



# Safety Action Plan

Presentation to the Board of County Commissioners

September 2025

# Crashes on Palm Beach County Roads

Fatal and Serious Injury  
Crashes **Decreased** by

**21%**

For all modes  
combined

**Increased** by

**1%**

For people  
walking and  
biking

&

*On State and County-maintained  
roadways in Palm Beach County from  
January 2019 – December 2023...*

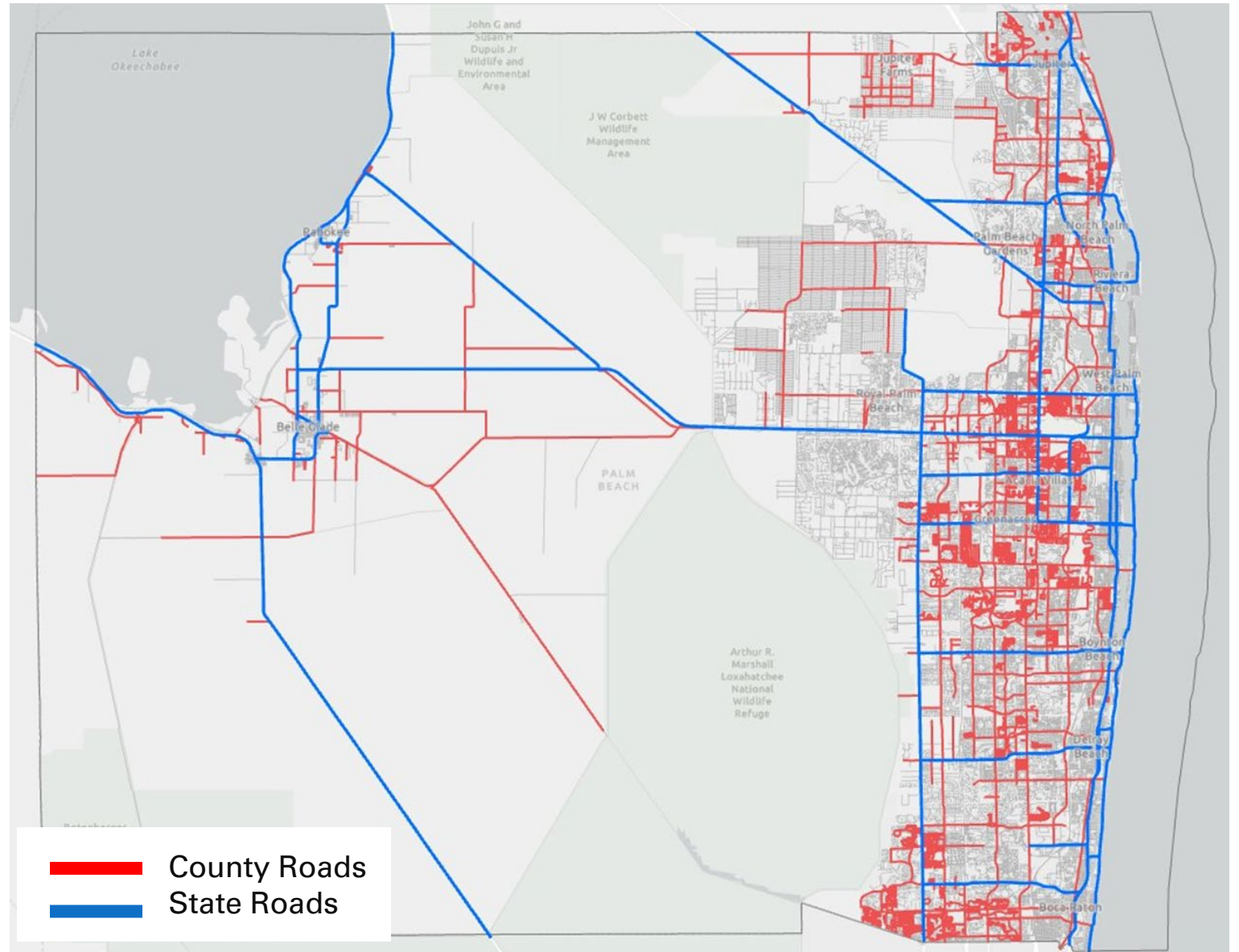
**~2**

People were  
killed or  
seriously injured

**Every Day**

# Study Network

All State and  
County-maintained  
Roadways



# Safety Action Plan Key Objectives

01

Identify High Injury Network (HIN) and Contributing Crash Factors

02

Recommend Countermeasures, Projects, and Policies to Address Safety Needs

03

Develop Safety Targets & Performance Measures

04

Engage and Educate the Community

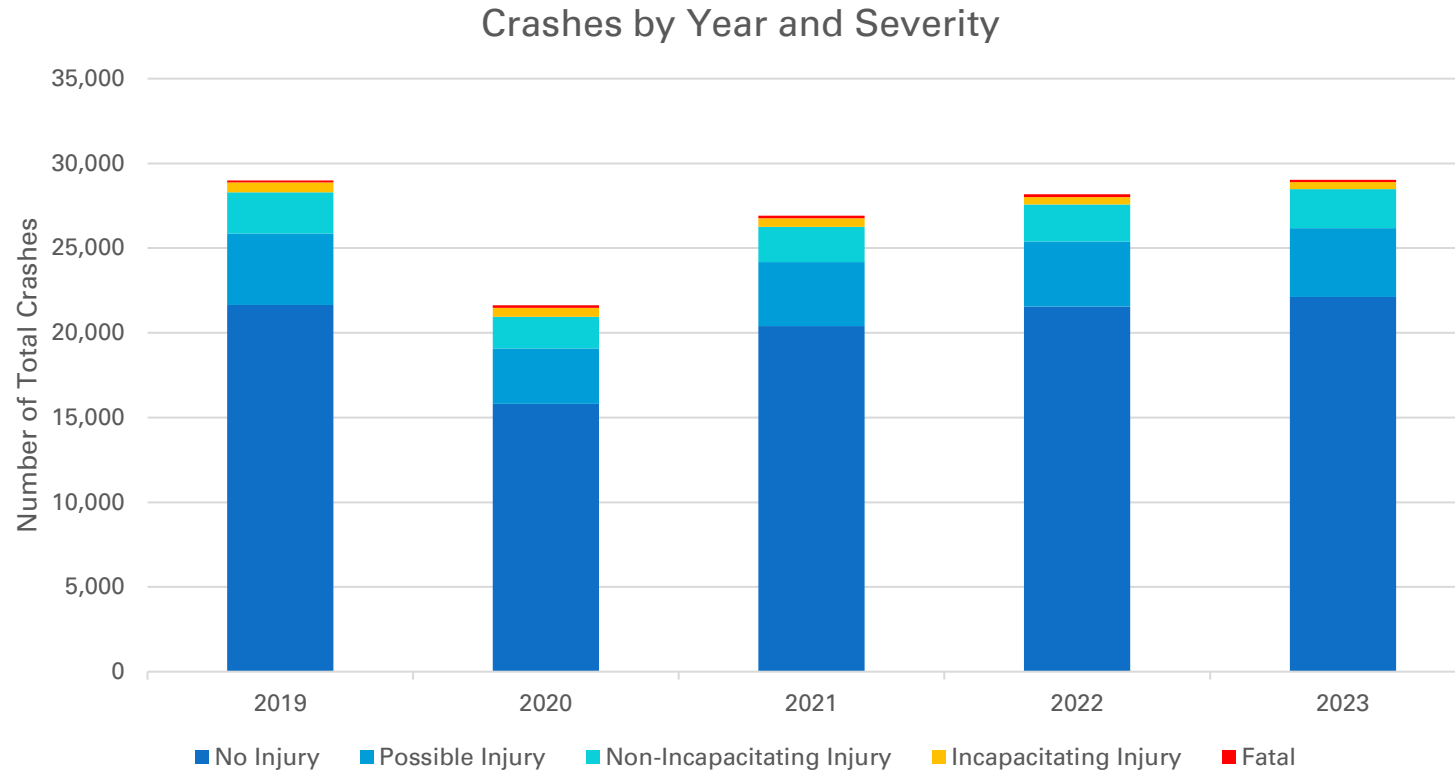
# Safety Action Plan Development Process



