA) - Other	17.8	60.2	0.2	0.67
Rural Minor Arterial	106.4	331.4	2.6	8.01
Rural Minor Collector	49.2	8.6	484.88	0.52
Rural Major Collector	102	56.6	2.51	1.36
Rural Local Road or Street	195.8	25	3.46	0.44
Urban Principal Arterial (UPA) - Interstate	224.4	1,208.4	0.72	3.91
Urban Principal Arterial (UPA) - Other Freeways and Expressways	99.2	367.6	0.63	2.33
Urban Principal Arterial (UPA) - Other	1,032	5,268.6	2.22	11.3
Urban Minor Arterial	588.4	1,414.2	1.95	4.67
Urban Minor Collector	43.8	7.4	1.12	0.18
Urban Major Collector	238.2	115.6	1.15	0.56
Urban Local Road or Street	167.2	28.4	0.42	0.07

2023 Florida Highway Safety Improvement Program

**Year 2022**

<b>Roadways</b>	<b>Number of Fatalities (5-yr avg)</b>	<b>Number of Serious Injuries (5-yr avg)</b>	<b>Fatality Rate (per HMVMT) (5-yr avg)</b>	<b>Serious Injury Rate (per HMVMT) (5-yr avg)</b>
State Highway Agency	2,841	9,982.6	2.09	7.13
County Highway Agency				
Town or Township Highway Agency				
City or Municipal Highway Agency				
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency	484.2	8,016.6	1.06	17.69
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

General highway safety measures are based on crash records from FLHSMV in conjunction with geolocation, linearly referenced data, and vehicle miles travelled from FDOT.

[Source: Florida Highway Safety Improvement Program Annual Report, 2022]

[Source: Traffic Crash Facts, 2021]

[Source: Florida Crash Dashboard ( <https://www.flhsmv.gov/traffic-crash-reports/crash-dashboard/> ) by FLHSMV as of 2023-06-13]

[Source: Signal 4 Analytics system, as of 2023-06-13]

[Source: FDOT Public Mileage Report, 2009-2020]



### **33. Provide additional discussion related to general highway safety trends.**

While 95 percent of Floridians live in urban counties, nearly half of Florida's 67 counties are rural. Florida is committed to reducing crashes on all roadways, from those in congested urban areas to those in rural communities. Safety countermeasures for high risk rural roads are prioritized through collaboration with local governments and, where applicable, MPOs, and support targeted efforts for local road system improvements.

[Source: Florida Strategic Highway Safety Plan, 2021]

### ***Safety Performance Targets***

#### **34. Safety Performance Targets**

##### **Calendar Year 2024 Targets \***

##### ***Number of Fatalities:0.0***

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

**Target:** Florida's target for fatalities is zero in 2023.

**Annual Performance Forecast:** Based on statistical forecasting, the five-year rolling average for total fatalities on Florida's roads is forecasted as 3,445 in 2023. This forecast was made with historical and current state data from 2005 to 2021 to predict probable outcomes for 2022 and 2023.

**Strategy:** The data forecast indicates Florida's five-year rolling average for fatalities could slowly trend upward in 2022 and 2023. The FDOT State Safety Office intends to execute the subgrants identified in this annual HSP in areas with high frequency of fatalities to increase preventative measures such as enforcement of traffic laws, education of traffic laws and safety practices, provide and educate regarding alternate transportation methods, public traffic safety outreach and education, coordination of external safety partners to implement additional unified education methods, and other strategies consistent with traffic safety improvement planning. While the data forecast indicates Florida's five-year rolling average for fatalities could slowly trend upward in 2022 and 2023, the FDOT State Safety Office expects the projects chosen for funding and included in this HSP will reduce the upward trend to ultimately reduce the number of traffic fatalities.

**Justification:** Forecasts were made using a three-step analytical approach consisting of exploratory analysis, development of pre-forecast to choose a preferred model for each measure, and development of the final forecast. The exploratory analysis tested multiple independent variables (in addition to the stratification of the dependent safety measure variable into two categories) to assess statistical association. The results showed that fatalities are statistically correlated with VMT, gas consumption, vehicle registration and Florida GDP – with weak to moderate explanatory power. While the exploratory analysis identified correlations with multiple independent variables – the pre-forecasting process indication that most of the independent variables were not useful in estimating future fatalities or serious injuries. An ARIMA model was ultimately chosen which uses past values of the dependent variable as independent variables (e.g., fatalities) and year-to-year difference in the values to forecast future values.

##### ***Number of Serious Injuries:0.0***

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

**Target:** Florida's target for serious injuries is zero in 2023.

## 2023 Florida Highway Safety Improvement Program

**Annual Performance Forecast:** Based on statistical forecasting, the five-year rolling average for total serious injuries on Florida's roads is forecasted as 16,330 in 2023. This forecast was made with historical and current state data from 2005 to 2021 to predict probable outcomes for 2022 and 2023.

