Safety Targets and the Highway Safety Improvement Program

June 18, 2021

Strategic development

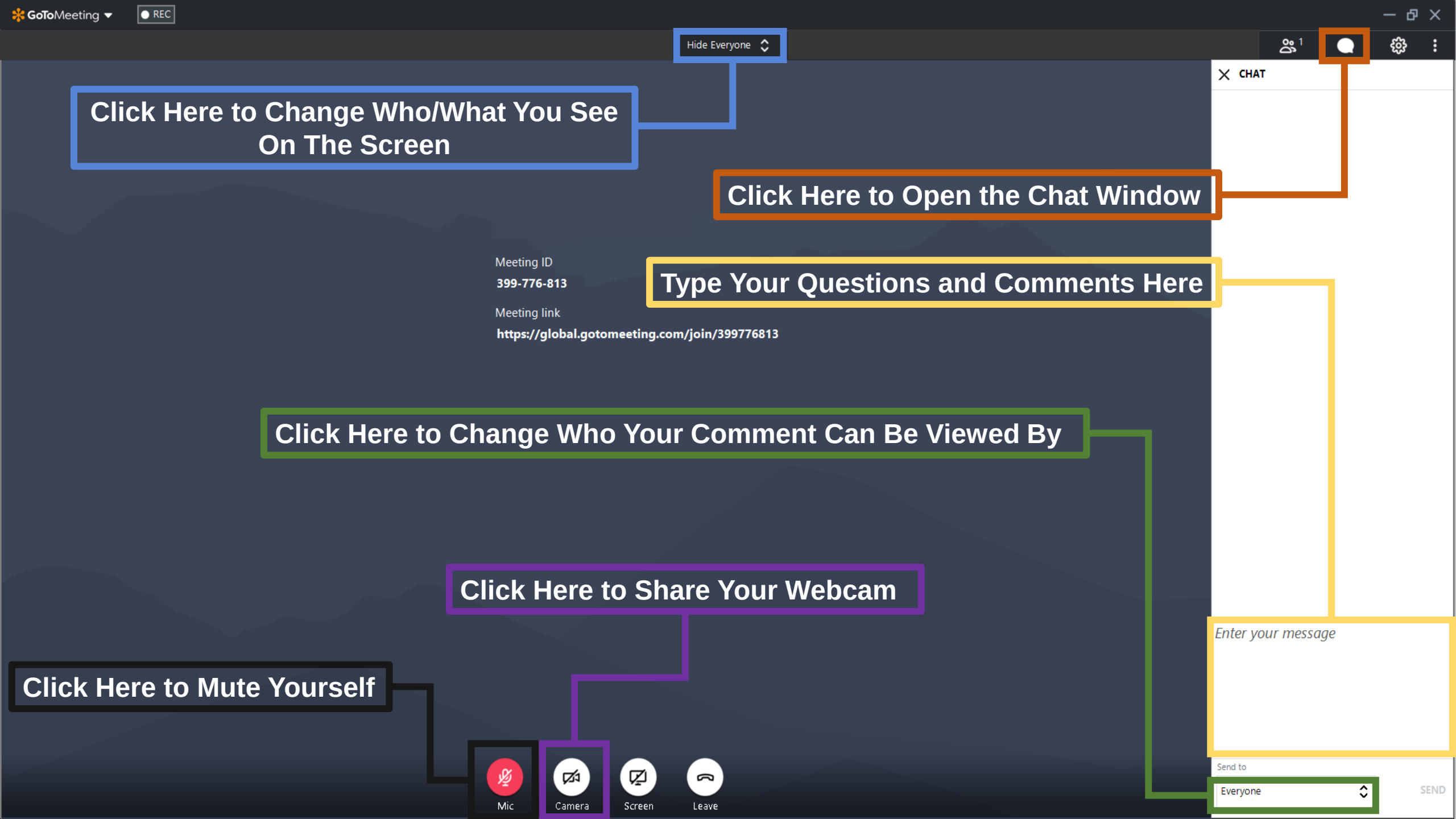
Welcome

Alison Stettner
Director, FDOT Office of Policy Planning

Lora Hollingsworth
Chief Safety Officer, FDOT

Today's Moderator

Abra Horne
Administrator for Metropolitan Programs
Office of Policy Planning
Florida Department of Transportation


GoToMeeting
REC
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CHAT
Click Here to Change Who/What You See On The Screen
Click Here to Open the Chat Window
Meeting ID
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https://global.gotomeeting.com/join/399776813
Type Your Questions and Comments Here
Click Here to Change Who Your Comment Can Be Viewed By
Click Here to Share Your Webcam
Click Here to Mute Yourself
Enter your message
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Mic
Camera
Screen
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Today's Agenda

- FDOT Safety Initiatives: SHSP, Vital Few, and the HSIP
- TPM/Safety Requirements for Florida's MPOs
- *Questions*
- FDOT Safety Data, Tools, and Resources to Support MPOs
- *Questions*
- Next Steps

Today's Panelists

Brenda Young
FDOT State Safety Engineer

John Kaliski
Cambridge Systematics, Inc.

Partnership to Achieve Florida's Safety Vision

presented by

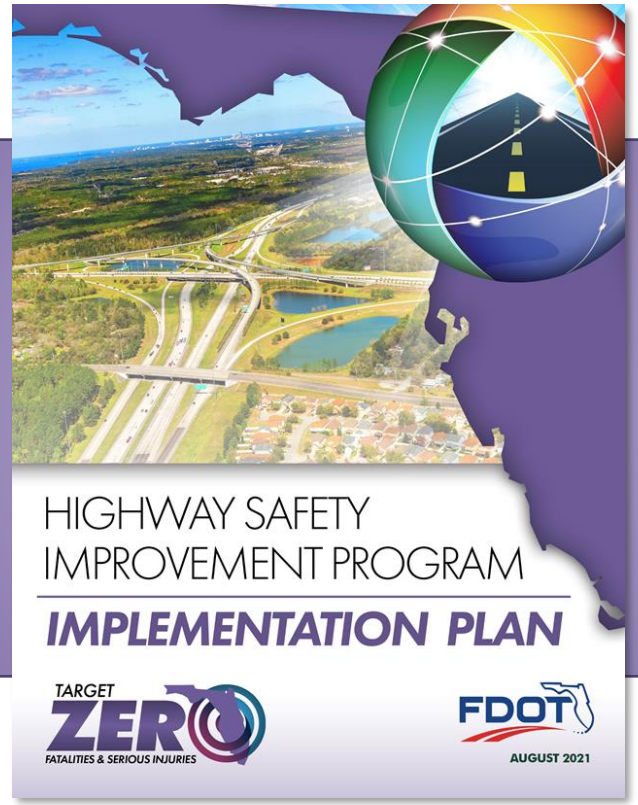
Brenda Young, P.E., CPM
State Safety Engineer

FLORIDA
STRATEGIC HIGHWAY SAFETY PLAN

TARGET ZERO
FATALITIES & SERIOUS INJURIES

Achieving Our Vision

Strategic Highway Safety Plan



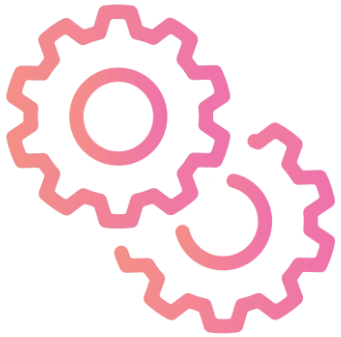
Highway Safety Improvement Program

Vital Few Safety Action Plan

2021 Strategic Highway Safety Plan

Key SHSP Strategies

FOUR Es OF TRAFFIC SAFETY



ENGINEERING

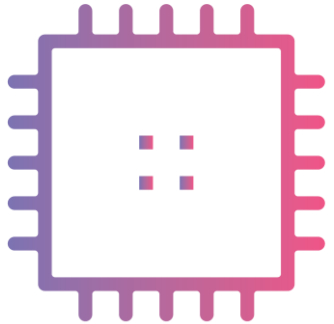
ENFORCEMENT

EDUCATION

EMERGENCY RESPONSE

FOUR Is OF TRAFFIC SAFETY

INFORMATION INTELLIGENCE

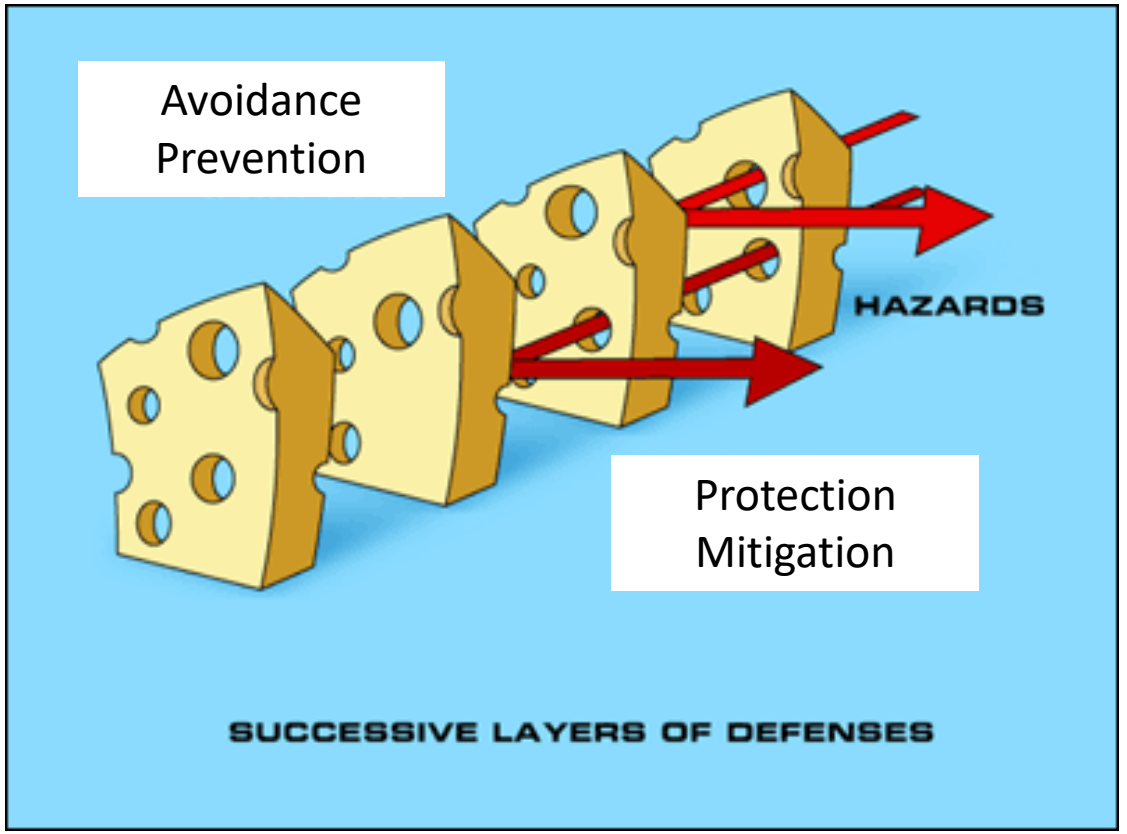


INNOVATION

INSIGHT INTO COMMUNITIES

INVESTMENTS AND POLICIES

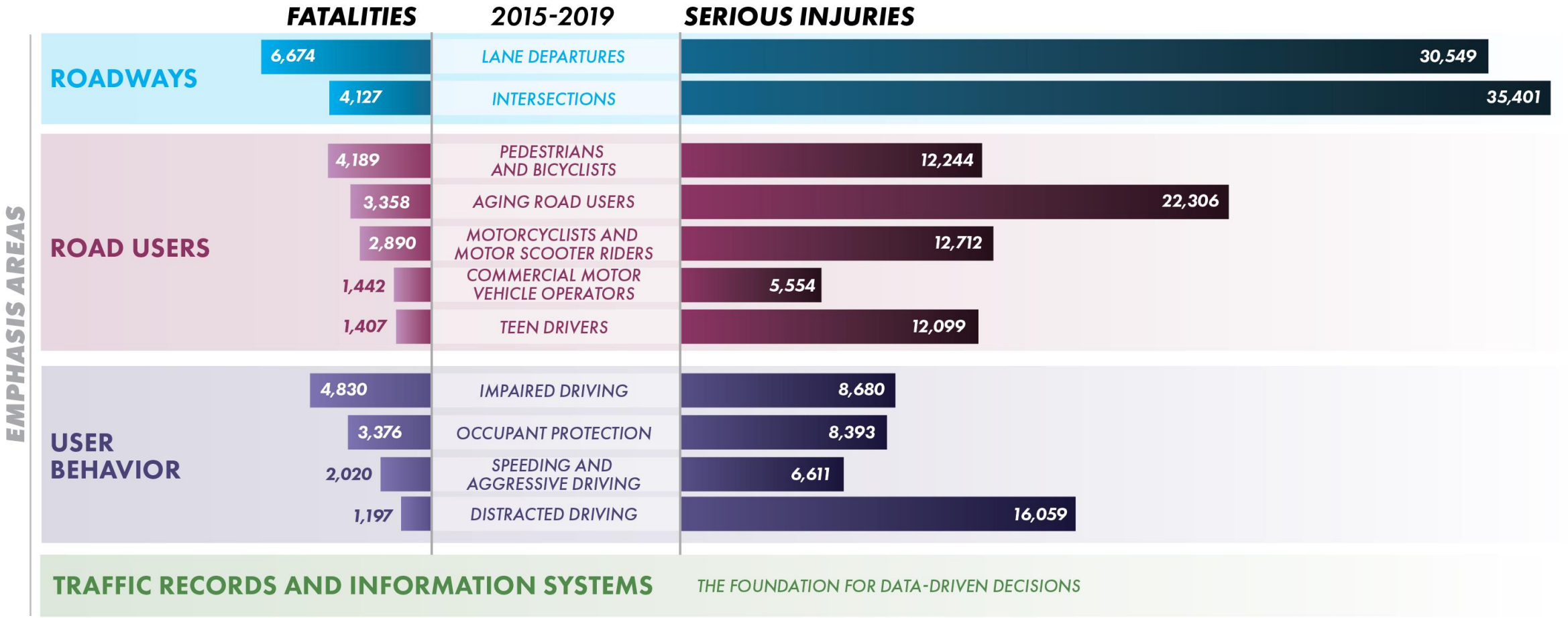
Strategic Highway Safety Plan



FLORIDA
STRATEGIC HIGHWAY SAFETY PLAN

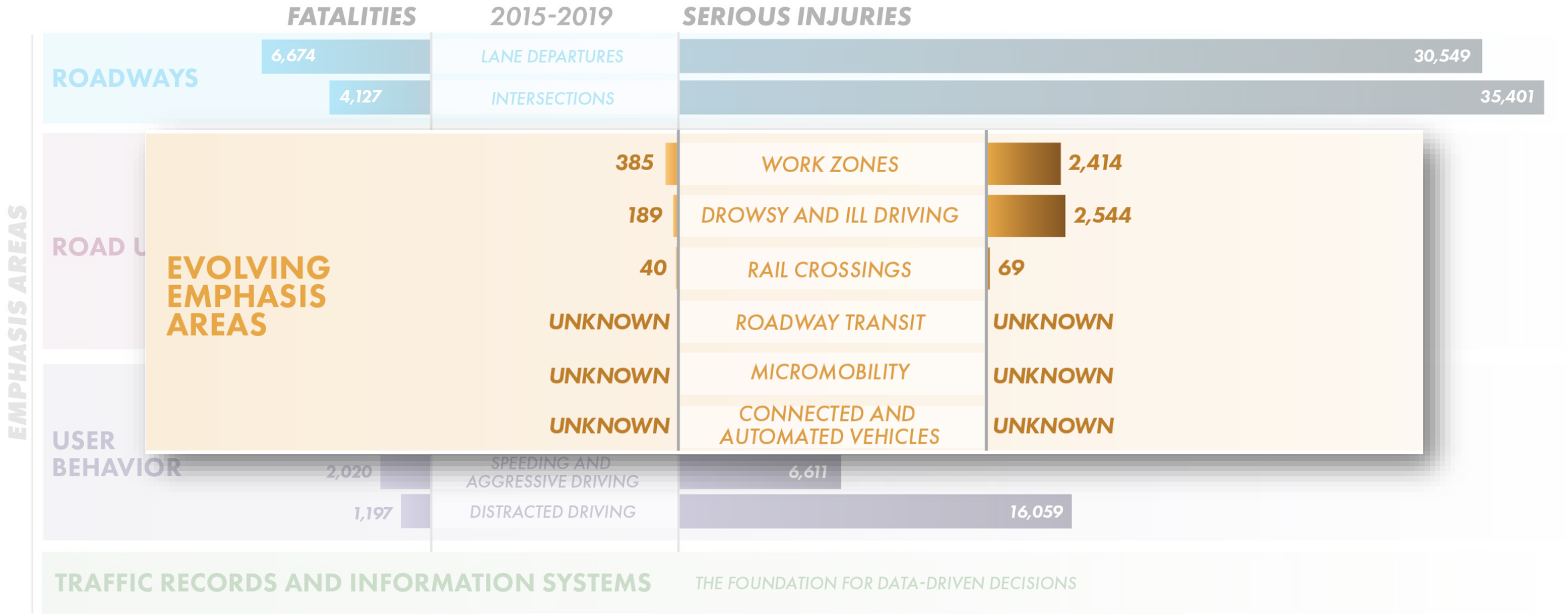
TARGET ZERO
FATALITIES & SERIOUS INJURIES

SHSP Emphasis Areas



FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

SHSP Emphasis Areas



FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

FDOT's Statewide Internal Team

VITAL FEW

9 OUT OF EVERY 10 FATAL CRASHES & 3 OUT OF EVERY 4 INJURY CRASHES

involves a VITAL FEW emphasis area.

Source: FLHSMV, 2020.