# All Crashes (2019- 2023)

On State & County Maintained Roads

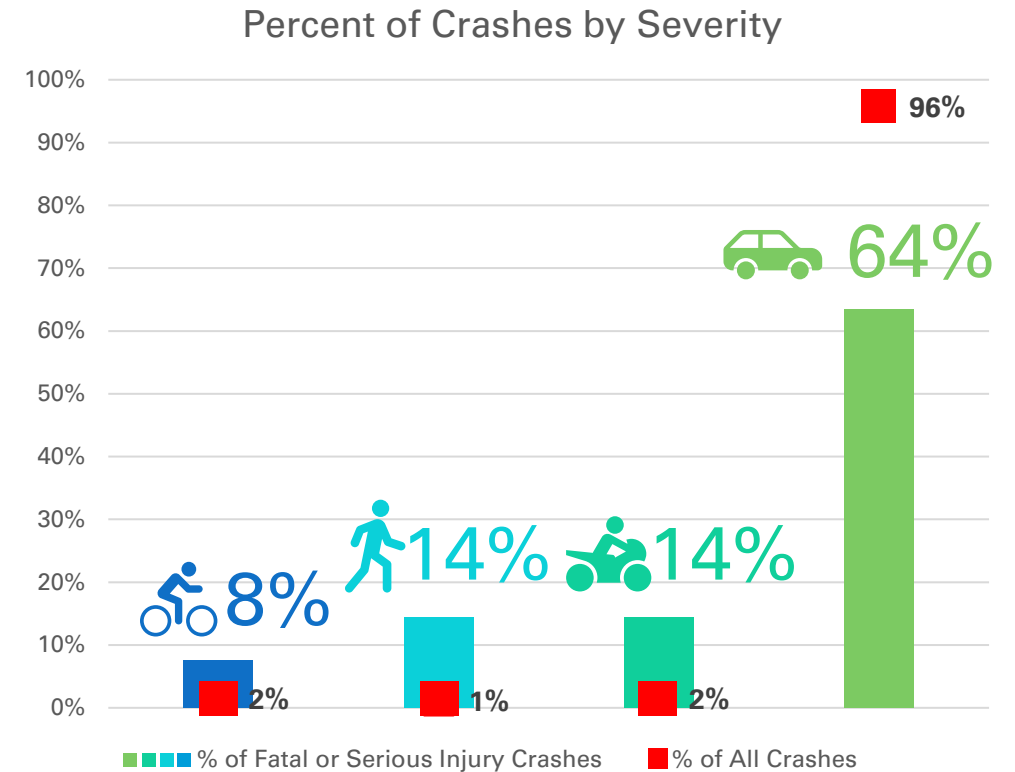
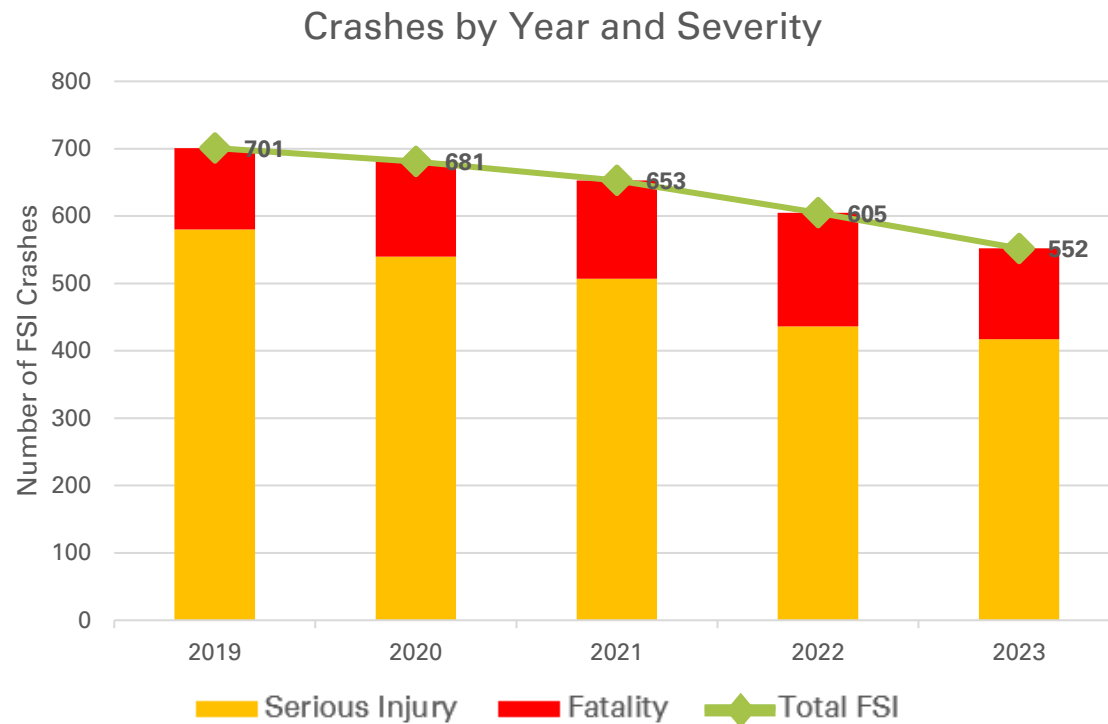
**134,735** Total Crashes



# Fatal & Serious Injury Crashes (2019- 2023)

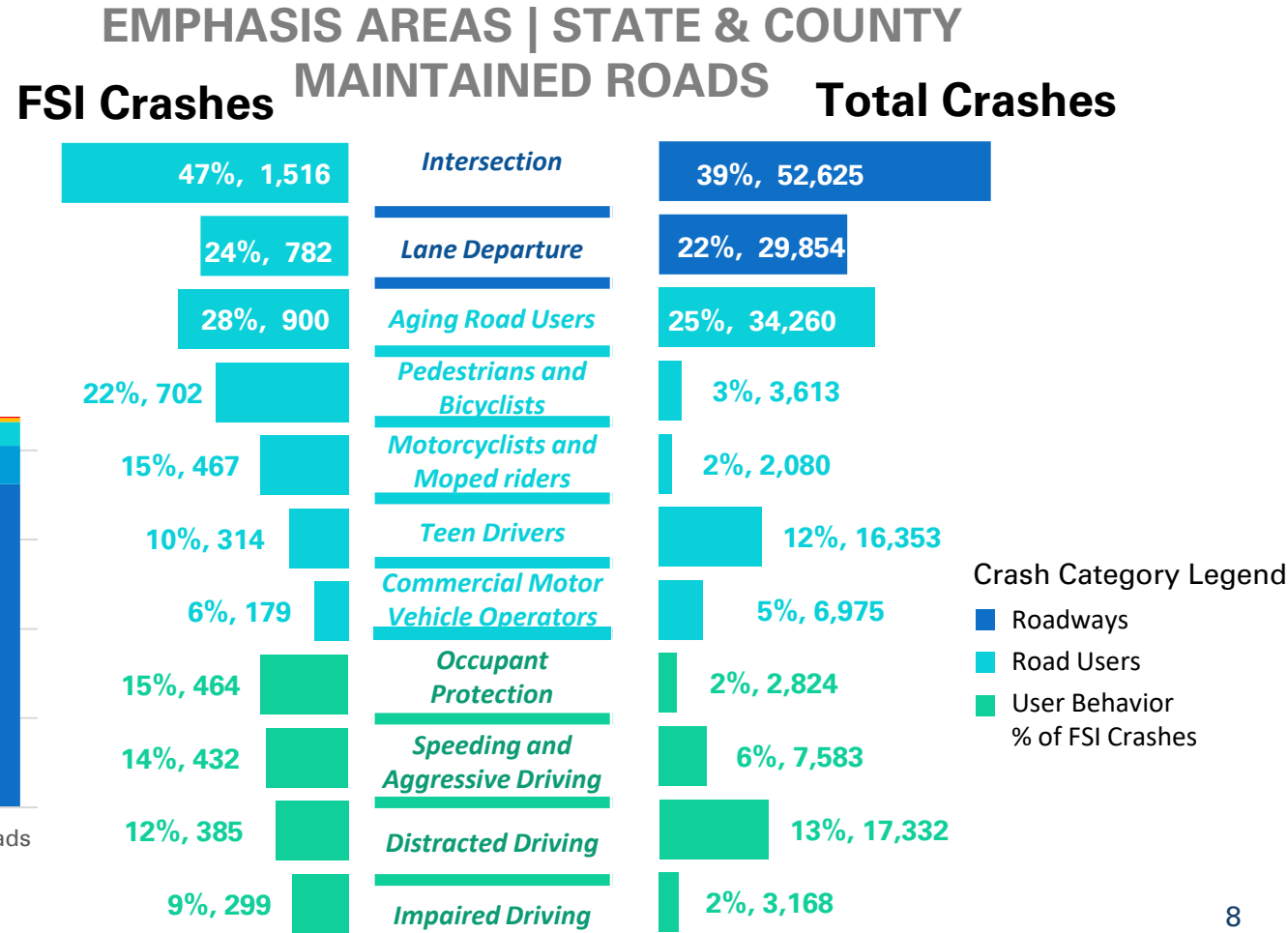
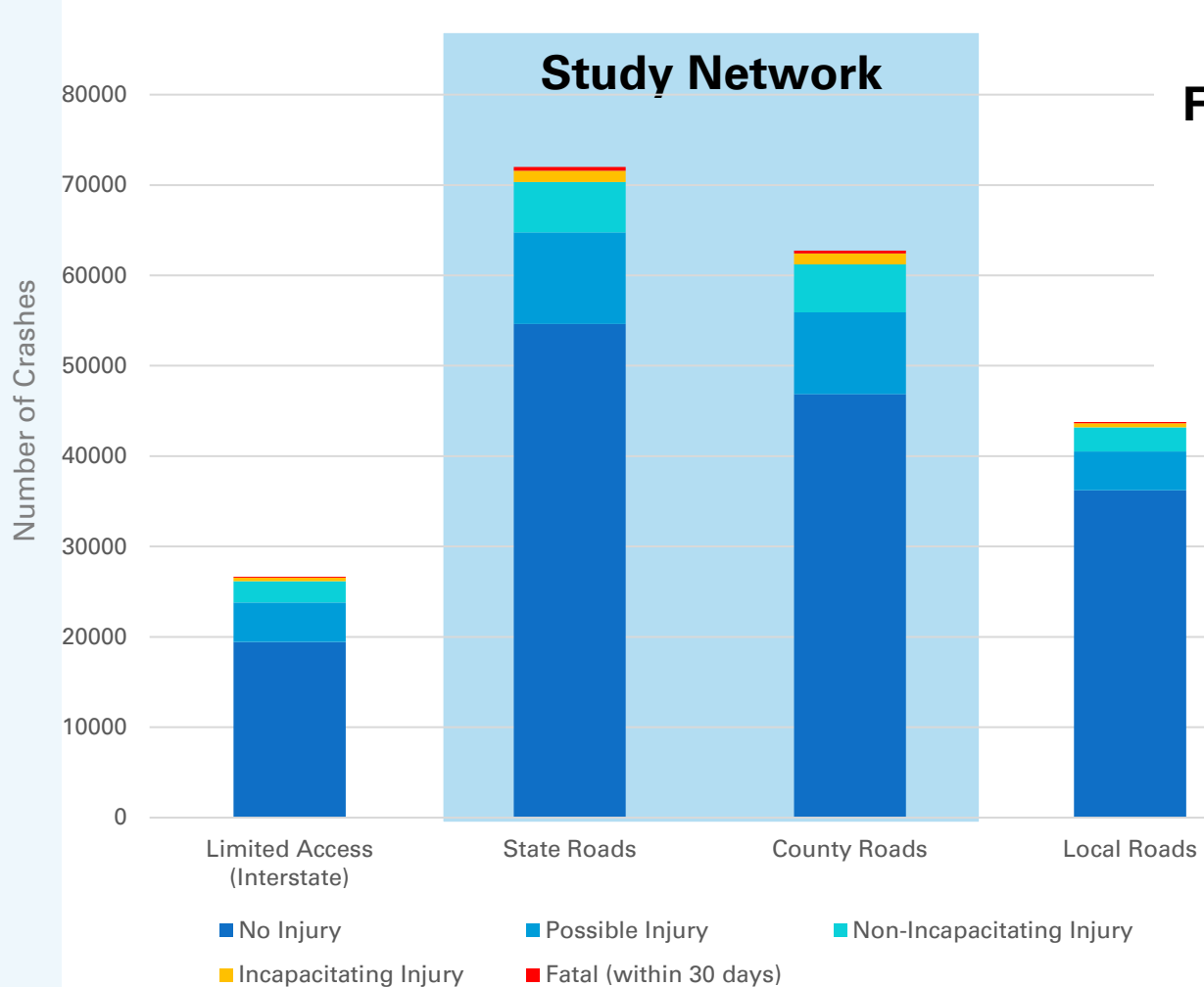
On State & County Maintained Roads