**Strategy:** The data forecast indicates Florida's five-year rolling average for serious injuries could slowly trend downward in 2022 and 2023. The FDOT State Safety Office intends to execute the subgrants identified in this annual HSP in areas with high frequency of fatalities to increase preventative measures such as enforcement of traffic laws, education of traffic laws and safety practices, provide and educate regarding alternate transportation methods, public traffic safety outreach and education, coordination of external safety partners to implement additional unified education methods, and other strategies consistent with traffic safety improvement planning. While the data forecast indicates Florida's five-year rolling average for fatalities could trend downward in 2022 and 2023, the FDOT State Safety Office expects the projects chosen for funding and included in this HSP will enhance the downward trend to ultimately reduce the number of serious injuries.

### **Justification:**

Forecasts were made using a three-step analytical approach consisting of exploratory analysis, development of pre-forecast to choose a preferred model for each measure, and development of the final forecast. The exploratory analysis tested multiple independent variables (in addition to the stratification of the dependent safety measure variable into two categories) to assess statistical association. The results showed that fatalities are statistically correlated with VMT, gas consumption, vehicle registration and Florida GDP – with weak to moderate explanatory power. While the exploratory analysis identified correlations with multiple independent variables – the pre-forecasting process indication that most of the independent variables were not useful in estimating future fatalities or serious injuries. An ARIMA model was ultimately chosen which uses past values of the dependent variable as independent variables (e.g., fatalities) and year-to-year difference in the values to forecast future values.

### **Fatality Rate:0.000**

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

**Target:** Florida's target for fatality rate is zero in 2023.

**Annual Performance Forecast:** Based on statistical forecasting, the five-year rolling average for fatality rate per 100 MVMT on Florida's roads is forecasted as 1.53 in 2023. This forecast was made with historical and current state data from 2005 to 2021 to predict probable outcomes for 2022 and 2023.

**Strategy:** The data forecast indicates Florida's five-year rolling average for fatality rate could slowly trend upward in 2022 and 2023. The FDOT State Safety Office intends to execute the subgrants identified in this annual HSP in areas with high frequency of fatalities to increase preventative measures such as enforcement of traffic laws, education of traffic laws and safety practices, provide and educate regarding alternate transportation methods, public traffic safety outreach and education, coordination of external safety partners to implement additional unified education methods, and other strategies consistent with traffic safety improvement planning. While the data forecast indicates Florida's five-year rolling average for fatality rate could trend upward in 2022 and 2023, the FDOT State Safety Office expects the projects chosen for funding and included in this HSP will enhance the upward trend to ultimately reduce the fatality rate per 100 MVMT.

**Justification:** Forecasts were made using a three-step analytical approach consisting of exploratory analysis, development of pre-forecast to choose a preferred model for each measure, and development of the final forecast. The exploratory analysis tested multiple independent variables (in addition to the stratification of the dependent safety measure variable into two categories) to assess statistical association. The results showed that fatalities are statistically correlated with VMT, gas consumption, vehicle registration and Florida GDP –

## 2023 Florida Highway Safety Improvement Program

with weak to moderate explanatory power. While the exploratory analysis identified correlations with multiple independent variables – the pre-forecasting process indication that most of the independent variables were not useful in estimating future fatalities or serious injuries. An ARIMA model was ultimately chosen which uses past values of the dependent variable as independent variables (e.g., fatalities) and year-to-year difference in the values to forecast future values.

### ***Serious Injury Rate:0.000***

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

**Target:** Florida's target for serious injury rate is zero in 2023.

**Annual Performance Forecast:** Based on statistical forecasting, the five-year rolling average for serious injury rate per 100 MVMT on Florida's roads is forecasted as 7.12 in 2023. This forecast was made with historical and current state data from 2005 to 2021 to predict probable outcomes for 2022 and 2023.

**Strategy:** The data forecast indicates Florida's five-year rolling average for serious injury rate could slowly trend downward in 2022 and 2023, the FDOT State Safety Office intends to execute Highway Safety Improvement Program projects to increase preventative applications and countermeasures consistent with traffic safety improvement. While the data forecast indicates Florida's five-year rolling average for serious injury rate could slowly trend downward in 2022 and 2023, the FDOT State Safety Office expects the projects chosen for funding will enhance the downward trend to ultimately reduce the serious injury rate per 100 MVMT.

