

# FLO RIDA

## STRATEGIC HIGHWAY SAFETY PLAN

TARGET  
**ZERO**  
FATALITIES & SERIOUS INJURIES

FEBRUARY 2021





# A LETTER FROM THE SECRETARY



Dear Safety Partners,

On behalf of the Florida Department of Transportation, our residents, and visitors, I want to thank you for prioritizing the safe and efficient movement of people and goods on our state transportation system.

As we continue working towards “**Vision Zero**” the Florida Strategic Highway Safety Plan serves as a framework of plans and activities that will improve safety and efficiency on our roadways with an ultimate goal of **zero** fatalities and serious injuries.

The Department’s top priority is to create a safe, efficient transportation system for the State of Florida. As we continue to grow as a state, we must challenge ourselves to meet not only current local, regional, and statewide mobility needs, but also those of the future, using innovation and technology.

Our success in moving the needle when it comes to highway safety is dependent on our cooperation, teamwork, and partnerships. We must work together to employ the 4Es of traffic safety: Engineering, Education, Enforcement and Emergency Response, as well as the 4Is addressing Information Intelligence, Innovation, Insight into Communities, and Investment and Policies, because it is the collective effort that will push safety forward. Your commitment and partnership are vital components of the Florida Strategic Highway Safety Plan.

Don’t forget to stay alert and buckle up, every trip, every time.

**Kevin J. Thibault, P.E.**

**Secretary**

**Florida Department of Transportation**

# OUR COMMITMENT



These are important numbers. **8 people die** and **49 people are seriously injured** on Florida's roadways **EACH DAY**. They are our husbands, wives, fathers, mothers, brothers, sisters, sons, daughters, friends, co-workers, and business partners.

So, what is an "acceptable" number – 5 fatalities and 25 serious injuries each day? 2 fatalities and 10 serious injuries a day? The answer, of course, is

# ZERO

**Losing a loved one to a preventable traffic crash is unacceptable, heartbreaking, and life-changing.**

Eliminating roadway fatalities is the **highest priority** of the Florida Department of Transportation (FDOT) and our traffic safety partners. We recognize achieving **zero** fatalities and serious injuries will not be easy and will require commitment, energy, and innovation. We also acknowledge that some policies, procedures, and practices must change; business as usual is not enough, and systemic changes are needed to make meaningful progress.



**Please join us in eliminating fatalities and serious injuries on our roadways – because even one is too many!**

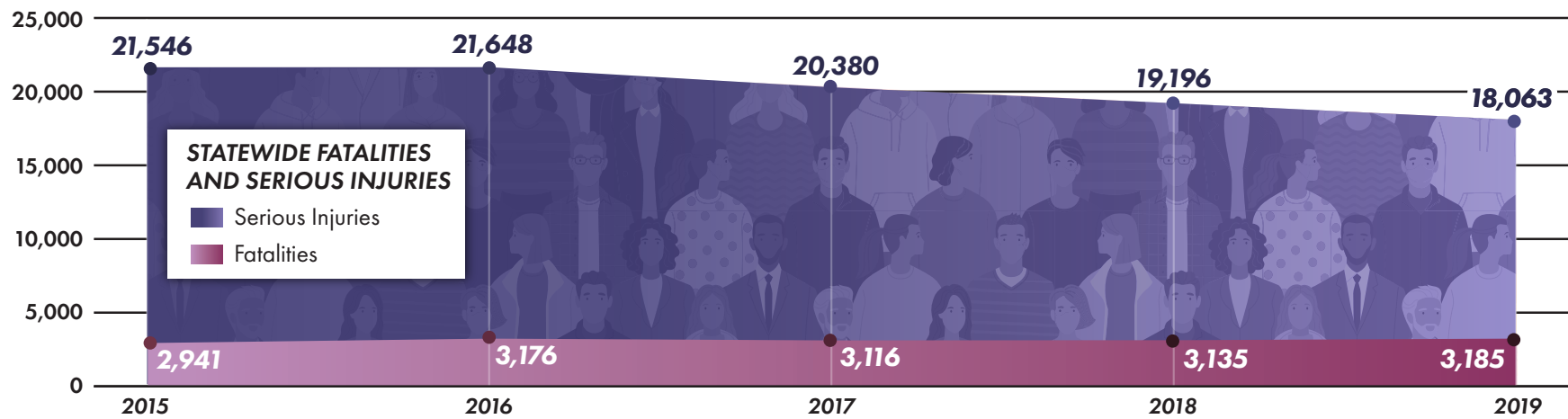




# OUR VISION

Florida’s safety vision is simple: to eliminate all transportation-related fatalities and serious injuries for all modes of travel. This priority focuses on motor vehicle safety and includes pedestrians, bicyclists, motorcyclists, micromobility device users, and transit users using the roadway system, as well as connections between the roadway system and other modes of transportation.

The personal and societal costs of traffic crashes in Florida today are unacceptably high. More than 3,100 Florida residents and visitors die in a crash each year, and about 18,000 are seriously injured. The fatalities, injuries, and crashes on our roads also take a toll on our quality of life and economy and impede the efficiency and reliability of our transportation system.



This Strategic Highway Safety Plan (SHSP) provides a blueprint for how Florida’s traffic safety partners will move toward the vision of a fatality-free transportation system during the next five years. It is a call to action for public, private, and civic partners, identifying areas for collaboration, investment, and innovation.

We have talked about roadway safety for a long time – and we’ve made considerable progress during the past few decades. We are focused on high priority issues like lane departures, intersections, pedestrians and bicyclists, and data, and we have implemented a long list of proven countermeasures from safety belt use to rumble strips to driver education. The SHSP calls on us to continue and expand or enhance many of these activities – and it also challenges us to do more.

This SHSP deepens and broadens our approach to aggressively reducing crashes, serious injuries, and fatalities in Florida - by introducing new priorities and strategies; aligning partnerships; and committing more of our time, talent, and resources. We believe our collective commitment will help all of us make significant progress toward this vision in the next five years and beyond.



# OUR VISION



	WHERE WE ARE TODAY	WHERE WE ARE HEADED
<b>EMPHASIS AREAS</b>	Most prevalent causes of crashes + traffic records	Most prevalent causes of crashes + traffic records + evolving emphasis areas related to high-impact crashes or risks associated with new innovations
<b>KEY STRATEGIES</b>	Addressing individual risks and behaviors through the 4Es of traffic safety (engineering, education, enforcement, emergency response)	Continuing emphasis on 4Es + implementing systemwide improvements through the 4Is: information intelligence, innovation, insight into communities, and investments and policies
<b>MODES</b>	Roadway emphasis	Safety for all modes, with focus on all roadway users and modal connections
<b>PARTNERSHIPS</b>	Focus on transportation engineering and planning, law enforcement, education, and emergency medical services	Expanded collaboration with public health, technology, insurance, community development, school districts, and economic development partners
<b>PROGRAM STRUCTURE</b>	Transportation safety as a standalone program	Transportation safety as an essential element of every program
<b>PRIORITY</b>	Safety as a high priority transportation issue	Safety as the highest priority transportation issue + as a critical public health issue

## TABLE OF CONTENTS

**OUR VISION..... 2**

**OUR CONTEXT ..... 4**

**OUR PLANNING PROCESS ..... 6**

**MEASURING OUR PROGRESS..... 8**

**OUR KEY STRATEGIES ..... 10**

**OUR EMPHASIS AREAS ..... 15**

**EVOLVING EMPHASIS AREAS ..... 42**

**PREPARING FOR IMPLEMENTATION... 44**

**OUR CALL TO ACTION..... 45**

**GLOSSARY..... 46**

**DATA DEFINITIONS ..... 48**



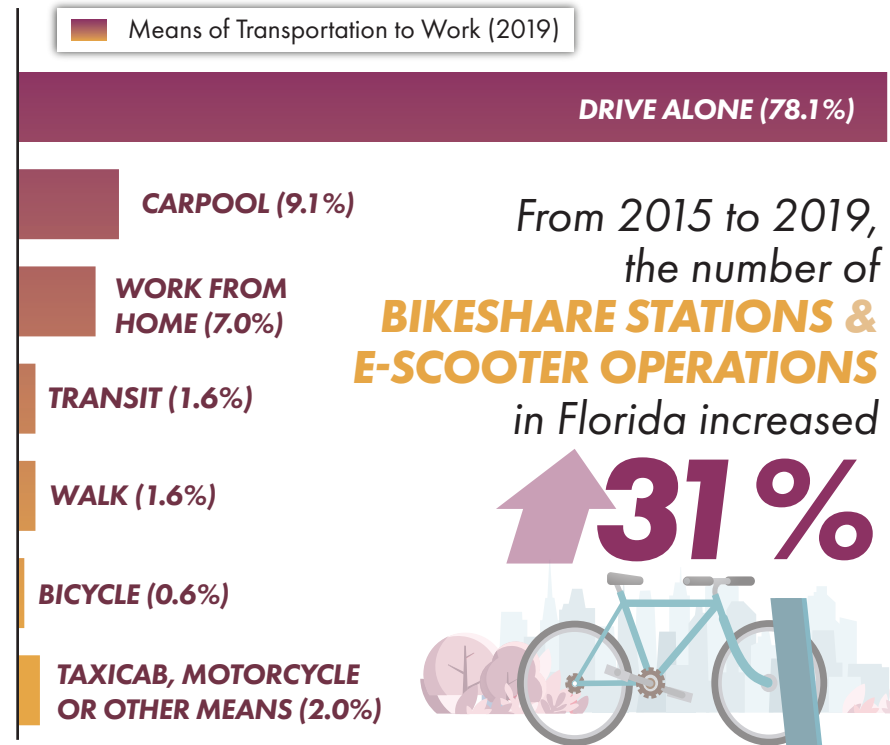
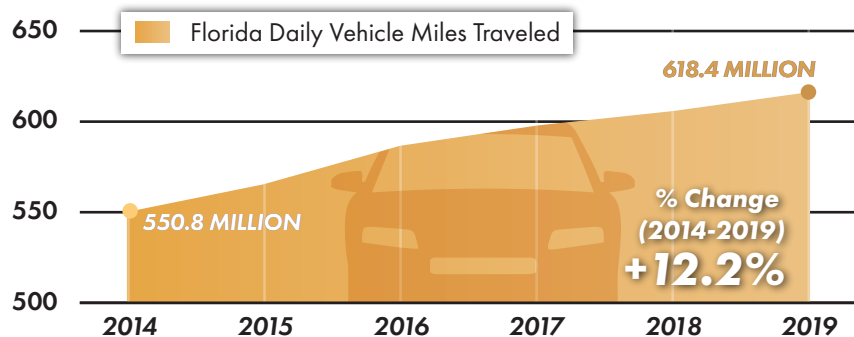
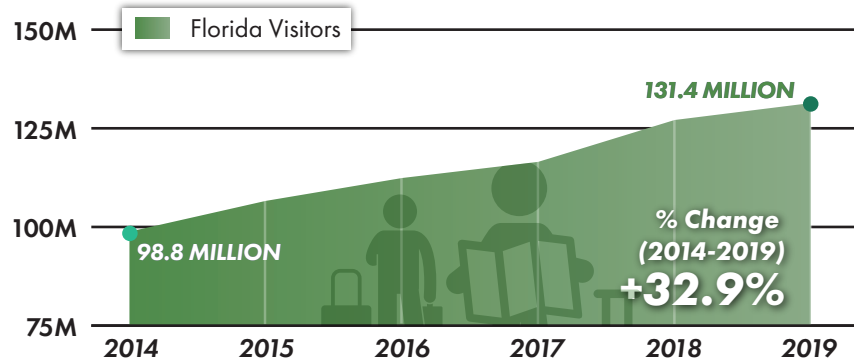
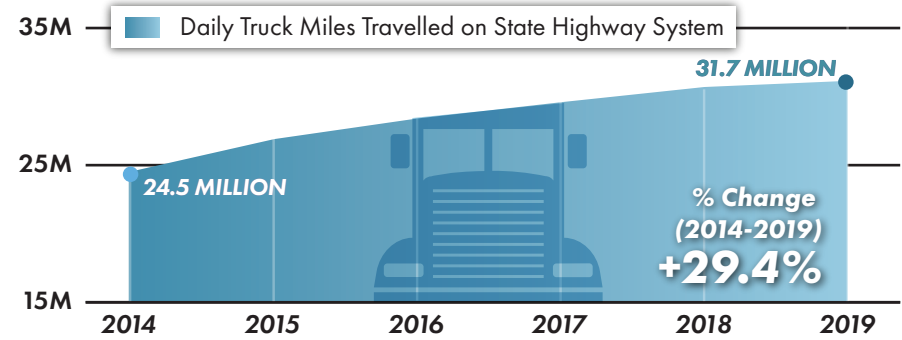
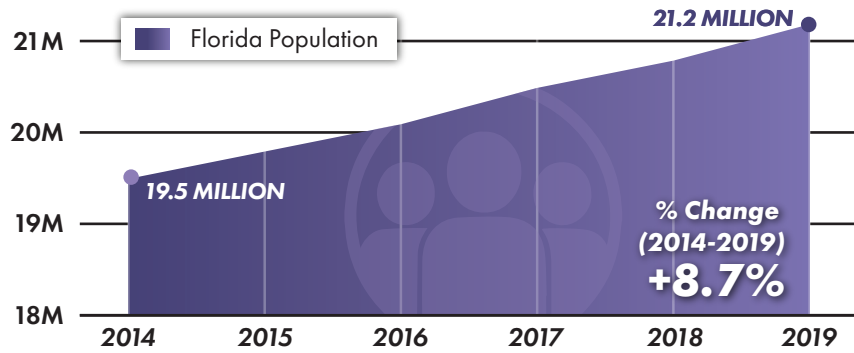
# OUR CONTEXT

Several trends make it challenging to reach our vision of **zero** fatalities and serious injuries in Florida:

- **Strong growth in population, economic activity, and travel.** Florida’s population increased more than 32 percent between 2000 and 2019, and projections developed in early 2020 suggest Florida could welcome between 600 and 900 new residents per day for the next 25 years. The state’s employment and gross domestic product is increasing as well. This growth leads to continued increases in the number of people driving, riding transit, walking, bicycling, riding motorcycles, and using other modes on Florida’s transportation system – all of which exposes more people to safety risks. The rate of serious injuries relative to total vehicle-miles traveled (VMT) has been declining in the past few years – and growth in overall travel has kept upward pressure on the actual number of fatalities and the fatality rate.
- **Strong growth in visitors.** The number of visitors to Florida from other states and nations surged from 82 million in 2010 to more than 131 million in 2019. This adds to the congestion on the roadway system, particularly with a large number of people who are not familiar with Florida’s transportation system.
- **Continued growth in freight.** The volume of freight moving to, from, and within Florida continues to grow to support an expanding population and economy. E-commerce and home delivery of goods and services has surged during the past several years, placing more delivery trucks on local roads. Daily truck-miles traveled on the State Highway System increased 29 percent between 2014 and 2019.
- **Changing demographics.** The population over the age of 65 in Florida is projected to grow 61 percent by 2045, with many older adults outliving their ability to drive safely. More than 13 percent of Florida residents have a disability today, and increasing numbers face chronic health conditions. Overall, Florida’s population has more people with specialized mobility needs, who may be more vulnerable to a fatality or serious injury if involved in a crash.
- **Shifting development patterns.** Nearly 60 percent of Florida’s population growth through 2045 is anticipated to be concentrated in nine large urban counties, many of which will be facing increasing congestion and more interactions between vehicles and non-motorized modes. At the same time, many rural areas are growing, particularly on the fringes of existing urban areas and along transportation corridors, with more cars and trucks on roads not intended for high levels of traffic. Florida’s rural areas<sup>1</sup> account for about 5 percent of the state’s population and 10 percent of fatalities and 7 percent of serious injuries in the state.
- **Shifting modal demand.** Florida’s residents desire more options for accessing jobs, schools, health care, recreation, and other services using the transportation system. Until early 2020, about 9 out of 10 Florida workers used a motor vehicle to commute to work. However, motorcycle use and the number of people walking or bicycling for commuting or recreation have been increasing. The past few years also have seen rapid growth in emerging micromobility options, such as scooters and e-bikes, as well as shared rides through transportation network companies (such as Uber or Lyft). The increasing number of mobility options is serving customers’ needs better. It also is creating more potential conflicts and risks across Florida’s roadway system.
- **Emerging technologies and innovations.** Advancements in technology and communications, combined with emerging business practices, are reshaping how we work, learn, shop, and travel. Innovations such as connected and automated vehicles offer the potential for dramatic increases in safety and mobility, and also introduce new risks related to the mix of advanced and older vehicles sharing the road, potential increases in driver distraction, and potential for cybersecurity occurrences.