**134,735** Total Crashes | **2,480** Serious Injury Crashes & **712** Fatal Crashes



# All Crashes (2019- 2023)

**66% of all Crashes & 75% of all Fatal & Serious Injury Crashes occurred on State & County Roadways**



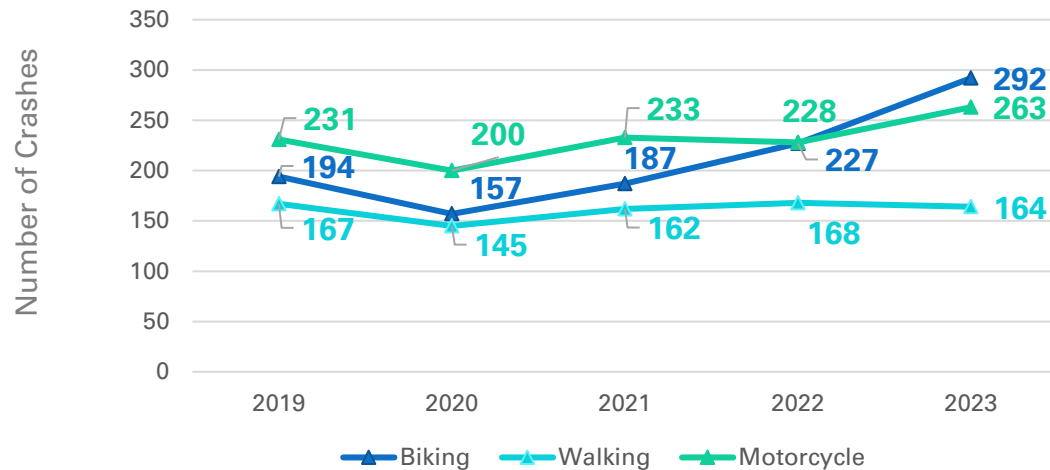


# All Crashes (2019- 2023)

On State & County-maintained Roadways

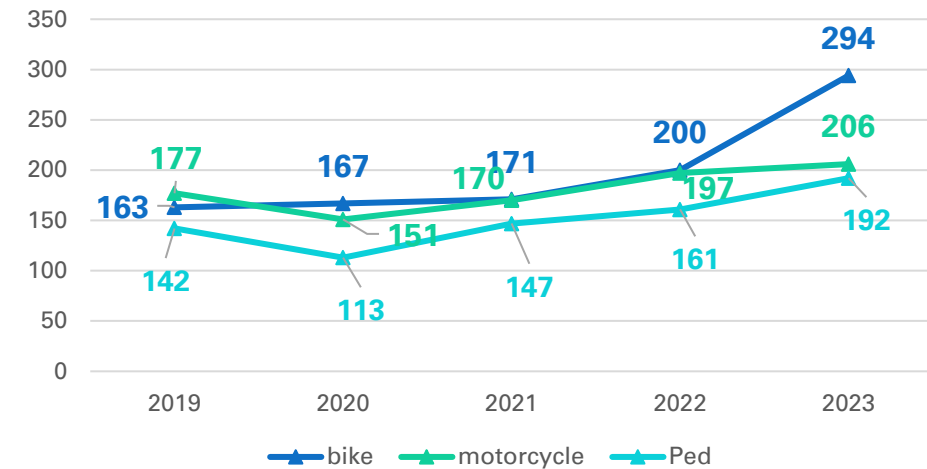
## State Roadways

Vulnerable Road Users



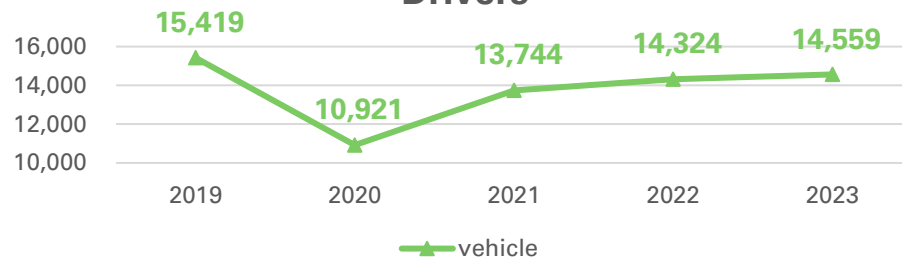
## County-maintained Roadways

Vulnerable Road Users

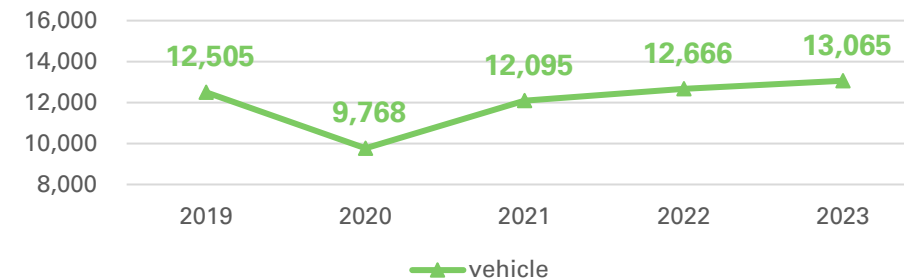


Number of Crashes

Drivers



Drivers



# Trends (2019- 2023) of Fatal and Serious Injury Crashes

## Driving



### Top Crash Types

- Left Turn
- Rear End



**4+**

Vehicle Lanes



**40+**

Posted Speed

### Top Contributing Actions

- Operated MV in Careless or Negligent Manner
- Failure to Yield Right-of-Way

## Motorcycle



### Top Crash Types

- Left Turn
- Other



**4+**

Vehicle Lanes



**45+**

Posted Speed

### Top Contributing Actions

- Operated MV in Careless or Negligent Manner
- Failure to Yield Right-of-Way

# Trends (2019- 2023) to Fatal and Serious Injury Crashes

## Walking



### Top Contributing Actions

- Failure to Yield Right-of-Way (Driver)
- Failure to Yield Right-of-Way (Pedestrian)