**Justification:** Forecasts were made using a three-step analytical approach consisting of exploratory analysis, development of pre-forecast to choose a preferred model for each measure, and development of the final forecast. The exploratory analysis tested multiple independent variables (in addition to the stratification of the dependent safety measure variable into two categories) to assess statistical association. The results showed that fatalities are statistically correlated with VMT, gas consumption, vehicle registration and Florida GDP – with weak to moderate explanatory power. While the exploratory analysis identified correlations with multiple independent variables – the pre-forecasting process indication that most of the independent variables were not useful in estimating future fatalities or serious injuries. An ARIMA model was ultimately chosen which uses past values of the dependent variable as independent variables (e.g., fatalities) and year-to-year difference in the values to forecast future values.

### ***Total Number of Non-Motorized Fatalities and Serious Injuries:0.0***

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

**Target:** Florida's target for non-motorized fatal and serious injuries is zero in 2023.

**Annual Performance Forecast:** Based on statistical forecasting, the five-year rolling average for non-motorized fatal and serious injuries on Florida's roads is forecasted as 3,159 in 2023. This forecast was made with historical and current state data from 2005 to 2021 to predict probable outcomes for 2022 and 2023.

**Strategy:** Forecasts were made using a three-step analytical approach consisting of exploratory analysis, development of pre-forecast to choose a preferred model for each measure, and development of the final forecast. The exploratory analysis tested multiple independent variables (in addition to the stratification of the dependent safety measure variable into two categories) to assess statistical association. The results showed that fatalities are statistically correlated with VMT, gas consumption, vehicle registration and Florida GDP – with weak to moderate explanatory power. While the exploratory analysis identified correlations with multiple independent variables – the pre-forecasting process indication that most of the independent variables were not useful in estimating future fatalities or serious injuries. An ARIMA model was ultimately chosen which uses

## 2023 Florida Highway Safety Improvement Program

past values of the dependent variable as independent variables (e.g., fatalities) and year-to-year difference in the values to forecast future values.

Florida shares the national traffic safety vision, "Toward Zero Deaths," and formally adopted our own version of the national vision, "Driving Down Fatalities," in 2012. FDOT and its traffic safety partners are committed to eliminating fatalities and reducing serious injuries with the understanding that the death of any person is unacceptable and based on that, zero deaths is our safety performance target. This target is consistent throughout our Strategic Highway Safety Plan, Highway Safety Improvement Program and Highway Safety Plan.

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

Florida's transportation system is large, multimodal, and owned by several entities including the state government, local governments (cities and counties), the federal government, and the private sector. The 2021 Florida SHSP is aimed at all public roads and was updated through collaboration with Florida's safety partners. It is aligned with and builds on the recently adopted Florida Transportation Plan (FTP), the State's long-range transportation plan. Stakeholders include Florida Department of Transportation (FDOT), Florida Department of Highway Safety and Motor Vehicles, Florida Highway Patrol, Florida Sheriffs Association, Florida Police Chiefs Association, Metropolitan Planning Organizations Advisory Council, Florida Rail Enterprise, Florida Association of County Engineers and Road Superintendents, Federal Highway Administration, National Highway Traffic Safety Administration, and Federal Motor Carrier Safety Administration.

Florida shares the national traffic safety vision, "Toward Zero Deaths," and formally adopted our own version of the national vision, "Driving Down Fatalities," in 2012. The 2021 SHSP update kicked off with a Vision Zero workshop in May 2019. FDOT and its traffic safety partners are committed to eliminating fatalities and reducing serious injuries with the understanding that the death of any person is unacceptable and based on that, zero deaths is our safety performance target. This target is consistent throughout our SHSP, HSIP, and HSP (Highway Safety Plan).

[Source: Florida Strategic Highway Safety Plan, 2021]

[Source: Florida Highway Safety Plan, 2021]

### **36. Does the State want to report additional optional targets?**

No

### **37. Describe progress toward meeting the State's 2022 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.**

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	0.0	3365.4
Number of Serious Injuries	0.0	17127.8
Fatality Rate	0.000	1.507
Serious Injury Rate	0.000	7.672

## 2023 Florida Highway Safety Improvement Program

<b>Non-Motorized Fatalities and Serious Injuries</b>	0.0	3149.4
--	-----	--------

FDOT and its traffic safety partners are committed to eliminating fatalities and reducing serious injuries with the understanding that the death of any person is unacceptable and based on that, zero is our target for fatalities, serious injuries, fatality rate per 100 million VMT (vehicle miles travelled), serious injury rate per 100 million VMT, and non-motorized fatalities and serious injuries.

FDOT received an allocation of approximately \$156 million in HSIP funds during the 2022 state fiscal year from July 1, 2022 through June 30, 2023. FDOT used HSIP funds to complete over 1,100 project items to address fatal and serious injuries through programs in intersection safety, lane departure safety, pedestrian and bicyclist safety, and other programs and SHSP emphasis areas.