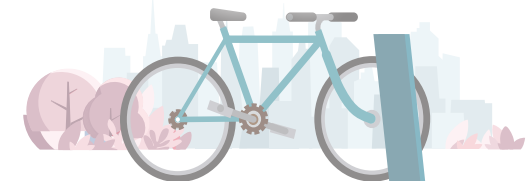
<sup>1</sup> Rural Counties identified using FL Statute 288.0656, Section 2(e).

# OUR CONTEXT



From 2015 to 2019, the number of **BIKESHARE STATIONS & E-SCOOTER OPERATIONS** in Florida increased

**↑ 31%**





# OUR PLANNING PROCESS

The SHSP is a statewide safety plan that provides a framework for eliminating highway fatalities and serious injuries on all public roads. It identifies Florida's key safety needs and guides investment decisions toward strategies and countermeasures with the greatest potential to save lives and prevent injuries. The SHSP is a data-driven, multi-year plan establishing statewide strategies and emphasis areas. To develop this plan, we started with the 2016 SHSP, reviewed and aligned with related plans, analyzed trends and crash data, collaborated with our partners and coalitions, and considered public input.

## ALIGNMENT WITH OTHER STATE PLANS

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 Plan (HSIP), the Highway Safety Plan (HSP), the strategic plans of statewide 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). In an effort to have a broader reach, we also considered plans from other agencies such as the Department of Elder Affairs' State Plan on Aging and the Florida Department of Health's State Health Improvement Plan (SHIP) and the Emergency Medical Services (EMS) State Plan.

## REVIEW AND ANALYSIS OF SAFETY AND RELATED DATA

Florida's SHSP is a data-driven plan, built on extensive analysis of the state's traffic crash data. Florida's crash data are collected by the state's law enforcement officers and submitted to the Florida Department of Highway Safety and Motor Vehicles (FLHSMV). The data analyzed include valuable information about the location of the crash, conditions at the time of the crash, behavioral factors that contributed to the crash, and the vehicle and demographic information that identifies the types of users involved in the crash. This information, paired with other statewide and national trends, adds context to the traffic fatalities and serious injuries that occur on Florida's roadways and helps safety professionals and partners identify potential countermeasures that could save lives.

Unless otherwise noted, all data reported in Florida's SHSP are from FLHSMV from 2015-2019. For the 2020 SHSP 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. Page 15 includes a detailed description of how we identified and organized the 2020 SHSP emphasis areas.



# OUR PLANNING PROCESS



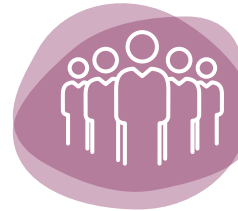
## PARTNER AND PUBLIC ENGAGEMENT

While the SHSP was guided by the FTP Steering Committee and its Safety Subcommittee, which included safety partners from federal and state agencies, MPOs, regional planning councils, local governments, and law enforcement, many other transportation and safety partners contributed as well. The ongoing work of the state's safety coalitions, with representatives from over 100 key safety partners and advocates, are reflected in their respective emphasis areas. The SHSP update kicked off with a **Vision Zero** workshop in May 2019, with the following year including outreach via FTP and SHSP partner briefings and webinars, safety coalition meetings, and the FDOT Transportation Planning Exchange (TransPlex) and Florida Transportation Symposium virtual conferences. 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 planning activities.



### VISION ZERO WORKSHOP

225 ATTENDEES



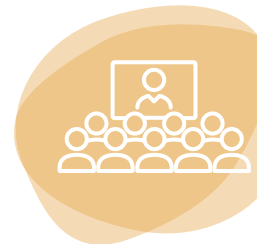
### SAFETY SUBCOMMITTEE

6 MEETINGS  
150 ATTENDEES



### SAFETY COALITION MEETINGS

7 MEETINGS  
200 ATTENDEES



### PARTNER BRIEFINGS

247 BRIEFINGS WITH MORE THAN 12,800 ATTENDEES AS PART OF THE FLORIDA TRANSPORTATION PLAN DEVELOPMENT



### SOCIAL MEDIA OUTREACH

MORE THAN 78,000 IMPRESSIONS AS PART OF THE FLORIDA TRANSPORTATION PLAN DEVELOPMENT



# MEASURING OUR PROGRESS

Florida monitors the total number of motor vehicle-related fatalities and serious injuries, the rate of fatalities and serious injuries per 100 million VMT, and the total number of fatalities and serious injuries involving non-motorized transportation users. As required by the federal government, each of these is reported as a five-year rolling average to help monitor trends over time.

- **Total fatalities in Florida generally had been on a downward trend between 2008 and 2014 and have been increasing on a five-year rolling average basis since 2014. The fatality rate relative to VMT has been increasing in the past few years as well.**
- **In contrast, the total number of serious injuries, on a five-year rolling average, increased slightly in 2016 and 2017 and decreased in 2018 and again in 2019.**
- **The total number of non-motorized (pedestrian and bicycle) fatalities and serious injuries increased steadily until 2018 where they began to decline.**

This SHSP affirms the target of **zero** for all federally required performance measures, which also is affirmed in Florida’s HSIP and HSP on an annual basis. All of Florida’s MPOs are committed to the vision of **zero** fatalities and serious injuries. Nineteen MPOs have adopted targets of **zero** and eight have established different targets committing to gradual progress toward **zero**. For the purposes of federal requirements, the objective of this SHSP is an annual trend toward our target of **zero traffic fatalities and serious injuries**.

FEDERAL PERFORMANCE MEASURE (FIVE-YEAR ROLLING AVERAGE)	2015	2016	2017	2018	2019	TREND	CALENDAR YEAR 2021 TARGET	TARGET MET?
Fatalities	2,495.8	2,688.2	2,825.4	2,972.0	3,110.4	●	0	No
Fatality Rate (per 100 million VMT)	1.28	1.33	1.36	1.39	1.42	●	0	No
Serious Injuries	20,518.0	20,844.2	20,929.2	20,738.4	20,169.8	●	0	No
Serious Injury Rate (per 100 million VMT)	10.43	10.36	10.13	9.77	9.29	●	0	No
Non-Motorized Fatalities & Serious Injuries	3,200.0	3,294.4	3,304.2	3,339.6	3,311.4	●	0	No

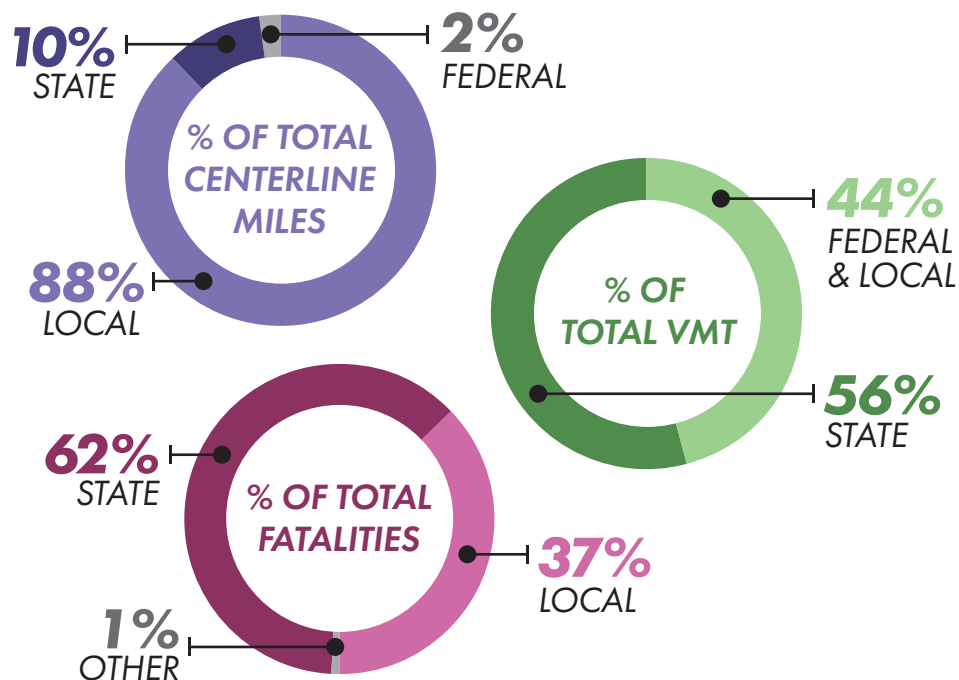
Note: All data on this table are five-year rolling average, as required for reporting and target setting by the federal government. For example, the 3110.4 fatalities show for 2019 is an average of the actual fatalities reported for the five-year period, as follows: 2,939 (2015), 3,166 (2016), 3,120 (2017), 3,134 (2018), 3,186 (2019). The trend column indicates progress toward target from the baseline: green indicates performance is moving toward the target; yellow indicates limited change; red indicates performance is moving away from the target.



# MEASURING OUR PROGRESS



## CENTERLINE MILES, VMT, AND FATALITIES BY ROAD TYPE (2019)



To monitor progress, FDOT uses data-driven forecasting to provide projections for each measure including correlations between safety data and other variables such as VMT, gas prices, and the age of vehicles. This statistical modeling process is conducted annually and final projections are reported for each measure in the SHSP, HSIP and HSP. In addition, the HSIP, HSP, and each of the safety coalitions' strategic plans all include performance and progress indicators.

FDOT and the traffic safety coalitions regularly review data to monitor plan progress and to identify relationships between contributing factors, including time/day, demographics, driver behaviors, environmental and roadway conditions, high risk locations, and emerging issues.

Florida's SHSP covers all public roads. In developing the SHSP, efforts were made to reach out to local governments and the state's 27 MPOs to provide information on ways to improve safety. Local roads account for 37 percent of roadway fatalities. State roads account for 10 percent of all road mileage in the state and 56 percent of total VMT and 62 percent of total fatalities. That is why a shared vision for safety and collaboration on key strategies is so important.

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.

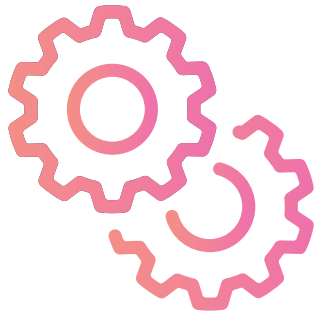




# OUR KEY STRATEGIES

Achieving **zero** traffic fatalities and serious injuries is a big task that requires a holistic and varied set of strategies. Crashes are complex, with multiple contributing factors that are highly variable and, in many cases, preventable. We need all hands on deck to address the causes of crashes and identify ways to reduce their severity.

Traditionally, there are four major approaches recognized among safety professionals as those with a potential impact on safety. These are referred to as the 4Es of traffic safety: Engineering, Education, Enforcement, and Emergency Response. While these continue to be key approaches, we are also thinking more broadly and inclusively by addressing four additional approaches, which we refer to as the 4Is: Information Intelligence, Innovation, Insight into Communities, and Investments and Policies.



## ENGINEERING

Transportation connects where we live to where we learn, work, and play. Our reliance on transportation creates expectations for a safe and accessible transportation system. Engineering strategies speak to the need to plan and provide transportation solutions that use best practices for safe mobility such as reducing points of conflict; improving signs, markings, and lighting; and managing speed. Florida will:

- **Identify, develop, and deploy engineering solutions and best practices** that encourage safe driving behavior and reduce roadway fatalities and serious injuries.
- **Strengthen collaboration with metropolitan planning organizations and local governments**, including law enforcement personnel and community traffic safety teams, to ensure safety considerations are given priority in planning future roadway projects.



## EDUCATION

A safe transportation system is effective only if its users understand how the system works and use it as intended. We conduct extensive outreach to help our residents and visitors understand the risks of unsafe road user behaviors such as speeding, driving unrestrained, distracted and impaired driving, and improper roadway crossings. We also seek to help our customers understand how to use innovative and proven infrastructure solutions, such as roundabouts, diverging diamonds, and bike lanes, as well as vehicle-based solutions like occupant protection and lane departure warning systems. Florida will:

- **Develop and implement targeted outreach and communications strategies** to improve road users' awareness of safety issues, including sharing the road with other users, driver responsibilities when involved in a crash, as well as their understanding of roadside and in-vehicle technologies, best practices, and other safety countermeasures.
- **Educate and train beginning and experienced road users** to improve driving and riding skills.
- **Educate and train current and new safety professionals** including planning, engineering, law enforcement, emergency response, elected officials, and other personnel, on best practices as well as new and innovative countermeasures.



## ENFORCEMENT

Even when road users are well-informed, some may choose to take risks. When that happens, they should be held accountable, because the lives of everyone on the road are at stake. Our law enforcement officers ensure we adhere to the traffic laws meant to keep us safe. Florida will:

- ▶ **Provide law enforcement officers training, tools, and resources** concerning new or recent laws and regulations; new programs, equipment, and technologies; and best practices.
- ▶ **Conduct focused enforcement and education activities** in high-crash locations involving high-risk driving behaviors to increase compliance.
- ▶ **Coordinate with prosecutors and the courts** to improve prosecution and adjudication of traffic safety-related cases.



## EMERGENCY RESPONSE

Quick and efficient emergency response can mean the difference between life and death for those injured in a crash. Timely emergency response is also critical to ensure rapid crash clearance to avoid secondary crashes. Access to the crash scene for emergency vehicles, well-trained emergency responders, and strategic placement of emergency services within a community are important considerations. Florida will:

- ▶ **Accelerate the implementation of proven and innovative techniques and best practices** to reduce emergency response time and improve the efficiency, effectiveness, and quality of care to traffic crash victims.
- ▶ **Advance targeted strategies for emergency response to particular types of crashes**, such as trauma to vulnerable road users or spills of hazardous materials.
- ▶ **Implement proven strategies for ensuring the safety of emergency response personnel** while en route or at the scene of a crash.
- ▶ **Implement proven and innovative strategies for enforcement and traffic operations personnel** to clear vehicles and manage and restore traffic flow at the scene of a crash with emphasis on avoiding secondary crashes.





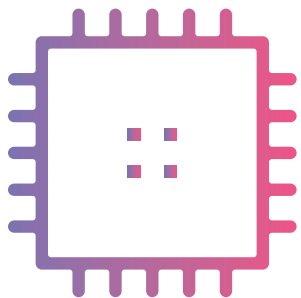
# OUR KEY STRATEGIES



## INFORMATION INTELLIGENCE

Quality and timely data are the basis for identifying and applying the strategies and countermeasures that are most likely to reduce fatalities and serious injuries. Data on crashes, roadway conditions, user characteristics, and behaviors help us understand safety trends, high-crash areas, and risk factors. Data also inform us about our performance – how well we are addressing safety challenges, which countermeasures are effective, and whether we are making progress toward our target of **zero**. We must work collaboratively to improve the quality of traffic records and other safety data; integrate safety data with other related information such as land use and community data, improve sharing of data among partners, explore new measures and data sources, and strengthen the tools and methods for turning data into usable information. Florida will:

- **Promote the collection, analysis, distribution, and use of quality and timely crash data** so state, regional, and local stakeholders can make appropriate and timely decisions on reducing and responding to crashes.
- **Expand data collection and analysis** to address emerging trends and risks, such as micromobility and e-commerce (i.e., on-line shopping and delivery).
- **Improve data analysis tools and methodologies** and strengthen business intelligence capabilities among traffic safety partners.
- **Identify high risk locations and behaviors related to fatal and serious injury crashes** through a systematic approach.