**4+**

Vehicle Lanes



**45+**

Posted Speed

## Biking



### Top Contributing Actions

- Failure to Yield Right-of-Way (Driver)
- Failure to Yield Right-of-Way (Bicyclist)



**4+**

Vehicle Lanes



**35 or 45+**

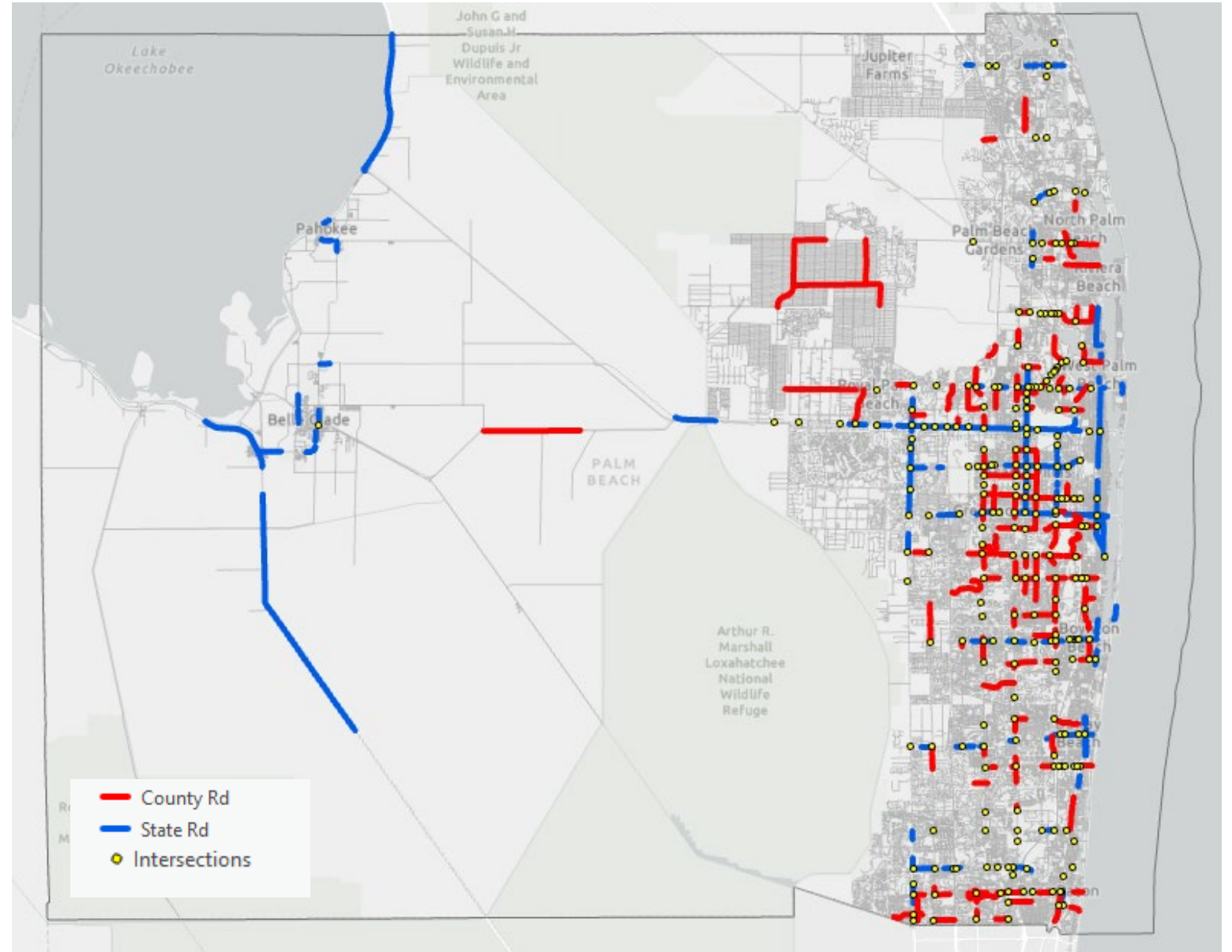
Posted Speed

# Vehicular HIN Results

HIN Represents

**1005** FSI\* Vehicular  
Crashes representing

**50%** of the FSI  
Vehicular Crashes on  
State Rd & County Rd



\*FSI = Fatal and Serious Injury Crashes

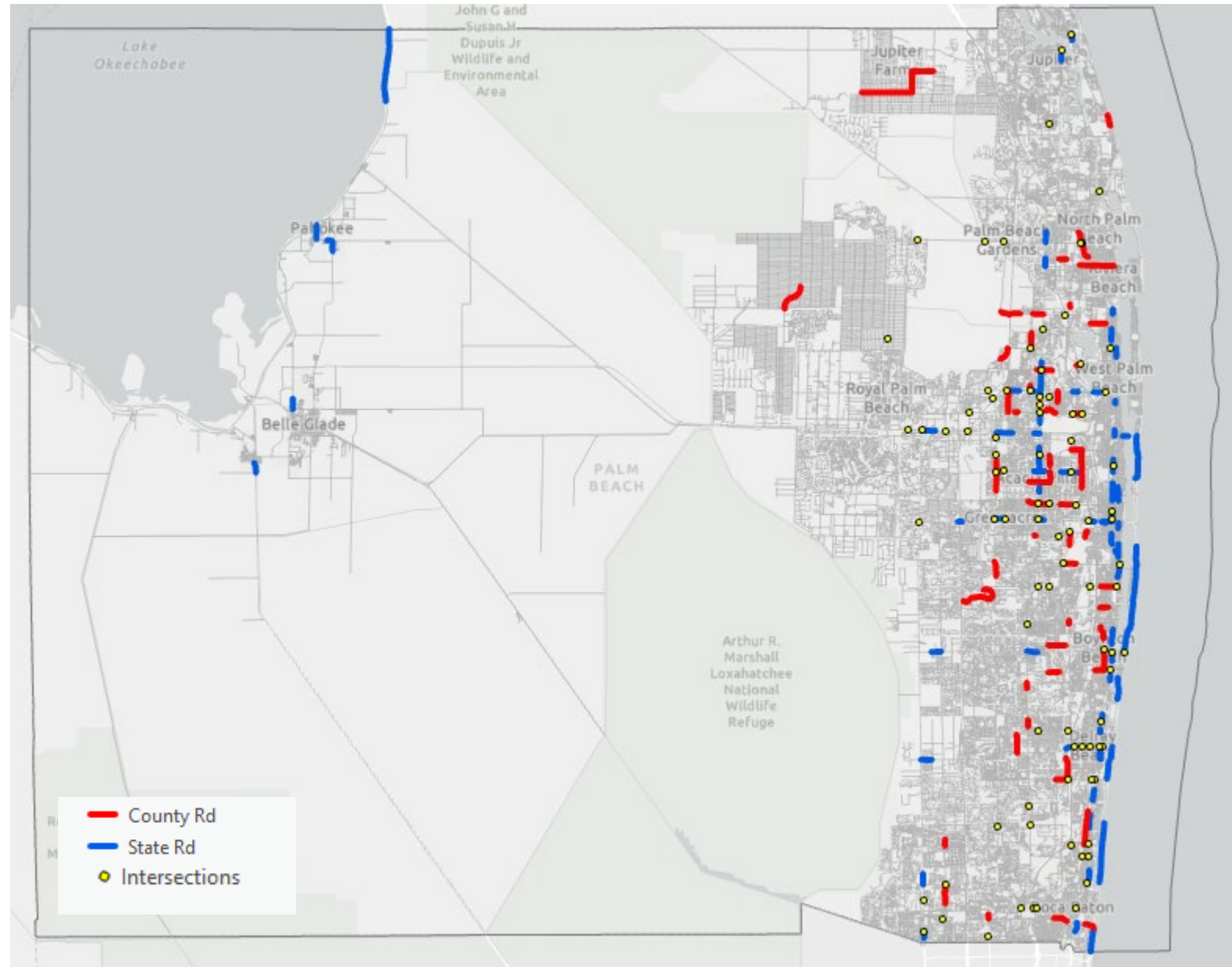
Signal Four Crash Data used from January 2019 – December 2023 <sup>12</sup>