This year Florida is pleased to report 2022 reductions in fatalities, the fatality rate, serious injuries, the serious injury rate, and the number of non-motorized fatalities when compared to the values reported in 2021. Further, the majority of these metrics were lower than forecasted projections for 2022 based on 5-year rolling averages. A statistical analysis of HSIP funded project items through the history of the Florida HSIP program shows statistically significant crash reduction for lane departure (19%), rural (15%), injury (14%), fatal (13%), night (11%), wet surface (11%), left turn (8%), rear end (6%), angle (6%), and pedestrian (5%) crashes. A comparative study of HSIP funded projects from 2016 through 2019 with three years of crash data before and after each project shows 24.2 benefit-cost ratio and a 19% reduction in fatal and serious injury crash rates. Furthermore, HSIP investments of \$209.2 million correspond with \$5.06 billion present value of fatal and serious injury reductions over 10 years.

Florida forecasts 2023 safety performance measures using data models based on an autoregressive integrated moving average (ARIMA) hybrid regression model (0,1,1)(2,0,0)(12) with vehicle miles travelled. Forecasts regarding the number of fatalities, the number of serious injuries, the fatality rate, the serious injury rate, and non-motorized fatalities and serious injuries follow.

- **Fatalities:** the five-year rolling average for total fatalities on Florida's roads is forecasted as 3,445 in 2023.
- **Serious injuries:** the five-year rolling average for total serious injuries on Florida's roads is forecasted as 16,330 in 2023.
- **Fatality rate:** the five-year rolling average for fatality rate per 100M VMT on Florida's roads is forecasted as 1.53 in 2023.
- **Serious injury rate:** the five-year rolling average for serious injury rate per 100M VMT on Florida's roads is forecasted as 7.12 in 2023.
- **Non-motorized fatal and serious injuries:** the five-year rolling average for non-motorized fatal and serious injuries on Florida's roads is forecasted as 3,159 in 2023.

[Source: Florida Highway Safety Plan, 2022]

[Source: Florida HSIP Guidelines Manual, 2021]

[Source: Florida Strategic Highway Safety Plan, 2021]

**Applicability of Special Rules**

**38. Does the VRU Safety Special Rule apply to the State for this reporting period?**

Yes

Yes, the Vulnerable Road User (VRU) Safety Special Rule applies to Florida for this reporting period because about 30% of traffic crash fatalities in 2022 are non-motorist fatalities. Florida invested more than 17.9% of HSIP funding on non-motorist traffic safety.

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

No

According to Section 148(g)(1) of title 23, United States Code (USC) establishing a High Risk Rural Road (HRRR) Special Rule, the rule is triggered if the fatality rate on rural roads increases over the most recent 2-year period. The 5-year moving average of the fatality rate per 100 million vehicle miles travelled (VMT) on rural minor collectors, rural major collectors, and rural local roads is approximately 3.04 and 2.99 for 2021 and 2022, respectively.

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

<b>PERFORMANCE MEASURES</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Number of Older Driver and Pedestrian Fatalities	554	550	481	496	481	527	576
Number of Older Driver and Pedestrian Serious Injuries	2,824	2,851	2,012	1,997	1,590	1,745	1,775

## Evaluation

### *Program Effectiveness*

#### **40. How does the State measure effectiveness of the HSIP?**

- Change in fatalities and serious injuries

FDOT and its partners are committed to eliminating fatalities and reducing serious injuries with the understanding that the death of any person is unacceptable. Therefore, the effectiveness of the HSIP is measured by its effect on fatalities and serious injuries in the State of Florida.

FDOT uses statistical hypothesis testing and simple before-after comparisons to assess any changes in fatalities and serious injuries.

[Source: FDOT Mission, Vision, and Values, 2023]

[Source: Florida Strategic Highway Safety Plan, 2021]

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

##### *Hypothesis Tests of Significance*

The Florida Department of Transportation (FDOT) uses the Poisson Comparison of Mean Test to evaluate countermeasures deployed in HSIP projects with statistical significance. The test determines whether crash reduction is significantly better, significantly worse, or exhibits no significant change. Furthermore, FDOT uses all injury severities for the Poisson Comparison of Mean Test. The results are included in this section to address program level evaluations based on project item evaluations.

FDOT considers 18 crash classifications which include total, fatal, injury (i.e., possible, non-incapacitating, serious), property damage only (PDO), urban, rural, night, day, rear-end, angle, left-turn, right turn, sideswipe, fixed-object, head-on, pedestrian, ran-off-road, and wet surface. FDOT included HSIP projects for which construction began and finished between 2004 and 2019 and for which 3 years of crash data exists before and after.

We conducted the following additional evaluations using crash reduction factors (CRFs). A CRF is the percentage crash reduction that may be expected by implementing a countermeasure. A positive CRF indicates an expected percent reduction in crashes and a negative CRF indicates an expected percent increase in crashes.