## INNOVATION

Advancements in traffic management, monitoring, and systems operations can connect data from the roadway, signs, or traffic signals to vehicles; improve traffic management and flow; improve system connectivity for trips; and enhance clearance of incidents on roadways. New vehicles offer improvements not only in safety features, like air bags and impact designs, but also in automation, such as lane departure warnings, adaptive cruise control, automatic braking, and other driver assistance. Emerging and new technologies, such as connected and automated vehicles, offer the potential of dramatic improvements to traffic safety by improving driver awareness and reducing human error, which is the underlying reason for over 90 percent of traffic crashes. Florida will:

- **Achieve immediate gains through implementation of existing best practices and technologies**, including Intelligent Transportation Systems (ITS), Connected and Automated vehicles (CAV), and Transportation Systems Management and Operations (TSMO).
- **Accelerate the implementation of new safety countermeasures** including roadway, in-vehicle, and app-based safety systems.
- **Develop, test, and deploy emerging connected and automated vehicle technology** to reduce human error and related crashes.



## INSIGHT INTO COMMUNITIES

Achieving **zero** fatalities and serious injuries requires more than addressing specific hazards and influencing individual decisions and behaviors. It also involves systemic approaches to reshape our transportation systems and communities to create a safer environment and a greater emphasis on more equitable access for people and all modes of travel. Florida will:

- ▶ **Create safer communities** through data-driven decisions that include partner and community member input, with the goal of more coordinated land use, design, planning, and traffic operations decisions that reflect the unique context, needs, and preferences of each community.
- ▶ **Promote a broader range of safe transportation choices** consistent with community visions.
- ▶ **Reduce disparities in transportation safety risks** among socioeconomic groups.

A proven way to reduce traffic fatalities and injuries is to adjust vehicle speeds to match the mix of users on a roadway. This might involve reducing target speeds or using speed management techniques to encourage drivers to operate at a safe speed that reflects the context of the community.

For example, in Volusia County, SR 430 (Oakridge Boulevard) is being redesigned to convert the existing three-lane facility to a two-lane roadway with a designated bicycle lane. This redesign provides for multiple road users including drivers, bicyclists, and pedestrians and encourages speed reduction for motor vehicles. Design features to manage speed on SR 430 include reduced lane width, horizontal deflection using curb bump outs, landscaping, and lane-repurposing to accommodate cyclists.



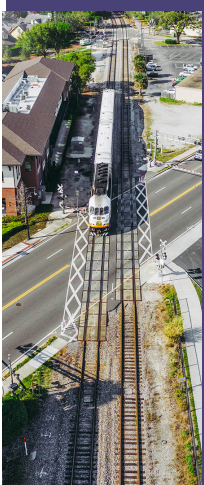
# OUR KEY STRATEGIES



## INVESTMENTS AND POLICIES

Transportation investment needs continue to grow as our population and economy expand. How we invest our limited resources must be linked to our vision of **zero** traffic fatalities and serious injuries. We must strategically prioritize investments to achieve the greatest gain, assess the allocation and flexibility of funding to support creative and proven safety strategies, invest wisely using data-driven decisions, and address gaps in available transportation, law enforcement, and emergency response workforces. Additionally, we must consider how our laws and policies can best support the safest transportation system. Florida will:

- **Employ flexible funding strategies**, including integrating safety into other projects to better address safety improvements and/or support countermeasure implementation.
- **Prioritize projects providing a demonstrated reduction** in fatalities and serious injuries.
- **Integrate safety** into all aspects of transportation planning and decision making, ensuring the inclusion of partners and community member input throughout.
- **Increase agility of program management and prioritization of decisions** to address emerging issues in a quick-response manner.
- **Enhance the expertise and skills** of transportation, enforcement, emergency response, and other agency safety staff regarding challenges and countermeasures, particularly new technologies and data (such as red light and speed cameras).
- **Pursue legislation and policies** that have been proven to reduce traffic fatalities and serious injuries.



When allocating limited resources, Florida must prioritize projects that link to the vision of **zero** traffic fatalities and serious injuries. Data from multiple pilot projects in Florida testing the pavement markings for dynamic envelopes (the area near railroad crossings designed to keep motorists out of the danger zone) showed more than a 15 percent reduction in the number of vehicles that stopped on or too close to rail crossings. Investing in these pavement markings is an effective way to increase safe stopping behavior and safety for both vehicles and pedestrians at railroad-highway crossings.

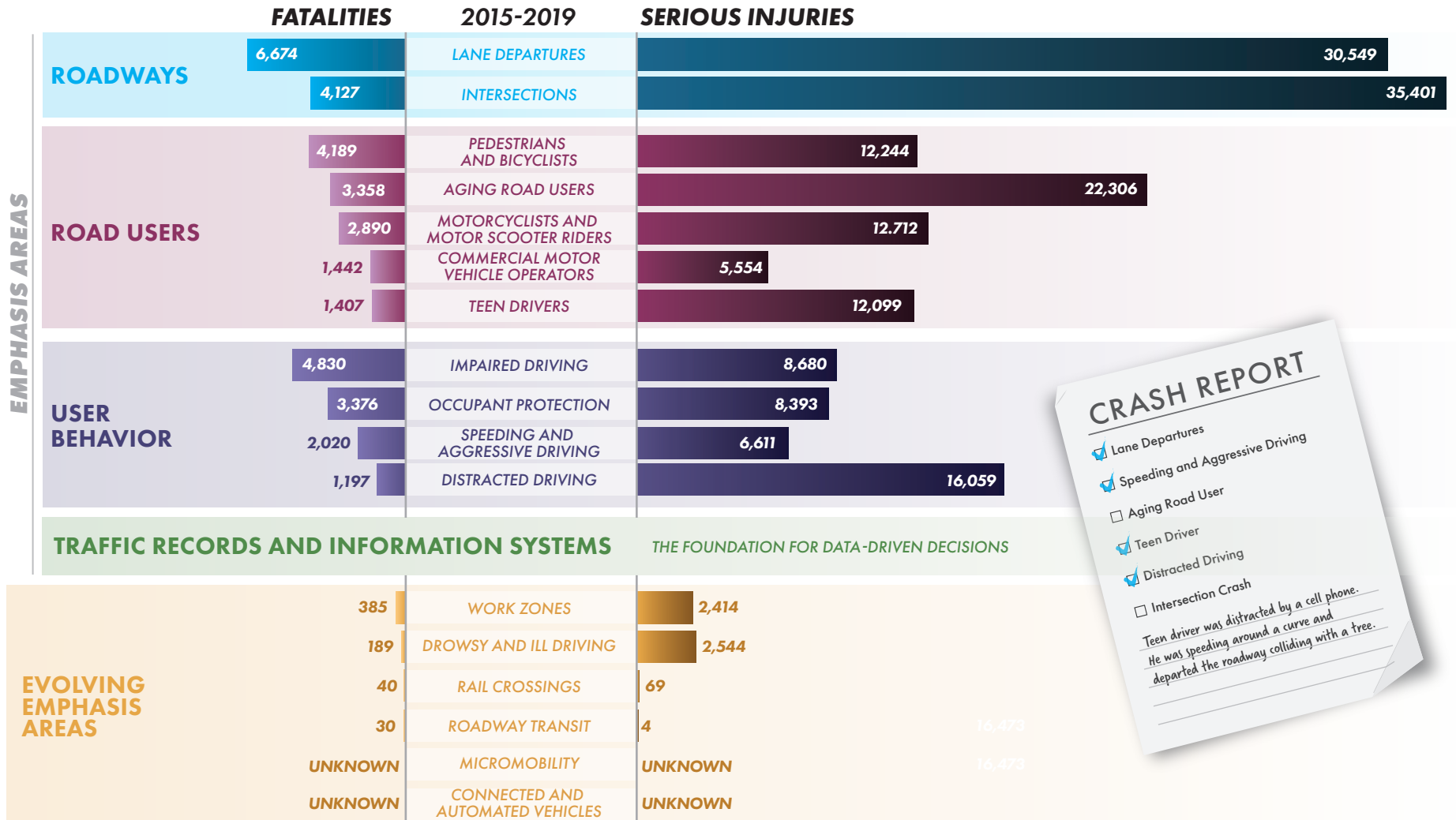
FDOT, in conjunction with rail partners, launched a data-driven statewide rail safety education initiative called Operation STRIDE (Statewide Traffic and Railroad Initiative using Dynamic Envelopes). This initiative, combined with additional engineering countermeasures, education, and enforcement efforts, will provide a comprehensive strategy to prevent fatalities on or near rail crossings.



# OUR EMPHASIS AREAS



Factors contributing to a crash typically involve three components: characteristics of the roadway; characteristics of the road user, including demographics and mode of travel; and behavior of the road user. Crashes rarely have a single contributing factor. Based on 2015 to 2019 crash data, we identified the top contributing factors and organized our emphasis areas into three categories – Roadways, Road Users, and User Behavior – supported by traffic records and information systems and accompanied by an additional category for evolving safety issues.





# OUR EMPHASIS AREAS

These emphasis areas provide focus to our safety initiatives. Projects are planned, delivered, and maintained at the direction of professionals throughout the state (planners, engineers, and Community Traffic Safety Team members, to name a few). Coalitions that support the emphasis areas bring together partners to analyze data, create strategic action plans, implement programs, monitor performance, and provide accountability across coalitions toward progress.

## ROADWAYS



LANE DEPARTURES



INTERSECTIONS

## ROAD USERS



PEDESTRIANS AND BICYCLISTS



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

## TRAFFIC RECORDS AND INFORMATION SYSTEMS

## EVOLVING EMPHASIS AREAS

WORK ZONES

DROWSY AND ILL DRIVING

RAIL CROSSINGS

ROADWAY TRANSIT

MICROMOBILITY

CONNECTED AND AUTOMATED VEHICLES

# OUR EMPHASIS AREAS



On the following pages we highlight data, major challenges and opportunities, sample countermeasures, and focused strategies specific to each emphasis area.

## HOW IS EACH EMPHASIS AREA ORGANIZED?

The emphasis areas are presented in their corresponding category. Each category presents the emphasis areas from the most to the least fatalities. The 2015 to 2019 fatality and serious injury data are provided by the Florida Department of Highway Safety and Motor Vehicles (FLHSMV), unless otherwise noted. The evolving emphasis areas are described on pages 42-43. Each emphasis area narrative addresses:

**COALITION HIGHLIGHTS** that report on the work being done by Florida's traffic safety coalitions or **BEST PRACTICES** that describe effective programs for the emphasis area.

**FATALITIES AND SERIOUS INJURIES** related to each emphasis area.

**FOCUSED STRATEGIES** that will guide Florida's efforts to reduce fatalities and serious injuries related to each emphasis area over the next five years. These focused strategies are organized into relevant 4Es and 4Is and aligned with applicable key strategies discussed on pages 10-14.

**KEY DATA POINTS** supporting the focus of each emphasis area.

### ROADWAYS: LANE DEPARTURES

Most fatal crashes occur because of lane departures. A lane departure crash is one in which a vehicle leaves its lane, possibly due to improper passing, wrong-way driving, weaving or swerving, running off the road, or overcorrecting, and collides with other vehicles, structures, trees, or other objects, or other people. Driver behavior and roadway design affect the number and severity of lane departure crashes. A driver who is speeding, distracted, drowsy, or impaired is likely to have difficulty staying in the lane. Given all these factors, it's important to note that one-fourth of all Florida crashes include a driver who leaves the scene.

Florida focuses its education efforts on the underlying driver behaviors that contribute to lane departures. A roadway that is slick and wet, an object that is too close to the road, or a shoulder or curve that does not allow for any error can also contribute to a lane departure crash. The Florida Design Manual and the Highway Safety Manual provide guidance to improve roadway conditions. Visual and audible cues to the driver, whether from the roadway itself or the vehicle, smartphone, or other technology, help mitigate lane departure crashes. Work Zones crashes are often the result of lane departures. We continue to monitor work zone crashes and recognize them as an evolving emphasis area (see page 42).

#### LANE DEPARTURE CRASHES

Year	Serious Injuries	Fatalities
2015	7,019	1,314
2016	7,379	1,459
2017	6,741	1,375
2018	6,219	1,363
2019	5,840	1,389

Lane departures represent **33% of all CRASHES** yet result in **44% of all DEATHS**

Driver assistance technologies such as lane departure warning systems, lane monitoring support, warning of slippery roads, and adaptive cruise control help prevent drivers from unintentionally drifting out of their lanes or crossing the center median and reduce the likelihood of lane departure crashes. These systems lower rates of single-vehicle, sideswipe, and head-on crashes of all severities by 11 percent.

### ROADWAYS: LANE DEPARTURES

#### FOCUSED STRATEGIES

**ENGINEERING** Identify, develop, and deploy engineering solutions and best practices for addressing lane departure crashes such as speed management techniques (curve delineation, high friction surface treatment), horizontal curve design, use of rumble strips, and elimination of vertical drop-offs at the roadway pavement's edge.

**INNOVATION** Accelerate the implementation of existing ITS infrastructure and new safety countermeasures to address lane departure crashes such as lane departure warning systems, blind spot detection, and lane assist systems.

**EDUCATION** Develop and implement outreach and communication strategies for in-vehicle technologies to avoid lane departures and expand education efforts on driver risk factors that may cause lane departure crashes such as speeding or distracted, drowsy, and impaired driving.

**INSIGHT INTO COMMUNITIES** Create safer communities by reflecting customer needs and surrounding land uses in roadway design and operations.

**ENFORCEMENT** Conduct focused enforcement activities by using data to identify high roadway departure crash locations and corridors caused by drivers who are speeding, distracted, and impaired, including key times and days.

**INVESTMENTS AND POLICIES** Continue to integrate proven safety practices known to reduce lane departure crashes into state, regional, and local transportation projects.

**EMERGENCY RESPONSE** Accelerate the implementation of proven and innovative techniques for reducing response time to lane departure crashes, including ensuring access by emergency vehicles on freeways, limited access, and controlled access highways.

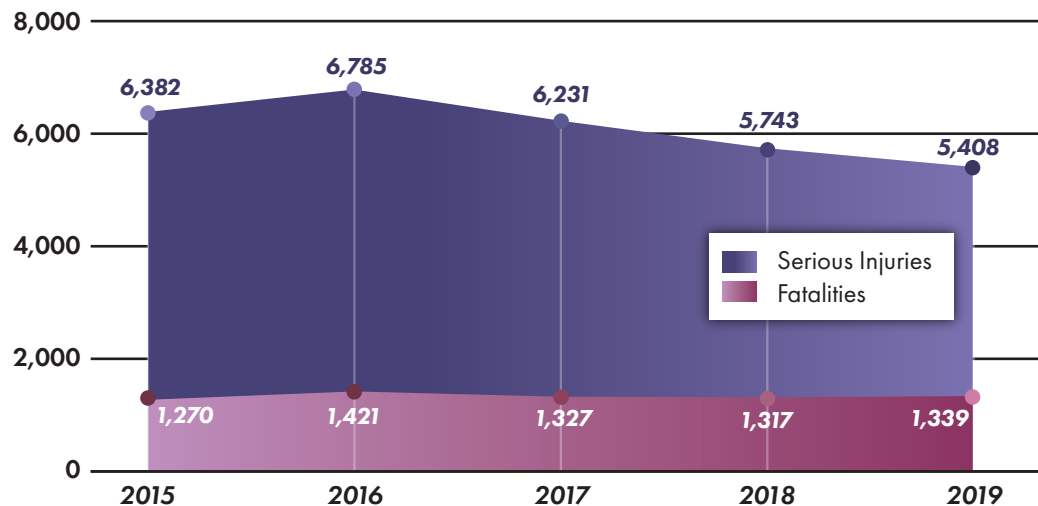


# ROADWAYS: LANE DEPARTURES

Most fatal crashes occur because of lane departures. A lane departure crash is one in which a vehicle leaves its lane, possibly due to improper passing, wrong way driving, weaving or swerving, running off the road, or overcorrecting, and collides with other vehicles, structures, trees, or other objects, or other people. Driver behavior and roadway design affect the number and severity of lane departure crashes. A driver who is speeding, distracted, drowsy, or impaired is likely to have difficulty staying in the lane. Given all these factors, it is important to note that one fourth of all Florida crashes include a driver who leaves the scene.