# Motorcycle HIN Results

HIN Represents

**233** FSI\* Motorcycle  
Crashes

**50%** of the FSI  
Motorcycle Crashes on  
State Rd & County Rd



\*FSI = Fatal and Serious Injury Crashes

Signal Four Crash Data used from January 2019 – December 2023 13

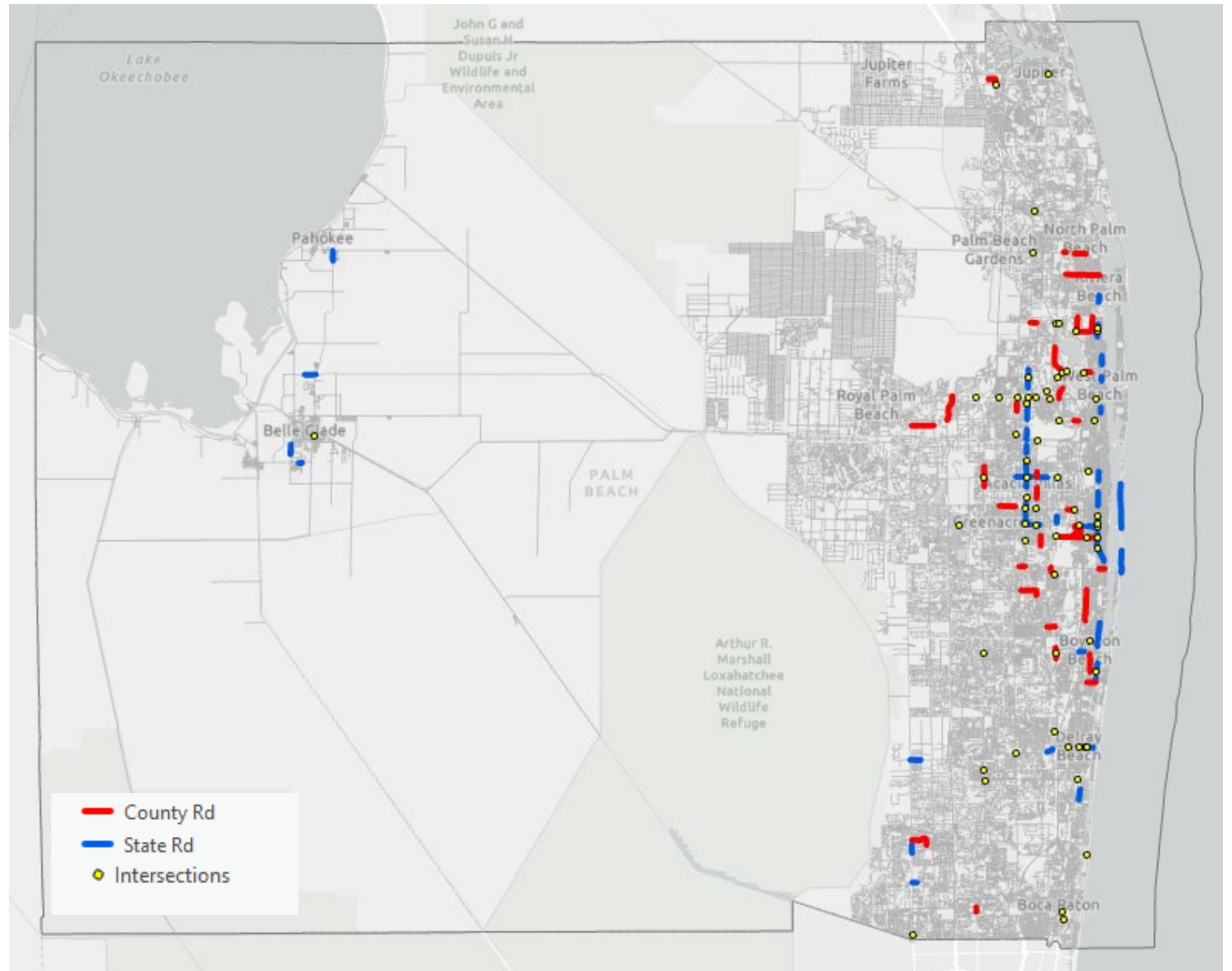


# Pedestrian HIN Results

HIN Represents

**229** FSI\* Pedestrian Crashes

**50%** of the FSI Pedestrian Crashes on State Rd & County Rd



\*FSI = Fatal and Serious Injury Crashes

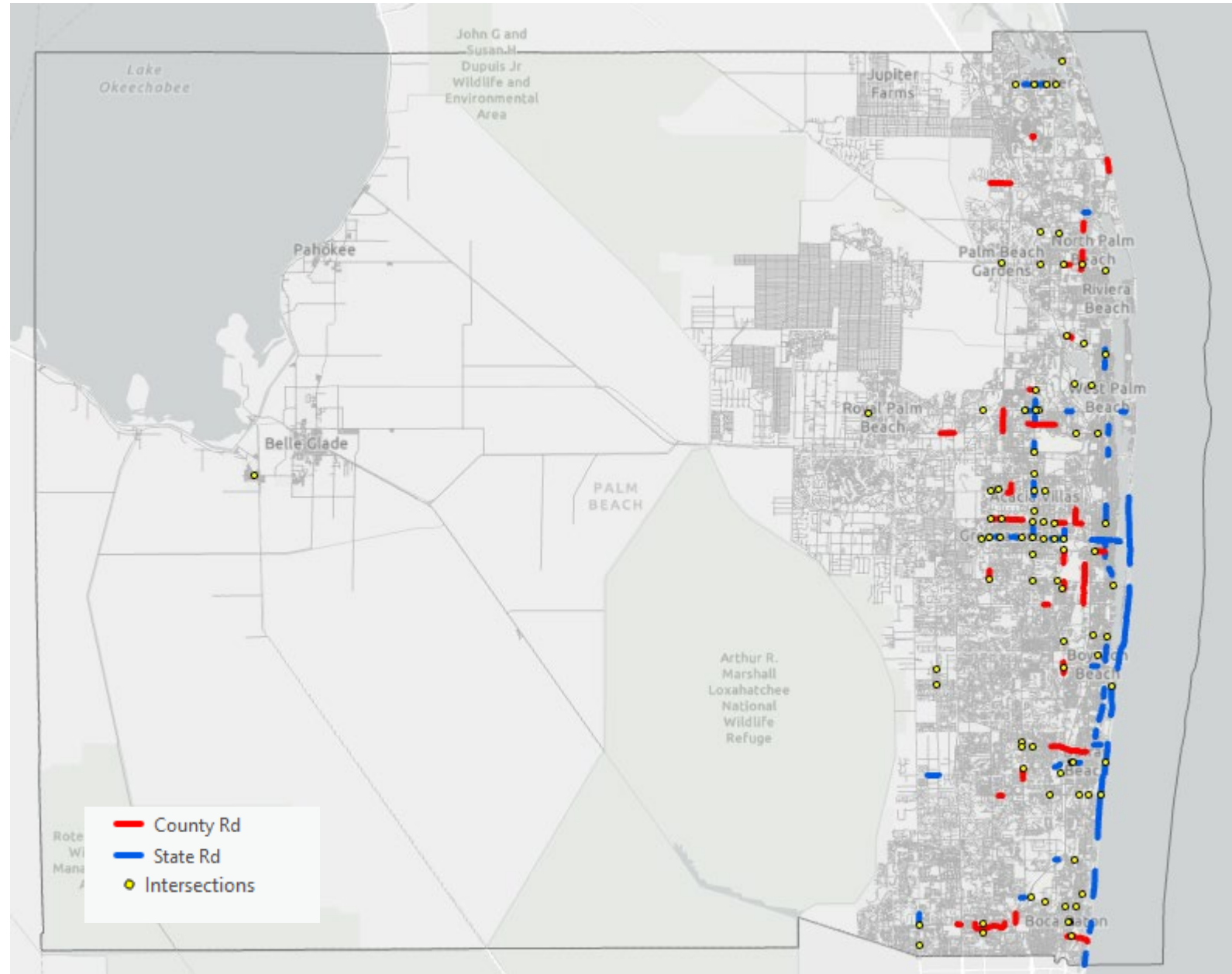
Signal Four Crash Data used from January 2019 – December 2023

# Bicycle HIN Results

HIN Represents

**132** FSI\* Bicycle  
Crashes

**50%** of the FSI Bicycle  
Crashes on State Rd  
& County Rd



\*FSI = Fatal and Serious Injury Crashes

*Signal Four Crash Data used from January 2019 – December 2023*

# Countermeasure/Recommendation Identification Methodology

## Safety Assessment

## Identify Countermeasure/Recommendation

## Prioritize Countermeasure/Recommendation

## Phasing Approach

HIN  
+  
Safety  
Assessment  
Results

Systemic  
Recommendations

Location  
Recommendations  
(Top 5 County and  
State Roadways)

Safety Benefits

Community Benefits

Crash Rates

Benefit to Cost  
Benefits

	Greatest Safety Benefit	Lowest Safety Benefit
Easiest to Implement	Tier 1	Tier 2
Hardest to Implement	Tier 3	Tier 4