##### Overall

Regarding all countermeasures from all HSIP projects, the crash reduction factors for total (10.2), fatal (12.5), injury (13.6), PDO (7.23), urban (9.88), rural (14.8), night (10.8), day (10.3), rear-end (6.45), left turn (7.66), pedestrian (5.18), lane departure (19.0), and wet surface (11.1) crashes are significantly better. Crash reduction factors for right turn (-13.3) crashes are significantly worse. There is no significant change for crash reduction factors of side swipe (-0.73), fixed object (0.59), and head on (1.78) crashes.

**Intersection Safety**

Regarding countermeasures for HSIP projects addressing intersection safety, the crash reduction factors for total (25.1), fatal (17.6), injury (31.3), PDO (20.5), urban (25.3), rural (20.3), night (20.8), day (26.7), rear end (24.7), angle (28.1), left turn (30.4), right turn (19.7), side swipe (10.9), fixed object (11.4), head on (24.4), pedestrian (16.9), lane departure (37.4), and wet surface (30.0) crashes are significantly better.

**Lane Departure Safety**

Regarding countermeasures for HSIP projects addressing lane departure safety, the crash reduction factors for total (3.07), fatal (10.9), injury (6.99), urban (2.28), rural (12.8), night (5.64), day (2.77), lane departure (18.4), and wet surface (2.30) crashes are significantly better. Crash reduction factors for PDO (-1.03), rear end (-2.61), angle (-5.81), left turn (-11.0), right turn (-48.7), side swipe (-13.3), and head on (-8.63) crashes are significantly worse. There is no significant change for crash reduction factors of fixed object (-1.93) and pedestrian (0.75) crashes.

**Pedestrian and Bicyclist Safety**

Regarding countermeasures for HSIP projects addressing pedestrian and bicyclist safety, the crash reduction factors for injury (10.5) crashes are significantly better. Crash reduction factors for PDO (-11.2), rural (-38.2), day (-3.72), rear end (-7.03), angle (-15.4), right turn (-30.3), side swipe (-15.4), and head on (-45.8) crashes are significantly worse. There is no significant change for crash reduction factors of total (-1.54), fatal (1.32), urban (-1.01), night (1.30), left turn (-0.85), fixed object (6.55), pedestrian (-9.07), lane departure (-25.4), and wet surface (2.52) crashes.

[Source: Project Evaluation and Selection Method in CRASH, as of 2023-03-29]

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

- Other-Reduction in fatalities and serious injuries

[Source: Florida Strategic Highway Safety Plan, 2021]

**43. Are there any significant programmatic changes that have occurred since the last reporting period?**

No-This question will not appear on the report output when the report status changes to “Final”

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

**44. Present and describe trends in SHSP emphasis area performance measures.**

Year 2022

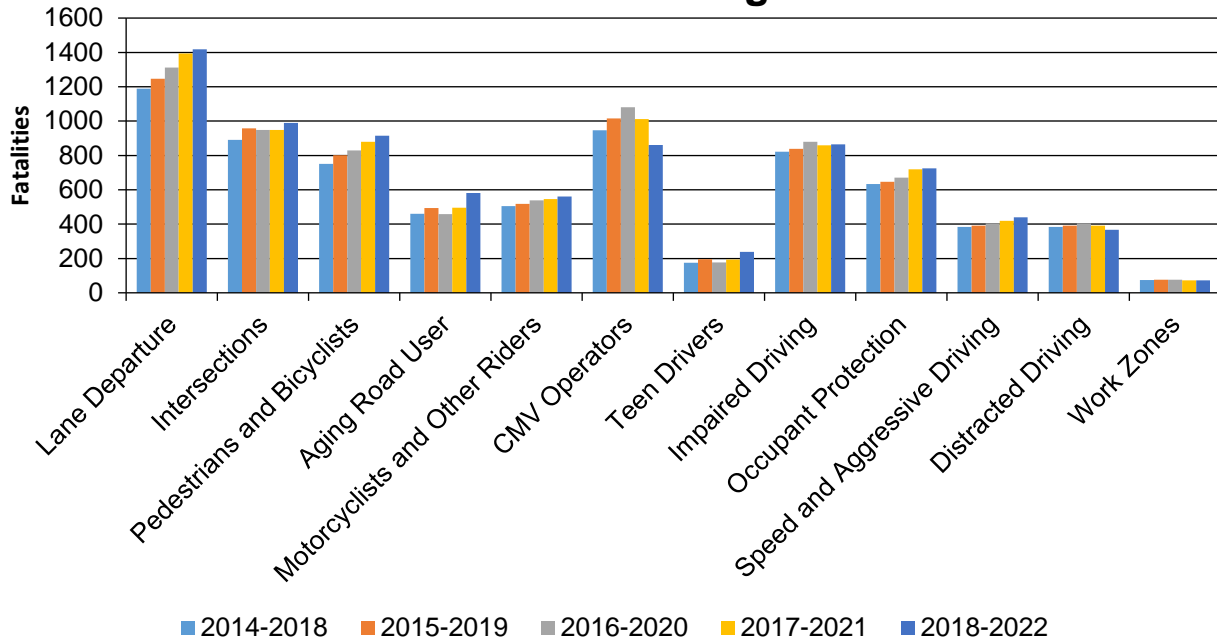
SHSP Emphasis Area	Targeted Crash Type	Number Fatalities (5-yr avg)	of	Number Serious Injuries (5-yr avg)	of	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure		1,418		5,850.6		0.63	2.59