Florida focuses its education efforts on the underlying driver behaviors that contribute to lane departures. A roadway that is slick and wet, an object that is too close to the road, or a shoulder or curve that does not allow for any error can also contribute to a lane departure crash. The Florida Design Manual and the Highway Safety Manual provide guidance to improve roadway conditions. Visual and audible cues to the driver, whether from the roadway itself or the vehicle, smartphone, or other technology, help mitigate lane departure crashes. Work Zones crashes are often the result of lane departures. We continue to monitor work zone crashes and recognize them as an evolving emphasis area (see page 42).

## LANE DEPARTURE CRASHES



Lane departures represent **34%** of all **CRASHES** yet result in **42%** of all **DEATHS**



*Driver assistance technologies such as lane departure warning systems, lane monitoring support, warning of slippery roads, and adaptive cruise control help prevent drivers from unintentionally drifting out of their lanes or crossing the center median and reduce the likelihood of lane departure crashes. These systems lower rates of single-vehicle, sideswipe, and head-on crashes of all severities by 11 percent.*



# ROADWAYS: LANE DEPARTURES



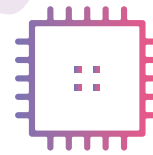
## FOCUSED STRATEGIES

### ENGINEERING



*Identify, develop, and deploy engineering solutions and best practices* for addressing lane departure crashes such as speed management techniques (curve delineation, high friction surface treatment), horizontal curve design, use of rumble strips, and elimination of vertical drop-offs at the roadway pavement's edge.

### INNOVATION



*Accelerate the implementation of existing ITS infrastructure and new safety countermeasures* to address lane departure crashes such as lane departure warning systems, blind spot detection, and lane assist systems.

### EDUCATION



*Develop and implement outreach and communication strategies* for in-vehicle technologies to avoid lane departures and expand education efforts on driver risk factors that may cause lane departure crashes such as speeding or distracted, drowsy, and impaired driving.

### INSIGHT INTO COMMUNITIES



*Create safer communities* by reflecting customer needs and surrounding land uses in roadway design and operations.

### ENFORCEMENT



*Conduct focused enforcement activities* by using data to identify high roadway departure crash locations and corridors caused by drivers who are speeding, distracted, and impaired, including key times and days.

### INVESTMENTS AND POLICIES



*Continue to integrate proven safety practices* known to reduce lane departure crashes into state, regional, and local transportation projects.

### EMERGENCY RESPONSE



*Accelerate the implementation of proven and innovative techniques* for reducing response time to lane departure crashes, including ensuring access by emergency vehicles on freeways, limited access, and controlled access highways.



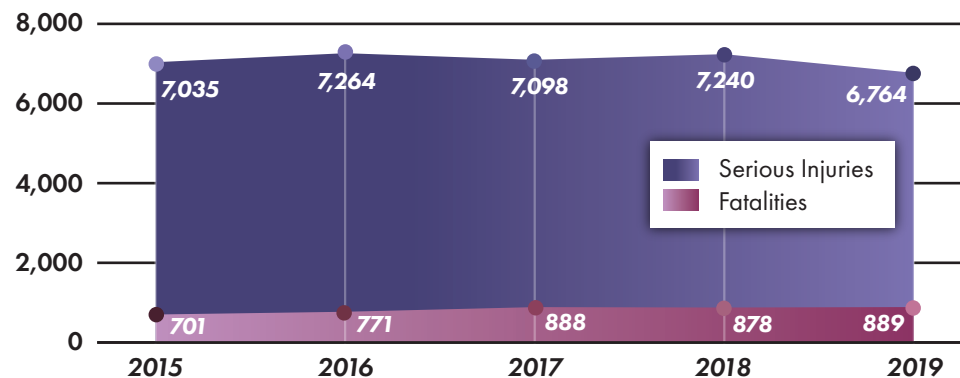
# ROADWAYS: INTERSECTIONS

Intersections, by design, are locations where vehicles and other road users cross paths and create the greatest potential for conflicts on the transportation system. The different approach and crossing movements at intersections are among the most complex traffic situations that users encounter and require appropriate signage, traffic control devices, roadway design, lighting, behavior, or other factors to ensure everyone's safety. Rail grade crossings are a type of intersection. We continue to monitor rail grade crossing crashes and recognize them as an evolving emphasis area (see page 42).


Many intersection crashes in Florida involve aging road users, distracted driving, teen drivers, motorcyclists, pedestrians, or bicyclists. Making left turns, changing lanes, and navigating through intersections can be difficult for aging road users who experience declines in visual, cognitive, or physical abilities. Motorcyclists, bicyclists, and pedestrians must rely on drivers to obey signage and traffic control devices, drive at an appropriate speed, and follow all traffic rules.

Florida uses Complete Streets and context sensitive design strategies that consider the needs of all users and the context of local communities when planning roadway improvements. Improvements such as traffic signal upgrades and roadway lighting at intersections are being implemented. As new design features can sometimes be confusing, education on how to safely navigate through intersections is necessary.

## INTERSECTION CRASHES



Florida saw a **27% INCREASE** in **fatalities** & **4% DECREASE** in **serious injuries** at intersections between **2015 and 2019**



Roundabouts can reduce fatalities by 90 percent and improve overall traffic flow at intersections. Florida has approximately 20 roundabouts on the State Highway System and over 300 on local roads throughout the state. Public involvement combined with education and a communications strategy help inform the public about how to navigate roundabouts and their benefits.

# ROADWAYS: INTERSECTIONS



## FOCUSED STRATEGIES

### ENGINEERING



**Identify, develop, and deploy engineering solutions and best practices** to limit conflicts between vehicles or between vehicles and other roadway users, including:

- Traffic control improvements.
- Intersection sight distance and lighting improvements.
- Geometric improvements.
- Systematic use of Intersection Control Evaluations to implement innovative designs such as roundabouts, displaced left-turns and median U-turns.

### EDUCATION



**Develop and implement outreach and communication strategies** for intersection safety targeted for older adults, youth, vulnerable road users, and users with limited English proficiency. Use these strategies to increase understanding of how to share intersections safely and how to use engineering solutions such as smart traffic control devices and innovative intersection designs.

### ENFORCEMENT



**Conduct focused enforcement activities** by using data to identify high-crash intersections, including key times and days for each intersection.

### EMERGENCY RESPONSE



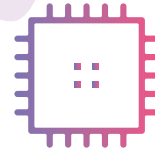
**Accelerate the implementation of proven and innovative techniques** for reducing response time, including using emergency vehicle preemption technology to ensure access to high-risk intersections.

### INFORMATION INTELLIGENCE



**Identify high risk locations**, needs, and potential solutions using data-driven road safety assessments supported by partner input.

### INNOVATION



Achieve immediate gains through implementation of **existing best proven practices and technologies** such as traffic signal optimization. Accelerate the implementation of **proven new safety countermeasures** such as automated technologies and adaptive traffic control deployment that support enforcement and incident response and rail grade crossing safety systems. Develop, test, and deploy **connected and automated vehicle technology** such as collision avoidance and turning detection control systems.

### INSIGHT INTO COMMUNITIES



**Create safer communities** by matching intersection design, improvements, and operations to customer needs and surrounding land uses. **Promote a broader range of safe transportation choices** by improving travel options and network connectivity so users have alternatives to heavily traveled intersections.

### INVESTMENTS AND POLICIES



**Provide greater flexibility** to facilitate partnering between state and local governments on intersection improvements and traffic operations.



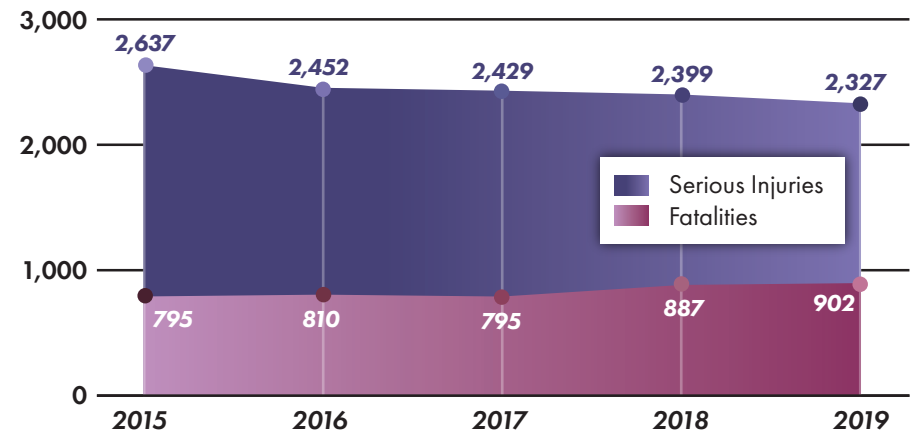
# ROAD USERS: PEDESTRIANS AND BICYCLISTS

Florida's year-round moderate climate makes walking and bicycling popular activities. People who bike or walk are the most vulnerable users of the transportation system. When they are in a crash involving a motor vehicle, the results are often tragic.

Approximately two-thirds of pedestrian- and bicyclist-related fatal crashes occur outside of a marked crosswalk or bicycle lane. Many serious and fatal injuries to pedestrians and bicyclists occur during dark or dusk hours. Vehicle speed is one of the major factors that can mean the difference between a minor injury and a serious injury or fatality for a bicyclist or pedestrian. As vehicle speed increases, the likelihood of a crash with a bicyclist or pedestrian resulting in a fatality or serious injury also increases.

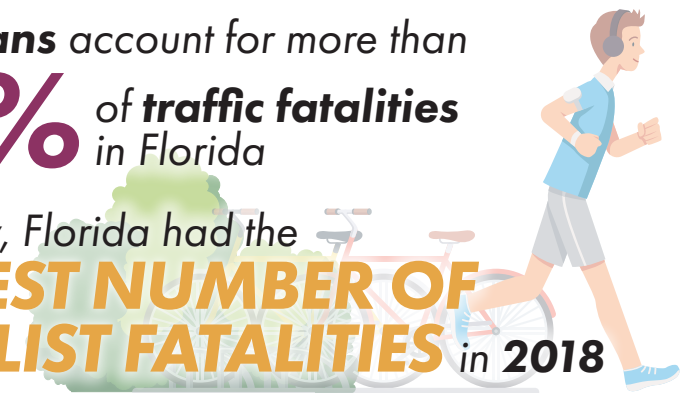
Florida's focused initiative to improve pedestrian and bicyclist safety (Alert Today Alive Tomorrow) has resulted in a statewide **Complete Streets Policy and Implementation Plan**, designed to create streets with improved lighting that accommodate all users with lower speeds and other design features that improve safety for bicyclists and pedestrians. Alert Today Alive Tomorrow has also contributed to updated design guidance and high-visibility enforcement campaigns, improved emergency response, driver education and revisions to the Florida Driver License Handbook and exams, innovative engineering solutions such as pedestrian hybrid beacons and protected bike lanes, and an improved method of traffic data collection that easily identifies areas with the highest representation of crashes resulting in fatalities and serious injuries to pedestrians and bicyclists throughout the state. Micromobility options are gaining in popularity. We continue to monitor crashes from these small, lightweight vehicles and recognize them as an evolving emphasis area (see page 43).

### PEDESTRIAN AND BICYCLIST CRASHES



**Pedestrians** account for more than **22%** of traffic fatalities in Florida

Nationally, Florida had the **HIGHEST NUMBER OF BICYCLIST FATALITIES** in 2018



**Florida's Pedestrian and Bicycle Safety Coalition** prioritizes and implements strategies identified in Florida's Pedestrian and Bicycle Strategic Safety Plan. This is the state's five-year comprehensive implementation plan to drive down traffic crashes resulting in serious or fatal injuries to pedestrians or bicyclists through goal-oriented decision making, data-driven investments, and strategic resource allocation.

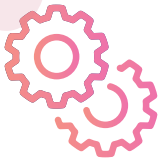


# ROAD USERS: PEDESTRIANS AND BICYCLISTS



## FOCUSED STRATEGIES

### ENGINEERING



*Develop and deploy engineering solutions and best practices* to support and encourage safe walking and bicycling such as refuge islands, walkways, pedestrian crossing islands, road diets, separated bike lanes, leading pedestrian intervals, median channelization, marking enhancement, lighting, and innovative signals and beacons.

### EDUCATION



*Develop and implement clear, consistent, and context-sensitive targeted outreach and communication strategies* about pedestrian and bicyclist safety to all roadway users.

*Educate and train state and local planners, designers, engineers, and law enforcement staff* on the benefits of including pedestrian and bicyclist safety in the planning stages of all relevant transportation projects.

*Include safety issues and compliance with traffic laws and regulations* related to pedestrians and bicyclists in all driver training courses to educate beginning and experienced road users about these vulnerable road users.

### ENFORCEMENT



*Provide law enforcement officers training, tools, and resources* to enforce laws that support safety for pedestrians and bicyclists.

### EMERGENCY RESPONSE



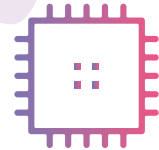
*Advance targeted strategies for emergency response to crashes* by improving medical response protocols specific to key injuries sustained by pedestrians and bicyclists.

### INFORMATION INTELLIGENCE



*Promote the collection, analysis, distribution, and use of quality data and tools* to guide, enhance, and evaluate transportation-related decision making at the state, regional, and local levels to reduce pedestrian and bicyclist fatalities and serious injuries.

### INNOVATION



*Develop and test technologies* that can improve bicyclist and pedestrian safety.

### INSIGHT INTO COMMUNITIES



*Reduce disparities in transportation safety risks* by ensuring that all transportation projects provide safety, mobility, and accessibility to all road users, regardless of age or ability.

*Create safer communities with urban and rural built environments* that support and encourage safe walking and biking.

### INVESTMENTS AND POLICIES



*Prioritize projects providing a demonstrated safety benefit and accessibility* for people walking and biking through all phases of relevant state and local transportation projects.

*Identify and support state and local legislation and policies that clarify the responsibilities of users* and support safe travel behavior.

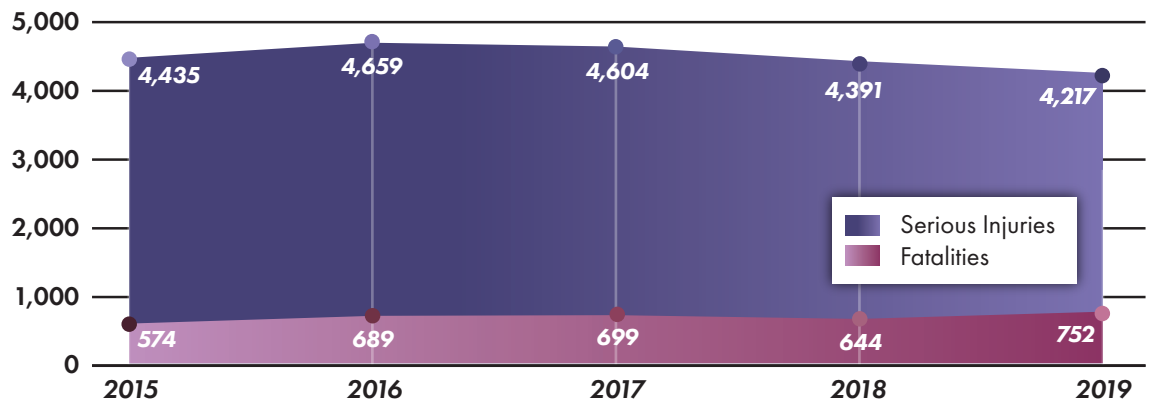


# ROAD USERS: AGING ROAD USERS

Florida is the third most populated state with one in four residents projected to be age 65 or older by 2045. Today's older adults are living healthier and longer lives; they are expected to outlive their ability to drive safely by 7 to 10 years, according to AAA.

Florida's aging road users represented 20 percent of the population and 37 percent of all crashes in 2019. However, they are at greater risk of injury or death when involved in a crash event due to natural age-related changes. Vision, memory, strength, flexibility, and reaction time decline as we age, and how soon this happens varies by person. Providing safe transportation choices is key to developing a plan to safely maintain mobility independence beyond driving. Choices could include safe walking and separated or dedicated bicycle facilities, transit, ridesharing, volunteer driver programs, and as they become available, automated vehicles. Positive messaging and education is important to inform decisions related to evaluating and adjusting changing abilities and creating a transportation plan to support a safe transition from driving.