LANE DEPARTURES

PEDESTRIANS AND BICYCLISTS

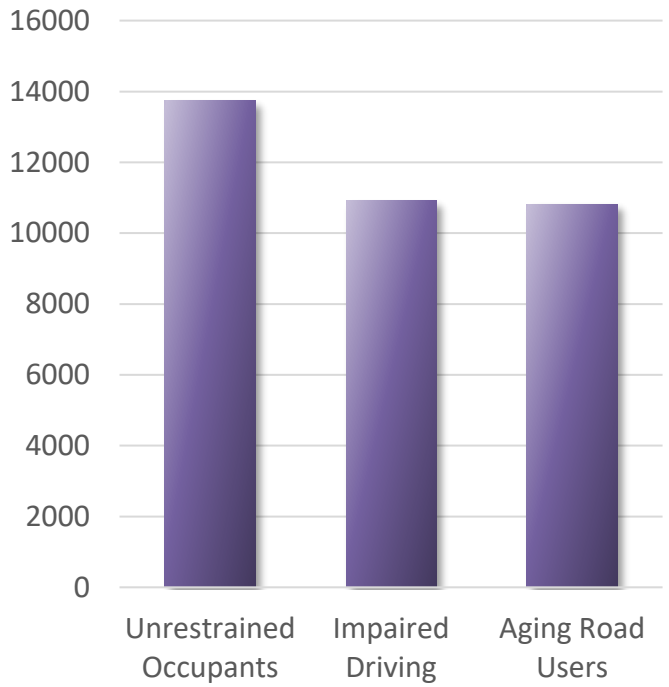
INTERSECTIONS

FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

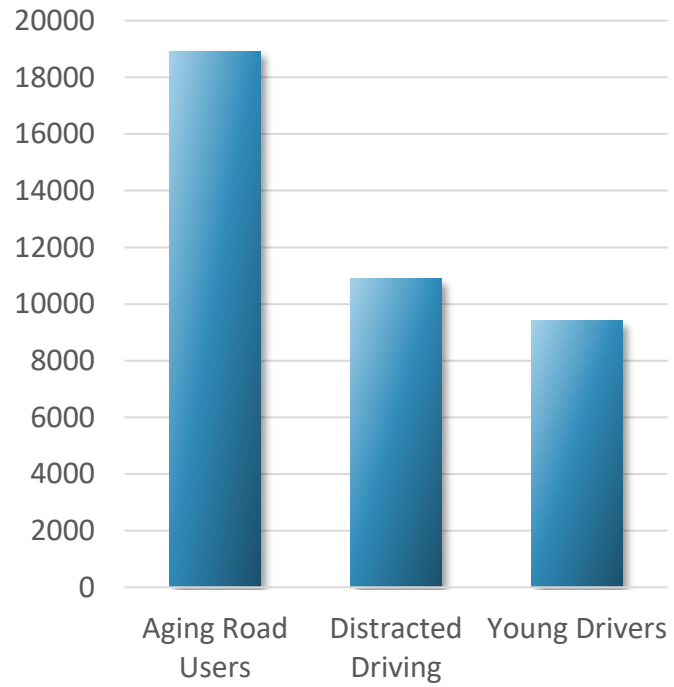
VITAL FEW

Top 3 Contributing Emphasis Areas, 2011-2019 (as reported)

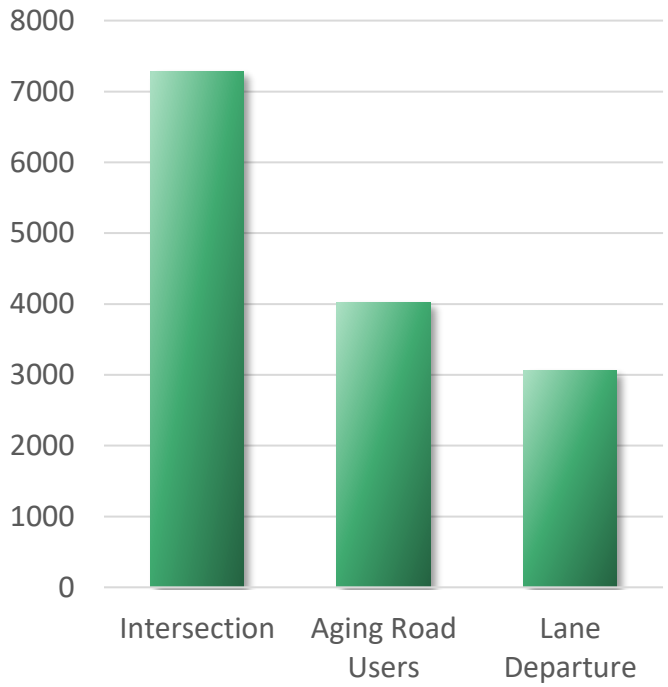
Lane Departure



Intersection



Bicycle/Pedestrian



Source: 2020 FDOT Vital Few Safety Presentation, Executive Workshop

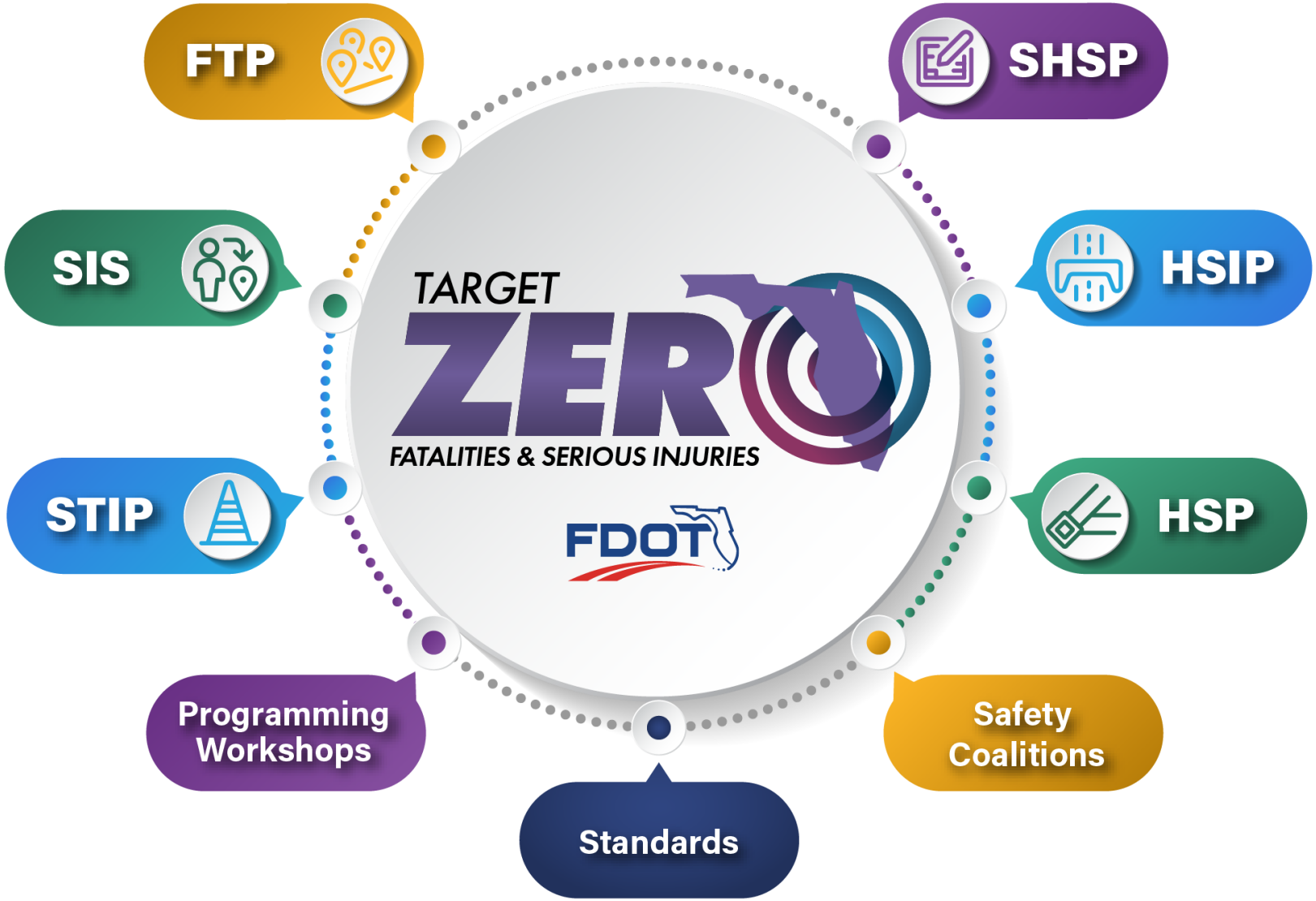
FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

Gearing Up for Implementation

Initiatives

FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

Plans and Processes Supporting Zero Fatalities



Source: 2020 FDOT HSIP Implementation Plan

Source: 2020 FDOT HSIP Implementation Plan

Strategic Highway Safety Plan Implementation

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

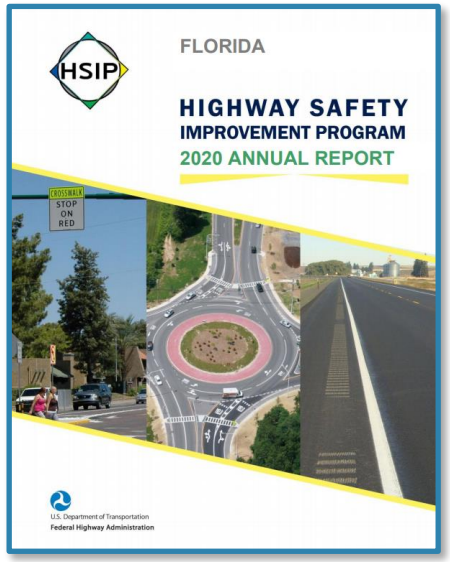
Highway Safety Improvement Program
(Engineering Countermeasures)

Approximately $125M Annually

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)

Highway Safety Plan
(Education and Enforcement Countermeasures)

Approximately $25M Annually



TARGET ZERO
FATALITIES & SERIOUS INJURIES

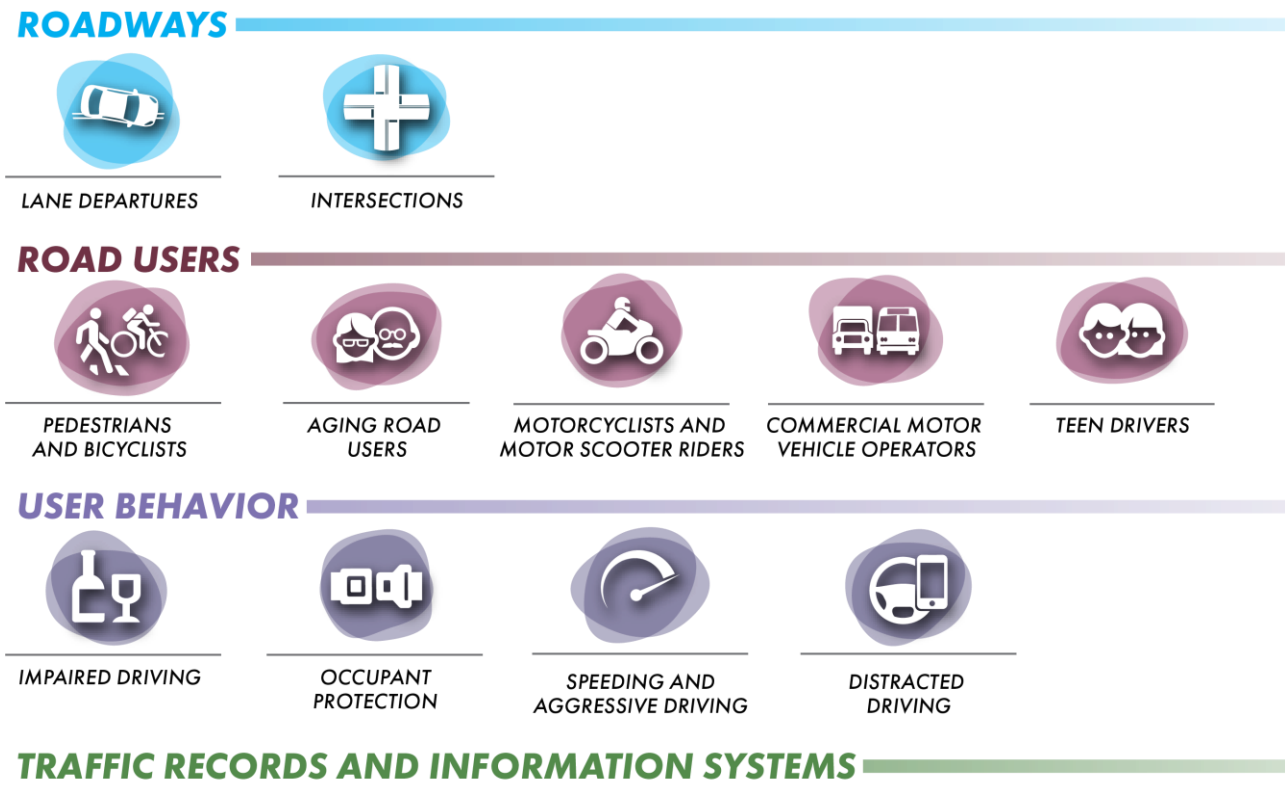
Highway Safety Improvement Program (HSIP)

- Core Federal-aid program
- Administered by Federal Highway Administration (FHWA)
- Objective is to significantly reduce fatal or serious injuries on roadways
- FHWA requires all states to submit an HSIP Annual Report by August 31st each year

https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/safety/11a-safetyengineering/crash-data/florida-hsip-guidelines-manual6f3e1a5a378142ca861609b583b4ecf8.pdf?sfvrsn=51bf5868_0

HSIP Eligibility: All Public Roadways

- Implements safety infrastructure countermeasures or improves safety data collection, integration, and analysis such that HSIP stakeholders can better plan, implement, and evaluate highway safety improvement projects in the future
- Consistent with an emphasis area, strategy, or activity identified in the Florida SHSP
- Estimated benefit-cost ratio (BCR) of 1.0 or greater
- Addresses a serious crash risk or safety problem identified through a data-driven process

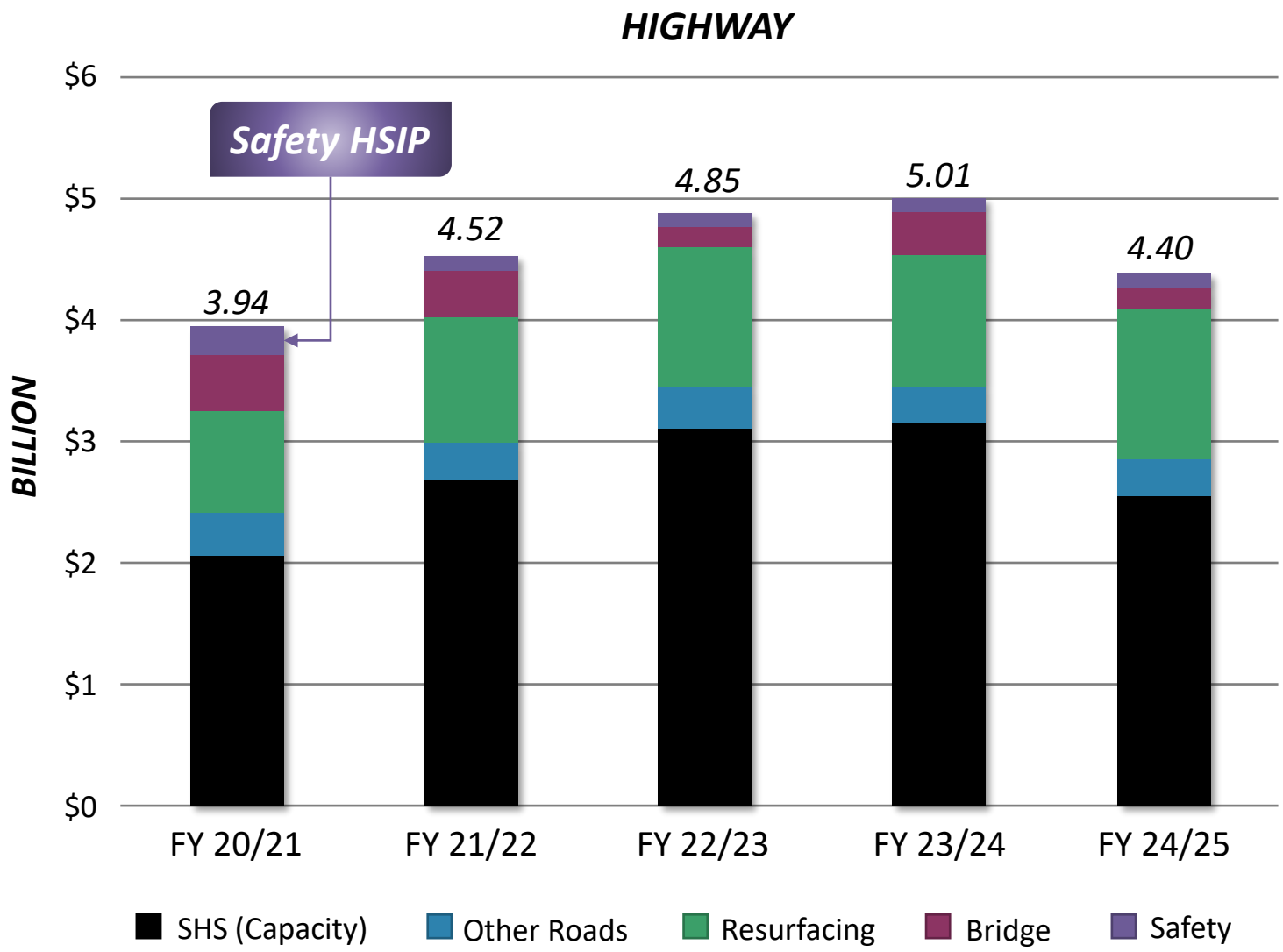


Likely to result in a reduction of fatalities and serious injuries

Partnership to Achieve Florida's Safety Vision

Source: 2020 FDOT HSIP Implementation Plan

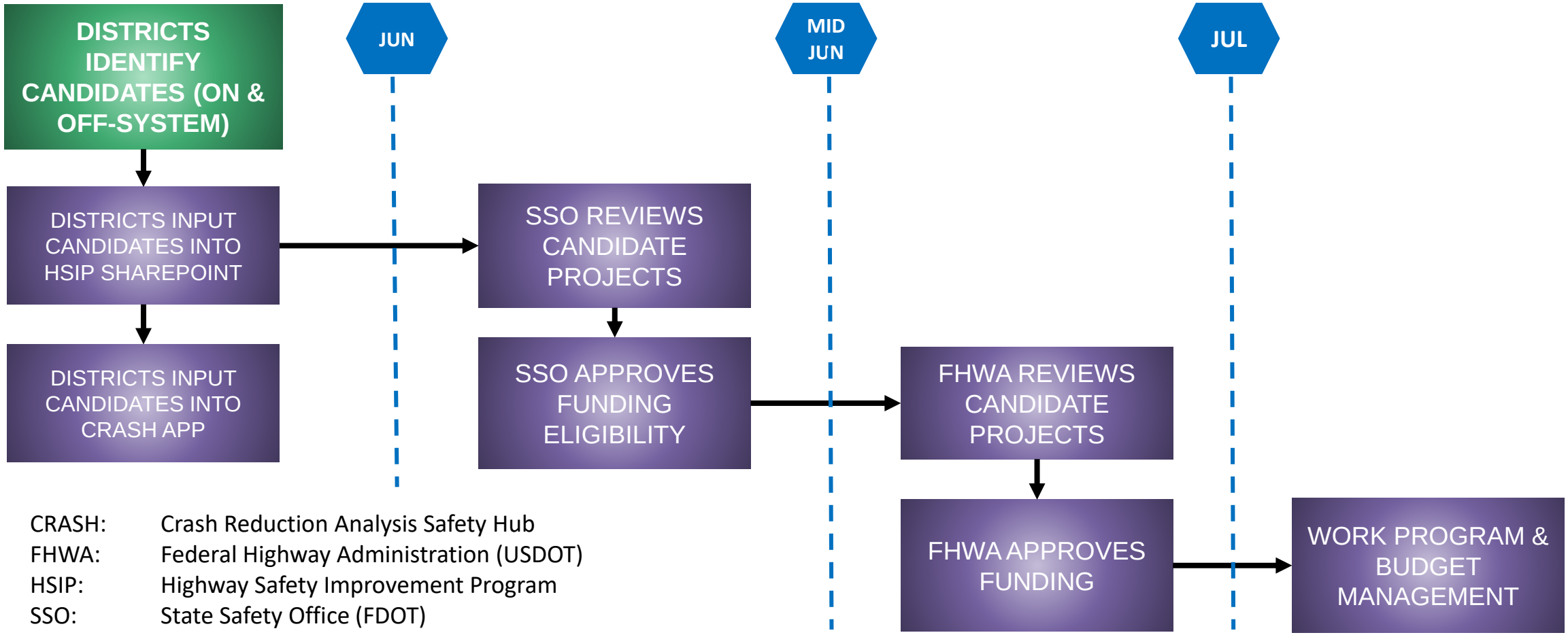
Partnership to Achieve Florida's Safety Vision