# Top Corridor/Intersection Selection Process for Project Development

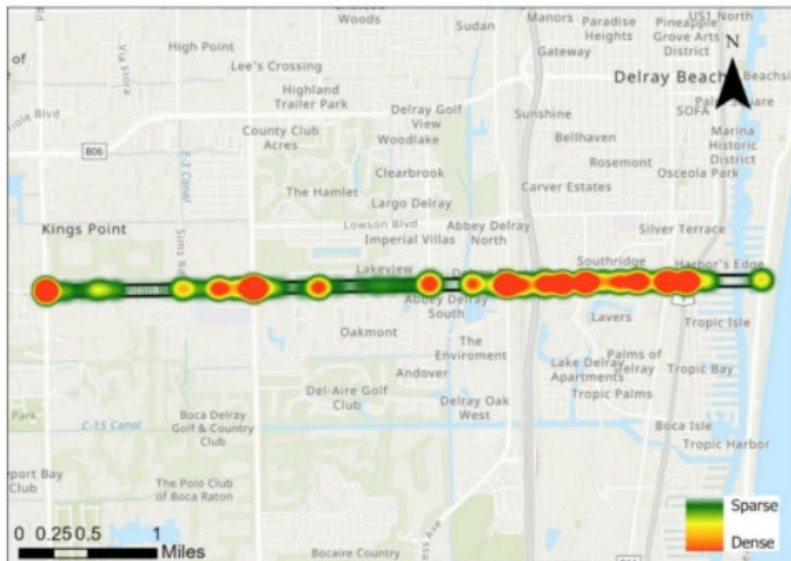
- ♦ Corridors must contain HIN segments and intersections
- ♦ Prioritized based on where fatalities and serious injuries are occurring
- ♦ Intent is to identify corridors that can provide quickest path to reduce the number of fatalities and serious injuries
  - ♦ i.e. fastest way to get to Vision Zero
- ♦ Top 5 Corridors will be identified for projects
  - ♦ Implementing 1 corridor project and 1 intersection project every year for the next 5 years will address roadways that account for 20% of all the fatal and serious injury crashes on county-maintained roadways.

## West Linton Boulevard



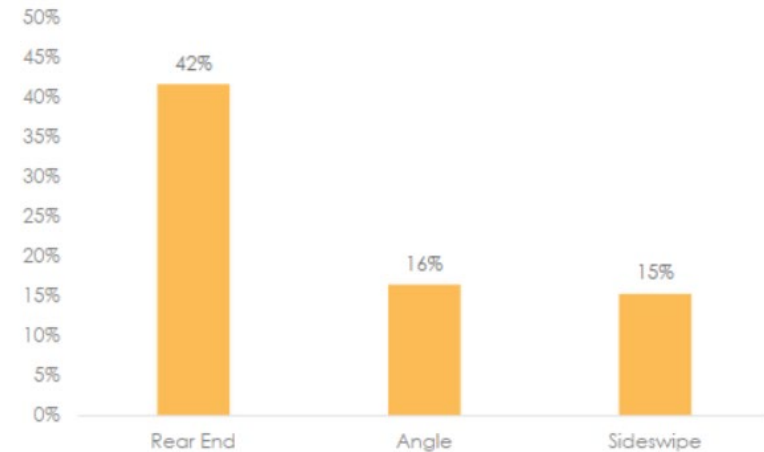
West Linton Boulevard, spanning from A1A to South Jog Road over a length of 5.2 miles, serves as an urban major arterial roadway. The roadway accommodates 4 to 6 lanes within a 120-foot right of way, with posted speed limits ranging from 40 to 45 MPH. It experiences an annual average daily traffic (AADT) between 14,400 and 45,000, as reported by FDOT in 2024. The roadway is a major east/west corridor for the county and also connects to I-95.

**West Linton Boulevard Crash Heat Map**



West Linton Boulevard experienced a total of 2,555 crashes over the study period. There was a total of 83 FSI, including 7 fatalities. Of the five priority corridors, West Linton Boulevard had the most FSI between 2019-2023. Of the 2,555 crashes, 81 were involving vulnerable road users. The most common crash types for all modes were 1) Rear End, 2) Angle, and 3) Sideswipe.

**Top 3 Crash Types (All Crashes)**



### Countermeasures Identified for Corridor

#### Intersections:

- Leading Pedestrian Intervals for bicyclist and pedestrian safety (CMF: 0.80).
- Update signal timing with protected left-turn phasing to reduce rear-end and angle crashes (CMF: 0.40).
- Backplates with retroreflective borders to increase signal visibility (CMF: 0.90).

#### Segments:

- Protected Bike Lanes to improve bicyclist safety (CMF: 0.50).
- Access management to reduce rear-end crashes and lateral conflicts (CMF: 0.80).

# South Military Trail



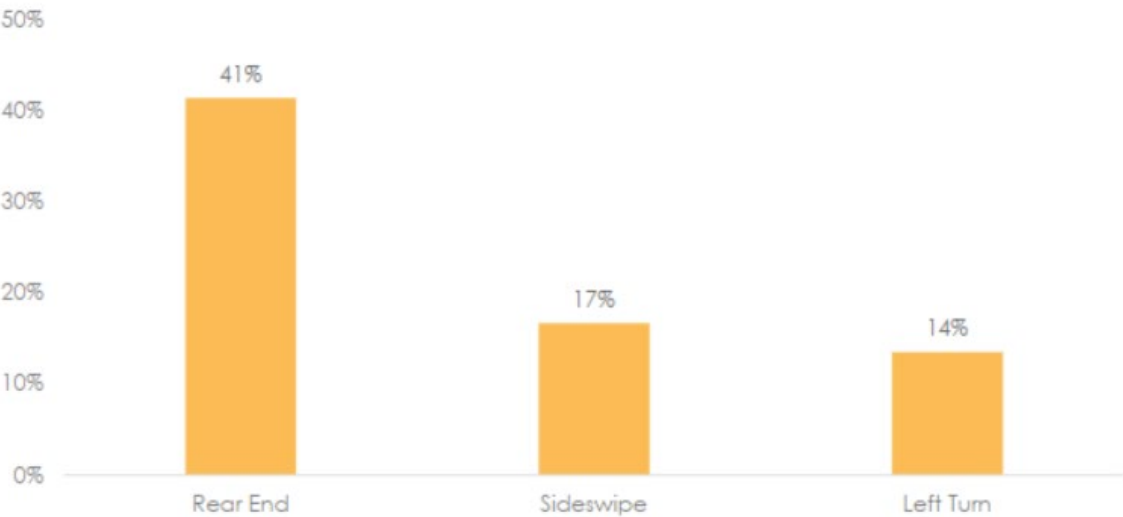
South Military Trail, spanning from Clint Moore Road to Woolbright Road over 7.2 miles, serves as an urban principal arterial roadway. The roadway features 6 lanes within a 120-foot right of way, with a posted speed limit of 45 MPH. According to FDOT in 2024, it experiences an annual average daily traffic (AADT) between 37,500 and 40,500.

South Military Trail Crash Heat Map



South Military Trail had a total of 2,302 crashes with 75 FSI, including 7 fatalities, over the 5-year study period of 2019-2023. 61 crashes of the 2,302 involved vulnerable road users, with the rest being vehicle crashes.

Top 3 Crash Types (All Crashes)



## Countermeasures Identified for Corridor

### Intersections:

- Leading Pedestrian Intervals for bicyclist safety (CMF: 0.80).
- Update signal timing with protected left-turn phasing to reduce rear-end crashes (CMF: 0.40).
- Backplates with retroreflective borders to increase signal visibility (CMF: 0.90).

### Segments:

- Protected Bike Lanes to improve bicyclist safety (CMF: 0.50).
- Access management to reduce rear-end crashes (CMF: 0.80).