## AGING ROAD USER CRASHES



Between 2015-2019, the number of licensed drivers **65+ and 90+** **INCREASED 15% & 2%** respectively, while licensed drivers of **all ages GREW BY 9%** in Florida

Per mile traveled, **FATAL CRASH RATES were lower 70-74** than middle age drivers, and are **highest 85 AND OLDER**

**Florida's Safe Mobility for Life Program and Coalition** seek to reduce crashes, fatalities, and serious injuries for Florida's aging road users while maintaining their safe mobility and connection to the community. The Coalition develops resources and educational materials to support the keys to achieve safe mobility:

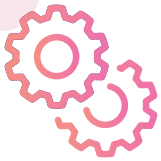
**Understand** the impact aging has on driving // **Be Proactive** about safe driving skills // **Plan** for a safe transition from driving

# ROAD USERS: AGING ROAD USERS



## FOCUSED STRATEGIES

### ENGINEERING



**Identify and deploy proven engineering solutions** for enhancements, such as improving intersection lighting and sight distance, retroreflective pavement markers on horizontal curves, signal phasing and signing, and advance warning of work zones, at locations that demonstrate serious crash problems and have the greatest exposure to risk for aging road users.

### ENFORCEMENT



**Provide law enforcement officers and front line licensing personnel training, tools, and resources** to recognize, assess, and report at-risk aging drivers.

### EDUCATION

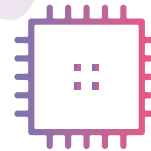


**Develop and implement targeted outreach and communication strategies** to increase awareness among older adults, families, health care providers, safety professionals, community partners, and public about the safety, access, and mobility needs of aging road users and the resources available.

**Educate and train road users** by developing and distributing resources and tools to support safe driving skills and encourage early planning to safely transition from driving.

**Promote partnerships and educate safety professionals** at metropolitan planning organizations, regional planning councils, and local governments on the importance of addressing the special needs of the aging population in their transportation, land use, and housing plans.

### INNOVATION



**Develop, test, and deploy driver assistance and automated vehicle technology** that could provide mobility options for older adults.

### INSIGHT INTO COMMUNITIES



**Create safer and more livable communities** by providing access to features and services to meet the mobility needs of an aging population.

**Promote a broader range of safe transportation choices** to better accommodate the need for safe, accessible, and affordable transportation that meets the needs of an aging population.



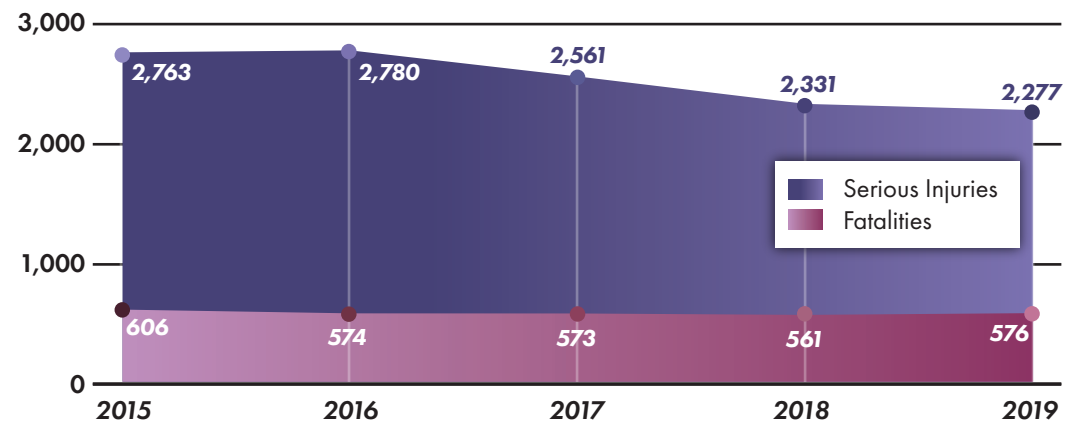
# ROAD USERS: MOTORCYCLISTS AND MOTOR SCOOTER RIDERS

Florida is a popular place to ride motorcycles and motor scooters year round as a form of recreation or an economical means of transportation. In Florida, motorcycles and motor scooters are two- and three-wheeled vehicles that require registration.

Compared to other motor vehicles, these vehicles offer minimal protection in the event of a crash. Motorcycles and motor scooters also have unique steering and stability characteristics that require physical skill beyond that needed to operate a standard automobile. Collectively, these factors expose their riders to a higher risk of serious or fatal injuries on the road. Between 2015 and 2019, motorcycles and motor scooters made up about 3 percent of Florida’s annual motor vehicle registrations and represented 19 percent of the state’s annual traffic fatalities.

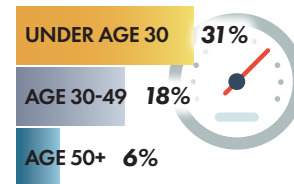
Comprehensive safety efforts are needed to reduce motorcyclist and motor scooter rider fatalities and serious injuries. Florida adopts evidence-based strategies, including administering a state motorcycle safety coalition, educating riders, promoting motorist awareness of motorcycles, and enforcing traffic laws regarding risk-taking behaviors of riders.

## MOTORCYCLIST AND MOTOR SCOOTER RIDER CRASHES

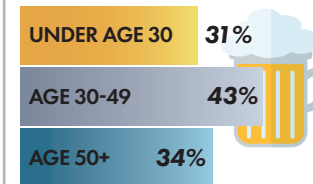


## RISK FACTORS IN FATAL MOTORCYCLE CRASHES

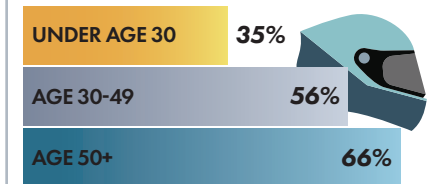
RIDER WAS TRAVELING 20+ MPH OVER THE SPEED LIMIT



ALCOHOL AND/OR DRUGS WERE INVOLVED



RIDER WAS NOT WEARING A USDOT-COMPLIANT HELMET



**The Florida Motorcycle Safety Coalition** includes public and private safety partners from around the state who assist with implementing Motorcycle Safety Strategic Plan goals and strategies.

**Ride Smart Florida** is the communication and outreach extension of the Coalition. Ride Smart Florida provides resources for motorcyclists and motor scooter operators on education and training, data, and safety strategies including rider visibility, personal protective gear, rider risk factors, and motorist responsibility.

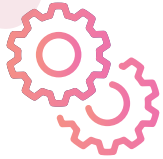




# ROAD USERS: MOTORCYCLISTS AND MOTOR SCOOTER RIDERS

## FOCUSED STRATEGIES

### ENGINEERING



**Deploy engineering solutions and best practices** that address motorcycle-specific infrastructure issues and mitigation approaches including drainage and shoulders, communication of road conditions, pavement conditions, enhanced roadway delineation, and traffic control devices.

### EMERGENCY RESPONSE



**Advance targeted strategies for emergency responders** and healthcare providers on motorcycle and motor scooter crash trauma that include responder training and education on proper helmet removal.

### EDUCATION



**Develop and implement targeted outreach and communication strategies** to promote safe riding behaviors, especially among aging riders, young sports-bike riders, and motor scooter riders, as well as to improve motorists' awareness of how to safely share the road with motorcycles.

**Educate and train beginning and experienced motorcycle riders** to maintain adequate riding skills and encourage defensive riding.

### INFORMATION INTELLIGENCE



**Promote the collection and linkage of quality crash, injury, licensing, violation, and registration data** for analysis to identify high risk locations and behaviors related to motorcycle and motor scooter fatal and serious injury crashes.

### ENFORCEMENT



**Provide law enforcement officers training, tools, and resources** to encourage zero tolerance for aggressive motorcycle activities and riding without an endorsement.

### INVESTMENTS AND POLICIES



**Identify and support legislation and policies that acknowledge the importance of safety gear**, including helmets, and address penalties for riding without an endorsement as well as behaviors such as speeding and/or careless driving.



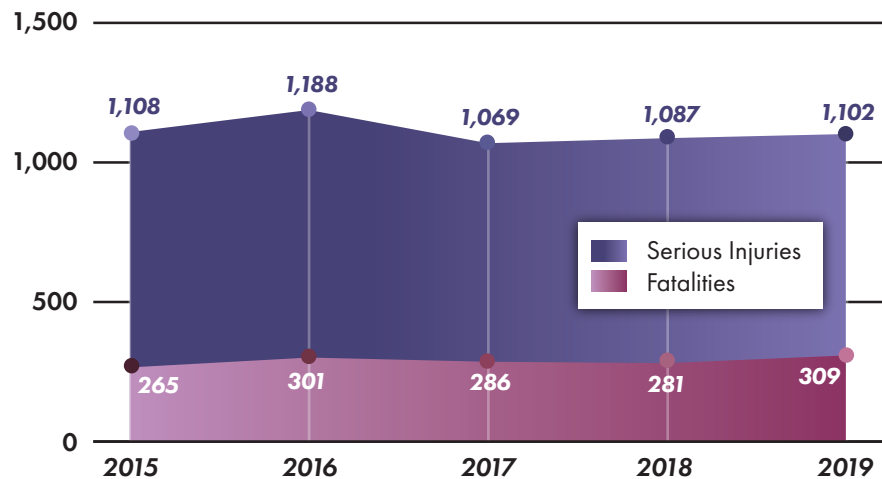
# ROAD USERS: COMMERCIAL MOTOR VEHICLE OPERATORS

Floridians depend on truckers now more than ever as people seek a broad inventory of goods across the country. About 85 percent of Florida communities rely exclusively on truck drivers to deliver their goods, and this trend is expected to increase due to e-commerce and other changes in shopping patterns.

Over 521,000 Floridians hold a commercial driver license, and nearly 1.6 million heavy trucks and 58,000 buses are registered in Florida. Factors that lead to serious crashes involving large trucks include illegal maneuvering, excessive speed, following too closely, inadequate surveillance due to external distraction, driving under the influence, and fatigue from long hours of service. Nationally, 71 percent of people killed in large truck crashes in 2018 were occupants of other vehicles and 11 percent were non occupants (pedestrians, bicyclists, etc.). However the trucker is not the at-fault driver in all of these crashes.

To improve Commercial Motor Vehicle (CMV) safety, the Florida Highway Patrol's Office of Commercial Vehicle Enforcement has a comprehensive CMV safety enforcement program that includes traffic enforcement focused on moving infractions, distracted driving, fatigued driving, impaired driving, and enforcement efforts in high crash locations. Florida also conducts educational and outreach efforts to train CMV drivers and educate the public about driving safely around CMVs.

## CMV OPERATOR CRASHES



Nationally, Florida's highways had the **2ND HIGHEST** number of **large truck occupants KILLED (53)** in 2018



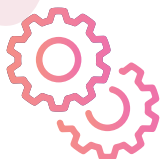
*Adequate truck parking is a critical issue facing truck drivers. Providing more parking options gets truckers off the road and reduces the number of crashes that occur as a result of CMVs being parked in unsafe areas due to the drivers' need to rest. The FDOT Freight and Multimodal Operations Office works closely with trucking industry representatives to improve commercial vehicle safety such as working together to address truck parking shortages. FDOT has invested in a Truck Parking Availability System (TPAS) that equips public rest areas with truck parking availability information to help drivers identify a safe place to park.*

# ROAD USERS: COMMERCIAL MOTOR VEHICLE OPERATORS



## FOCUSED STRATEGIES

### ENGINEERING



*Identify, develop, and deploy engineering solutions and best practices* to improve commercial motor vehicle safety, particularly at work zones, intersections and interchanges and entry/exit ramps.

*Strengthen collaboration with MPOs* and local governments to identify major freight corridors and hubs and specific freight needs, including truck parking, in the planning process to increase roadway safety, efficiency, and mobility.

### EDUCATION



*Develop and implement targeted outreach and communication strategies* to increase motorist awareness and understanding of how to drive safely around commercial vehicles.

*Partner with the trucking industry, fleet operators, cell phone carriers, insurance companies, and vehicle manufacturers* to educate and train beginning and experienced commercial vehicle drivers about the dangers of distracted driving.

*Educate and train first responders* in coordination protocols and proper response to large scale, multi-vehicle crashes.

### ENFORCEMENT



*Conduct focused enforcement in high crash locations* associated with commercial vehicles and promote compliance with safety, driver rest, and vehicle weight requirements.

### EMERGENCY RESPONSE



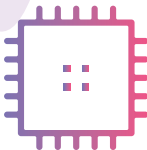
*Advance focused strategies for emergency response to commercial vehicle crashes*, including hazardous material and large scale multi-vehicle crashes, to improve response and clearance times, trauma outcomes, and motorist and responder safety, and prevent secondary crashes.

### INFORMATION INTELLIGENCE



*Promote the collection, analysis, distribution, and integration of quality data* among FDOT and other state, federal, and local agencies to identify driver, vehicle, and location risks to improve safety decision making and identification of appropriate countermeasures.

### INNOVATION



*Achieve immediate gains through adaptation and implementation of technologies* including dynamic messaging, collision warning systems, and roadside devices that monitor potential CMV equipment failures at operating speeds and make data available to commercial vehicle telematics companies to allow large trucks to respond rapidly to changing traffic and roadway conditions.

*Develop, test, and deploy connected vehicle and onboard unit messaging technologies* such as platooning to improve commercial vehicle safety.

### INSIGHT INTO COMMUNITIES



*Create safer communities that accommodate more urban/neighborhood goods delivery* by using context-sensitive design approaches.

*Create safer communities by collaborating with the trucking and bus industries* on programs and initiatives to improve safety and reduce commercial motor vehicle crashes, including truck parking solutions.

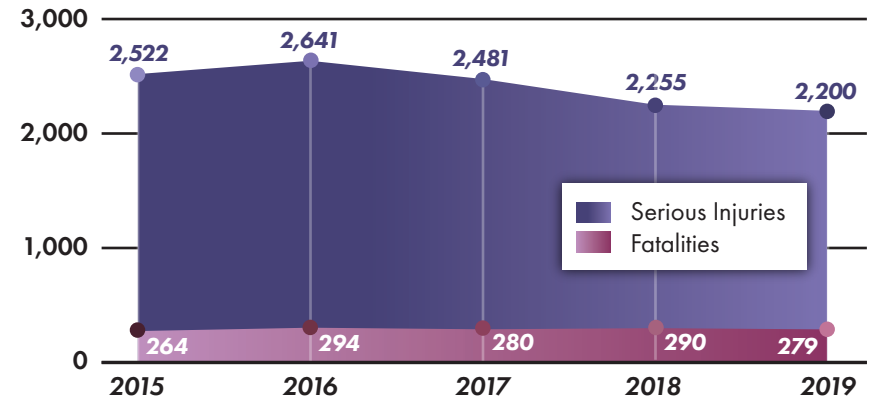
# ROAD USERS: TEEN DRIVERS

Getting a driver license can be an exciting time for any teenager. While this milestone can offer a new freedom and autonomy for teen drivers, it can also present a dangerous set of challenges. In fact, unintentional injuries, including motor vehicle crashes, are the number one cause of death for teens in the United States.

Florida has more than 800,000 registered teen drivers. Teen drivers were involved in 85,441 crashes in 2019 resulting in 279 fatalities and 2,200 serious injuries in 2019, with older teens (age 18 and 19) representing the largest portion of the crashes. Teens are more likely to be involved in a fatal crash when another teen is in the vehicle with them than when they are driving with adult passengers.

For most adults, driving seems to be automatic; in reality, it is a complex task requiring the driver to pay attention to a multitude of factors simultaneously, including other cars, pedestrians, obstructions, signs, and traffic signals. Teen drivers can be overwhelmed by this complex task and do not have the years of experience in recognizing and avoiding dangerous situations. Teens are more likely to underestimate dangerous situations, speed, and allow shorter distance between vehicles. In addition, teens need to learn their responsibility when involved in a crash given one quarter of all Florida crashes involve a driver who leaves the scene. Graduated Driver Licensing (GDL) laws are designed to allow new drivers time to gain necessary driving experience before being allowed full driving privileges. Nationally, GDL has been very effective in reducing fatalities and serious injuries among teen drivers, according to the National Highway Traffic Safety Administration (NHTSA).