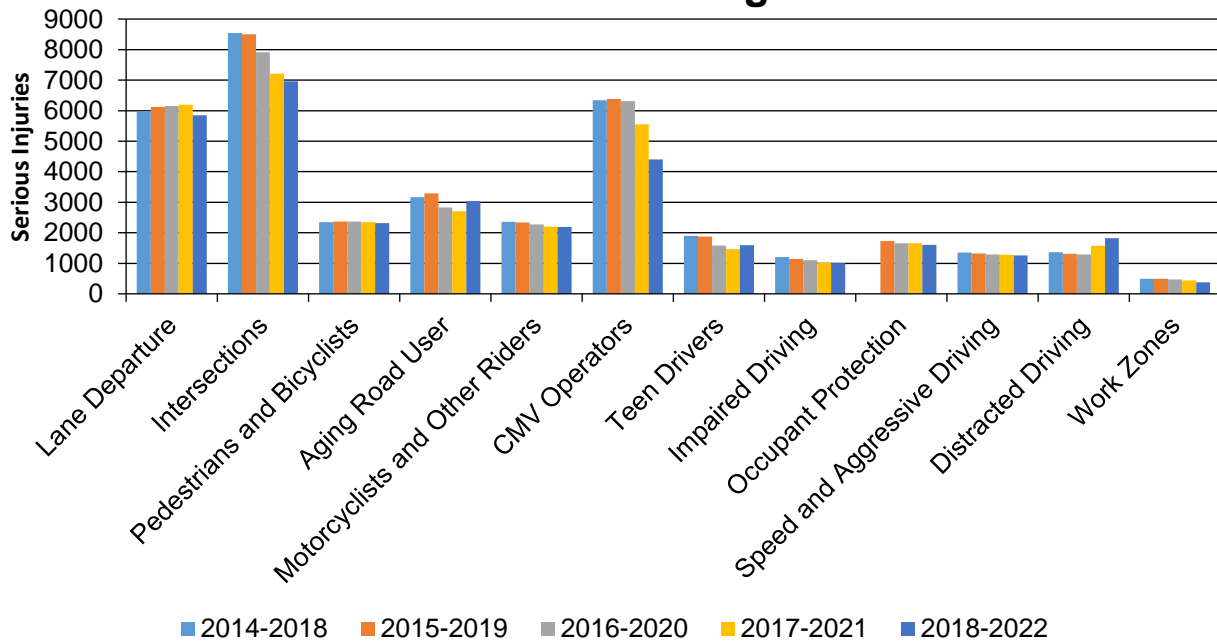
2023 Florida Highway Safety Improvement Program

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Intersections		988.6	6,957.2	0.44	3.09
Pedestrians and Bicyclists		914	2,315.2	0.4	1.02
Aging Road User		582.2	3,036.2	0.26	1.34
Motorcyclists and Other Riders		561.4	2,193.6	0.25	0.97
CMV Operators		860.8	4,404.6	0.38	1.97
Teen Drivers		238	1,595.4	0.1	0.7
Impaired Driving		865.4	1,009.4	0.38	0.44
Occupant Protection		724.4	1,605	0.32	0.71
Speed and Aggressive Driving		439	1,254	0.19	0.56
Distracted Driving		366.6	1,822.8	0.16	0.8
Work Zones		73	375	0.03	0.16