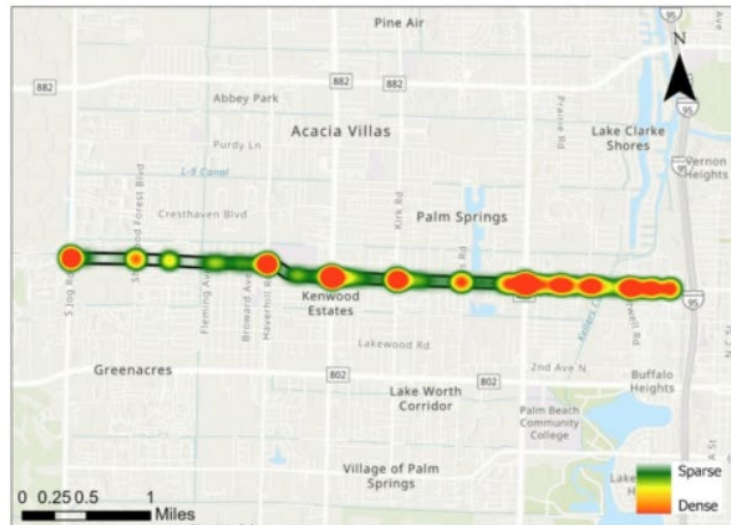


## 10<sup>th</sup> Avenue North



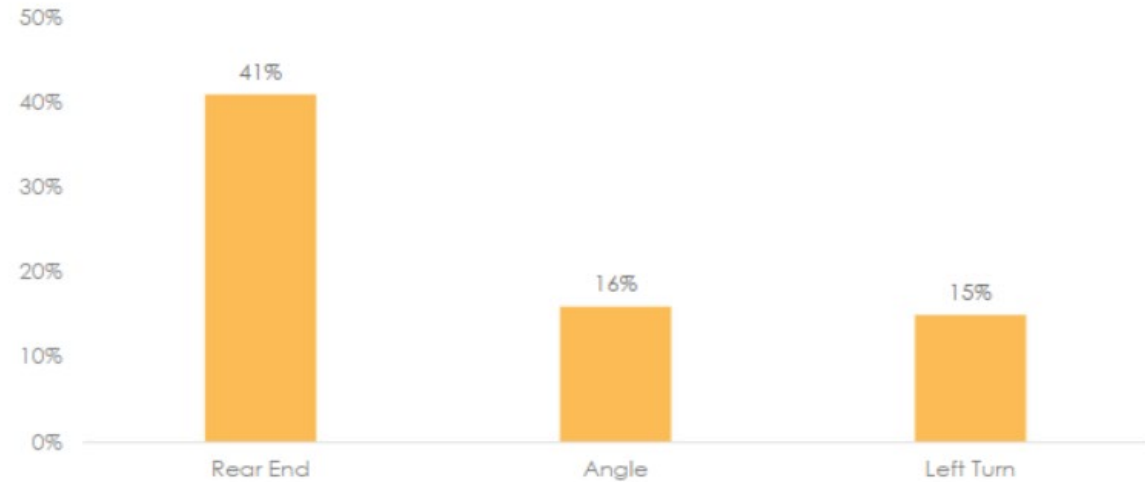
10<sup>th</sup> Avenue North, extending from Barnett Drive to South Jog Road over a length of 4.7 miles, functions as an urban major arterial roadway. This roadway consists of 4 to 5 lanes within an 80 to 120-foot right of way, with a posted speed limit of 40 MPH. According to FDOT in 2024, the annual average daily traffic (AADT) for this stretch ranges from 12,400 to 34,000. This portion of 10<sup>th</sup> Avenue North passes through 3 school zones and features a connection to I-95.

10<sup>th</sup> Avenue North Crash Heat Map



10<sup>th</sup> Avenue North experienced a total of 2,922 crashes with 67 FSI, including 18 fatalities. 10<sup>th</sup> Avenue North was the shortest corridor in length, but it experienced the most fatalities of the top 5. Of the full 2,922 crashes, 130 were vulnerable road users.

Top 3 Crash Types (All Crashes)



### Countermeasures Identified for Corridor

#### Intersections:

- High Visibility Crosswalk for bicyclist safety (CMF: 0.70).
- Leading Pedestrian Interval for pedestrian safety (CMF: 0.80).
- Update signal timing with protected left-turn phasing to reduce rear-end crashes (CMF: 0.40).
- Backplates with retroreflective borders to increase signal visibility for left-turn crashes (CMF: 0.90).

#### Segments:

- Speed Safety Cameras (School Zones) to reduce speeding and potential crash severity (CMF: 0.90).
- Access Management to reduce rear-end crashes (CMF: 0.80).

## 6<sup>th</sup> Avenue/ Melaleuca Lane



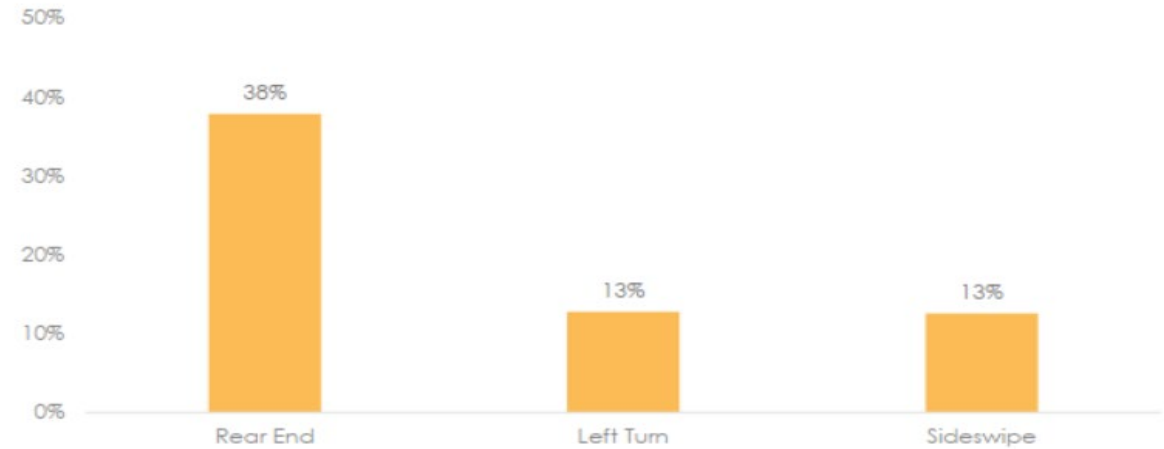
6<sup>th</sup> Ave/Melaleuca Lane, spanning from US 1 to Pine Hov Circle over 4.8 miles, serves as an urban major arterial roadway. The road features 4 to 5 lanes within an 80 to 110-foot right of way, with posted speed limits ranging from 35 to 45 MPH. According to FDOT in 2024, the annual average daily traffic (AADT) for this section is between 12,400 and 34,000. The road features a connection to I-95 and serves as a major route for east/west travel for the County.

**6<sup>th</sup> Avenue/Melaleuca Lane Crash Heat Map**



6<sup>th</sup> Ave/Melaleuca Lane experienced a total of 2,066 crashes over the study period, with 62 FSLs and 12 fatalities. Of the 2,066 crashes, 113 were vulnerable road users.

**Top 3 Crash Types (All Crashes)**



### Countermeasures Identified for Corridor

#### Intersections:

- High Visibility Crosswalk for pedestrian safety (CMF: 0.70).
- Leading Pedestrian Interval for bicycle safety (CMF: 0.80).
- Backplates with retroreflective borders to increase signal visibility for rear-end crashes (CMF: 0.90).
- Update signal timing with protected left-turn phasing to reduce angle crashes (CMF: 0.40).

#### Segments:

- Protected Bike lanes to improve cyclist safety (CMF: 0.50).
- Access management to reduce rear-end crashes (CMF: 0.80).
- RCUT to reduce left turn and angle crashes (CMF: 0.50).



# South Jog Road



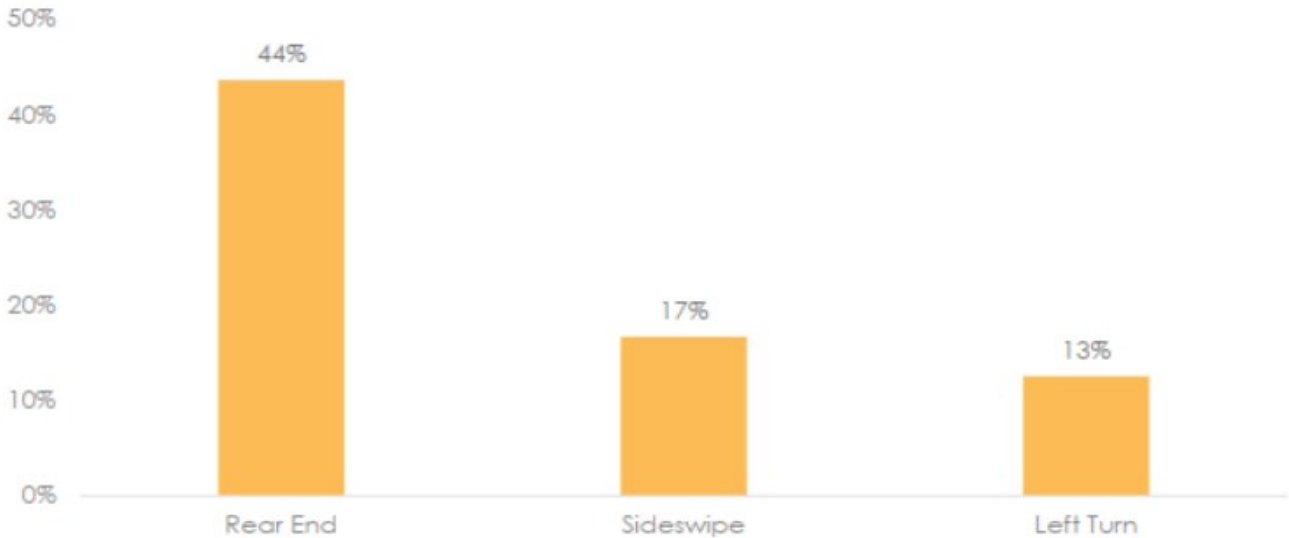
South Jog Road, extending from Winston Trails Boulevard to Summit Boulevard over a distance of 5.7 miles, serves as an urban principal arterial roadway. The road features 6 lanes within a 120-foot right of way, with a posted speed limit of 45 MPH. According to FDOT in 2024, the annual average daily traffic (AADT) for this segment ranges from 39,000 to 55,000. This corridor experiences the highest average AADT for all of the priority corridors.