Source: 2020 FDOT Vital Few Safety Presentation, Executive Workshop

FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

HSIP Timeline

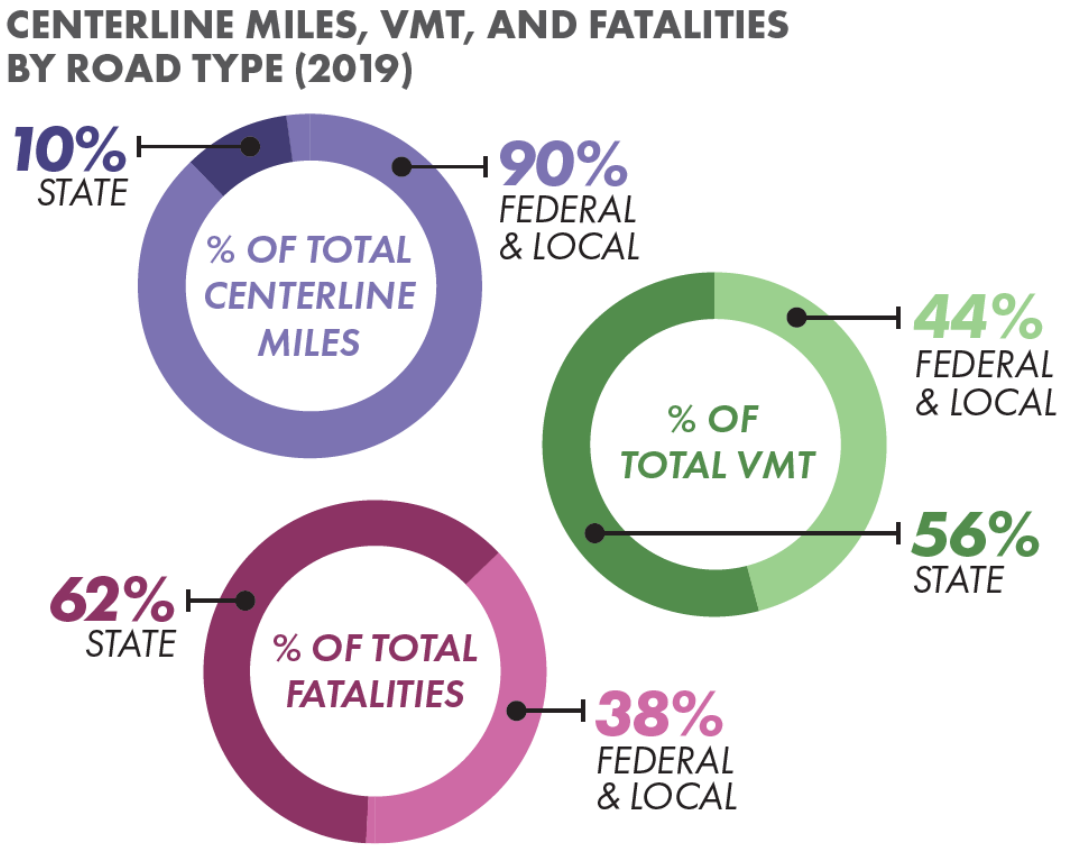


CRASH:	Crash Reduction Analysis Safety Hub
FHWA:	Federal Highway Administration (USDOT)
HSIP:	Highway Safety Improvement Program
SSO:	State Safety Office (FDOT)

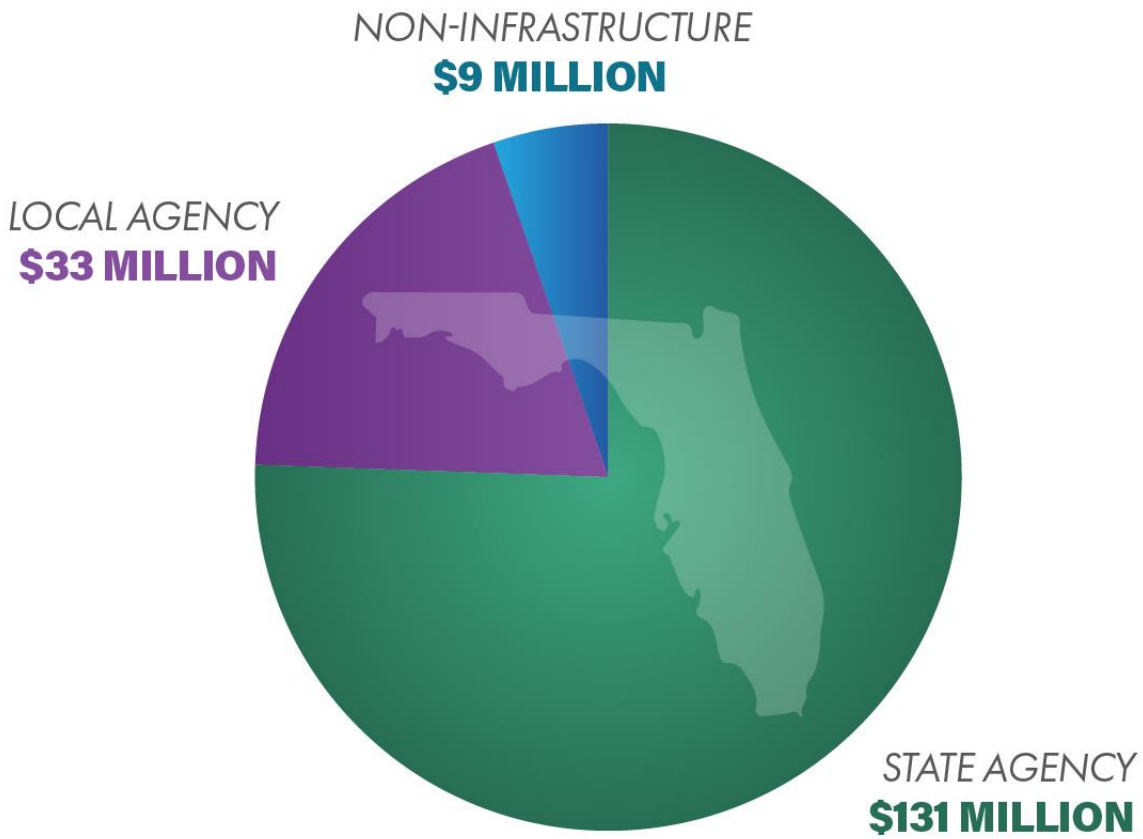
HSIP – Project Identification

- Network Screening for Locations with Potential for Safety Improvement
- Systemic Safety Analysis for Countermeasure Deployment
- Local Road Safety Plans, Local Agency Requests, and Citizen Requests, Community Traffic Safety Teams
- Investigations into Fatality Locations
- Supplement Other Planned Projects
- Other Safety-Related Studies

HSIP – Investments On & Off-System



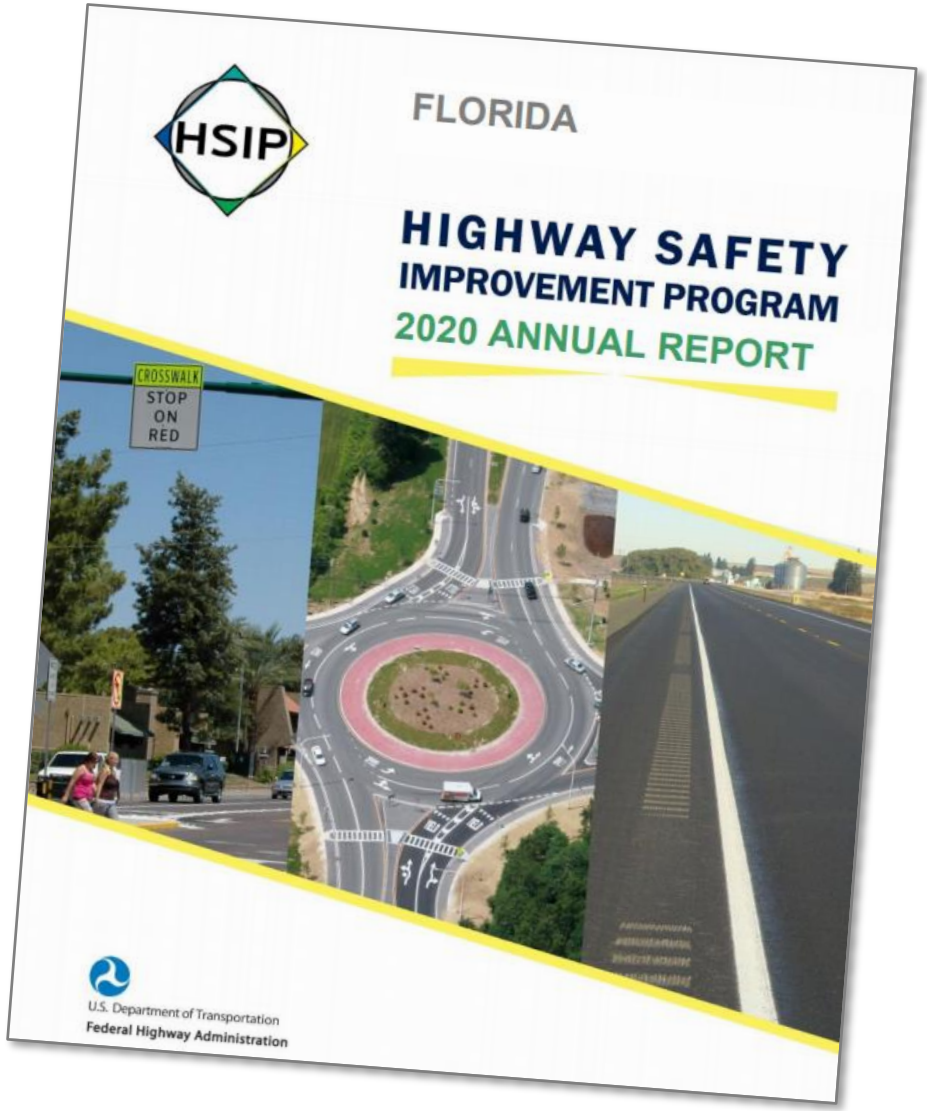
Source: 2021 Florida Strategic Highway Safety Plan



Source: 2020 FDOT HSIP Implementation Plan

HSIP Annual Reporting

- FHWA uses HSIP Online Reporting Tool to collect report information from each state for HSIP
- HSIP ORT compiles reported information and creates the annual reports published by FHWA



https://safety.fhwa.dot.gov/hsip/reports/pdf/2020/fl.pdf

HSIP Annual Report – 50 Questions

- Program Structure
  - *Program Administration*
  - *Program Methodology*
- Progress in Implementing Projects
  - *Funds Programmed*
  - *General Listing of Projects*
- Progress in Achieving Safety Performance Targets
  - *General Highway Safety Trends*
  - *Safety Performance Targets*
  - *Applicability of Special Rules*
- Assessment of the Effectiveness of the Improvements (Program Evaluation)
  - *Program Effectiveness*
  - *Effectiveness of Groupings or Similar Types of Improvements*
  - *Project Effectiveness*
- Compliance Assessment

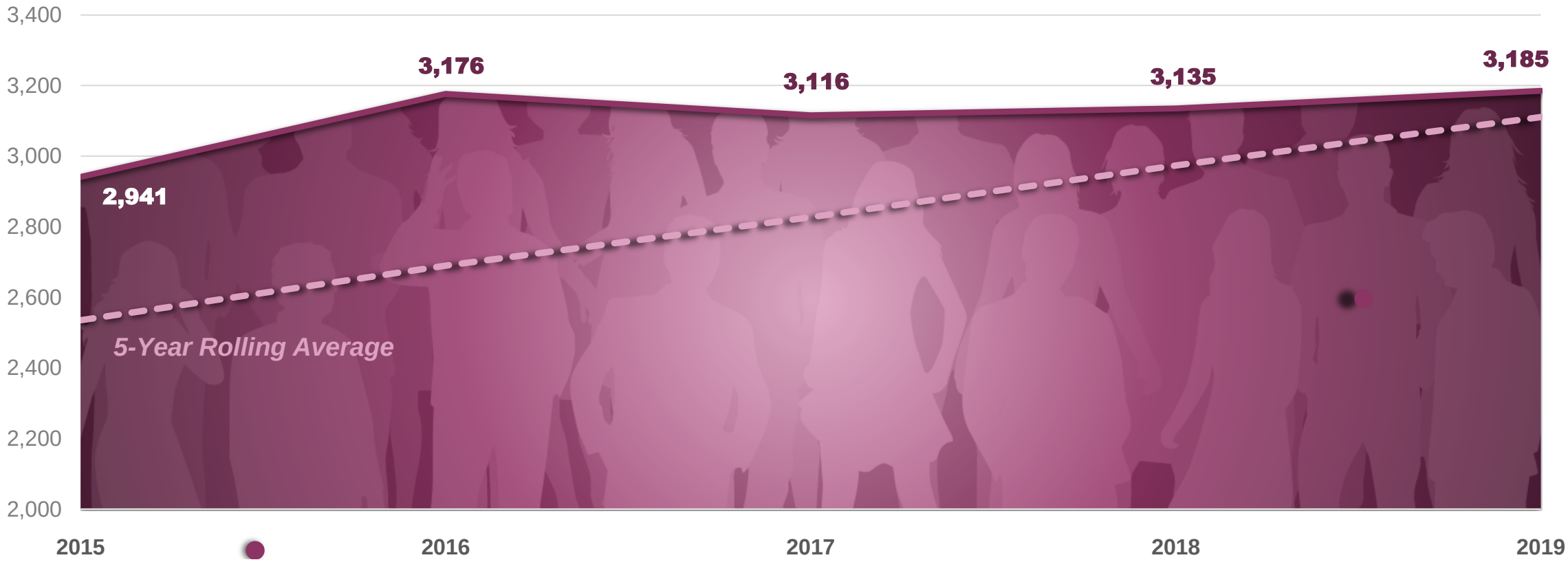
HSIP – Program Evaluation of Effectiveness

FHWA Safety Performance Measures

- Fatalities
- Fatality rate (per 100 million VMT)
- Serious injuries
- Serious injury rate (per 100 million VMT)
- Non-motorized fatalities and serious injuries (combined)

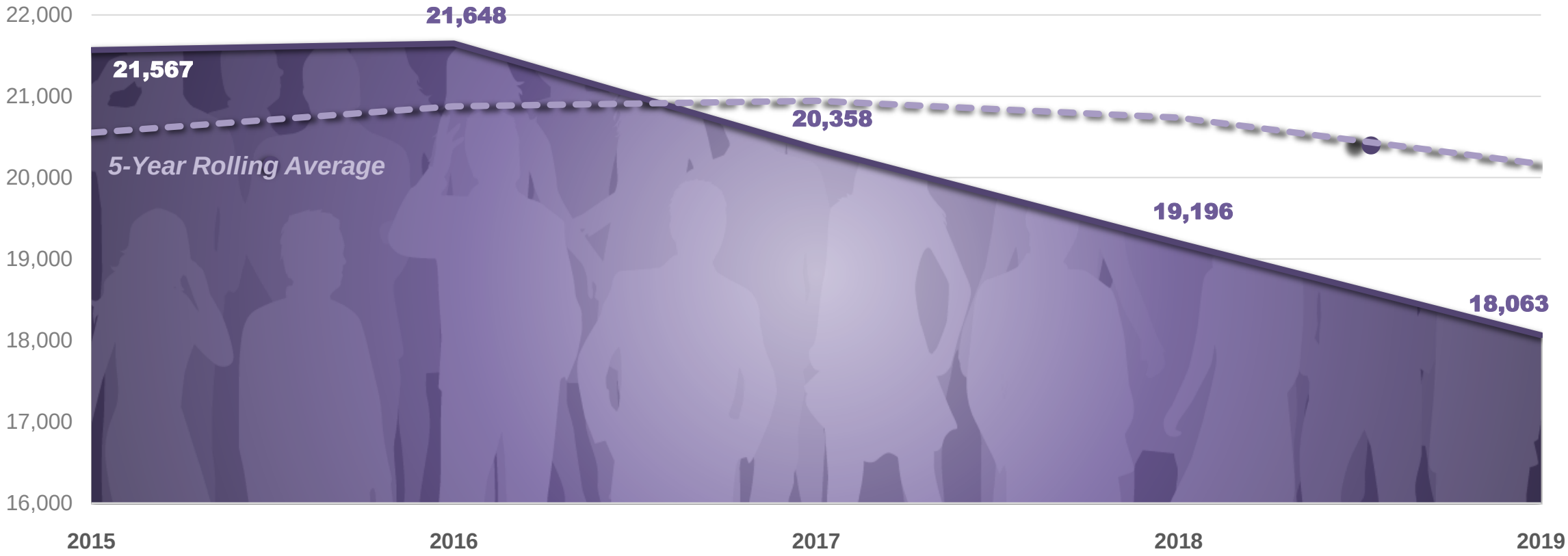
Safety Performance Metrics

Roadway Fatalities



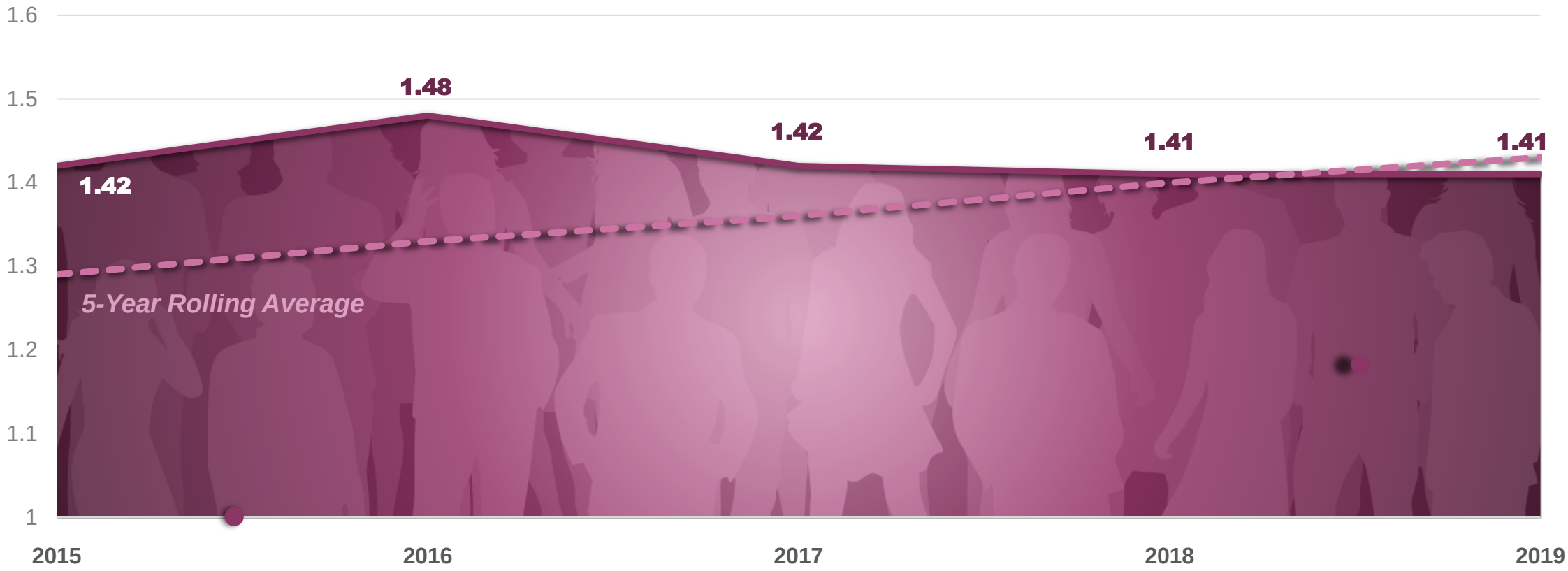
Source: 2020 FDOT HSIP Implementation Plan