## TEEN DRIVER CRASHES



Per mile driven,  
**Teen Drivers** are nearly

**3X MORE  
LIKELY**

to be involved in a

**FATAL CRASH**

than drivers 20 years and older



**The Florida Teen Safe Driving Coalition (FTSDC)** includes more than 35 organizations committed to helping teens avoid dangerous driving behaviors and situations and to reducing the number of fatalities and serious injury crashes involving teens.

The FTSDC supports extensive educational campaigns in high schools throughout Florida and has developed a Parent/Teen Safe Driving guide to help start a dialogue between teens and their caregivers about expectations for driving privileges and the importance of safe driving behaviors.



# ROAD USERS: TEEN DRIVERS



## FOCUSED STRATEGIES

### EDUCATION



**Develop and implement targeted outreach and communication strategies** to promote driver education programs and educate teens, parents, caregivers, and other partners about Florida's Graduated Driver Licensing laws and the resources available.

**Educate teens, parents and caregivers about the safety issues** and the traffic laws and regulations related to teen distracted driving.

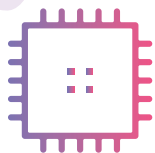
**Educate teens, parents, and caregivers about the dangers** of drowsy and impaired driving, the importance of safety belt use, and driver responsibilities when involved in a crash.

### ENFORCEMENT



**Provide law enforcement officers training, tools, and resources** on Florida's Graduated Driver Licensing and distracted driving laws, and high-risk behaviors associated with teen drivers.

### INNOVATION



**Achieve immediate gains through implementation of proven technologies** to assist parents in monitoring newly licensed teen drivers.

**Develop, test, and deploy emerging connected and automated vehicle technology** that could provide mobility options for teen drivers.

### INSIGHT INTO COMMUNITIES



**Create safer communities** through greater interaction of parents and caregivers in the teen driver license process by engaging caregivers during orientation events, parent groups, and other teen/caregiver-targeted functions.

**Provide resources to educate teen road users on how to safely use other modes of transportation**, such as walking, bicycling, transit, micromobility, and shared or automated vehicles.

### INVESTMENTS AND POLICIES



**Prioritize projects and initiatives** providing a demonstrated reduction in teen driving crashes.

**Identify and support legislation** to improve Florida's Graduated Driver Licensing laws.

**Pursue school policies** that correlate teen safe driving behavior with student privileges.

**Expand Florida's Driver Education curriculum** to be comprehensive in its promotion of proven teen driver safety practices and principles.



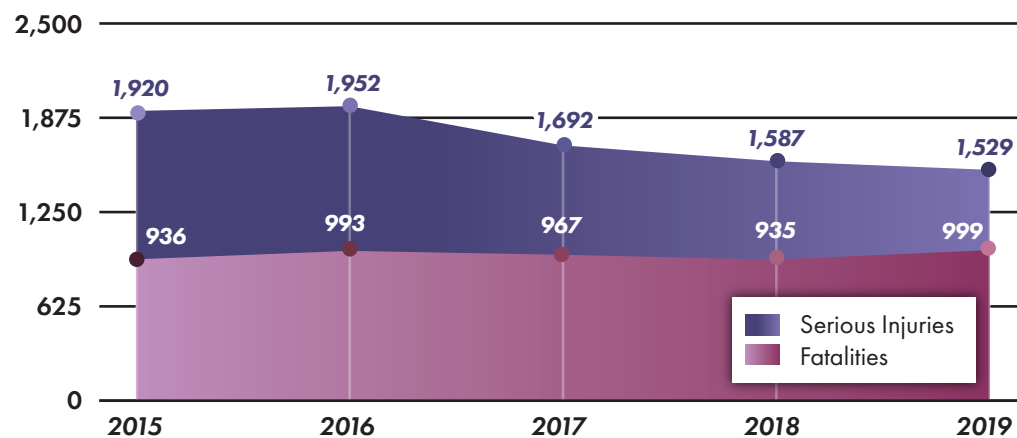
# USER BEHAVIOR: IMPAIRED DRIVING

In Florida, one out of every four traffic fatalities involves a driver impaired by alcohol or drugs. Impairment can occur with any use of alcohol or drugs, including prescription medicines, medical marijuana, or illicit drugs. Impaired drivers often used multiple drugs or drugs and alcohol, which further compound impairment even if the alcohol use does not meet the minimum threshold for a Driving Under the Influence (DUI) charge. Serious injuries and fatalities caused by drug-impaired driving continue to increase statewide.

Not surprisingly, weekend nights between 11:00 p.m. and 3:00 a.m. account for the highest frequency of impaired driving crashes. Men are almost five times more likely than women to be involved in a fatal crash involving impaired driving, with men in their 20s the most likely group to be seriously injured in impaired driving crashes.

Approximately one third of drivers stopped for suspected impaired driving refuse to consent to a breath or blood test and one fourth of drivers involved in any crash leave the scene. This creates challenges for law enforcement and prosecution and affects our ability to fully understand the extent of the impaired driving problem. In addition to targeted education and enforcement, countermeasures include mitigating the consequences of impairment, such as installing wrong way driving alert systems on Interstate entrance or exit ramps. Florida's DUI programs educate and evaluate DUI offenders and provide referrals to substance abuse treatment services as part of the state's effort to reduce DUI recidivism rates.

## IMPAIRED DRIVING CRASHES



Each day

**3 PEOPLE DIE**

in Florida due to motorists

**DRIVING UNDER THE INFLUENCE**

of **drugs and/or alcohol**



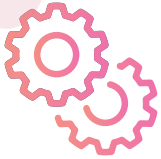
*The Florida Impaired Driving Coalition (FIDC) is comprised of a diverse group of members from over 30 organizations, including statewide and local stakeholders, who have a working knowledge and understanding on Florida-specific impaired driving programs, infrastructure, and needs. The FIDC reviews state and national trends in impaired driving to identify best practices to reduce impaired driving in Florida.*

# USER BEHAVIOR: IMPAIRED DRIVING



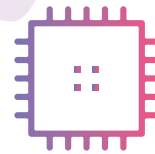
## FOCUSED STRATEGIES

### ENGINEERING



Identify, develop, and deploy engineering solutions and best practices for wrong way driving, lane departures, and intersection crashes that may be greater risks for impaired drivers.

### INNOVATION



Achieve immediate gains through implementation of existing best practices and technologies including use of tools such as ignition interlock devices.

### EDUCATION



Combine targeted outreach and communication strategies with targeted high visibility enforcement to increase public awareness of the consequences of impaired driving.

### INSIGHT INTO COMMUNITIES



Create safer communities by working with local stores, restaurants, bars, and event venues to promote responsible alcohol service.

Create safer communities by promoting safer transportation choices that encourage alternatives to driving when impaired.

### ENFORCEMENT



Provide law enforcement officers, prosecutors, and the courts training, tools, and resources to detect, reduce and/or prevent impaired driving.

### INVESTMENTS AND POLICIES



Prioritize projects providing a demonstrated reduction in repeat impaired driving including targeted enforcement, effective prosecution, and improved screening, assessment, and treatment of substance abuse.

Identify and support legislation and policies to enhance penalties, expand diversion and treatment programs, and improve procedures related to collecting evidence of impairment.

### INFORMATION INTELLIGENCE



Promote the analysis, distribution, and use of quality data by improving data collection related to alcohol and drug impairment and closing data gaps through better data integration and processes.

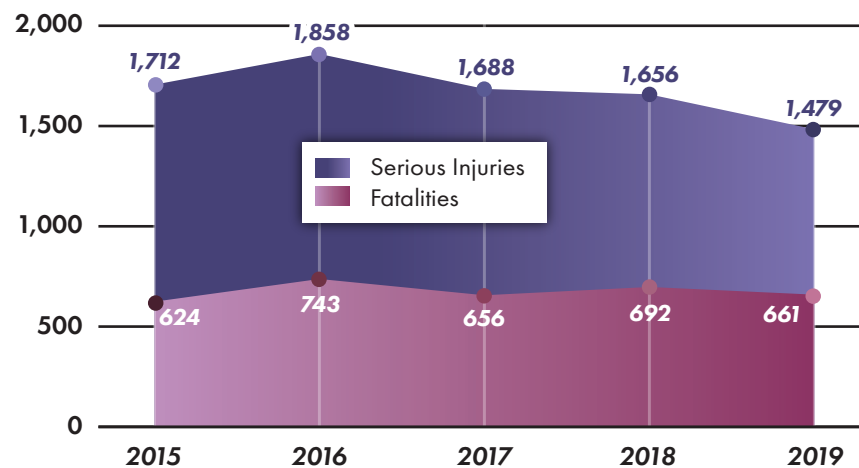


# USER BEHAVIOR: OCCUPANT PROTECTION

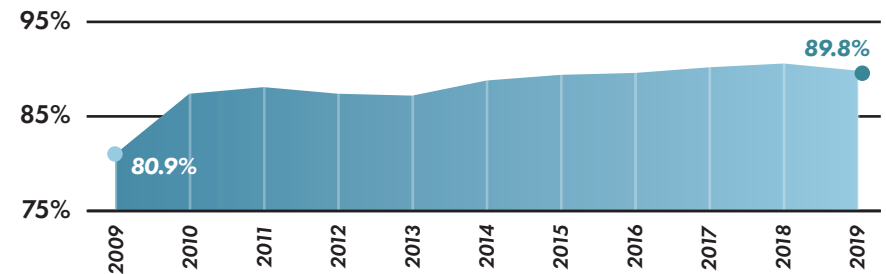
Safety belts, child restraints, and air bags are designed to prevent or minimize injury when a crash occurs by distributing the forces of a collision over the body's strongest parts. When used properly, these devices play a major role in reducing the severity of injury. An occupant's chance of survival increases dramatically when appropriately restrained. NHTSA estimates that restraint use saved nearly 15,000 lives of occupants age 5 and older nationwide in 2017. In Florida, 44 percent of impaired driving fatalities and 39 percent of speeding and aggressive driving fatalities were vehicle occupants who were not buckled up.

Florida's safety belt use increased 9 percentage points over the last decade. The state is focused on implementing high visibility enforcement campaigns, strengthening safety belt laws and policies to increase child passenger safety and safety belt usage, and providing education and outreach with an emphasis on high-risk populations including young men, minorities, and pickup truck drivers.

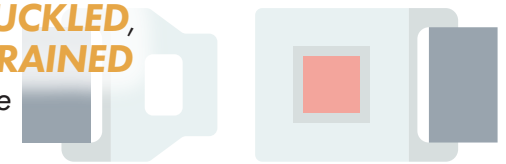
## UNRESTRAINED VEHICLE OCCUPANT CRASHES



## OBSERVED SAFETY BELT USE



When the **DRIVER IS BUCKLED,**  
**CHILDREN ARE RESTRAINED**  
**92%** of the time



**The Florida Occupant Protection Coalition (FOPC)** is comprised of national, state, local, and private sector partners representing the occupant protection community, law enforcement, education, public health, and program evaluation and data. The Coalition's goal is to increase and improve the use of age-appropriate safety restraints to reduce traffic fatalities and serious injuries. The Coalition assists in implementation of the Occupant Protection Strategic Plan including development of materials and activities and tracking progress.



# USER BEHAVIOR: OCCUPANT PROTECTION



## FOCUSED STRATEGIES

### EDUCATION



*Develop and implement outreach and communication strategies* focused on the demographics with low safety belt and child restraint use.

### INSIGHT INTO COMMUNITIES



*Create safer communities* by providing occupant protection and child passenger safety training, materials, resources, and child safety seat checks to all areas of the state and at-risk populations.

### ENFORCEMENT



*Provide law enforcement officers training, tools, and resources* to increase compliance with occupant protection and child passenger safety laws and increase seat belt use among officers.

*Combine focused high visibility enforcement with focused outreach and communication strategies* to increase public awareness of the consequences of riding unrestrained.

### INVESTMENTS AND POLICIES



*Identify and support legislation to require all passengers in all seating positions to be properly restrained* including occupants of pickup trucks or flatbed vehicles and the correct child restraint seats for the correct amount of time.

*Identify and support legislation or policies that require completion of a mandatory diversion program* for first-time offenders of the child restraint law.



### CarFit Program

CarFit is an educational program where a team of trained technicians offers a safety check-up for vehicles of older drivers to ensure they “fit” their vehicle properly for maximum comfort and safety. A CarFit check-up is free and takes about 20-30 minutes.



### Car Seat Installment

Research shows that child safety seats reduce fatal injury by 71 percent for infants (under 1-year old) and by 54 percent for toddlers (1 through 3 years old) in passenger cars. Child safety seat inspection stations help to install or check the safety seats for children by nationally certified child passenger safety technicians free of charge in most cases.





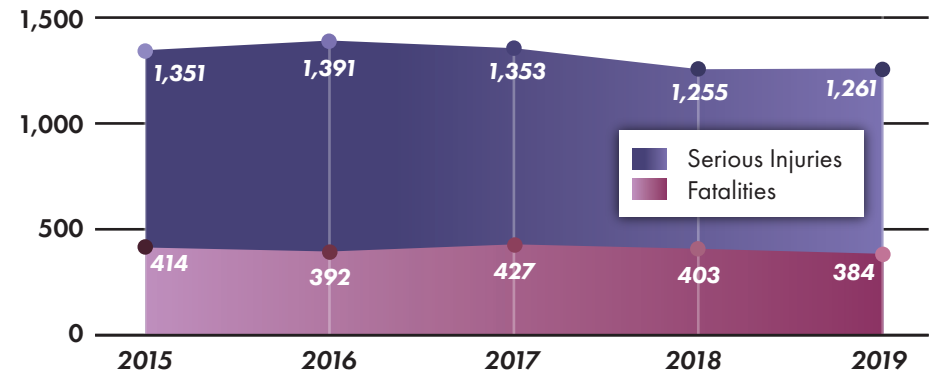
# USER BEHAVIOR: SPEEDING AND AGGRESSIVE DRIVING

The adage “speed kills” is certainly true with traffic crashes: driving 60 mph doubles the chances of a crash fatality compared to driving 50 mph, and the odds continue to double for every 10 mph increase in speed. Speeding and driving aggressively translate to less vehicle control, increased stopping distances, and greater risk to others on or near the roadway.

Engaging in speeding or aggressive driving behavior creates risk for the driver and an unsafe environment for all other people traveling on the roadway at the same time. Speeding and aggressive driving are linked to traffic congestion and driver attitudes or cultural norms, including valuing time over safety, acceptance of risky behavior, and distraction.

Effective approaches may combine engineering, land use, and traffic operations decisions that establish appropriate speeds for the context of a community and manage speeds through traffic calming and traffic signal timing. State and local law enforcement agencies engage in high visibility enforcement speed and aggressive driving initiatives that educate the public about the dangers of aggressive driving and cite individuals who violate the law. Handouts and verbal communication about the dangers and consequences of such behaviors are provided at every traffic stop.

## SPEEDING AND AGGRESSIVE DRIVING CRASHES



In Florida,

**39%** of **SPEED & AGGRESSIVE DRIVING FATALITIES**

involved an

**UNRESTRAINED OCCUPANT** &

**44%** involved an **IMPAIRED DRIVER**



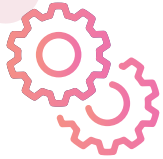
*Florida law enforcement, in partnership with four other southern states (Georgia, Alabama, Tennessee, and South Carolina), participates in Operation Southern Shield. This week-long multi-jurisdictional effort looks for drivers who are not wearing their seat belts, traveling above the speed limit or driving distracted on interstates, major highways, and local roads. This speed-enforcement campaign is led by the NHTSA in an effort to reduce speeds and drive down fatalities throughout the region. The effort is undertaken in the summer months, which often have an increase in fatal crashes due to speeding.*

# USER BEHAVIOR: SPEEDING AND AGGRESSIVE DRIVING



## FOCUSED STRATEGIES

### ENGINEERING



*Identify, develop, and deploy engineering solutions and best practices* to reduce speed such as lane narrowing, roundabouts, curb extensions, and transition zones where the roadway context classification changes.

