

**MARTIN COUNTY**  
**CRASH SURVEILLANCE REPORT**

FROM

**JULY 1, 2018**

TO

**JUNE 30, 2020**

**IDENTIFICATION AND ANALYSIS OF HIGH HAZARD INTERSECTIONS  
INVOLVING FATALITIES, PEDESTRIANS, AND BICYCLISTS**

**MAY 4, 2021**



This document may be reproduced upon request in an alternative format by contacting the County ADA Coordinator (772) 320-3131, the County Administration Office (772) 288-5400, Florida Relay 711, or by completing our accessibility feedback form at [www.martin.fl.us/accessibility-feedback](http://www.martin.fl.us/accessibility-feedback)

## Table of Contents

Executive Summary .....	3
Introduction.....	4
Background and Purpose.....	4
Data Source .....	4
Crash Analyses.....	5
Crash Locations by Severity Map.....	7
Initial Review .....	8
Intersection Refinement.....	8
Intersection Severity Analysis Locations Map .....	10
1 - SE Cove Road & SE 44 <sup>th</sup> Avenue.....	11
2 - SE Cove Road & SE Cable Drive .....	12
3 – SR-5 (US-1 / SE Federal Highway) & SE Heritage Boulevard.....	13
4 – SR-5 (US-1 / SE Federal Highway) & SE Fischer Street.....	14
5 - SR-76 (SW Kanner Highway) & SE Cove Road .....	15
Review of Previous High Hazard Intersections.....	16
Highway-Rail Crossings.....	16
Non-motorized .....	16
Non-Motorized Analysis Locations Map.....	18
1 – NE Indian River Drive & Indian Riverside Park Entrance .....	20
2 – SE Federal Highway (US-1) & SE Cove Road .....	21
3 - SE Federal Highway (US-1) & SE Lillian Court.....	22
4 - SE Federal Highway (US-1) & SE Indian Street .....	23
5 - NW Federal Highway (US-1) & NW Mall Entry Road.....	24
Review of Previous Non-Motorized.....	25
Fatalities .....	25
Fatal Crash Locations Map.....	26
Conclusion .....	27

## Executive Summary

The Martin County Comprehensive Growth Management Plan requires the Public Works Department to prepare a crash surveillance report every other year that identifies, analyzes, and provides recommendations for reducing high-hazard intersections and fatal crashes as well as crashes involving pedestrians and bicyclists. The intended outcome of the report is to provide a planning tool to assist in establishing priorities and recommendations intended to advance improvements to the transportation network that can be funded through the five-year Capital Improvement Plan or the Florida Department of Transportation’s (FDOT) Five Year Work Program. To focus on the County transportation network, all crashes occurring in parking lots were removed from the analysis. Crashes occurring on Florida’s Turnpike, Interstate 95 are included in the statistics, but will not be reviewed as a part of this analysis.

During the period of this study from July 1, 2018 until June 30, 2020, there were a total of 8,113 reported crashes in Martin County involving 20,584 motorists and passengers, 115 bicyclists, and 69 pedestrians. The crashes resulted in: 52 fatalities (in 49 crashes); 3,051 personal injuries (in 2,064 crashes); and 6,000 crashes with property damage only. The total cost of the property damages was estimated at \$44M. Table 1 provides a breakdown of the data by year and includes the crashes where alcohol, drugs, or distractions were a contributing factor.

Table 1							
Timeframe	Number of Crashes	Fatality	Injury	Property Damage Only	Alcohol	Drugs	Distraction
July 1 – Dec. 31, 2018	2,084	11	521	1,552	70	13	278
Jan. 1 – Dec. 31, 2019	4,187	25	1,077	3,085	135	29	379
Jan. 1 - June 30, 2020	1,842	13	466	1,363	47	6	187
<b>Total reported crashes</b>	<b>8,113</b>	<b>49</b>	<b>2,064</b>	<b>6,000</b>	<b>252</b>	<b>48</b>	<b>844</b>

What Table 1 does not show is:

- nearly 25 percent of the fatal crashes involved a driver impaired by alcohol;
- five fatal crashes occurred on a high-speed rural highway and involved a tractor trailer; and
- thirteen fatal crashes involved a motorcyclist.

The highest-ranking crash severity intersections/segments are identified for both vehicular crashes and non-motorized crashes and examined closer. Each location has a detailed sheet that explains the types of crashes that occurred, the built-environment, and provides recommended countermeasures if applicable.

# Introduction

## Background and Purpose

The U.S. Department of Transportation's (U.S. DOT) Strategic Plan articulates the goal to "Reduce Transportation-Related Fatalities and Serious Injuries Across the Transportation System"<sup>1</sup>. For this reason, the Federal Highway Administration's (FHWA) has adopted an objective to, "Save lives by expanding the use of data-driven, systemic safety management approaches and by increasing the adoption of proven safety solutions by all road owners."<sup>2</sup> The Florida Department of Transportation (FDOT) is, "committed to eliminating fatalities and reducing serious injuries with the understanding that the death of any person is unacceptable and based on that, zero deaths is our safety performance target."<sup>3</sup> Consistent with these goals and objectives, the Martin County Comprehensive Growth Management Plan requires the Public Works Department to prepare a Crash Surveillance Report every other year that identifies, analyzes, and provides recommendations for reducing high-hazard intersections and fatal crashes as well as crashes involving pedestrians and bicyclists.