Safety Performance Metrics
Serious Injuries



Source: 2020 FDOT HSIP Implementation Plan

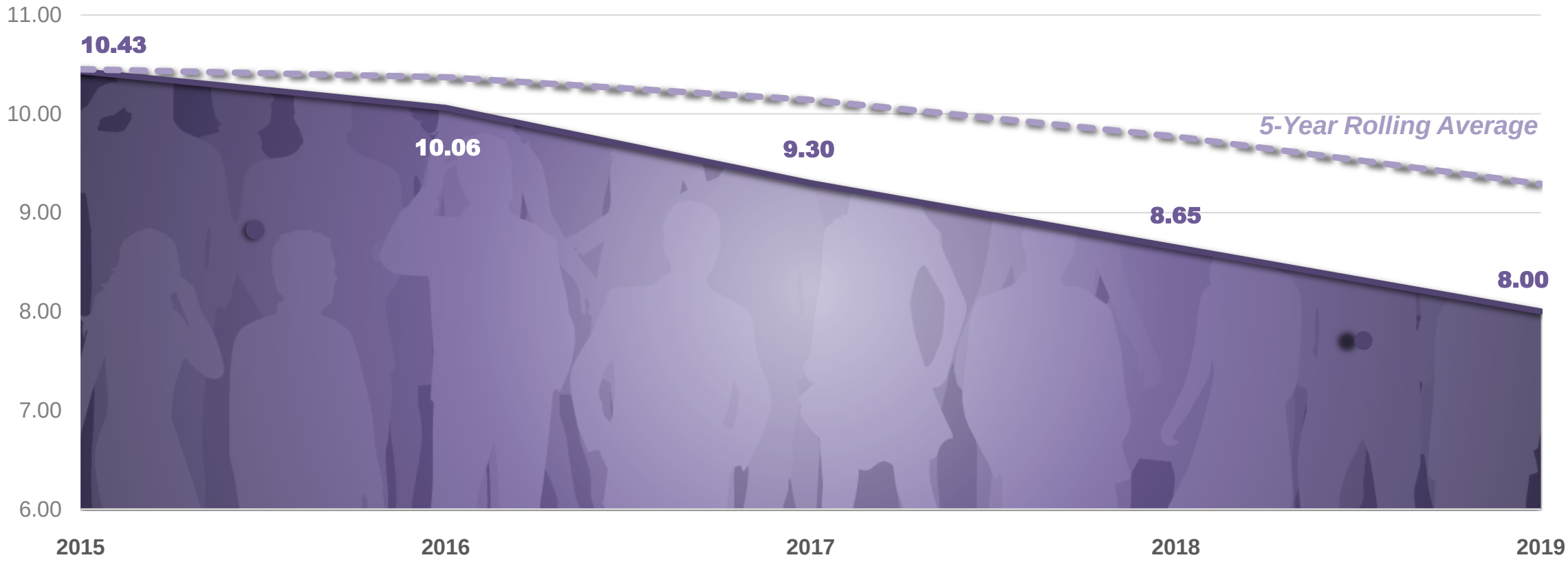
Safety Performance Metrics
Fatality Rate (Per 100M VMT)



Source: 2020 FDOT HSIP Implementation Plan

Safety Performance Metrics

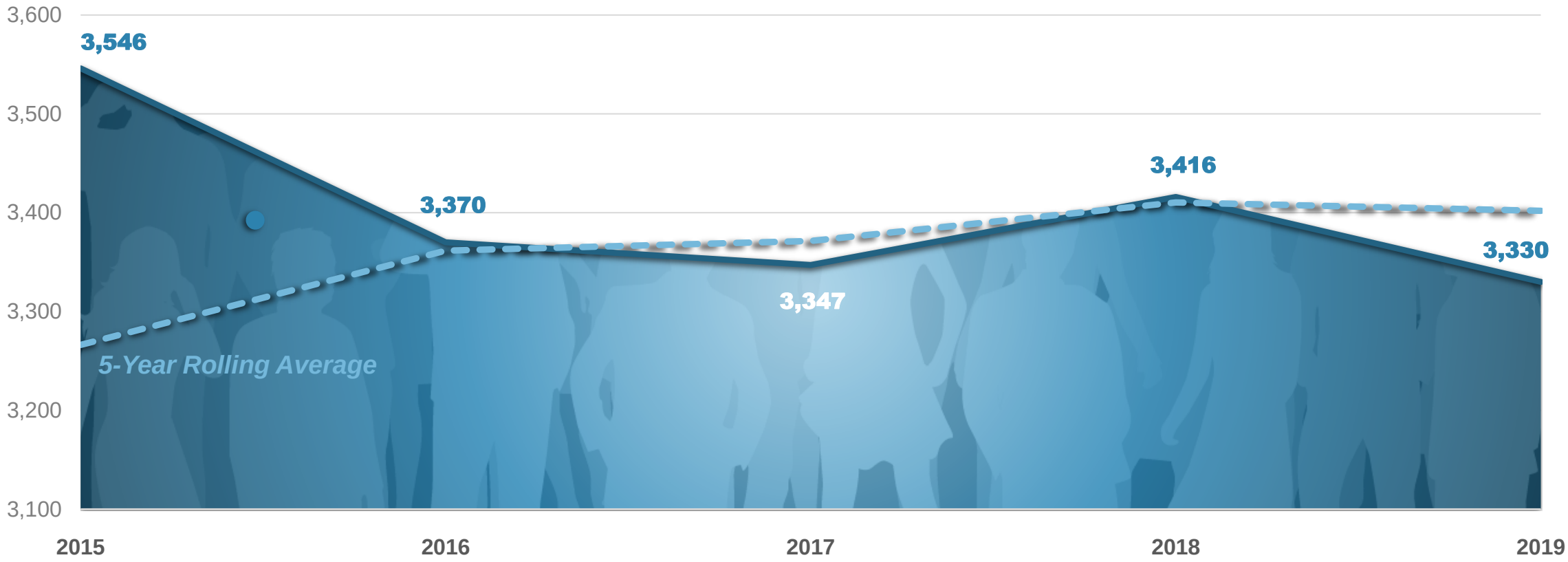
Serious Injury Rate (Per 100M VMT)



Source: 2020 FDOT HSIP Implementation Plan

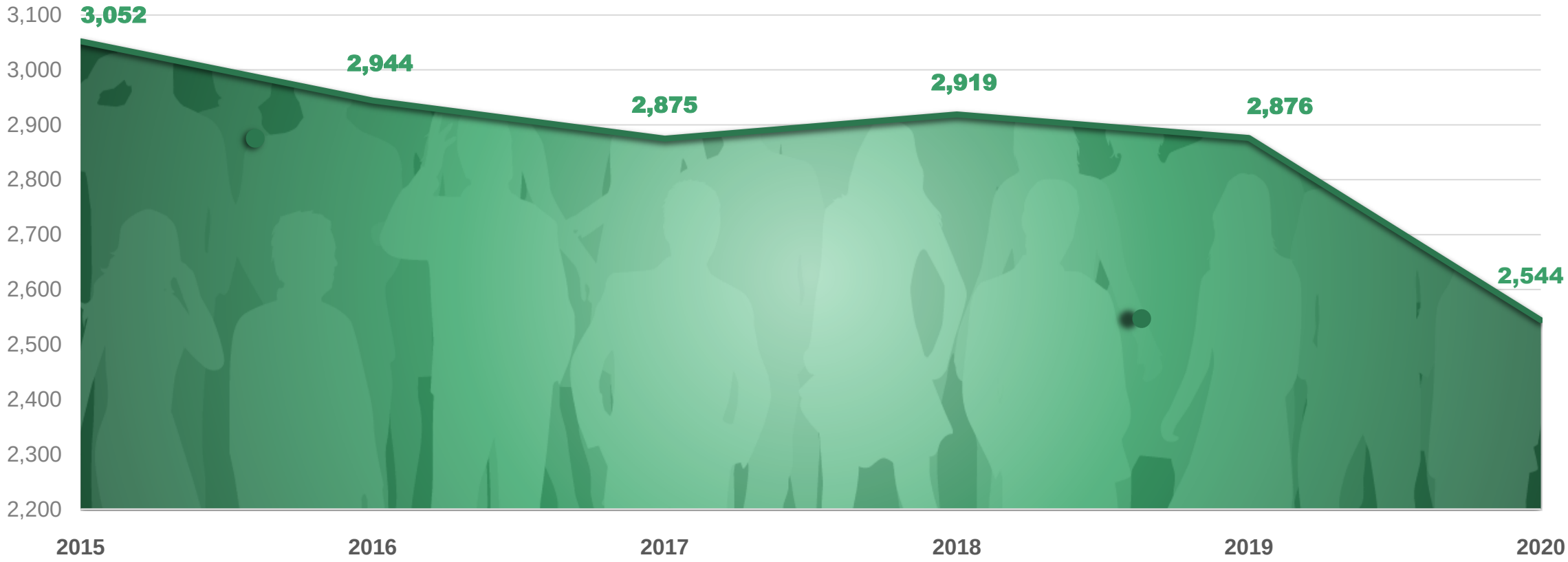
Safety Performance Metrics

Non-Motorized Fatalities & Serious Injuries (combined)



Source: 2020 FDOT HSIP Implementation Plan

Pedestrian and Bicyclist Fatalities & Serious Injuries in the 25 Priority Counties 2015-2020



Source: 2021 Florida Pedestrian and Bicycle Focused Safety Initiative, FDOT CAR Database

FHWA: Monitoring Progress Toward Target

U.S. Department of Transportation
Federal Highway Administration

Florida Division

March 25, 2021

3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312
Phone: (850) 553-2200
Fax: (850) 942-9691
www.fhwa.dot.gov/fldiv

Florida Division

In Reply Refer To:
HDA-FL

Mr. Kevin J. Thibault
Secretary of Transportation
Florida Department of Transportation
605 Suwannee Street
Tallahassee, Florida 32399-0450

Subject: Florida CY 2019 Safety Performance Target Assessment

Dear Secretary Thibault:

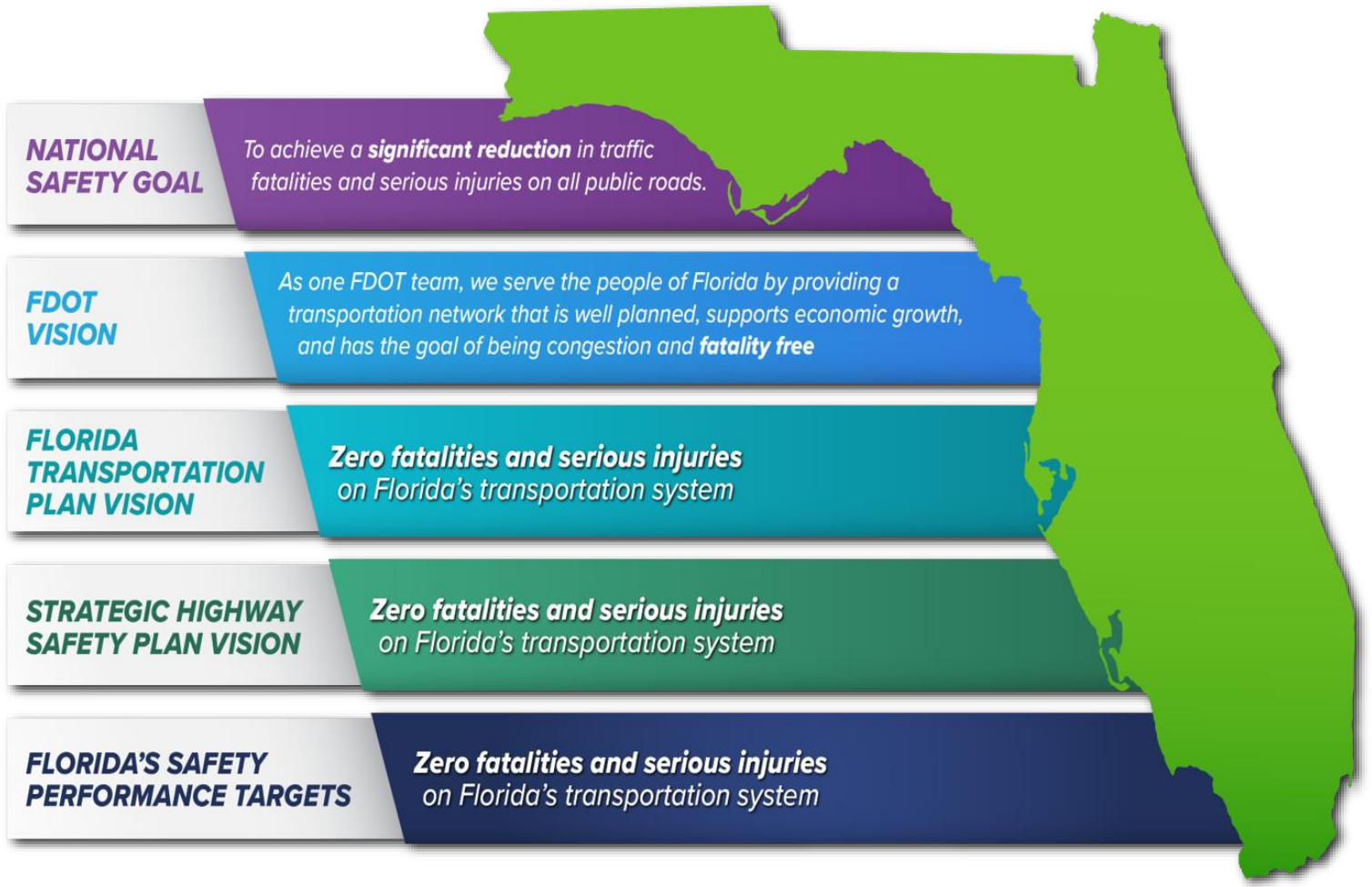
The Federal Highway Administration (FHWA) has completed the assessment for the Calendar Year (CY) 2019 safety performance targets, based on the 5-year averages for CY 2015 to CY 2019. Pursuant to 23 CFR 490.211(c)(2), a State Department of Transportation (DOT) has met or made significant progress toward meeting its safety performance targets when at least 4 of the 5 safety performance targets established under 23 CFR 490.209(a) have been met or the actual outcome is better than the baseline performance for the year prior to the establishment of the target. For this year's CY 2019 assessment, the baseline performance is the 5-year average from CY 2013 to CY 2017.

Based on the review of your State's safety performance targets and data, Florida *has not* met or made significant progress toward achieving its safety performance targets. The attached table provides a summary of the safety performance target assessment.

If you believe this assessment was made in error, additional compelling information may be submitted by **Monday, April 12, 2021**, to the FHWA Division Office for reconsideration.

As a result of not meeting or making significant progress toward your State's safety performance targets, Florida must comply with the following actions as per 23 U.S.C. 148(i):

1. Develop and submit an HSIP Implementation Plan for FY 2022 to the FHWA Division Office by June 30, 2021, that meets the applicable statutory requirements as described in the HSIP Implementation Plan Guidance.



HSIP Implementation Plan

- Identify roadway features that constitute a hazard to road users
- Identify highway safety improvement projects on the basis of crash experience, crash potential, or other data-supported means
- Describe how HSIP funds will be allocated, including projects, activities, and strategies to be implemented
- Describe how the proposed projects, activities, and strategies funded under the State HSIP will allow the State to make progress toward achieving the safety performance targets
- Describe the actions the State will undertake to achieve the performance targets

Florida CY 2019
Safety Performance Target Assessment

Performance Measure	2015-2019 Target	2015-2019 Actual	2013-2017 Baseline	Met Target?	Better than Baseline?	Met or Made Significant Progress?
Number of Fatalities	**0**	3,109.6	2,825.4	No	No	**NO**
Rate of Fatalities	**0**	1.426	1.360	No	No	
Number of Serious Injuries	**0**	20,167.0	20,942.8	No	Yes	
Rate of Serious Injuries	**0**	9.276	10.132	No	Yes	
Number of Non-Motorized Fatalities & Serious Injuries	**0**	3,286.2	3,286.8	No	Yes	

Source: 2020 FDOT HSIP Implementation Plan

HSIP Summary Table

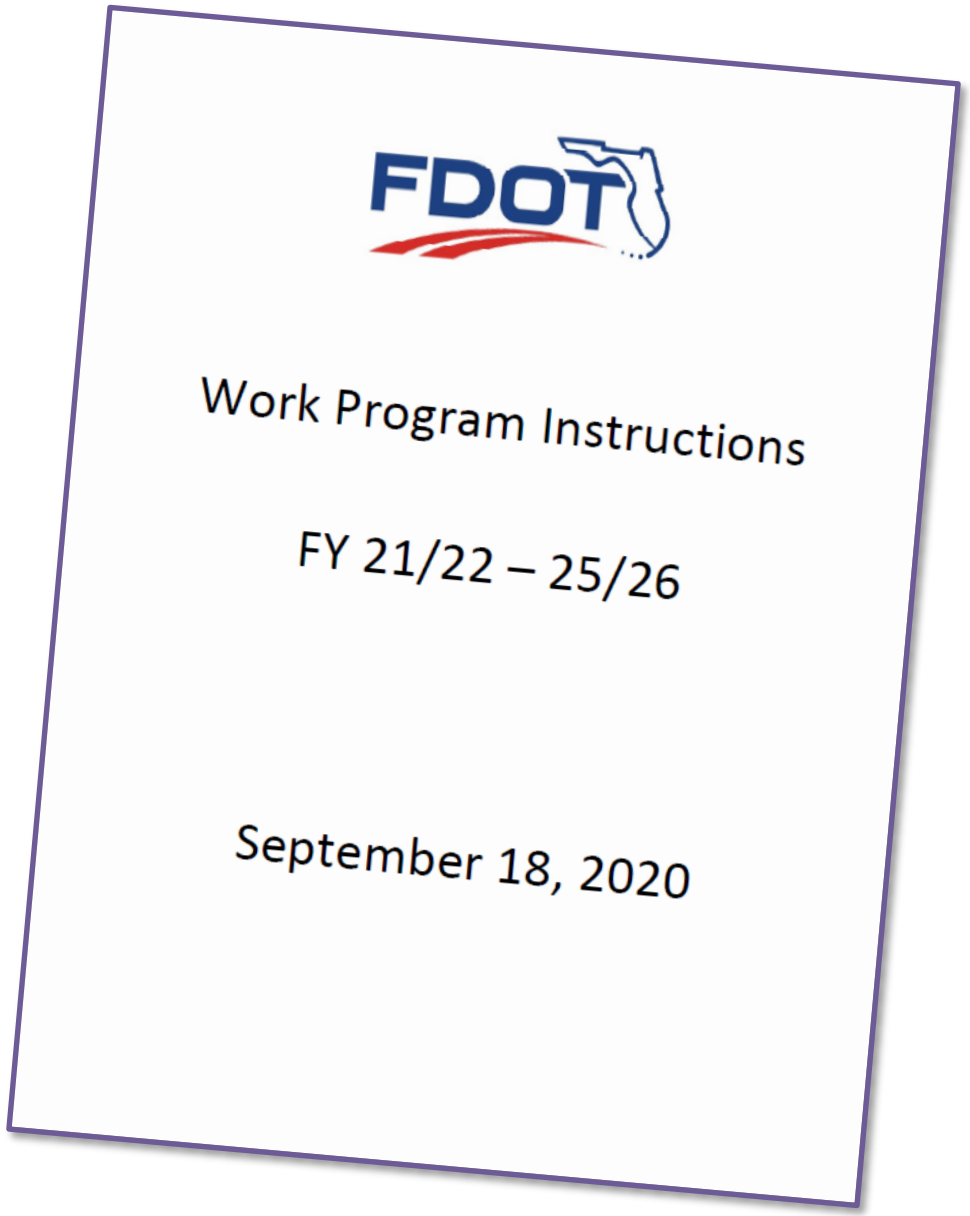
Program, Strategy, Or Activity	Estimated Funding
Intersections	$ 39.0 Million
Lane Departure	$ 47.9 Million
Pedestrian and Bicyclist	$ 17.4 Million
Multiple	$ 72.7 Million
GRAND TOTAL	**$ 177.2 Million**

Source: 2021 FDOT HSIP Implementation Plan

COMING SOON

District Allocations FY 24,By Statutory Formula

District	Statutory Formula
1	14.23%
2	11.31%
3	7.39%
4	18.33%
5	21.44%
6	12.49%
7	14.83%



TPM/Safety Requirements for Florida's MPOs

John Kaliski, Cambridge Systematics

Upcoming Dates

- **By August 31, 2021** - FDOT reports CY 2022 safety targets in HSIP Annual Report

- **On or before February 27, 2022** - MPOs establish CY 2022 safety targets

- **By July 15, 2022** – MPOs address safety targets in updated TIP

FHWA Expectations

- Florida Safety Target (HSIP) Implementation Plan must be updated by August 31 *(23 USC 148)*

- Updated TIPs and MTPs must recognize HSIP Implementation Plan *(23 CFR 450.306(d))*

Shared at FMPP, 2/4/21

Potential TIP Enhancements

- Include link to HSIP Implementation Plan in TIP and MTP
- Commit to changes in approach to achieving targets
  - Updated SHSP (Safe System approach, 4 Is, new emphasis areas, new strategies)
  - Updated FTP – commitment to consider safety as part of all programs
  - Relevant Vital Few safety initiatives
  - Updated HSIP approach

FHWA Expectations

- Expand discussion in TIP of anticipated effect of projects selected on performance targets

- Enhance TIP templates for 2022 TIPs

Shared at FMPP, 2/4/21

23 CFR 450.326

(c) The TIP shall be designed such that once implemented, it makes **progress toward achieving the performance targets** established under § 450.306(d).