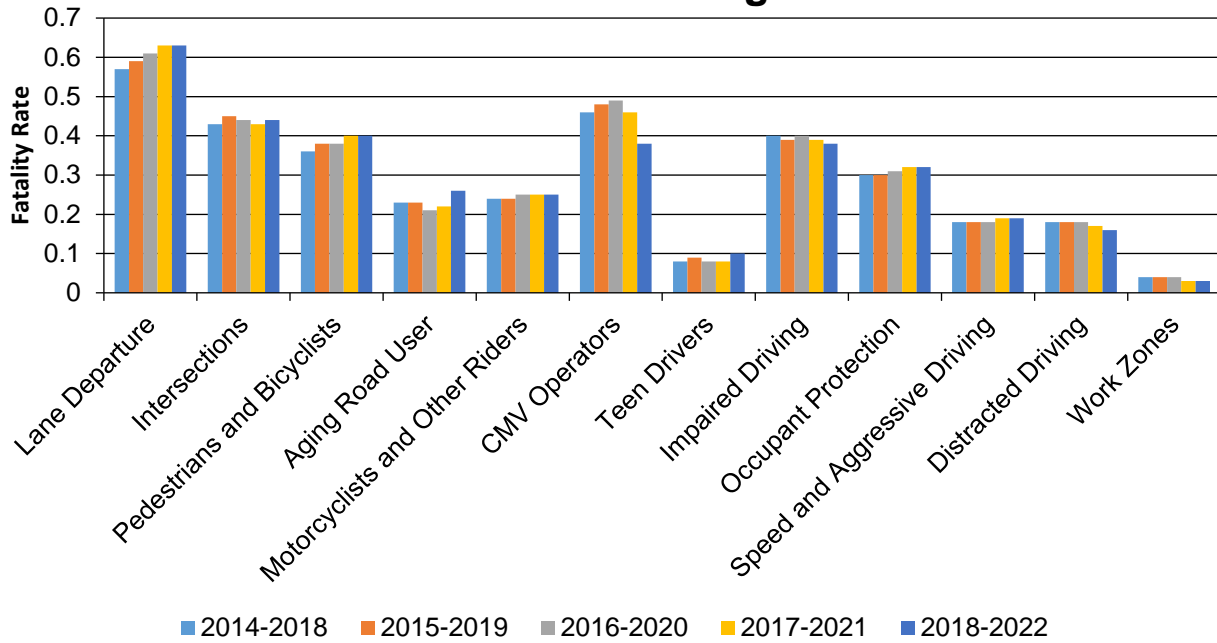
### Number of Fatalities 5 Year Average



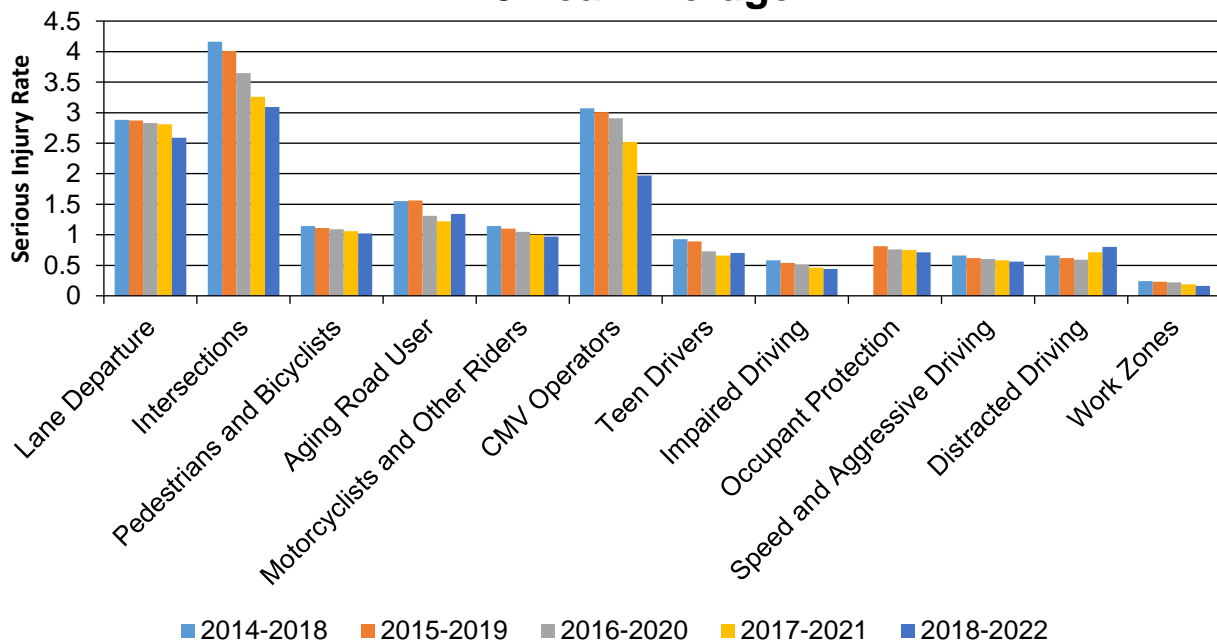
### Number of Serious Injuries 5 Year Average



### Fatality Rate (per HMVMT) 5 Year Average



### Serious Injury Rate (per HMVMT) 5 Year Average



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

Yes

**Please provide the following summary information for each countermeasure effectiveness evaluation.**

**CounterMeasures:** All  
FDOT has CRF (crash reduction factor) values for over 130 different countermeasures. A file listing improvement types, number of projects and other information including CRFvalues is attached.