The core purpose of the report is to establish priorities and implement changes that create a safer transportation network. High crash severity locations continue to be the focus of this report. The following general recommendations are made to promote roadway safety:

- Evaluate AASHTO *Highway Safety Manual* Crash Mitigation Factors where applicable throughout the County.
- Participate in and provide recommendations during all FDOT project scoping meetings.
- Evaluate and implement recommendations from the various plans of the Martin Metropolitan Planning Organization (MPO).
- Continue to promote education and enforcement through proper communication channels.
- Support FDOT's various safety campaigns such as "Drive Sober or Get Pulled Over".

The intended outcome of the Crash Surveillance Report is a planning tool to assist in establishing priorities and recommendations to advance improvements to the transportation network in the five-year Capital Improvement Plan or the Florida Department of Transportation's (FDOT) Five Year Work Program. The last Crash Surveillance Report analyzed data through June 30, 2018.

## Data Source

Crash reports are provided by the Division of Highway Safety and Motor Vehicles (DHSMV) and local law enforcement agencies such as the Martin County Sheriff's Office. The information about the crash is reported on either a Long-form or a Short-form Crash Report. If a crash: resulted in death of, personal injury to, or any indication of complaints of pain or discomfort by any of the parties or passengers involved in the crash; involved a person leaving the scene of crash with an attended vehicle or property or driving under the influence; rendered a vehicle inoperable to a degree that required a wrecker to remove it from the scene of the crash; or involved a

---

<sup>1</sup> U.S. Department of Transportation, U.S. DOT Strategic Plan FY 2018-2022, (February 2018), p. 10.

<sup>2</sup> Federal Highway Administration, FHWA Strategic Plan Fiscal Federal Highway Administration Years 2019–2022, (July 2018), p. 8.

<sup>3</sup> Florida Department of Transportation, FY 2020 Highway Safety Plan, (c. 2019), p. 24.

commercial motor vehicle, then a Long-form Crash Report must be completed. If a Long-form Crash Report is not required, the law enforcement officer may complete a Short-form Crash Report.

The data from Long-form and Short-form Crash Reports is compiled in Signal Four Analytics (<https://s4.geoplan.ufl.edu/>) software. Signal Four Analytics software was developed by the University of Florida's GeoPlan Center and funded by the state of Florida through the Traffic Records Coordinating Committee (TRCC). The software is an interactive, web-based spatial database designed to support the crash mapping and analysis needs of law enforcement and transportation agencies. To provide useful recommendations for the local transportation network, every effort has been made to remove crashes occurring in parking lots from the analysis. Crashes occurring on Florida's Turnpike and Interstate 95 are included in the statistics but are not considered as a part of this analysis. Strong efforts have been made to remove duplicate records and inconsistent entries from the data to ensure accuracy.

Since crash data and statistics are available in many forms, it is important to note that other agencies, such as the Florida Department of Transportation, record only Long-form crash data. When comparing crash statistics in this report to statistics provided by another agency, one must determine if the other agency's data includes both Long-form and Short-form Crash Reports.

The reported crash types are categorized into the following categories:

- Rear end (38.3%)
- Other (14.6%)
- Sideswipe (12.1%)
- Off Road (10.2%)
- Left Turn (7.5%)
- Unknown (5.4%)
- Angle (5.2%)
- Rollover (1.7%)
- Head on (1.0%)
- Right Turn (1.2%)
- Animal (1.1%)
- Bicycle (1.0%)
- Pedestrian (0.8%)

The percent of total is included for statistical purposes. The crash type "Other" includes single vehicle crashes, parked vehicle crashes, and backing vehicle crashes.

## Crash Analyses

From July 1, 2018 until June 30, 2020 there were a total of 8,113 reported crashes in Martin County involving 20,584 motorists and passengers, 115 bicyclists, and 69 pedestrians. The crashes resulted in: 52 fatalities (49 crashes), 3,051 personal injuries (2,064 crashes), and 6,000 crashes with property damage only. The total cost of the property damage was estimated at \$44M. Table 1 provides a breakdown of the data by year and includes the crashes where alcohol, drugs, or distractions were a contributing factor.

Where correctable patterns occur, suggestions to improve safety are recommended. The American Association of State Highway and Transportation Officials (AASHTO) produces many guiding documents related to transportation. The recommendations in this report were based on guidance provided in AASHTO's *Highway Safety Manual (HSM)* and the FHWA's *Manual on Uniform Traffic Control Devices*, or MUTCD. The HSM was created to help reduce the frequency and severity of crashes. It includes suggested countermeasures that come

with a crash mitigation factor (CMF), which serves as a guide when selecting an appropriate method to reduce crashes. A CMF is an estimate of the change in crashes expected after implementation of a countermeasure. The MUTCD is the guiding authority for traffic control devices throughout the nation to ensure minimum standards are met, to ensure conformity to help reduce crashes and congestion, and to improve the efficiency of the surface transportation system.