(d) The TIP shall include, to the maximum extent practicable, a **description of the anticipated effect of the TIP toward achieving the performance targets** identified in the metropolitan transportation plan, linking investment priorities to those performance targets.

FHWA Expectations

- Possible strategies to show anticipated effects of TIP projects on adopted targets
  - Data – some project types, based on past research, are anticipated to have a specific quantifiable effect (e.g., roundabout, pedestrian beacons, etc., modeling projections)
  - Comparison of the level of past funding for specific types of projects to current funding
  - Comparison of the number of specific project types to the current number of projects of the same type in the TIP
  - Do the projects address the most problematic locations?
  - Other?

Shared at FMPP, 2/4/21

Potential TIP Enhancements

- HSIP projects
  - Provide example projects from HSIP Annual Report
    - Location specific in MPO area
    - Relevant programmatic strategies
  - Report anticipated benefits for example project types
  - Compare funding for specific project types to prior years
  - Identify high-risk locations from supporting analyses

Potential TIP Enhancements

- Other safety programs - examples
  - Participation in Florida's Traffic Safety Coalitions
  - Community Safety Traffic Teams
  - Special planning studies
  - Roadside technology pilots
  - Federal grants

- Other projects
  - Document how safety is used in identifying or setting priorities among capacity/mobility projects

Example: River to Sea TPO

River to Sea
Transportation Planning Organization

FY 2020/21 – FY 2024/25
Transportation Improvement Program

RIVER TO SEA TPO
Transportation Planning Organization
VISION - PLAN - IMPLEMENT

Adopted June 24, 2020
Amended May 26, 2021

This report was financed, in part, by the U. S. Department of Transportation, the Florida Department of Transportation, and the Local Participating Governments.

5-Year Summary of Projects by Funding Category

Project #	Project Name	2020/21	2021/22	2022/23	2023/24	2024/25	Total
FTAT - FHWA TRANSFER TO FTA (NON-BUD)							
Total		**1,331,249**	**1,649,869**	**1,599,870**	**1,591,347**	**1,584,687**	**7,757,022**
GFSU - General Funds STPBG >200k [Urban]							
4477121	Pioneer Trail/Tomoka Farms Road Roundabout	200,000	0	0	0	0	**200,000**
Total		**200,000**	**0**	**0**	**0**	**0**	**200,000**
GMR - GROWTH MANAGEMENT FOR SIS							
4405578	SR A1A Dune Restoration	7,377,000	0	0	0	0	**7,377,000**
Total		**7,377,000**	**0**	**0**	**0**	**0**	**7,377,000**
GRSC - GROWTH MANAGEMENT FOR SCOP							
4372011	Old Kings Rd Box Culverts	1,050,000	0	0	0	0	**1,050,000**
Total		**1,050,000**	**0**	**0**	**0**	**0**	**1,050,000**
HSP - SAFETY (HIWAY SAFETY PROGRAM)							
4398811	Volusia County Pedestrian Lighting Bundle A	242,726	0	0	0	0	**242,726**
4398814	Volusia County Pedestrian Lighting Bundle D	282,503	0	0	0	0	**282,503**
Total		**525,229**	**0**	**0**	**0**	**0**	**525,229**
IFZ4 - Volusia County Impact Fee Zone 4							
VC-2020-02	Beresford Avenue Extension	3,300,000	0	0	0	0	**3,300,000**
VC-2020-03	Blue Lake Ave Extension	2,200,000	0	0	0	0	**2,200,000**
Total		**5,500,000**	**0**	**0**	**0**	**0**	**5,500,000**
LF - LOCAL FUNDS							
4049212	Flagler County Airport Rehabilitate Runway 06-24	129,500	0	0	0	0	**129,500**
4314031	River to Sea TPO Planning Studies - Section 5303	20,974	0	0	0	0	**20,974**
4315331	Volusia - Section 5307 Capital for Fixed Route	3,994,097	2,121,800	2,185,545	2,251,018	2,318,548	**12,871,008**
4315382	Volusia-Daytona Bch Int'l Construct Terminal Roof	300,000	0	0	0	0	**300,000**
4319221	SR 44 at Kepler Intersection Improvements	3,850,000	0	0	0	0	**3,850,000**

Example: River to Sea TPO

River to Sea
Transportation Planning Organization

FY 2020/21 – FY 2024/25
Transportation Improvement Program

RIVER TO SEA TPO
Transportation Planning Organization
VISION - PLAN - IMPLEMENT

Adopted June 24, 2020
Amended May 26, 2021

This report was financed, in part, by the U. S. Department of Transportation, the Florida Department of Transportation, and the Local Participating Governments.

4398811 **Volusia County Pedestrian Lighting Bundle A** **Non-SIS**

Work Summary: LIGHTING
From: Spruce Creek Rd
To: Main Trail
Lead Agency: Florida Department of Transportation
Length: 13.774 miles

Phase	Fund Source	2020/21	2021/22	2022/23	2023/24	2024/25	Total
PE	HSP	242,726	0	0	0	0	**242,726**
Total		**242,726**	**0**	**0**	**0**	**0**	**242,726**

Prior Cost < 2020/21: 67,309
Future Cost > 2024/25: 0
Total Project Cost: 310,035
Project Description: Pedestrian lighting for safety at 22 intersections along SR 5A (Nova Rd) from Spruce Creek Rd (Port Orange) to Main Trail (Ormond Beach). Project Length - 13.774 miles. (Reference 2040 Long Range Transportation Plan, pgs 10, 11, 81, and table 31 on pg 72.)

Example: River to Sea TPO

River to Sea TPO Transportation Improvement Program - FY 2020/21 - 2024/25

2408361 **SR 40 from SR 15/US 17 to SR 11** **SIS**

Work Summary: ADD LANES & RECONSTRUCT

From: SR 15 (US 17)

To: SR 11

Lead Agency: Florida Department of Transportation

Length: 6.376 miles

Phase	Fund Source	2020/21	2021/22	2022/23	2023/24	2024/25	Total
ROW	BNIR	0	0	1,680,000	0	0	**1,680,000**
ROW	DIH	0	0	70,000	70,000	70,000	**210,000**
ROW	DI	0	0	0	1,166,411	1,150,000	**2,316,411**
Total		**0**	**0**	**1,750,000**	**1,236,411**	**1,220,000**	**4,206,411**

Prior Cost < 2020/21: 5,696,397

Future Cost > 2024/25: 349,754

Total Project Cost: 10,252,562

Project Description: Widen SR 40 from 2 lanes to 4 lanes between SR 15 (US 17) and SR 11. The total project cost is estimated to be approximately $54,731,640. PE was completed in 2014, ENV was completed in 2017. The construction cost is estimated to be approximately $42,251,728, and Right of Way cost is $4,225,912 programmed in FY 2022/23. This project supports efforts to meet the adopted safety targets. (Reference 2040 Long Range Transportation Plan, table 28 on pg 67.)

"This project supports efforts to meet the adopted safety targets."

Example: River to Sea TPO

- UPWP activities
  - School safety studies/Safe Routes to Schools
  - Pedestrian law enforcement training
  - Health and safety partnerships
  - Community Traffic Safety Teams
  - Helmet distribution programs
- Special studies
  - Complete Streets Policy/Implementation Plan
  - Crash Analysis Report
  - Roadway Safety Evaluation and Improvement Study
  - Traffic Operations/Safety Feasibility Studies


River to Sea
Transportation Planning Organization

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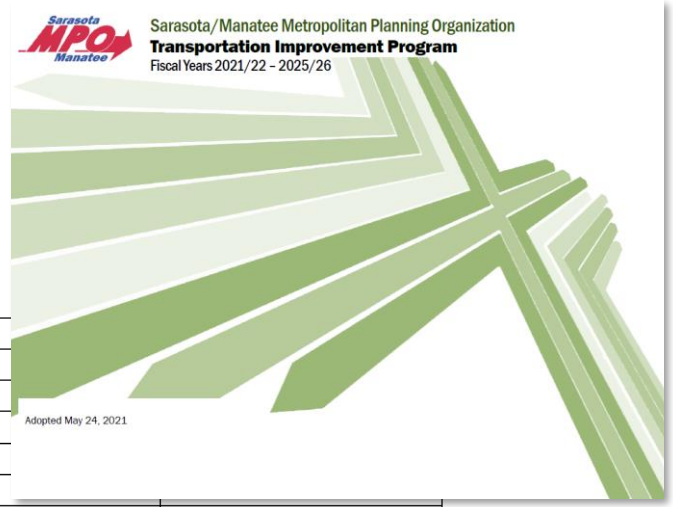
Example: Sarasota/Manatee MPO

- High crash safety priority locations
  - 4 safety assessments at 6 locations
- Example safety projects
- Systemic mitigation strategies
  - Vehicular
  - Vulnerable users
  - Senior road users



High Crash Safety Priority Locations

Jurisdiction	Facility	From
Sarasota County	US 41/ S Tamiami Trl	at Stickney Point Rd
Manatee County	SR 70/ 53rd Ave W	at Tara Blvd
Manatee County	SR 70/ 53rd Ave E	at US 301
Sarasota County	Fruitville Rd	at N Cattlemen Rd
Sarasota	Fruitville Rd	at N Washington Blvd
Sarasota County	Fruitville Rd	at Honore Ave
Sarasota	US 41/ N Tamiami Trl	at University Pkwy
Sarasota	Frutiville Rd	at N Beneva Rd
Manatee County	Cortez Rd	at 26th St W
Manatee County	US 41/ 14th St W	at 53rd Ave W

Sarasota/Manatee MPO Sample Safety Projects

Project Number	Project Name	County	Type of Work
440688	SR 684 (Cortez Rd) from 86th/Palma Sola Blvd to Cape Vista Dr	Manatee	Add Left Turn Lane
441551	SR 64 (Manatee Ave) from 43rd St W to 15th St W (SR 64)	Manatee	Resurfacing
444210	SR 683 (US 301) at 51st Ave E	Manatee	Intersection Improvement
444211	SR 683 (US 301) at 63rd Ave E	Manatee	Intersection Improvement
444440	SR 45 (US Bus 41) from 17th S to Bayshore Rd	Manatee	Resurfacing
444612	SR 45 (US 41) Edwards Dr to Magellan Dr	Manatee	Resurfacing
448390	SR 45 (US 41) from 63rd Ave to 53rd Ave	Manatee	Safety Project
433550	SR 45 (US 41) Caribbean Dr to SR 72 Stickney Point Rd	Sarasota	Bike Lane/Sidewalk
440685	SR 45 (US 41) at SR 72	Sarasota	Intersection Improvement
447870	SR 683 at University Pkwy	Sarasota	Safety Project
447871	SR 780 (Fruitville Rd) at Beneva Rd	Sarasota	Safety Project
447872	SR 683 (US 301) from 12th St to Dr MLK Jr Way	Sarasota	Safety Project
447882	Sr 776 from Charlotte County Line to Tangerine Woods Blvd	Sarasota	Median Modification
447887	SR 72 from Swift Rd to Sawyer Rd	Sarasota	Median Modification

Example: Broward MPO

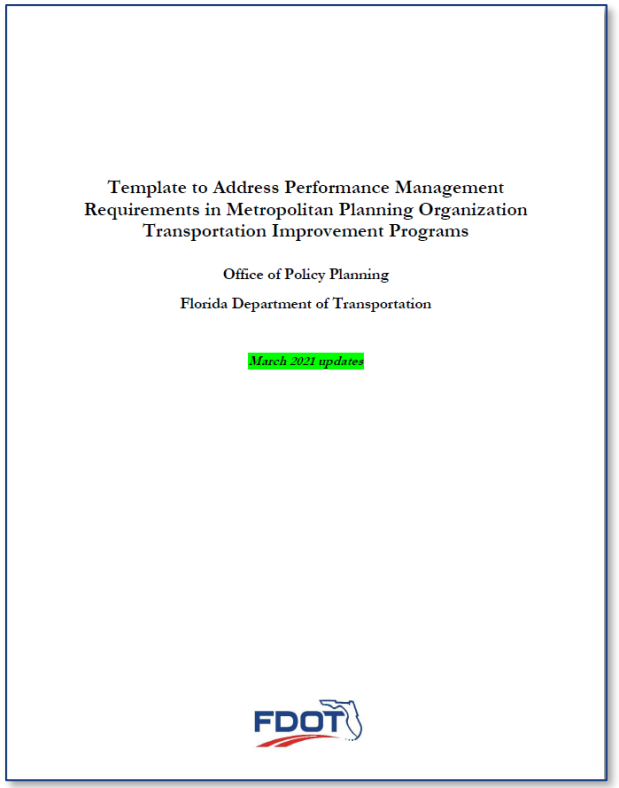
- 153 safety projects - $484M
- Programs
  - System management/safety
  - Complete Streets and Localized Initiative Program
  - Complete Streets Master Plan
  - Mobility Hubs
  - Bicycle and Pedestrian Safety Action Plan

Program and Funding Allocation

Program	Percentage
Roadway	20%
System Management/Safety	15%
Transit	10%
CSLIP	20%
Mobility Hubs	10%
CSMP	25%

FDOT Actions

- Share HSIP Implementation Plan (by August 31)
- Share HSIP Annual Report including CY 2022 targets (by August 31)
- Update TIP template for 2022 (September)
- Coordinate through Districts on HSIP off-system projects
- Share effective examples of considering safety in setting priorities
- Provide additional technical support


Template to Address Performance Management Requirements in Metropolitan Planning Organization Transportation Improvement Programs

Office of Policy Planning

Florida Department of Transportation

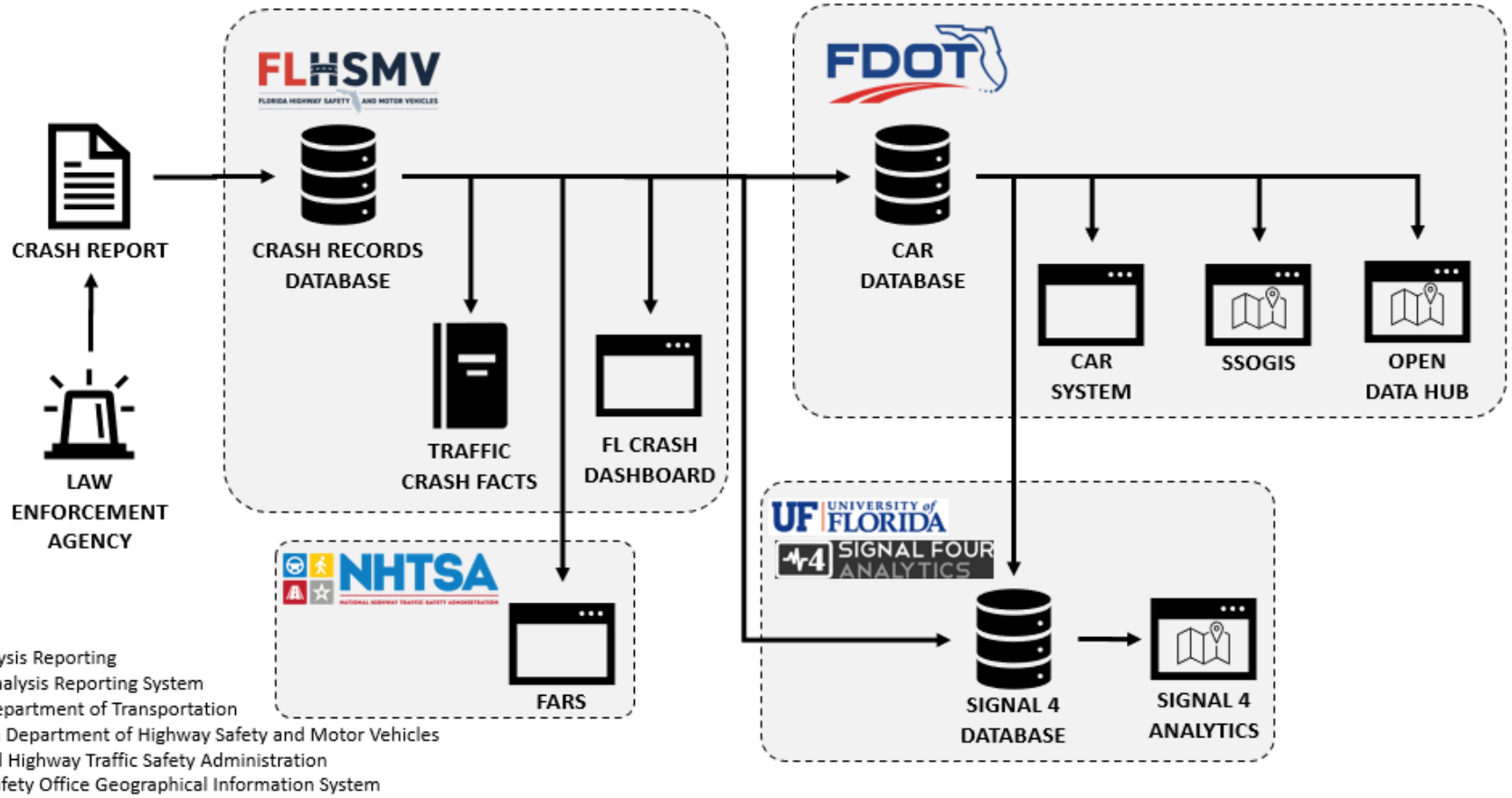
March 2021 updates

FDOT

Questions

SAFETY DATA, TOOLS, AND RESOURCES

Improving our Data, Processes, & Analysis Tools



CAR: Crash Analysis Reporting
FARS: Fatality Analysis Reporting System
FDOT: Florida Department of Transportation
FLHSMV: Florida Department of Highway Safety and Motor Vehicles
NHTSA: National Highway Traffic Safety Administration
SSOGIS: State Safety Office Geographical Information System

Safety Analysis Methods
Location Specific

Specific location safety analysis determined by:

- Where there is a high number of crashes
- Where there are high crash rates
- Where there are fatalities/serious injuries
- Where systemic analysis has identified as a location of focus