### EDUCATION



*Develop and implement community-based outreach and communication strategies* to educate beginning and experienced road users about the impact of speeding on crash severity, consequences of driving aggressively, and how to avoid aggressive drivers.

*Educate and train safety professionals* on establishing target speeds for all modes, Complete Streets, and Safe System approaches.

### ENFORCEMENT



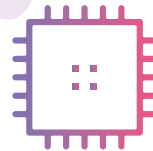
*Conduct focused enforcement activities* of speeding and aggressive driving laws at high risk locations.

### INFORMATION INTELLIGENCE



*Promote the collection, analysis, and distribution of quality crash and citation data* to law enforcement agencies to identify high risk locations and behaviors related to speeding and aggressive driving fatal and serious injury crashes.

### INNOVATION



*Achieve immediate gains through implementation of proven technologies* such as dynamic speed signing at high risk locations, and vehicle intelligent speed adaptation technology that provides feedback when the speed limit has been exceeded.

### INSIGHT INTO COMMUNITIES



*Create safer communities by implementing Complete Streets* and context sensitive design solutions to help match speeds to the context of the surrounding community.

### INVESTMENTS AND POLICIES



*Prioritize projects providing a demonstrated reduction in vehicle speeds* at high risk locations for speeding.

*Identify and support legislation to increase penalties* for speeding and aggressive driving.

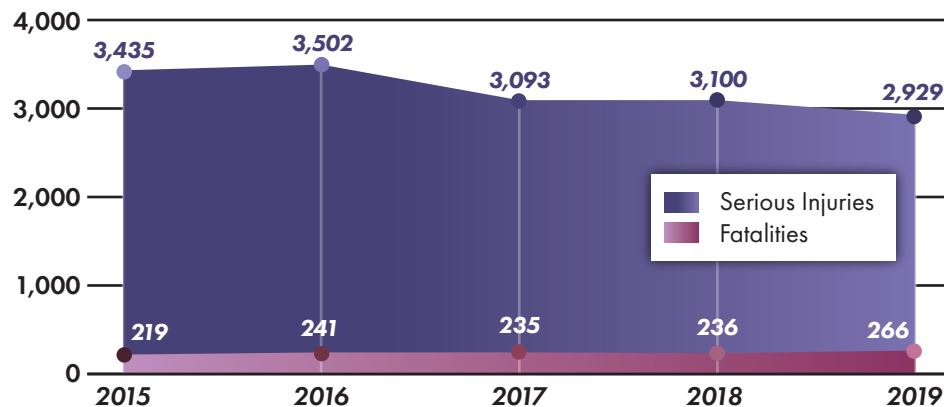


# USER BEHAVIOR: DISTRACTED DRIVING

At 55 mph, a driver can travel the distance of a football field in the amount of time it takes to send a text. Distracted driving includes anything that takes the driver’s attention away from the vital task of driving. There are three types of distraction: manual (taking hands off the wheel), visual (taking eyes off the road), and cognitive (taking one’s mind off driving). Driver distraction is not solely about cell phone use and texting; other activities such as eating, talking to passengers, reading, adjusting vehicle controls, dealing with children and pets, and being fatigued or drowsy can be equally as distracting.

FDOT works with local enforcement agencies to conduct distracted driving educational programs, community outreach, and enforcement. Educational efforts include presentations at schools, local organizations, and community events. Enforcement activities occur in high-risk areas with the greatest number of crashes. Community Traffic Safety Teams (CTSTs) and the Florida Teen Safe Driving Coalition also provide resources and implement targeted approaches to educate teen drivers about distracted driving. The Coalition’s parent portal addresses how a parent’s cell phone use when driving influences their teen’s driving habits and suggests identifying alternatives in advance to answering a parent’s call when the teen is driving.

## DISTRACTED DRIVING CRASHES



In 2019, there were **104,846** **DISTRACTED DRIVING CRASHES** in Florida

**DISTRACTED DRIVING CRASHES** have **INCREASED 27%** from 2015 to 2019



FDOT’s “Put It Down” campaign is aimed at helping drivers understand the problem of distracted driving and recognize the risks and consequences associated with distracted driving; implement actions to eliminate distracted driving within their families, schools, businesses, or organizations; and understand Florida’s distracted driving law.

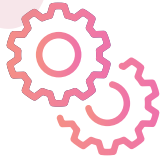


# USER BEHAVIOR: DISTRACTED DRIVING



## FOCUSED STRATEGIES

### ENGINEERING



*Identify, develop, and deploy engineering solutions and best practices* that mitigate distracted driving, such as rumble strips and stripes, flashing beacons, traffic calming, lighting, and dynamic warning signs.

### EDUCATION



*Develop and implement targeted outreach and communication strategies* to increase understanding of the consequences related to distracted driving, riding, and walking.

*Educate and train beginning and experienced road users* about distracted driving, riding, and walking by ensuring all course materials include specific content about distraction.

### ENFORCEMENT



*Provide law enforcement officers training, tools, and resources* to detect and cite distracted road users, collect data, provide education in their community, and model good driving behavior.

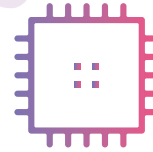
*Conduct focused enforcement activities* for distracted driving, riding, or walking using the most appropriate enforcement strategy.

### INFORMATION INTELLIGENCE



*Expand analysis* of traffic records data related to distracted driving citations and crashes to identify and resolve inconsistencies or gaps in data.

### INNOVATION



*Achieve immediate gains through implementation of technologies* that can prevent crashes such as cell phone signal blocking technologies and automated vehicle systems.

### INSIGHT INTO COMMUNITIES



*Create safer communities* by promoting a culture shift away from distracted driving through local leadership and resources.

### INVESTMENTS AND POLICIES



*Identify and support legislation* to enhance enforcement and penalties for use of smart devices while driving and promote supportive employer policies.




# TRAFFIC RECORDS AND INFORMATION SYSTEMS

Data are the foundation of any effort to improve traffic safety and are critical for SHSP development and implementation. Florida's traffic records system is built on six key data systems - crash, vehicle, driver, roadway, citation/adjudication, and emergency medical services (EMS)/injury surveillance. Collectively, these data provide critical context to every crash that occurs on the state's transportation system. Decision makers and safety stakeholders analyze various data to understand their highway safety challenges, set priorities, and develop and evaluate projects and programs that save lives.

Combining data from the key data systems can provide a clear and detailed picture of traffic safety issues. The analysis of crashes at the state, regional, and local levels and along specific roadways or transit corridors can help identify affected populations and needs for public training and education as well as specific safety problems to help determine engineering, education, enforcement, or emergency response strategies to put into action. Ensuring data quality will enable and improve the ability to monitor the effectiveness of investments and efficiency of efforts to improve public safety.

**98.5%** of Florida's  
**CRASH REPORTS**  
are submitted **ELECTRONICALLY**



**Florida is making progress toward integrating three of the six traffic records data systems within Signal Four (S4) Analytics.** This statewide analytical system integrates crash, roadway, and citation data made visible in a geospatial platform. A centralized location database is being established to improve the timeliness and accuracy of crash location data, and integration of EMS/injury surveillance data has begun.

Other TRCC software tools to improve the timeliness, accuracy, accessibility, and completeness of Florida's traffic records data quality are S4 Analytics' Geo-Location Tool, Traffic and Criminal Software (TraCS), the Electronic License and Vehicle Information System (ELVIS), and the National Emergency Medical Services Information System (NEMSIS) Program. Many of these tools include a geolocation component to more accurately identify the location of roadway safety incidents and allow electronic submission of data.

**Florida's Traffic Records Coordinating Committee (TRCC)** is comprised of agencies interested in improving the coordination, data quality, integration, accessibility, and use of traffic records data with representation from all six data systems and other key safety stakeholders. The TRCC develops and implements the state's Traffic Records Strategic Plan and facilitates the planning, coordination, and implementation of projects to accomplish common goals and improve the quality of the state's traffic records information systems.

# TRAFFIC RECORDS AND INFORMATION SYSTEMS



## FOCUSED STRATEGIES

Florida has a longstanding commitment to improving the quality and use of traffic records data. Key commitments that provide a foundation for all other emphasis areas include:

- Develop and maintain complete, accurate, uniform, and timely traffic records data.
- Facilitate access to traffic records data to bolster ongoing coordination in support of multiagency initiatives and projects.
- Continue efforts to integrate Florida's six traffic records data systems.

Florida has seen the benefits of a long-term focus on traffic records, through the large number of reports that are now filed electronically as well as initial steps to integrate the six data systems and develop enhanced analysis tools. During the next few years, Florida will continue this progress while also expanding into a broader safety data management strategy to support SHSP implementation.

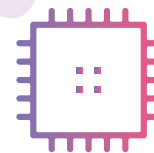
### INFORMATION INTELLIGENCE



**Develop analysis tools, visualization approaches, and dashboards** to turn information into useable knowledge that meets the needs of users and decision-makers.

**Improve data analysis tools and methodologies** by facilitating a fully integrated traffic records data system with up-to-date and consistent data dictionaries and data elements that incorporates all roads.

### INNOVATION



**Expand data collection and analysis to incorporate emerging mobility options** such as micromobility and connected and automated vehicles, as well as real-time data sources.

### INVESTMENTS AND POLICIES



**Develop and commit sustainable funding** to implement a comprehensive safety data management plan.

### INSIGHT INTO COMMUNITIES



**Augment analysis of traffic records with broader data** on community context, land use, demographics, and public health.

# EVOLVING EMPHASIS AREAS

Our world is changing quickly. It is important that we identify and respond to challenges and opportunities that could threaten or accelerate our path to **zero**. In some cases, these evolving areas are high-risk or high-impact crashes that are a subset of an existing emphasis area with existing countermeasures. In other cases, these evolving areas are emerging risks, and new innovations, where safety implications are unknown. We will track and address the following evolving areas:

## WORK ZONES



Work zone fatalities make up approximately two percent of overall fatalities and two percent of serious injuries in Florida. Specifically, work zone crashes represented 385 fatalities and 2,414 serious injuries from 2015 to 2019, with the number trending upward over time. Work zone crashes compound the situation because of the risk they create to roadside workers who were present in the work zone in 35 percent of the fatal crashes and 44 percent of serious injury crashes. These crashes also can create tremendous disruption to roadways until they are cleared. Solutions include targeted enforcement in work zones, implementation of smart work zone applications, and efforts to educate drivers about work zone safety.

## DROWSY AND ILL DRIVING



Driving while drowsy or ill affects a driver's cognition and motor skills. Nearly 30 percent of American drivers admit to falling asleep at the wheel and more than half say they have driven while drowsy, according to a National Sleep Foundation poll. More than 38,500 drowsy and ill driving crashes in Florida from 2015-2019 resulted in at least 189 fatalities and 2,544 serious injuries. These fatalities and injuries are preventable through the use of vehicle safety technologies, driver drowsiness detection systems, on-road warnings like rumble strips, lane departure prevention like median cable barriers, and adequate rest areas for drivers. Driver education to understand the consequences of driving drowsy and/or while ill is particularly important. FLHSMV leads Drowsy Driving Prevention Week each year and oversees the state's driver license medical review program.

## RAIL GRADE CROSSINGS



Although rail grade crossing crashes occur infrequently, they are horrific and preventable when they happen. Florida has over 3,678 public railroad crossings and the majority (78 percent) are equipped with active warning devices such as flashing lights and gates. Between 2015 and 2019, 40 people died and 69 were seriously injured in railway-highway crossing crashes in Florida – almost a doubling of fatalities from the prior five years. Complicating this troubling statistic is determining the underlying reasons for the crashes whether unintentional such as a car stalling or intentional such as someone taking their own life. Working with partners to learn the reasons will be instrumental to addressing the various factors. In 2019, FDOT implemented Operation STRIDE to augment other rail safety initiatives and employs a comprehensive strategy to prevent fatalities on or near rail crossings.



# EVOLVING EMPHASIS AREAS



## ROADWAY TRANSIT



Florida is planning for growth in public transportation services, primarily using on-the-road systems such as intercity and local bus, bus rapid transit, trolley, and multi-passenger/pooled shuttles or vans. These roadway transit systems face similar safety risks as personal motor vehicles, with the added need to protect multiple passengers as well as the driver. Florida requires most transit providers to annually update a System Safety Program Plan, and federal rules require most providers to track progress on measures including the number and rate of reportable fatalities, serious injuries, and safety events, as well as the average distance between mechanical failures. Safe access by vehicles, pedestrians, and bicyclists to transit stops also is a significant concern.

## MICROMOBILITY



Emerging technologies are enabling development of micromobility solutions. These typically are small, lightweight vehicles (such as eBikes and electric scooters) operating at speeds below 20 mph, often through a combination of human and electric power. Micromobility provides alternatives for short trips, particularly in dense urban areas. It also creates more risks due to interaction with motor vehicles on streets and at intersections, as well as with pedestrians on sidewalks and curbs. The rapid growth of micromobility has outpaced the ability of local governments to update codes and street and curb designs, adding to potential points of conflict. Because many micromobility customers operate without helmets and in mixed traffic, operators or nearby pedestrians are at risk for head injuries or other trauma.

## CONNECTED AND AUTOMATED VEHICLES



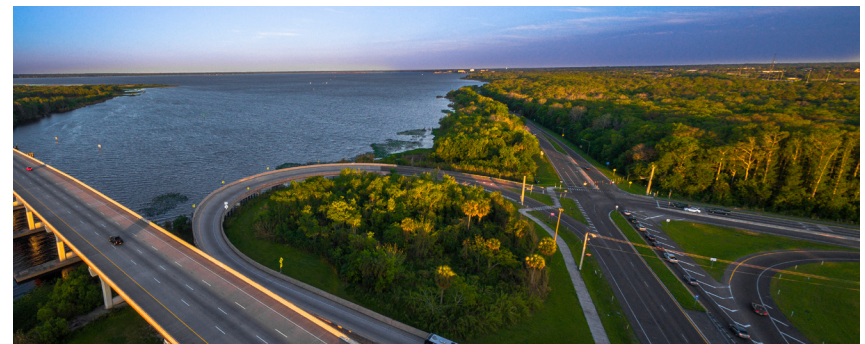
Florida has been proactive in researching, testing, and preparing for deployment of connected and automated vehicles and supporting infrastructure. By communicating with other vehicles and the roadside, as well as by automating functions and reducing the potential for driver error, these vehicles offer tremendous potential for reducing crashes associated with human error. However, there are concerns about the potential for a mix of technology-enabled and older vehicles operating on the same system; the ability of automated vehicles to fully recognize pedestrians, bicyclists, and other vulnerable road users; and newer risks such as potential for hacking or malfunction.



# PREPARING FOR IMPLEMENTATION

FDOT and traffic safety partners will begin implementing the SHSP through seven commitments:

- **Align statewide, coalition, MPO, and local government transportation safety plans with the SHSP.** Florida's Highway Safety Improvement Program (HSIP), Highway Safety Plan (HSP), Commercial Vehicle Safety Plan, and the safety coalitions emphasis area plans will be updated to align with the SHSP. Florida's MPOs, counties, and municipal governments will consider the SHSP when updating long-range transportation plans, comprehensive plans, transportation and capital improvement programs, and safety-specific plans.
- **Continue and expand partner coordination to achieve Florida's vision of zero fatalities and serious injuries.** Florida's safety coalitions will continue to expand their coalition memberships and their collaboration with other emphasis areas. FDOT will continue to collaborate with MPOs and local governments and support Community Traffic Safety Teams (CTST) to coordinate efforts among local partners.
- **Strengthen emphasis on performance based and data-driven decision making.** FDOT and FLHSMV will provide the best available data and analysis to partners to support identification of risks and proven countermeasures. Each partner agency, safety coalition, and CTST will determine how to use data and performance objectives to drive decision making and track progress. FDOT will continue to work with MPOs to track and report progress toward safety performance targets.
- **Integrate safety into all aspects of transportation planning.** FDOT and MPOs will identify opportunities to align project identification, scoping, and prioritization to give greater attention to safety, working with local government, enforcement, and emergency response personnel. FDOT and MPOs also will facilitate community-based solutions, such as aligning transportation planning, engineering, operations, and land use decisions.
- **Expand resources for safety.** FDOT will continue to allocate all federal HSIP and HSP funding to safety improvements and behavioral safety and traffic records projects, as well as incorporate safety improvements into capacity and maintenance projects. FDOT also will seek to provide more funding flexibility for safety improvements and more agility for addressing emerging risks and opportunities. MPOs and local governments also will explore opportunities to increase and provide more flexibility for safety funding.
- **Monitor and respond to emerging challenges and opportunities.** FDOT will monitor trends in the six evolving emphasis areas, as well as other emerging issues, to determine if new coalitions or programs should be established.
- **Expand the safety vision to include all modes.** The principles of data-driven analysis, proven countermeasures, and collaboration that apply through the SHSP to roadway-based transportation can be used for other modes. FDOT will explore how it can assist modal partners, working toward the vision of a safe and secure transportation system for all residents, visitors, and businesses.