South Jog Road Crash Heat Map



South Jog Road experienced a total of 3,133 crashes over the study period, with 60 FSIs and 10 fatalities. Of the 3,133 crashes, 124 were vulnerable road users.

Top 3 Crash Types (All Crashes)



Countermeasures Identified for Corridor

Intersections:

- High Visibility Crosswalk for bicycle safety (CMF: 0.70).
- Leading Pedestrian Interval for pedestrian safety (CMF: 0.80).
- Backplates with retroreflective borders to increase signal visibility for rear-end crashes (CMF: 0.90).
- Update signal timing with protected left-turn phasing to reduce sideswipe crashes (CMF: 0.40).

Segments:




- HAWK Beacon + High Visibility Crosswalk for pedestrian safety (CMF: 0.60).
- Access Management to reduce rear-end crashes (CMF: 0.80).


# Motorcycle Systemic Safety Recommendations

## Motorcycle Segments Systemic Countermeasures

**Crashes:** 313 FSI crashes  
**Leading Crash Type 1:** Fixed Object/Run-off-the-road (31%)  
**Contributing Causes:** Operated in careless manner

### Systemic Countermeasures for Motorcycle Segment Crashes


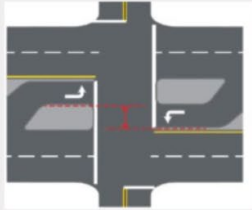

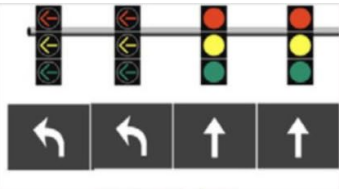

Recommendation	Image	Cost	CMF
Roadway maintenance (e.g. remove debris and repair potholes)		N/A	N/A
Speeding enforcement		N/A	N/A
Safety awareness campaigns (e.g., wear helmets)		N/A	N/A

Recommendation	Image	Cost	CMF
Improve sight distance at left turn lanes		\$2,100 (remove/relocate a tree, source: FDOT)	N/A

## Motorcycle Signalized Intersection Systemic Countermeasures

**Crashes:** 146 FSI crashes  
**Leading Crash Type 1:** Left Turn (30%)  
**Contributing Causes:** Failed to yield ROW, Ran red right

### Systemic Countermeasures for Motorcycle Signalized Intersection Crashes

Recommendation	Image	Cost	CMF
Confirm motorcycle detection by signal		N/A	N/A
Provide positive offset of turn lanes or improve sight lines		N/A	CMF range 0.74 – 0.8
Safety awareness campaigns (e.g., defensive driving techniques, wear bright gear)		N/A	N/A
Provide one signal head per lane		\$2,000 per signal head (FDOT)	0.54
Speeding enforcement		N/A	N/A





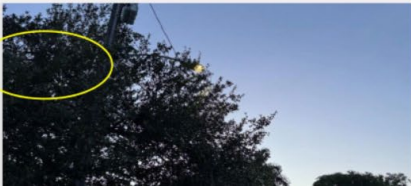


# Pedestrian Systemic Safety Recommendations

## Pedestrian Segment Systemic Countermeasures

**Crashes:** 281 FSI crashes  
**Vehicle Movement Type 1:** Straight (84%)  
**Contributing Causes:** Failed to yield ROW, Dart/dash



Systemic Countermeasures for Pedestrian Segment Crashes

Recommendation	Image		Cost	CMF
Install Pedestrian (W11-2) warning signs			\$550 per sign (FDOT)	N/A
Safety awareness campaigns (e.g., encourage pedestrians to wear bright clothing during nighttime)			N/A	N/A
Relocate bus stops closer to intersections / crosswalks			N/A	N/A
Install speed feedback signs to slowdown motorists			\$5,000-8,000 (web search, various sources)	CMF range 0.78 – 0.95
Improve lighting/remove obstructions to lighting such as trimming overgrown trees			N/A	N/A

## Pedestrian Segment Systemic Countermeasures

**Crashes:** 281 FSI crashes  
**Vehicle Movement Type 3:** Turning right (1%)  
**Contributing Causes:** No improper action



Systemic Countermeasures for Pedestrian Segment Crashes

Recommendation	Image		Cost	CMF
Remove sight line obstructions at right turn lanes			\$2,100 (remove/relocate a tree, source: FDOT)	N/A
Install special emphases crosswalk markings at driveways/minor roads			\$23.75 per LF (FDOT)	CMF range 0.6 – 0.81

## Pedestrian Signalized Intersection Systemic Countermeasures

**Crashes:** 177 FSI crashes  
**Vehicle Movement Type 1:** Straight (73%)  
**Contributing Causes:** Dart/dash, Failed to yield ROW

Systemic Countermeasures for Pedestrian Signalized Intersection Crashes

Recommendation	Image		Cost	CMF
Install special emphasis crosswalk markings			\$23.75 per LF/ \$7,410 per intersection (FDOT)	CMF range 0.6 – 0.81
Review pedestrian clearance interval			N/A	N/A



Pedestrian Signalized Intersection Systemic Countermeasures

Crashes: 177 FSI crashes  
Vehicle Movement Type 2: Turning left (7%)  
Contributing Causes: No improper action

Systemic Countermeasures for Pedestrian Signalized Intersection Crashes

Recommendation	Image	Cost	CMF
Install Turning Vehicles Stop for Pedestrian (R10-15a) signs		\$550 per sign (FDOT)	N/A
Install hardened centerline		N/A	N/A
Implement flashing yellow arrow (FYA) with left-turn omit for pedestrians		\$2,400 per signal head (FDOT)	CMF range 0.598 – 0.85
Tighten curb radius		\$15,000 – \$40,000 per corner (source: PEDSAFE)	N/A
Implement leading pedestrian interval (LPI)		\$2,500 per signal (FDOT)	CMF range 0.49 – 1.05
Remove sight line obstructions for turning vehicles		\$2,100 (to remove/relocate a tree, source: FDOT)	N/A

Recommendation	Image	Cost	CMF
Install countdown pedestrian signals		\$1,350 per unit	CMF range 0.51 – 1.13
Reduce delays by prioritizing pedestrian signal actuations		NA	N/A
Install audible push buttons		\$2,550 per unit (FDOT)	N/A
Install passive detection of pedestrians		\$11,700 unit (FDOT)	N/A
Improve intersection lighting		\$10,600 per light (35 feet mounting height, source: FDOT)	CMF range 0.79 – 0.88

# Bicycle Systemic Safety Recommendations








## Bicycle Segment Systemic Countermeasures

**Crashes:** 155 FSI crashes

**Bicycle Facility Type 1:** No bicycle lanes (54%)

**Vehicle Movement Types:** Straight, Turning Right

### Systemic Countermeasures for Bicycle Segment Crashes

Recommendation	Image	Cost	CMF
Add sharrow pavement markings with optional black background		\$165-\$250 each (web search, various sources)	N/A
Install BICYCLES ALLOWED USE OF FULL LANE (R9-20) sign		\$550 per sign (FDOT)	N/A
Install W11-15 Pedestrian/Bicycle warning sign with LOOK plaque facing driveways to notify drivers to expect cyclists on sidewalk		\$600 per sign (FDOT)	N/A
Add green markings at conflict areas		\$8.70 per square foot (FDOT)	N/A
Install BIKE LANE (R3-17) signs		\$550 per sign (FDOT)	N/A
Install BEGIN RIGHT TURN LANE YIELD TO BIKES (R4-4) signs		\$550 per sign (FDOT)	N/A
Add buffer between travel lane and bicycle lane		N/A	CMF range 0.34 – 1.69

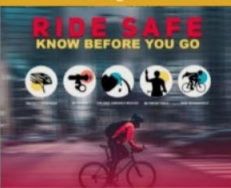






## Bicycle Signalized Intersection Systemic Countermeasures

**Crashes:** 100 FSI crashes

**Vehicle Movement Type 1:** Straight (61%)

**Contributing Causes:** Failed to obey signal, Failed to yield ROW

### Systemic Countermeasures Bicycle Signalized Intersection Crashes

Recommendation	Image	Cost	CMF
Safety awareness campaigns (e.g., stop crossing during red signal, use pedestrian signal)		N/A	N/A
Extend bicycle lane markings through intersection		N/A	N/A
Add bicycle signals and/or detection		N/A	N/A
Add green markings at key-hole lane		N/A	N/A
Add bike boxes		N/A	N/A
Install Turning Vehicles Stop for Pedestrian / Bicycle (R10-15) signs		\$550 per sign (FDOT)	N/A
Remove sight line obstructions for turning vehicles		\$2,100 (to relocate a tree, source: FDOT)	N/A