Safety Analysis Methods
Systemic

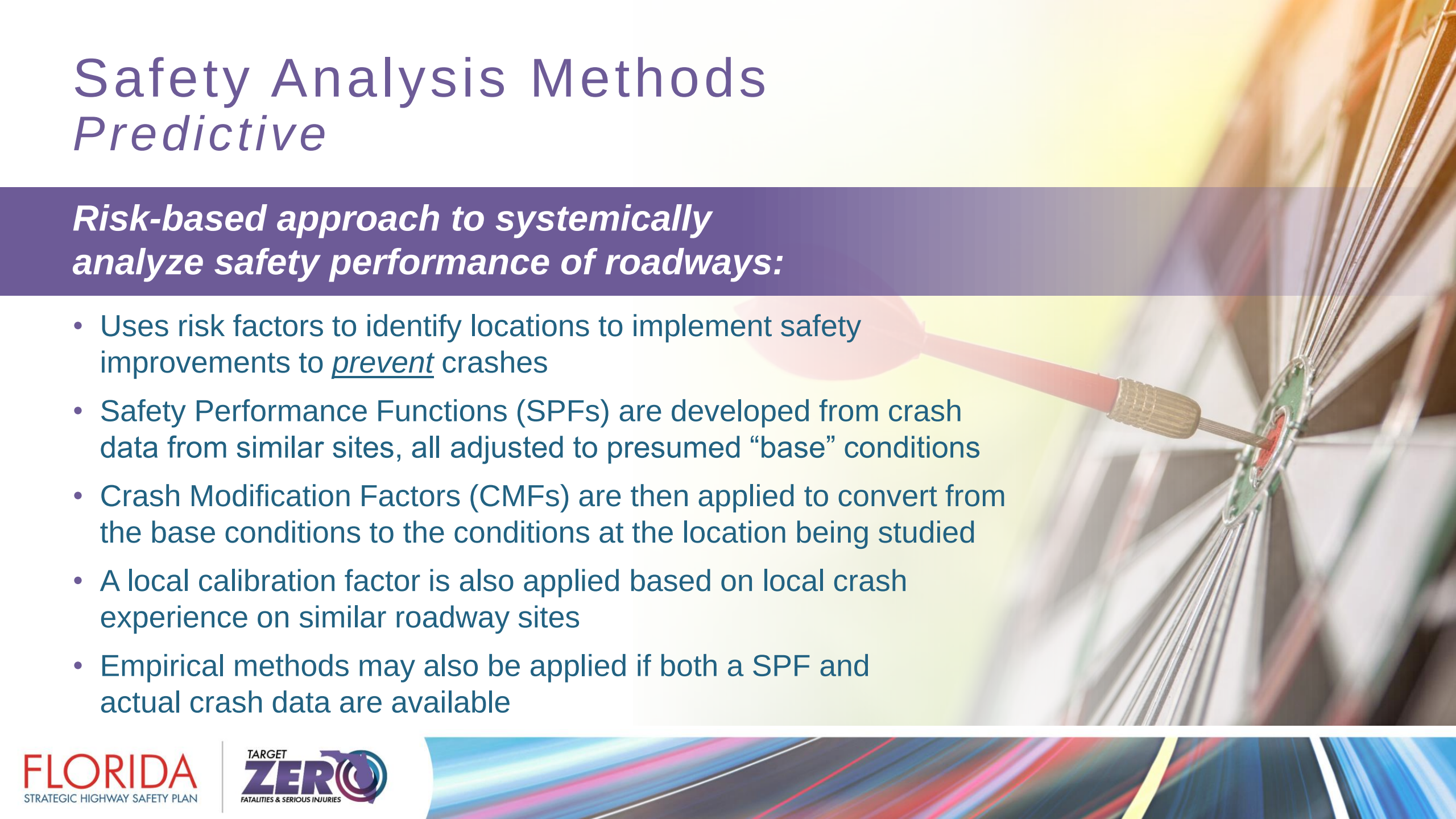
Broader network analysis of data to determine where safety improvements are needed:

- Identifies characteristics that frequently contribute to certain crash types
- Focuses on countermeasures that can be deployed widely across the system
- Identifies and prioritizes locations across the network for implementation

Safety Analysis Methods
Predictive

Risk-based approach to systemically analyze safety performance of roadways:

- Uses risk factors to identify locations to implement safety improvements to *prevent* crashes
- Safety Performance Functions (SPFs) are developed from crash data from similar sites, all adjusted to presumed “base” conditions
- Crash Modification Factors (CMFs) are then applied to convert from the base conditions to the conditions at the location being studied
- A local calibration factor is also applied based on local crash experience on similar roadway sites
- Empirical methods may also be applied if both a SPF and actual crash data are available



Expedited Crash Processing

Fatal and Serious Injuries

FLORIDA STRATEGIC HIGHWAY SAFETY PLAN | TARGET ZERO FATALITIES & SERIOUS INJURIES

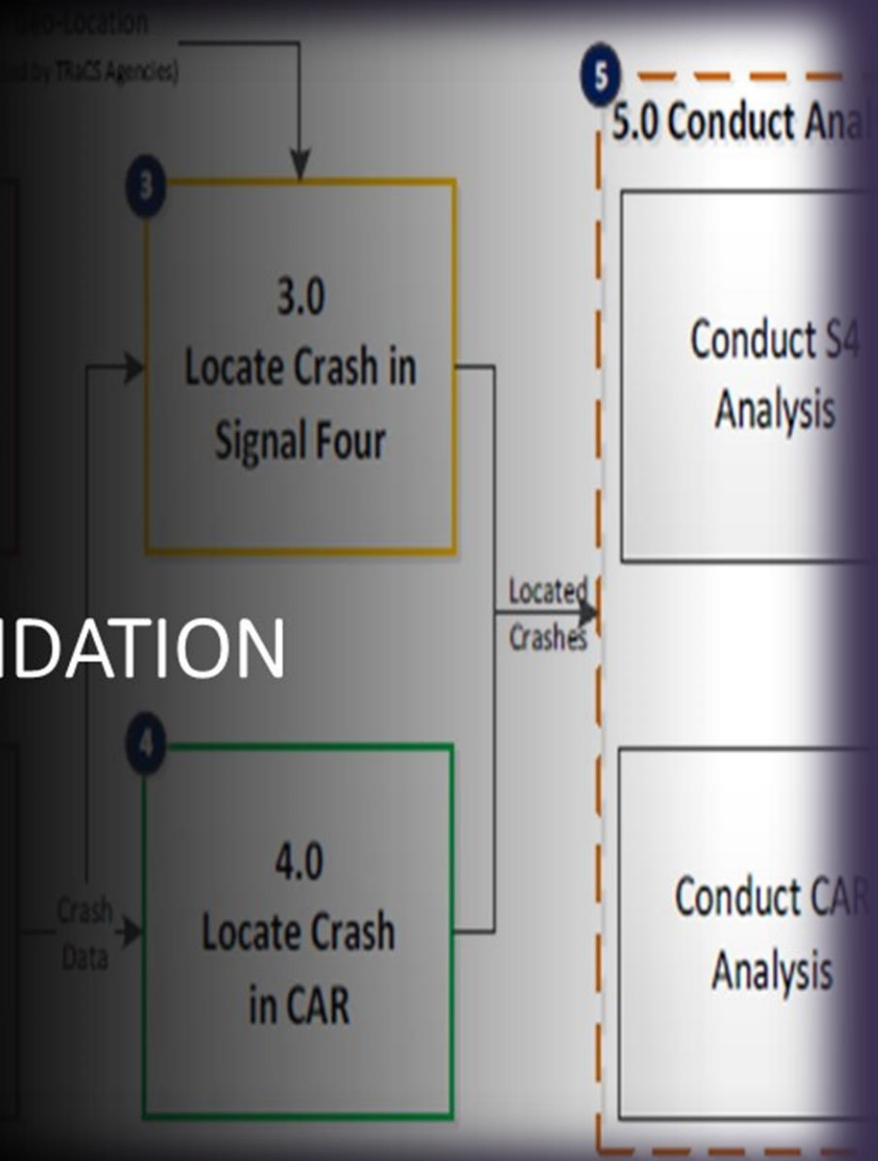
TARGET ZERO
FATALITIES & SERIOUS INJURIES

SAFETY PROJECT HIGHLIGHT

CRASH RECORDS LOCATION CONSOLIDATION

Significant system and process improvement to merge crash records location processing with Signal Four Analytics

FDOT

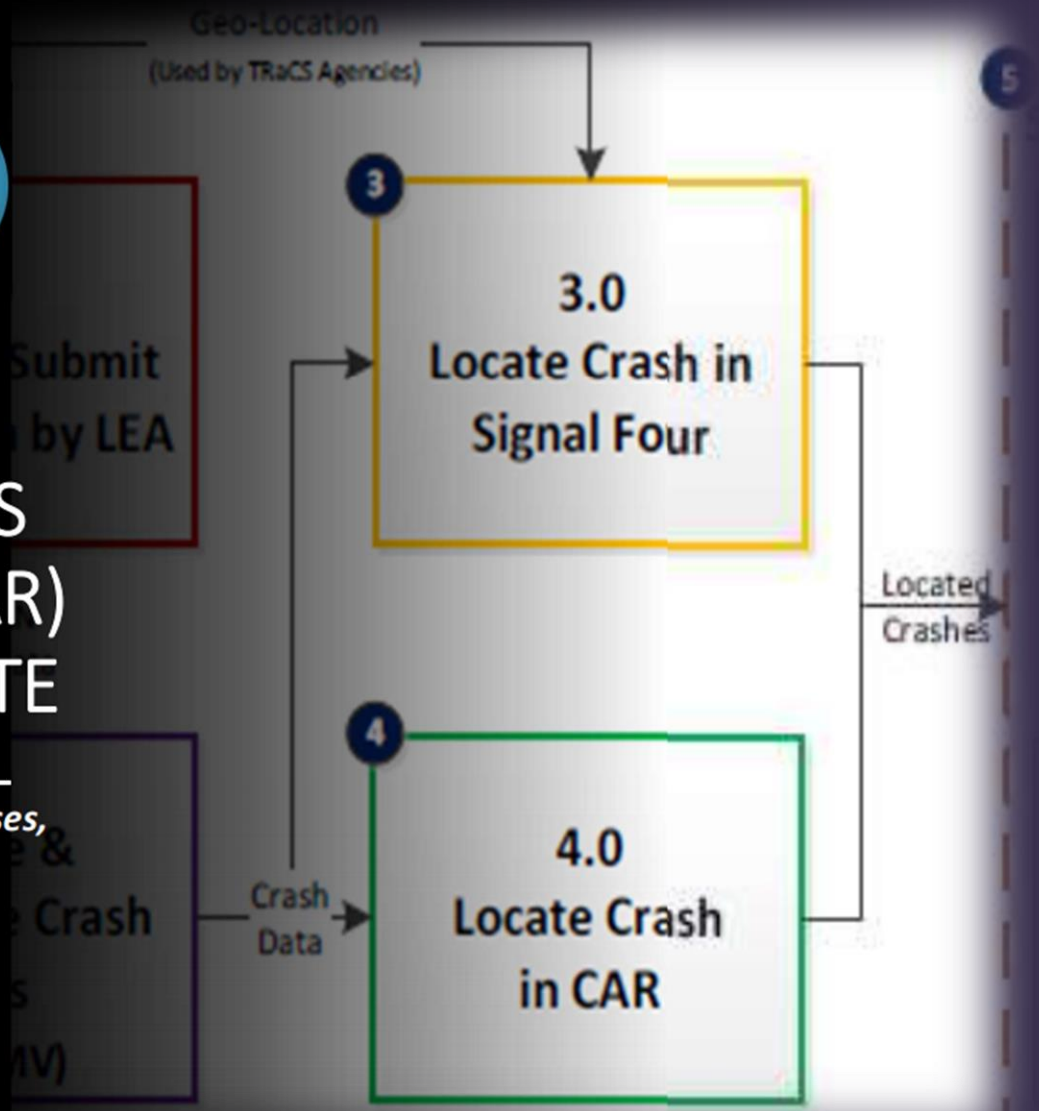


TARGET ZERO
FATALITIES & SERIOUS INJURIES

SAFETY PROJECT HIGHLIGHT

CRASH ANALYSIS REPORTING (CAR) SYSTEM REWRITE

Upgrades crash analysis processes, provides synchronization with Signal Four Analytics

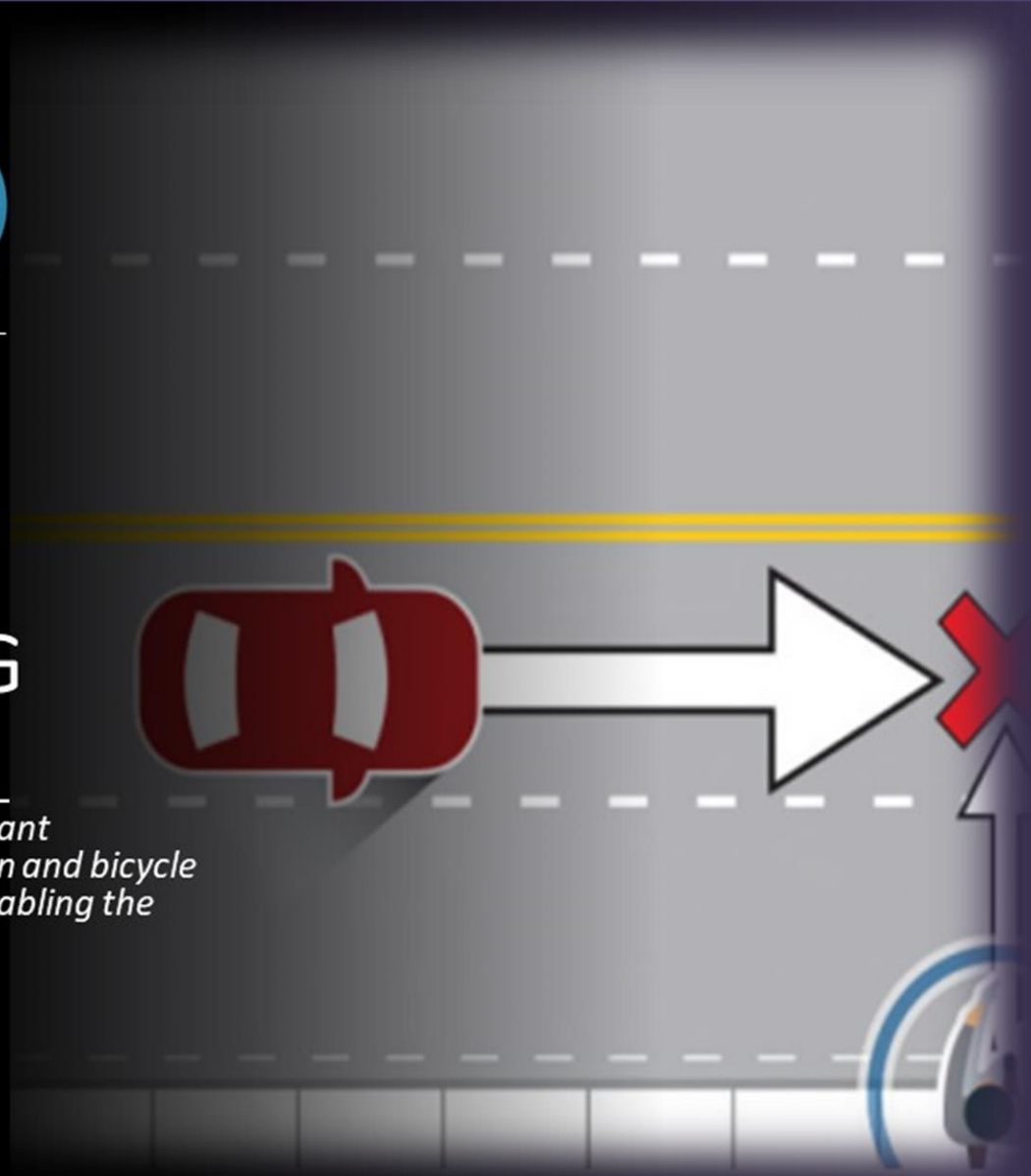


FDOT

TARGET ZERO
FATALITIES & SERIOUS INJURIES

SAFETY PROJECT HIGHLIGHT

BICYCLIST & PEDESTRIAN CRASH TYPING

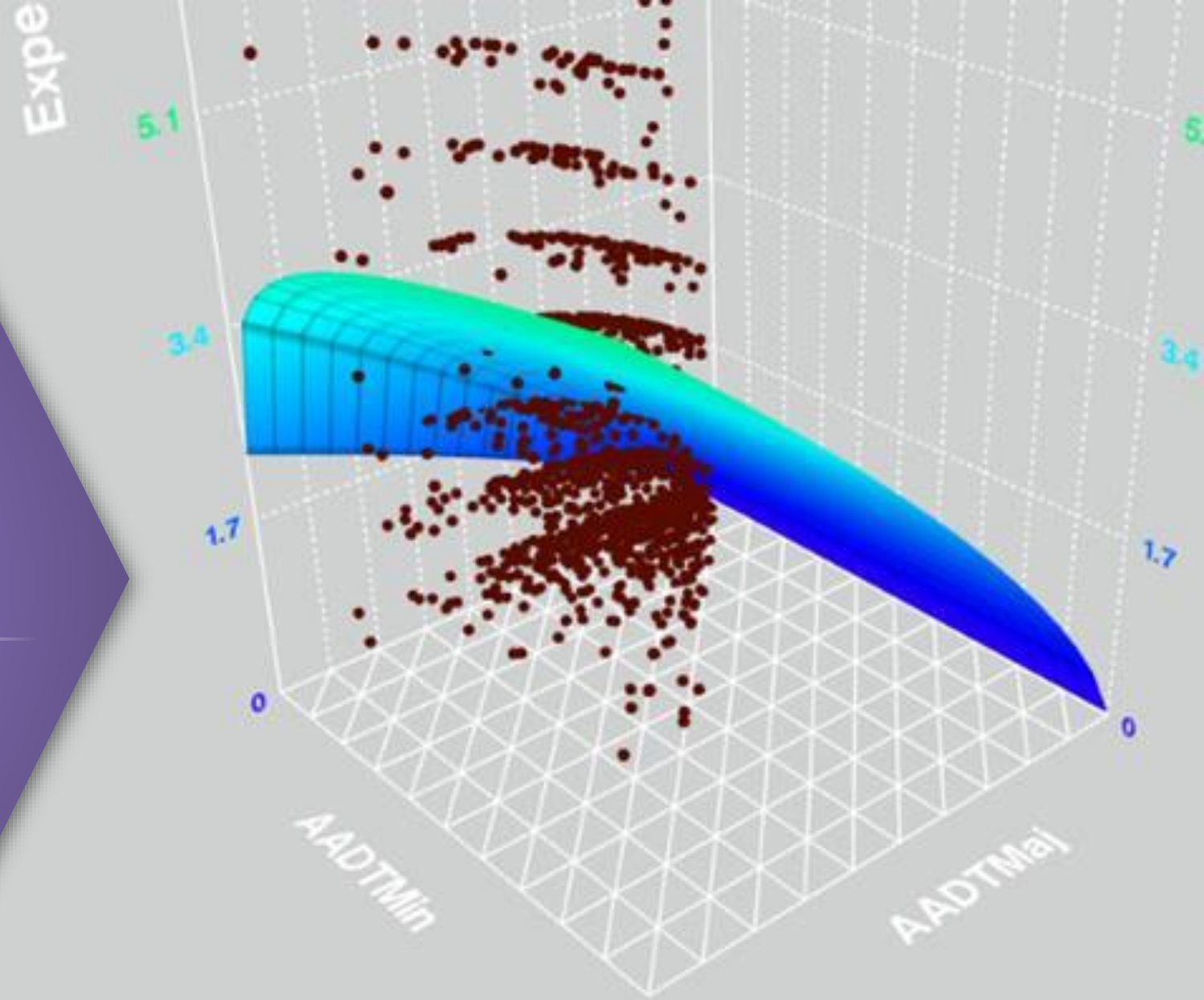


Statewide assessment of significant contributing causes of pedestrian and bicycle fatalities and serious injuries, enabling the effective identification of safety countermeasures!