**Description:**

**Target Crash Type:**

**Number of Installations:**

**Number of Installations:**

**Miles Treated:**

**Years Before:**

**Years After:**

**Methodology:**

**Results:** See file.

**File Name:** [Hyperlink](#)

***Project Effectiveness***

**46. Provide the following information for previously implemented projects that the State evaluated this reporting period.**

**47. Describe any other aspects of HSIP effectiveness on which the State would like to elaborate.**

FDOT uses before-after comparisons based on fatal or serious injuries when examining HSIP effectiveness. SSO developed a dashboard to increase and enhance awareness of the safety performance of HSIP investments. The methodology uses three years of crash data both before and after construction of mappable projects. Users may explore HSIP funding, present values of fatal and serious injury reductions over 10 years, and benefit-cost ratios as well as changes in fatal and serious injury crashes and crash rates. Additionally, users may examine the distribution of HSIP funding by work mix, county, and FDOT District.

[Source: Highway Safety Improvement Program Dashboard, <https://fdot.sharepoint.com/sites/Safety-HSIP>, 2023]

## Compliance Assessment

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

03/01/2021

**What are the years being covered by the current SHSP?**

From: 2021 To: 2026

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

2026

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

\*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100	100	100
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100								
	Begin Point Segment Descriptor (10) [10]	100	100						100		
	End Point Segment Descriptor (11) [11]	100	100						100		
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								
	Functional Class (19) [19]	100	100						100		100
	Median Type (54) [55]	100	100								

2023 Florida 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	100		
	Average Annual Daily Traffic (79) [81]	100	100					100	100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100								
<b>INTERSECTION</b>	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]				100						
	AADT for Each Intersecting Road (79) [81]			100	100						
	AADT Year (80) [82]			100	100						
	Unique Approach Identifier (139) [129]			100	100						
<b>INTERCHANGE/RAMP</b>	Unique Interchange Identifier (178) [168]					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					100	100				

2023 Florida 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
	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]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
<b>Totals (Average Percent Complete):</b>		<b>100.00</b>	<b>100.00</b>	<b>87.50</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>44.44</b>	<b>77.78</b>	<b>20.00</b>	<b>40.00</b>

\*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

Roadway data for public Florida roads may be found at the FDOT Transportation Data Portal (fdot.gov) .

[Source: Roadway Characteristics Inventory (RCI), as of 2023-03-28]

[Source: All Roads Base Map (ARBM), 2018]

[Source: Florida All Roads Intersections and Streets (FLARIS), version 2.1, [https://gis.fdot.gov/arcgis/rest/services/sso/ssogis\\_flaris/FeatureServer](https://gis.fdot.gov/arcgis/rest/services/sso/ssogis_flaris/FeatureServer), 2023]

**50. 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.**

The Florida TRCC (Traffic Records Coordinating Committee) provides a statewide forum to facilitate the planning, coordination, and implementation of projects to improve the State of Florida's traffic records system. Roadway inventory is a crucial part of the traffic records system. In November 2020, a NHTSA Technical Assessment Team concluded the following.

FDOT has made significant progress in improving its State Roadway Inventory System since the 2016 Assessment. This progress has been successful through active projects to provide a compatible location referencing system for all Florida public roads. The projects use the FHWA system called the All Road Network of Linear Referenced Data (ARNOLD), the FDOT ARBM (All Roads BaseMap), and the HERE GIS which provides commercially-available local



## 2023 Florida Highway Safety Improvement Program

roadway data. When complete, the projects will provide a comprehensive enterprise roadway system for all Florida public roads using the ARBM as the system's foundation. The projects are recognized as a best practice; however, ongoing project status is not clear. FDOT is encouraged to develop performance management for each of the projects and provide regular status reporting to the TRCC and safety stakeholders.

FDOT continues to support active projects to improve the location referencing system for all public roads in Florida and acquire roadway elements, including MIRE FDE.

[Source: NHTSA State of Florida Traffic Records Assessment, 2020]

[Source: Florida Traffic Safety Information System Strategic Plan 2017-2021, 2020]

[Source: FDOT FLARIS, version 2.1, 2023]

## Optional Attachments

Program Structure:

[florida hsip manual v2021 F \(2021-08-12\).pdf](#)

Project Implementation:

[hsip2023\\_template\\_q29.xlsx](#)

Safety Performance:

Evaluation:

[hsip 2023 - evaluation countermeasure \(2023-08-22\).xlsx](#)

[hsip 2023 - evaluation program \(2023-08-22\).xlsx](#)

[hsip 2023 - evaluation project \(2023-08-22\).xlsx](#)

[hsip 2023 - dashboard.pdf](#)

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.