# OUR CALL TO ACTION



Florida's safety vision begins and ends with a single word:

## ZERO

***Zero fatalities. Zero injuries. Zero families, communities, and workplaces impacted by the tragedy of a life lost or permanently changed by a serious injury.***

Achieving **zero** takes everyone working together. None of us can do this alone. We can all do something.

### ***If you are...***

***An individual*** – choose daily to practice safe driving, riding, and walking behaviors, avoid unnecessary risks, and share the road safely with other road users.

***A family member or caregiver*** – teach children from the youngest age about the importance of safety, and monitor the driving skills of family members for signs of changes in vision, physical abilities, and cognition.

***A business or military base*** – adopt policies requiring employees to practice safe driving behavior while on the clock, support additional transportation options, and encourage safe behavior 24/7.

***A school*** – teach and promote traffic safety through interactions with children, parents, and caregivers.

***A local government*** – adopt rules and policies that promote safety and make transportation and land use decisions to support safe communities for all residents.

***A law enforcement officer*** – enforce traffic laws, demonstrate and encourage positive behavior, and work with local governments to identify and reduce risks.

***A prosecutor or part of the court system*** – ensure penalties are applied for safety-related offenses.

***An insurance company*** – provide strong financial incentives for safe driving practices.

***An emergency response or health professional*** – continually enhance the timeliness of response to crashes and the quality of care for crash victims.

***A vehicle manufacturer or technology provider*** – develop and refine vehicle and roadside systems to reduce driver or rider error and prevent crashes.

***A hospitality professional*** – provide information to your visitors for traveling safely while touring Florida.

***A realtor or residential property manager*** – provide information to new Florida residents to educate them on traffic safety in and around their new community

***A transportation planner or engineer*** – prioritize and advance proven practices for making our streets, roads, and intersections safer.

***FDOT, FLHSMV, and other state agency staff*** – continue a strong commitment to improving roadway safety through resource allocation, policy support, and organizational leadership.

***An elected official*** – make safety a high priority for our state through proactive and visible leadership.

Together, we can make progress each year – and together, we can achieve our **vision of zero**.

To learn more on how you or your organization can take action and support this vision, please visit [www.fdot.gov/safety](http://www.fdot.gov/safety)



# GLOSSARY

**Aging Road Users:** Vehicle drivers and passengers, pedestrians, bicyclists, transit riders, motorcyclists, or operators of a non-motorized vehicle who are 65 years of age or older for crash data purposes, and 50 years of age and older for the proactive purposes of the Aging Road Users Coalition.

**Aggressive Driving:** Aggressive driving occurs when a driver commits two or more of the following: exceeds the posted speed, unsafe or improper passing or lane changes, tailgates, fails to yield the right-of-way, and violates traffic control and signal devices.

**Automated Vehicles:** Vehicles that are capable of sensing the environment to move safely in order to operate and perform necessary functions with little to no human intervention.

**Bicyclist:** Roadway users who is riding a bicycle or other type of motorized or nonmotorized cycle.

**Child Restraint:** A device, such as a child safety seat or booster seat, used to protect a child in a motor vehicle and required by law until children over an identified age can legally use an adult safety belt.

**Commercial Motor Vehicle (CMV):** Medium or heavy trucks more than 10,000 pounds, vehicles carrying hazardous material and marked with a hazardous materials placard, those operated by a driver with an interstate carrier or an intrastate carrier commercial driver license, or those designed to transport more than 15 passengers, including the driver.

**Commercial Vehicles Enforcement (CVE):** The unit within the Florida Highway Patrol that is charged with conducting safety inspections of CMVs and enforcing safety requirements.

**Commercial Vehicle Safety Plan (CVSP):** A state plan required by the Federal Motor Carrier Safety Administration that outlines strategies and countermeasures specifically targeting commercial vehicle safety.

**Community Traffic Safety Team (CTST):** Locally based groups of highway safety advocates who are committed to solving traffic safety problems through a comprehensive, multi-jurisdictional, multidisciplinary approach.

**Complete Streets:** Streets that are planned, designed, and operated consistent with surrounding community characteristics and roadway functions so that multiple modes of transportation and customers, regardless of age or ability, can easily, comfortably, and safely access and use the street.

**Connected Vehicles:** Vehicles that are able to connect and receive messages and alerts from the surroundings, including other vehicles, infrastructure, and passengers' personal communication devices through interoperable networked wireless communications.

**Distracted Driving Crash:** A crash where the driver is distracted by an electronic communication device, such as a cell phone; other electronic devices, such as navigation or a DVD player, or other external distractions; passengers in the vehicle; texting; or where the driver is inattentive.

**Driver Assistance Technologies:** Technologies used to make motor vehicle travel safer by automating, improving or adapting some or all of the tasks involved in operating a vehicle, such as rear automatic braking, adaptive cruise control, blind spot detection, and lane departure warnings.

**Dynamic Envelope:** The area near railroad crossings designed to keep motorists out of the danger zone.

**Education:** One of the "4Es" of traffic safety which includes safety solutions that support transportation planner, engineers, law enforcement, prevention specialists, communication professionals, educators, and citizen advocacy groups.

**Emergency Response:** One of the "4Es" of traffic safety which includes improving the response to crashes after they occur and safety solutions that support first responders, paramedics, fire, and rescue and improving crash victim status.

**Emphasis Area:** Areas of focus in the SHSP that offer the greatest potential for reducing fatalities and injuries based on safety data analysis and input from safety stakeholders representing the "4Es" of traffic safety.

**Enforcement:** One of the "4Es" of traffic safety which supports efforts by state and local law enforcement agencies.

**Engineering:** One of the "4Es" of traffic safety which includes highway design, traffic, maintenance, operations, and planning professionals.

**Fatality Rate:** The number of fatalities per 100 million vehicle miles traveled.

**Five-Year Rolling Average:** The average of 5 individual and consecutive years of data.

**Florida Transportation Plan (FTP):** A statewide plan that defines Florida's long-range transportation goals and objectives for at least the next 20-50 years.

**Graduated Driver Licensing:** A multi-staged process for issuing driver licenses to young, novice drivers to ensure that they gain valuable driving experience under controlled circumstances and demonstrate responsible driving behavior and proficiency.

**Highway Fatalities:** All deaths in which a motor vehicle was involved due to driver condition, driver action, road condition, etc. This includes pedestrians and bicyclists killed by motor vehicles as well as vehicle occupants.



# GLOSSARY



**Highway Safety Improvement Program (HSIP):** A core FHWA program designed to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads and focuses on performance.

**Highway Safety Plan (HSP):** A plan required by NHTSA outlining the highway safety programs and projects that will be undertaken by a state's highway safety office to reduce traffic crashes and the resulting deaths, injuries, and property damage.

**Impaired Driver:** A person driving or in physical control of a vehicle while under the influence of alcoholic beverages or legal or illegal drugs.

**Incident:** An event that causes a temporary, significant disruption in transportation services.

**Intersection Crash:** A crash that occurs at an intersection or is influenced by an intersection including interchanges, railway/highway crossings, and trail crossings.

**Lane Departure Crash:** A crash that results from a vehicle running off the road or crossing the center median into an oncoming lane of traffic, including a sideswipe crash. A lane departure crash can not be at or influenced by an intersection.

**Metropolitan Planning Organization (MPO):** Transportation policy-making organization at a regional level that is made up of representatives from local government and governmental transportation authorities. These organizations may also be referred to as Transportation Planning Organizations or TPOs.

**Micromobility Device:** Motorized transportation device using lightweight vehicles operating at speeds under 20 mph such as bicycles or scooters, especially electric ones that may be borrowed as part of a self-service rental program in which people rent vehicles for short-term use within a town or city.

**Motor Scooter:** A two- or three-wheeled registered motor vehicle operating at 50ccs or less that has a seat and a bottom platform for resting the feet.

**Motorcycle:** A motor vehicle powered by a motor with a displacement of more than 50 cubic centimeters, having a seat or saddle for the use of the rider, and designed to travel on not more than three wheels in contact with the ground, and excluding a tractor or moped.

**Partners, Transportation:** Those parties with interests in transportation facilities and services including the public, local governments, metropolitan planning organizations, public and private sector users and providers, Native American Nations, the Florida Department of Transportation, and other federal and state agencies.

**Pedestrian:** Non-motorists who are walking, in a wheelchair, skating, inside a building, using a pedestrian conveyance, etc.

**Railway-Highway Crossing Crash:** A crash that occurs at, or is influenced by, a railway-highway crossing.

**Safety Program:** Projects designed to improve vehicle and pedestrian safety on the city, county, and state highway systems. The program is divided into three subprograms - rail/highway crossings, highway safety, and traffic safety grants.

**Serious Injury:** Injury to a person, including the driver, which consists of a physical condition that creates a substantial risk of death, serious personal disfigurement, or protracted loss or impairment of the function of a limb or organ.

**Speed and Aggressive Driving:** Includes driving too fast for conditions and exceeding the posted speed limit (speeding); while aggressive driving requires at least two of the following contributing causes: speeding, unsafe, or improper lane change, following too closely, failure to yield the right-of way, improper passing, and failure to obey traffic control devices.

**Stakeholders:** Individuals and groups with an interest in the outcomes of policy decisions and actions.

**State Highway System:** A network of approximately 12,000 miles of highways owned and maintained by the State of Florida or state-created authorities. Major elements include Interstate highways, Florida's Turnpike, and other toll facilities operated by transportation authorities and arterial highways.

**Strategy:** An approach to achieve one or more desired goals.

**Teen Driver:** Drivers between the ages of 15 and 19.

**Traffic Records and Information Systems:** A foundational emphasis area that addresses the quality of the state's crash data, in addition to roadway, citation/adjudication, injury/emergency medical services, driver licensing, and vehicle registration data.

**Unrestrained Occupant:** Any person who is not restrained by a safety belt, child safety seat, or booster seat.

**Vehicle Miles Traveled (VMT):** The total number of miles traveled by vehicles using a roadway system.

**Vulnerable Road Users:** Road users who have the potential for a disproportionately high fatality rate, including pedestrians, bicyclists, and motorcyclists.

**Work Zone:** Marked section of roadway for construction, maintenance or utility work.

**Work Zone Crash:** Crashes that occur in a marked section of roadway for construction, maintenance or utility work.

**Wrong Way Driving:** When a vehicle is on the wrong side or traveling the wrong direction on the roadway.



# DATA DEFINITIONS

All crash data contained in this SHSP are from data collected via the Florida Traffic Crash Report (HSMV 90010S), which can be accessed at <https://www.flhsmv.gov/pdf/courts/crash/CrashManualComplete.pdf>. Fatalities are traffic fatalities as documented on the crash report using injury severity code "5" Fatal (within 30 days of the crash). Serious Injuries are injuries as documented on the crash report using injury severity code "4" Incapacitating.

ROADWAYS	COUNT INCLUDES	CRITERIA
<b>Lane Departures</b>	Everyone in crash	The First Harmful Event Relation to Junction field that the crash is anything other than "Intersection," "Intersection-related" or "Railway Grade Crossing" AND (a) one or more of the four Sequence of Events codes for any vehicle involved in the crash involves exiting roadway, hitting objects off the roadway, crossing median, or overturning/rolling over (see web page for more details) OR (b) one or more of the four Drivers Actions at Time of Crash codes for any driver involved in the crash is one of the following: "Improper Passing," "Wrong Side or Wrong Way," "Failed to Keep in Proper Lane," "Ran off Roadway," "Over-Correcting/Over-Steering," "Swerved or Avoided : Due to Wind, Slippery Surface, MV, Object, Non-Motorist in Roadway, etc."
<b>Intersection</b>	Everyone in crash	The First Harmful Event Relation to Junction field that the crash is "Intersection," "Intersection-related" or "Railway Grade Crossing."
ROAD USERS	COUNT INCLUDES	CRITERIA
<b>Pedestrian and Bicyclists</b>	Only bicyclist or pedestrian involved in the crash	Non-Motorist Description of "Pedestrian" or "Other Pedestrian (wheelchair, person in a building, skater, pedestrian conveyance, etc.)" or "Bicyclist" or "Other Cyclist" or "Occupant of a Non-Motor Vehicle Transportation Device."
<b>Aging Road User</b>	Everyone in crash	At least one of the drivers involved is reported as age 65 or over at the time of the crash.
<b>Motorcyclists and Other Riders</b>	Only riders or passengers on motorcycle, scooter or moped	Drivers or passengers of a vehicle coded with a Vehicle Body Type of "Motorcycle" or "Moped."
<b>CMV Operators</b>	Everyone in crash	At least one of the vehicles involved meets the qualifying criteria for Commercial Motor Vehicle. The criteria for Commercial Motor Vehicle are: (1) has "yes" in the Haz. Mat. Placard field, or (2) has the Check if Commercial field checked, or (3) has a Vehicle Body Type coded as "Bus" or "Medium/Heavy Trucks (more than 10,000 lbs)," or (4) has a Comm GVWR/GCWR coded as "10,001 - 26,000 lbs" or "More than 26,000 lbs," or (5) has any value indicated in the Commercial Motor Vehicle Configuration field.
<b>Teen Drivers</b>	Everyone in crash	At least one of the drivers involved is reported as age 15 to 19 at the time of the crash.

# DATA DEFINITIONS



<b>USER BEHAVIOR</b>	<b>COUNT INCLUDES</b>	<b>CRITERIA</b>
<b>Impaired Driving</b>	Everyone in crash	At least one of the drivers involved is possibly impaired. The "possibly impaired" criteria are: reporting officer indicates (1) alcohol use "suspected" or (2) refused to test for alcohol or (3) has a blood alcohol content result greater than zero, or (4) drug use "suspected" or (5) refused to test for drugs or (6) has a drug test result of "positive."
<b>Occupant Protection</b>	Only unrestrained drivers or passengers	Any driver or passenger who meets the following criteria: Occupant of a vehicle with Vehicle Body Type anything other than "Motorcycle," "Moped" or "All Terrain Vehicle (ATV)." With a Restraint Systems code of "None Used – Motor Vehicle Occupant."
<b>Speed and Aggressive Driving</b>	Everyone in crash	Any driver involved in the crash has any two of four possible Drivers Actions at Time of Crash codes in any of the categories of aggressive driving behavior, per section 316.1923, F.S. OR has any one of four possible Drivers Actions code as "Drove too Fast for Conditions," "Exceeded Posted Speed," or "Operated MV in Erratic, Reckless or Aggressive Manner."
<b>Distracted Driving</b>	Everyone in crash	At least one of the drivers involved in the crash coded as anything other than "Not Distracted" or "Unknown" in the Driver Distracted By field.
<b>EVOLVING EMPHASIS AREAS</b>	<b>COUNT INCLUDES</b>	<b>CRITERIA</b>
<b>Work Zones</b>	Everyone in crash	The Work Zone Related field = "yes" or any of the Contributing Circumstances: Road codes is "Work Zone (construction/maintenance/utility)."

For more information regarding the Strategic Highway Safety Plan, please contact:

**FDOT SAFETY OFFICE**  
**(850) 414-3100**  
[www.fdot.gov/safety/](http://www.fdot.gov/safety/)



# FLORENDA

STRATEGIC HIGHWAY SAFETY PLAN