FDOT

Florida Specific Safety Performance Functions

& SPF Tool

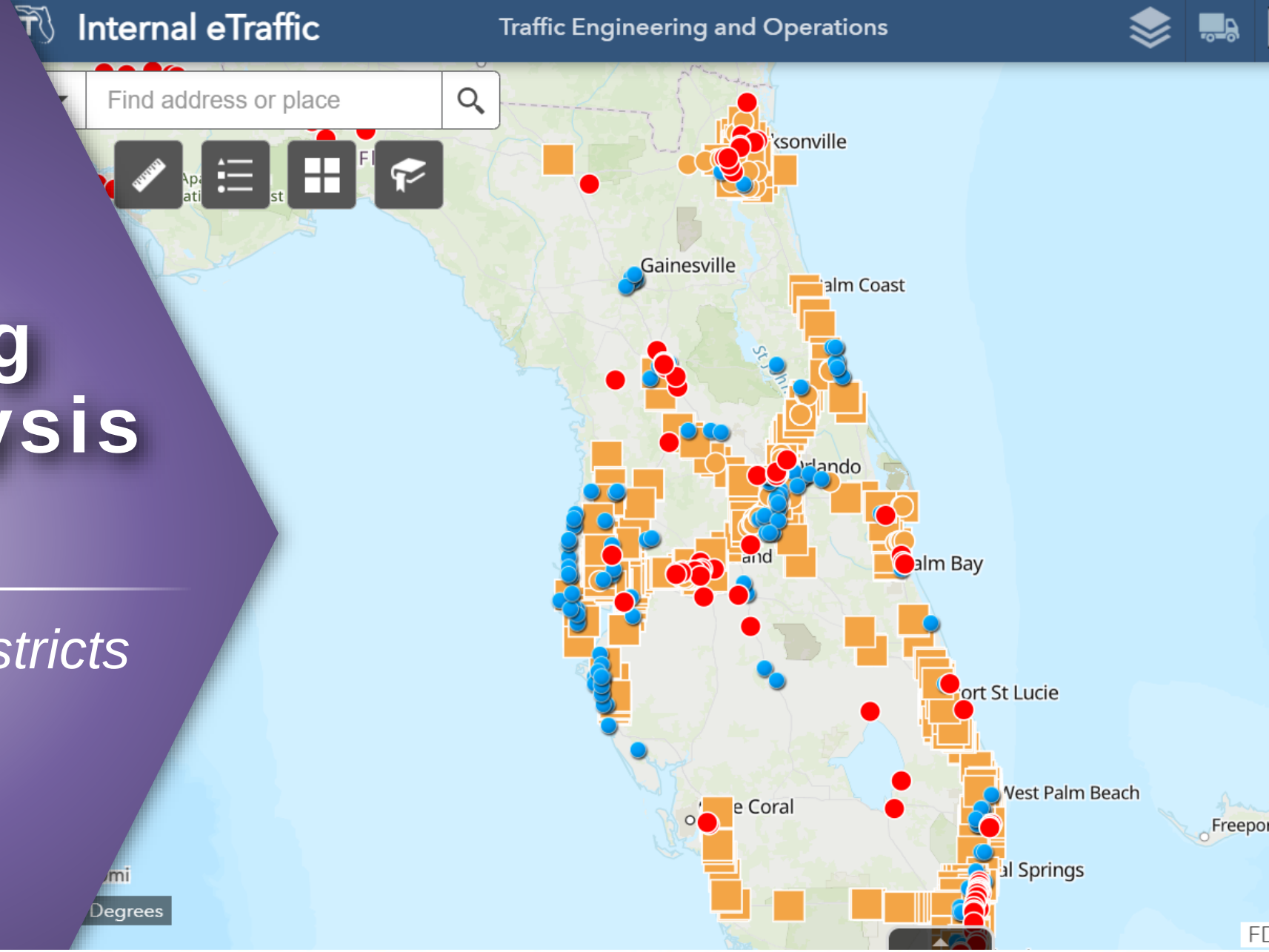


FLORIDA
STRATEGIC HIGHWAY SAFETY PLAN

TARGET ZERO
FATALITIES & SERIOUS INJURIES

Coordinating Safety Analysis and Needs

Central Office and Districts



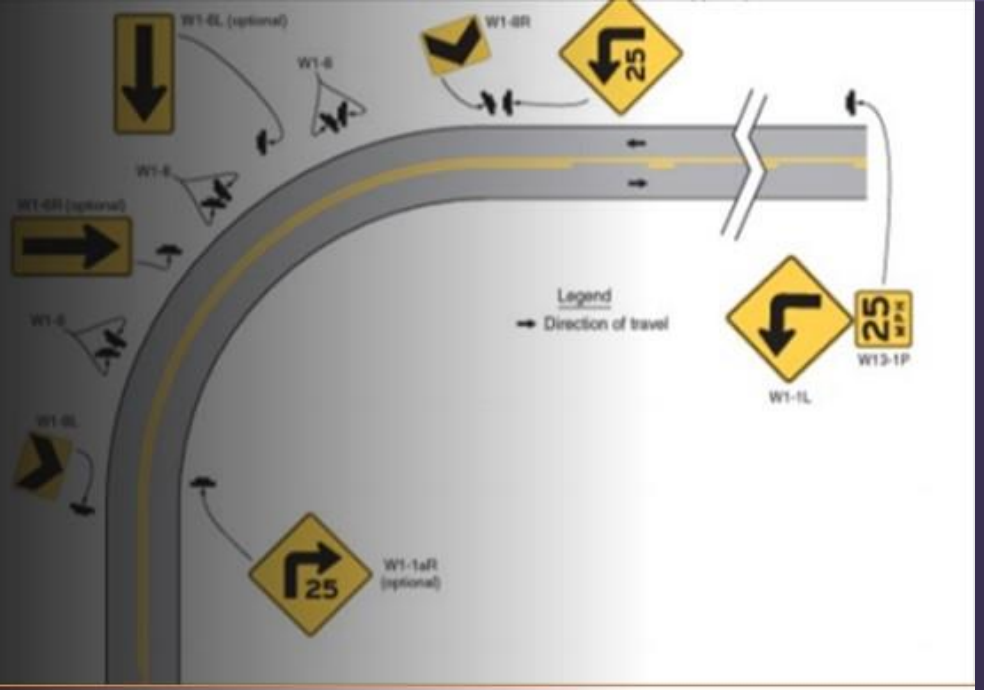
FLORIDA STRATEGIC HIGHWAY SAFETY PLAN

TARGET ZERO FATALITIES & SERIOUS INJURIES

TARGET ZERO
FATALITIES & SERIOUS INJURIES

SAFETY PROJECT HIGHLIGHT

LOCAL ROAD SAFETY PLANS



Technical assistance to local governments to develop Local Road Safety Plans to help our agency partners achieve our mutual goal of zero fatalities!

FDOT

FLORIDA
STRATEGIC HIGHWAY SAFETY PLAN

TARGET ZERO
FATALITIES & SERIOUS INJURIES

Identifying Safety Needs & Monitoring Our Performance:

FDOT's Internal Safety Data Integration Space

Applications

Apps provide simple access to information and tools for you to collect data and help your users understand your data. We recommend exploring the apps below for helping engage around specific goals and initiatives.

Transportation Safety View

Safety Views focused on Emphasis Areas and Crashes on the SHS.

Details | View

Wrong Way Driving Safety Countermeasures Dashboard

WWD Dashboard

Details | View

Railroad Crossing Safety Countermeasures Dashboard

Railroad Crossing Dashboard

Details | View

Highway Truck Crash Application

Highway Truck Crashes

Details | View

SSOGIS

State Safety Office GIS

Details | View

Crash Analysis Reporting (CAR) System on-line

Reports and Database

Details | View

Signal 4 Public Application

Signal 4 Analytics

Details | View

Signal 4 Internal Application

Signal 4 Analytics

Details | View

TRAFFIC SS2Z

Public

TRAFFIC SS2Z

Internal

FMTP

FREIGHT MOBILITY & TRADE PLAN

Safety Data Integration Space | Safety Data Integration Space - T

https://gis.fdot.gov/arcgisportal/apps/MapSeries/index.html?appid=376d903cf3114c64b3c0a255f1552e59

Safety Data Integration Space - Transportation Safety View

Production v1.0.0.1

All | Lane Departure | Impaired Driving | Pedestrians | Bicyclists | Intersections | Unrestrained Occupants | Motorcyclists | Aging Road Users | Speeding & Aggressive Driving | Commercial Vehicles | Teen Drivers

All Emphasis Areas

State Highway System Only - Fatalities and Severe Injuries Only

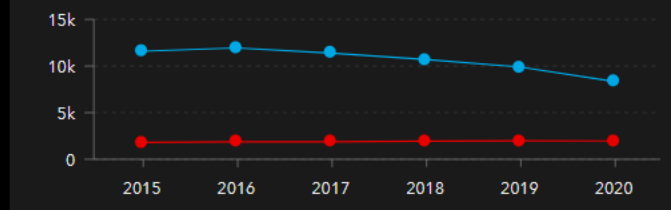
Year: ALL YEARS | District: ALL | MPO/TPO: All MPO/TPO | County: ALL | Filter: CLEAR RESET

Expand for Help

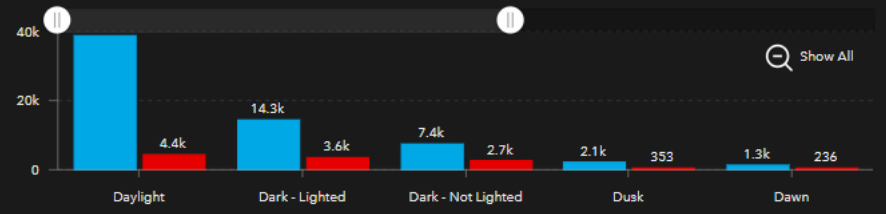
11,452 Fatalities

63,882 Severe Injuries

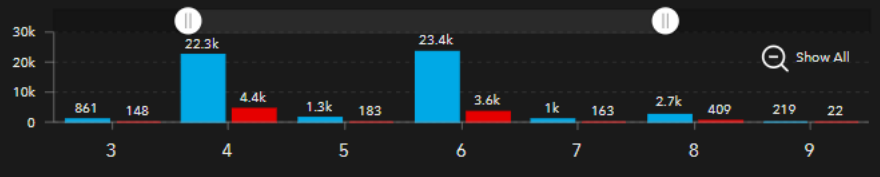
Fatalities and Severe Injuries by Year



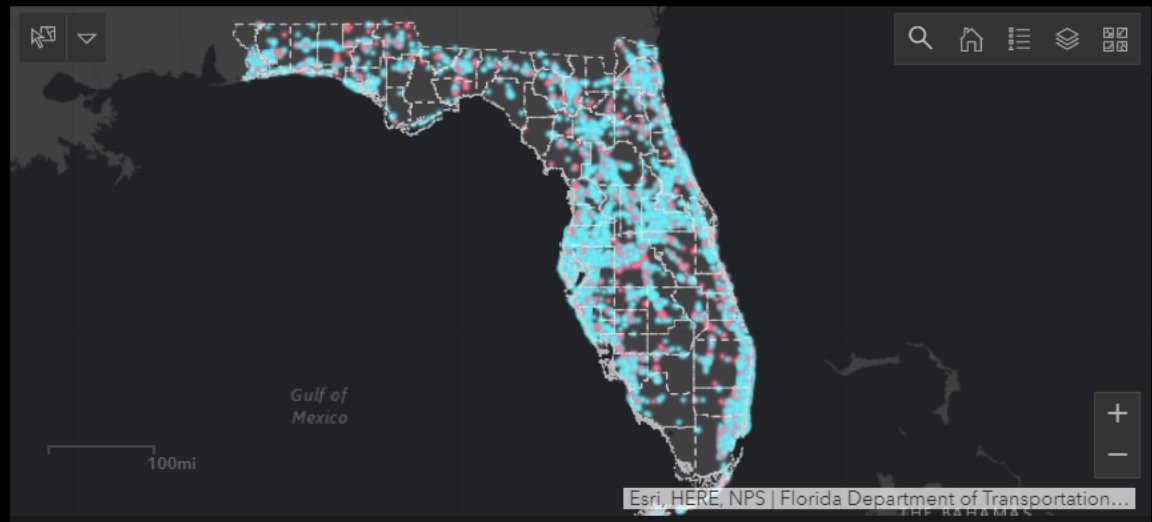
Lighting Conditions



Number of Lanes

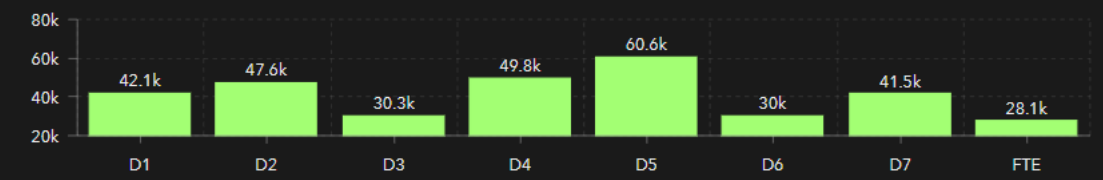


Context Class | Functional Class | Road Type | Speed Limit | Lanes



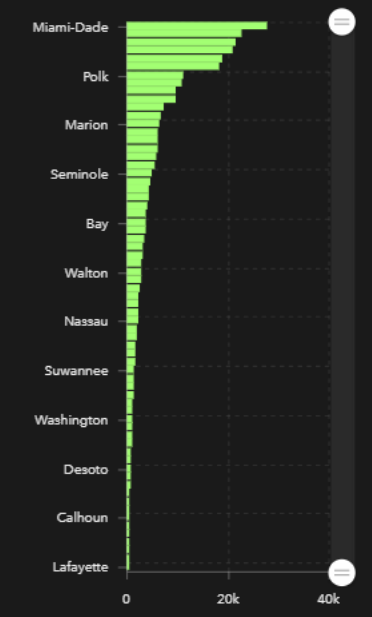
Notes: (1) To apply one or more filters to the map, click on a graph. To reset all filters, press CLEAR and RESET on the top bar. (2) Points on the map reflects fatalities and severe injuries, not crashes. For example, one crash may have both fatalities and severe injuries, in which case it will be shown with an overlapping blue and red point on the map.

Average Adjusted Total Daily Vehicle Miles Traveled (DVMT, thousands)



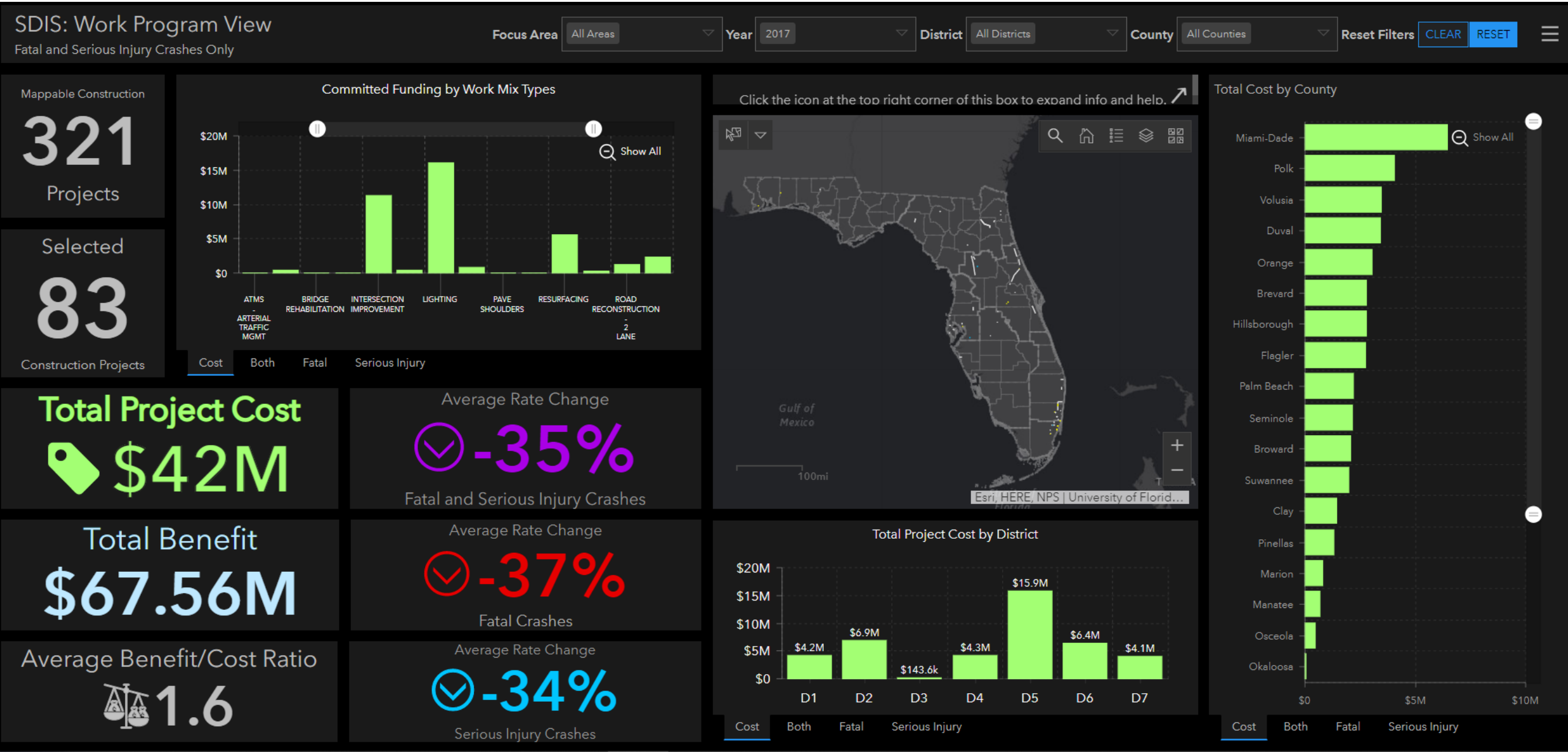
Fatalities | Severe Injuries

Adjusted Daily Vehicle Miles Traveled (DVMT, Thousands), by County



Event: **Scheduled SSO Data Sync**
Time: **3/8/2021, 9:46 AM**
Status: **Sync Successful**

In Development/Testing



For Updates on the Pensacola Bay Bridge visit fdot.gov/PensacolaBay

Florida Department of TRANSPORTATION

Improve Safety, Enhance Mobility, Inspire Innovation

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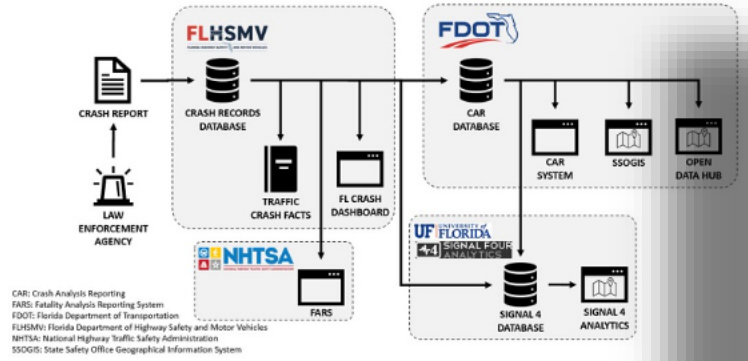
State Safety Office

State Safety Office / Safety Engineering/ Crash Records, Data, and Mapping

Crash Data Systems and Mapping

TARGET ZERO FATALITIES & SERIOUS INJURIES



Fatality Analysis Reporting System (FARS)

https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars

- Access: Publicly available
- Purpose/contents:
  - National high-level overview of historical and trend data
  - Provides comparisons between states
  - Types of crashes: Fatal traffic crash data only (excludes crashes due to illness, suicide, or on private property)
  - Roadway types: All public roadways
- Mapping and/or analytics capabilities: None. Can download tables and charts.
- Latest date of information: It takes 2 years for NHTSA to collect data finalized by states

Signal 4 Analytics Dashboard

S4Analytics (signal4analytics.com)

- Access: Publicly available, additional queries available with Signal 4 system login access
- Purpose/contents: Provides general crash statistics in Florida from data contained in Signal 4 in visual format with graphs and charts.
- Types of crashes: Fatal and serious injury
- Roadway types: All public roadways
- Mapping and/or analytics capabilities:
  - Public version provides ability to sort general statistics by reporting agency, injury level, and Florida's Strategic Highway Safety Plan emphasis area
  - With login, additional queries may be performed: records search, filters based crash form fields, and standard reports supporting the traffic safety challenge for crashes and citations
- Latest date of information: Refreshes data daily (it takes agencies up to 90 days to report crashes)
- Data source: FLHSMV crash records
- Maintained by: GeoPlan Center at the University of Florida
- Advantages: Publicly available and contains dashboard with a visual display of statistics from all reported traffic crashes on all roadways, including both long and short form crashes, which is updated nightly from FLHSMV.

SIGNAL FOUR ANALYTICS

FLORIDA TRAFFIC SAFETY DASHBOARD

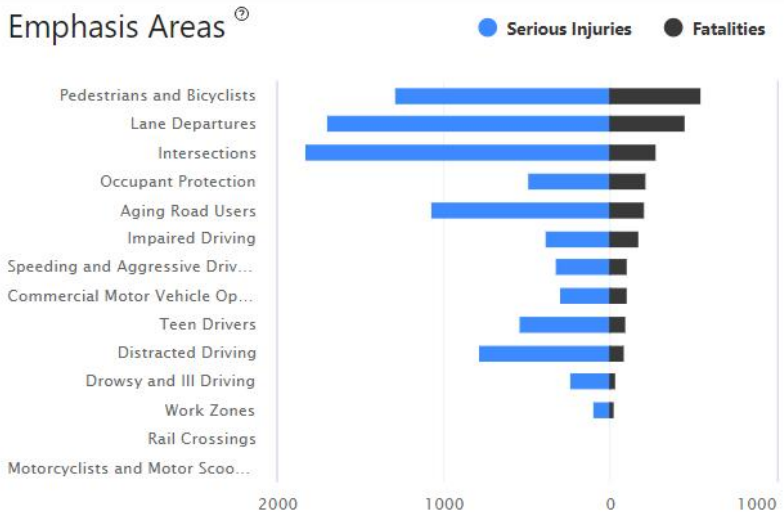
TARGET ZERO

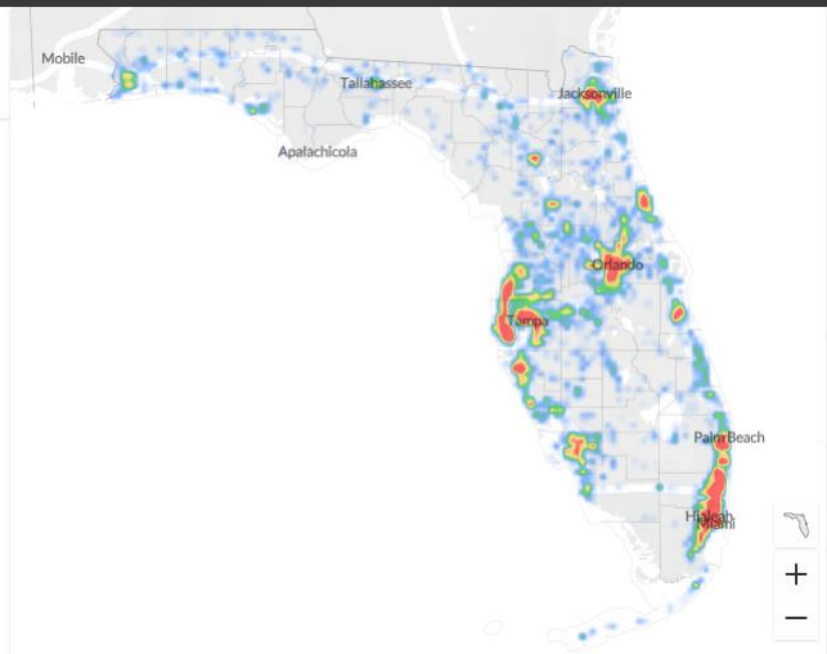
Data available from January 1, 2011 to April 18, 2021. Last updated April 19, 2021 Disclaimer

2021 | State of Florida | All LE Agencies | All Emphasis Areas | Fatalities & Serious Injuries | Refresh

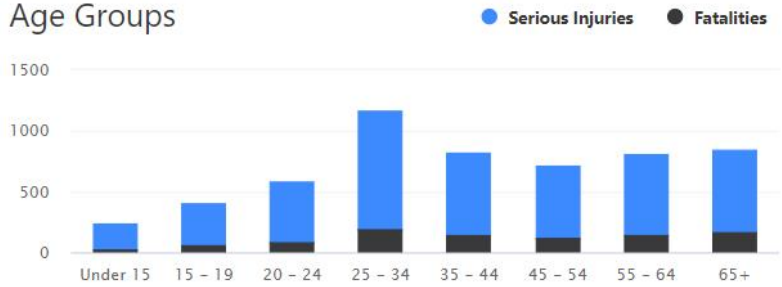
4,800	180,253	970
Serious Injuries	Total Crashes	Fatalities

Emphasis Areas

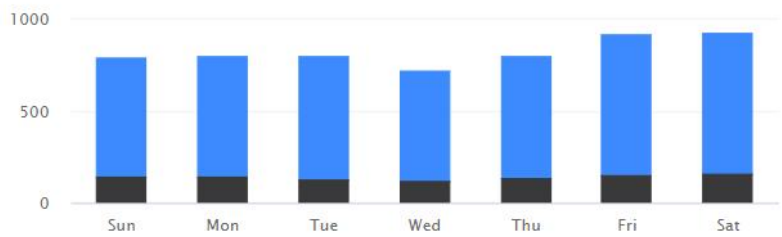




Age Groups

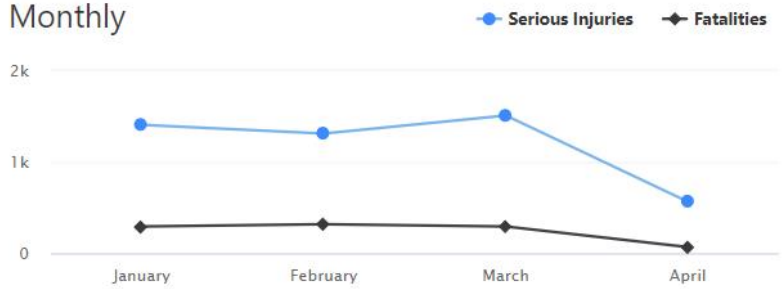


Day of Week

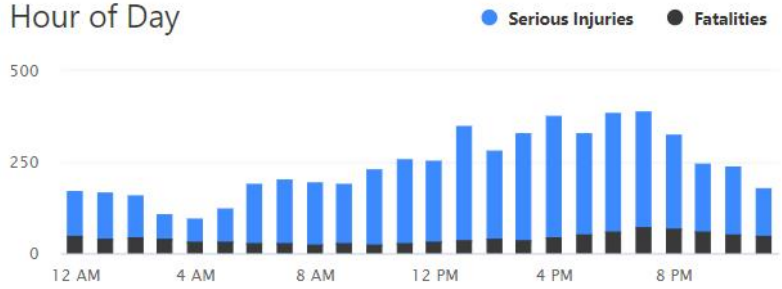


Annual

Monthly



Hour of Day



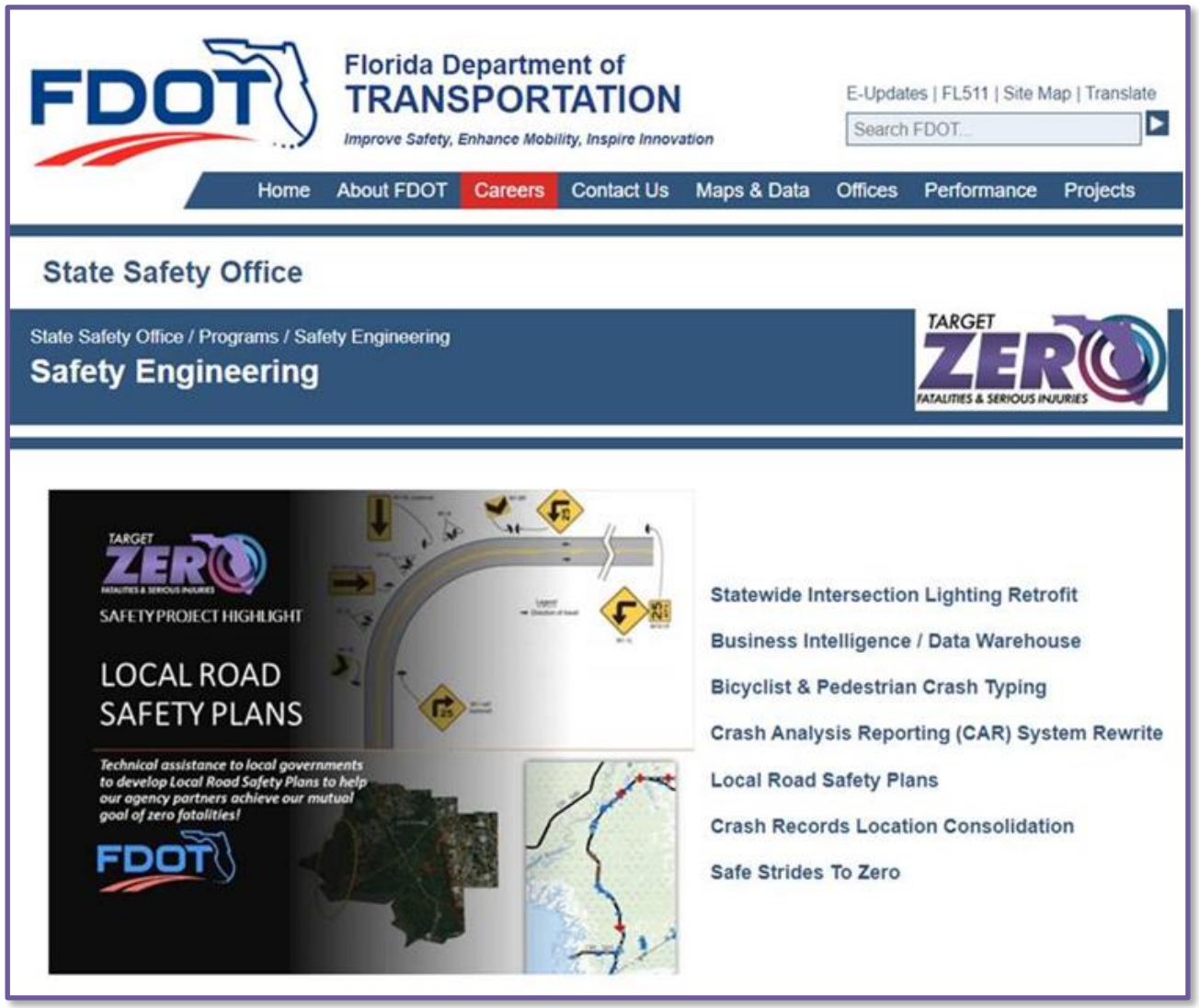
Website Update

Improved

- Public Crash Records
- Crash Data Systems and Mapping
- Safety Analysis Methods and Tools
- Training
- FAQs
- Statewide Contacts

New

- Safety Countermeasures
- Publications/Manuals
- Projects & Initiatives



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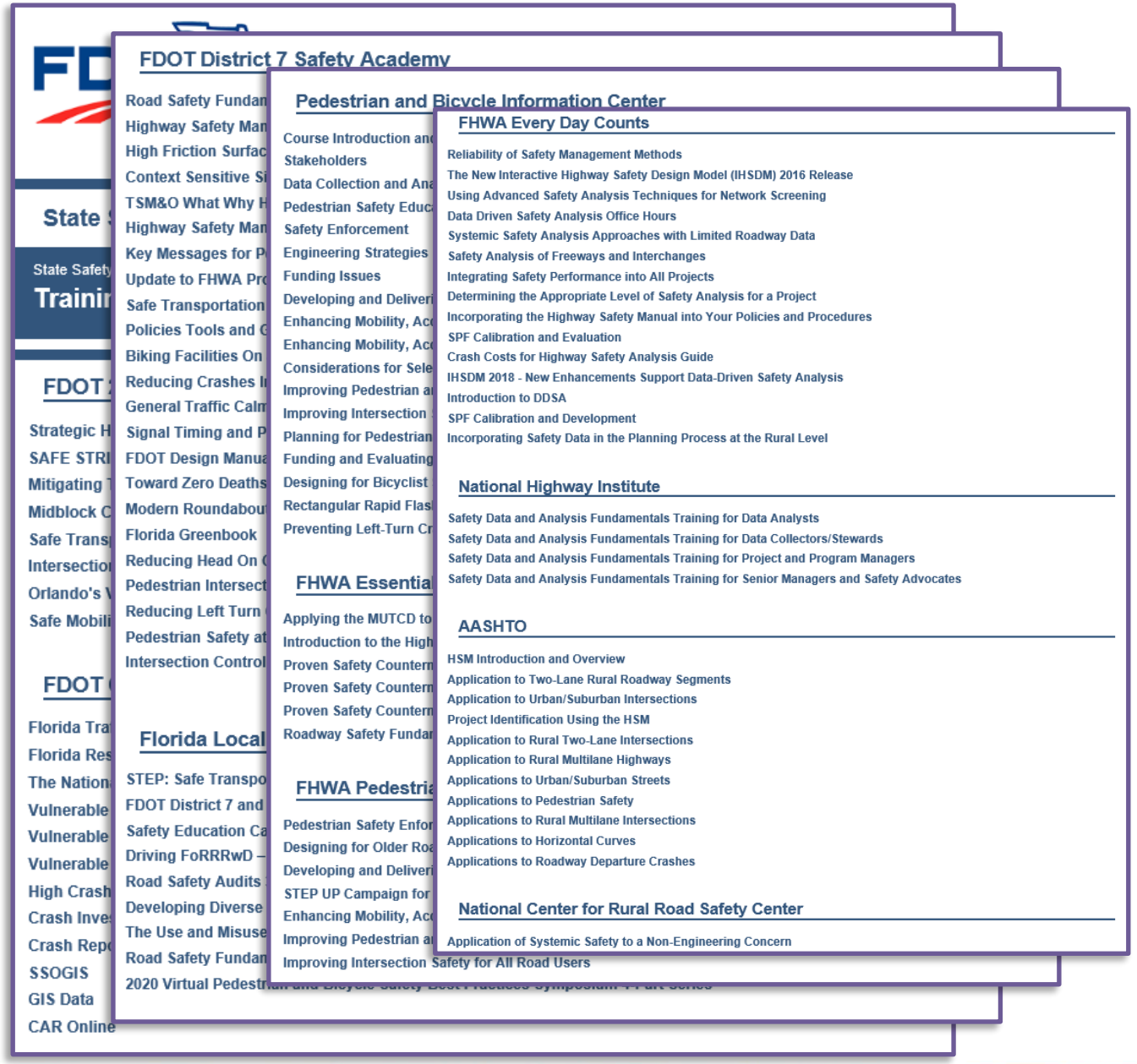

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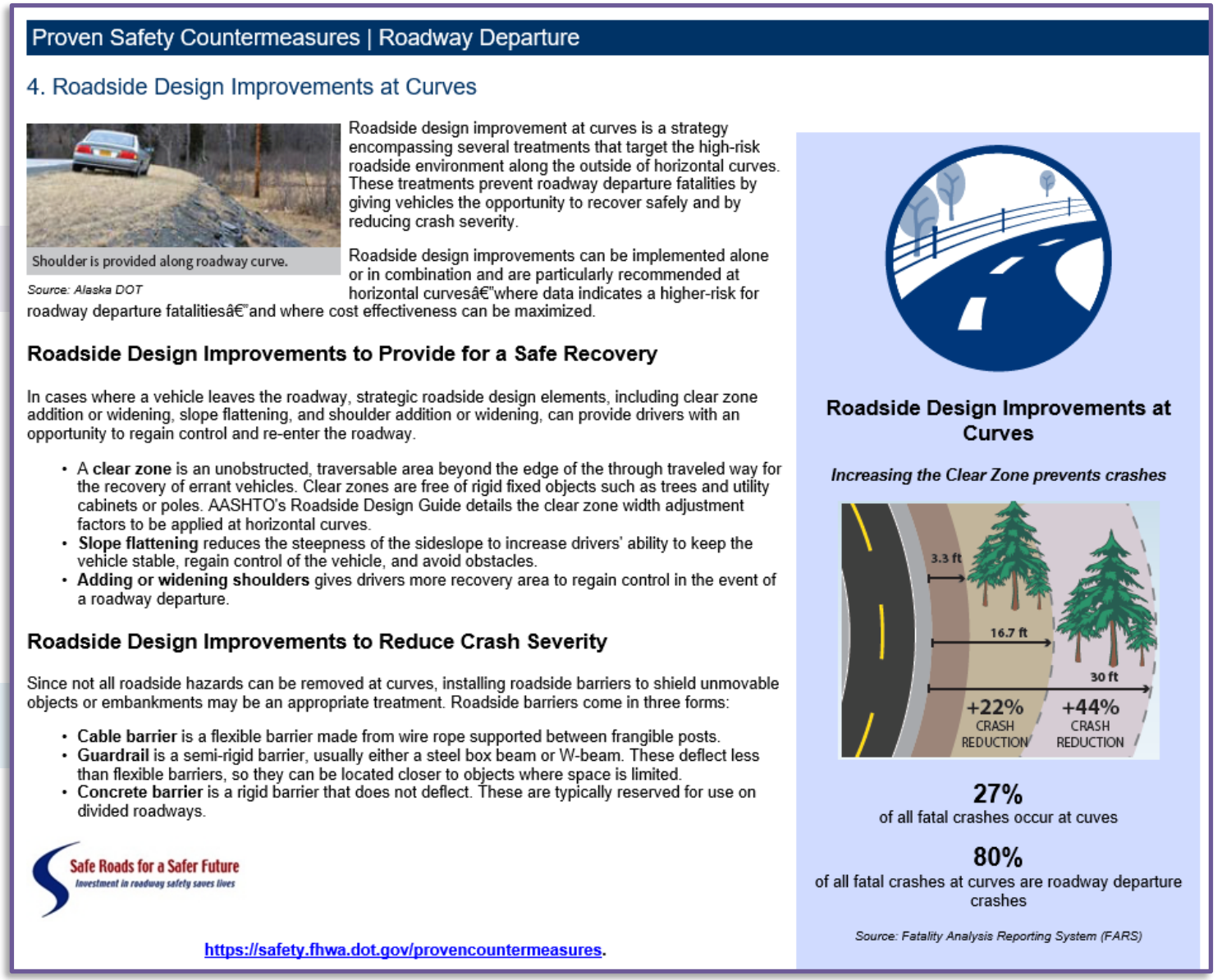

Proven Safety Countermeasures | Roadway Departure

4. Roadside Design Improvements at Curves

Shoulder is provided along roadway curve.

Source: Alaska DOT

Roadside design improvement at curves is a strategy encompassing several treatments that target the high-risk roadside environment along the outside of horizontal curves. These treatments prevent roadway departure fatalities by giving vehicles the opportunity to recover safely and by reducing crash severity.

Roadside design improvements can be implemented alone or in combination and are particularly recommended at horizontal curvesâ€"where data indicates a higher-risk for roadway departure fatalitiesâ€"and where cost effectiveness can be maximized.

Roadside Design Improvements to Provide for a Safe Recovery

In cases where a vehicle leaves the roadway, strategic roadside design elements, including clear zone addition or widening, slope flattening, and shoulder addition or widening, can provide drivers with an opportunity to regain control and re-enter the roadway.

- A **clear zone** is an unobstructed, traversable area beyond the edge of the through traveled way for the recovery of errant vehicles. Clear zones are free of rigid fixed objects such as trees and utility cabinets or poles. AASHTO's Roadside Design Guide details the clear zone width adjustment factors to be applied at horizontal curves.
- **Slope flattening** reduces the steepness of the sideslope to increase drivers' ability to keep the vehicle stable, regain control of the vehicle, and avoid obstacles.
- **Adding or widening shoulders** gives drivers more recovery area to regain control in the event of a roadway departure.

Roadside Design Improvements to Reduce Crash Severity

Since not all roadside hazards can be removed at curves, installing roadside barriers to shield unmovable objects or embankments may be an appropriate treatment. Roadside barriers come in three forms:

- **Cable barrier** is a flexible barrier made from wire rope supported between frangible posts.
- **Guardrail** is a semi-rigid barrier, usually either a steel box beam or W-beam. These deflect less than flexible barriers, so they can be located closer to objects where space is limited.
- **Concrete barrier** is a rigid barrier that does not deflect. These are typically reserved for use on divided roadways.

Safe Roads for a Safer Future
Investment in roadway safety saves lives

https://safety.fhwa.dot.gov/provencountermeasures.

Roadside Design Improvements at Curves

Increasing the Clear Zone prevents crashes

27%
of all fatal crashes occur at cuves

80%
of all fatal crashes at curves are roadway departure crashes

Source: Fatality Analysis Reporting System (FARS)

FLORIDA
STRATEGIC HIGHWAY SAFETY PLAN

TARGET ZERO
FATALITIES & SERIOUS INJURIES

Partnership to Achieve Florida's Safety Vision

Source: 2020 FDOT HSIP Implementation Plan

Thank You!

TARGET ZERO
FATALITIES & SERIOUS INJURIES

Improve Safety
VITAL FEW

Public Website and Resources:

https://www.fdot.gov/safety/safetyengineering/safetyengineering.shtm

Questions

Next Steps

Next Steps

- Post today’s recording on OPP website

- Post responses to all questions on OPP website

Contact Information

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Safety is Everyone's Responsibility