<b>Table 1</b>							
<b>Timeframe</b>	<b>Number of Crashes</b>	<b>Fatality</b>	<b>Injury</b>	<b>Property Damage Only</b>	<b>Alcohol</b>	<b>Drugs</b>	<b>Distraction</b>
July 1 – Dec. 31, 2018	2,084	11	521	1,552	70	13	278
Jan. 1 – Dec. 31, 2019	4,187	25	1,077	3,085	135	29	379
Jan. 1 - June 30, 2020	1,842	13	466	1,363	47	6	187
<b>Total reported crashes</b>	<b>8,113</b>	<b>49</b>	<b>2,064</b>	<b>6,000</b>	<b>252</b>	<b>48</b>	<b>844</b>

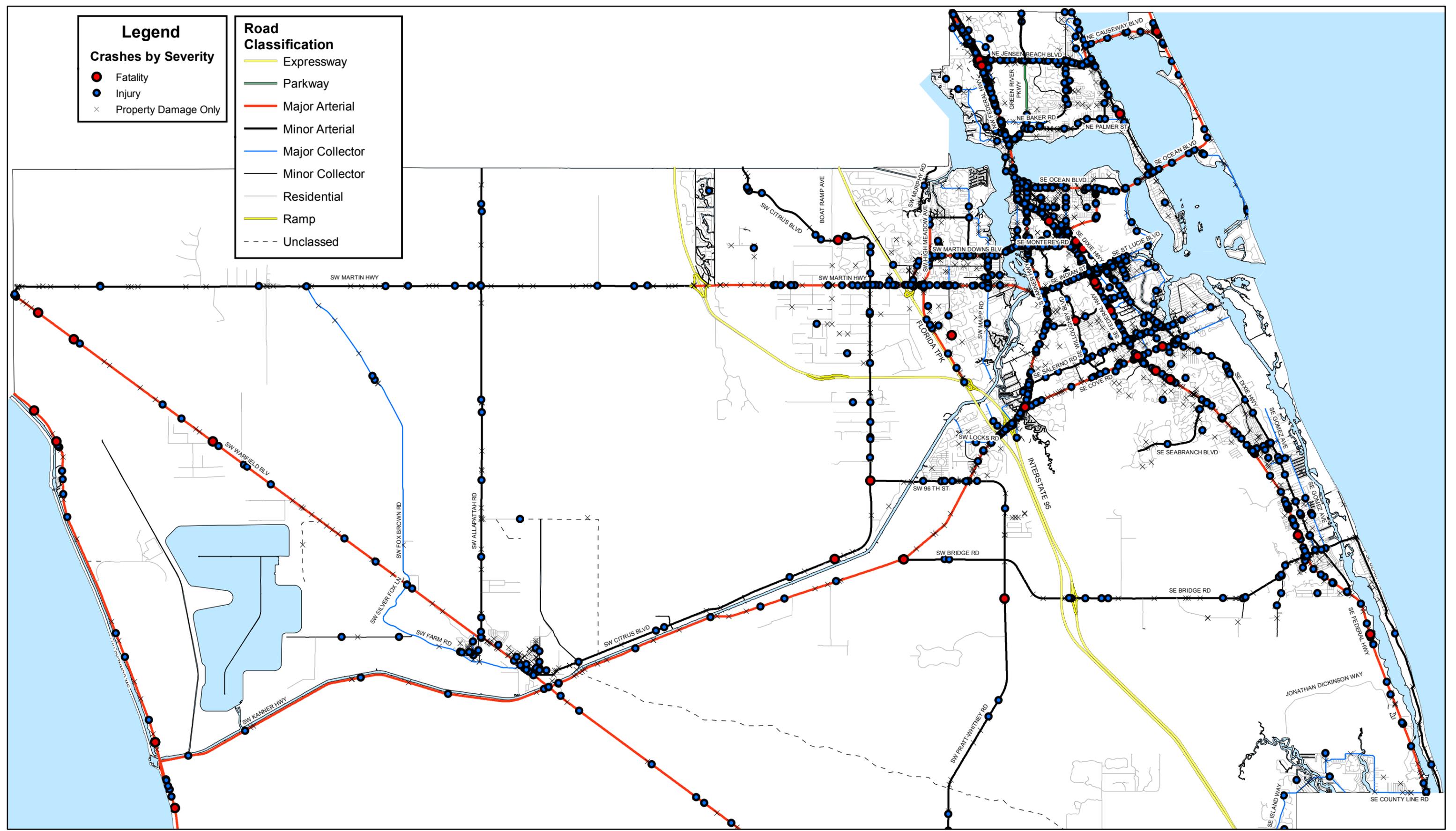
**Legend**

**Crashes by Severity**

- Fatality
- Injury
- × Property Damage Only

**Road Classification**

- Expressway
- Parkway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Residential
- Ramp
- Unclassed



Disclaimer  
 "This Geographic Information System Map Product, received from Martin County ("COUNTY") in fulfillment of a public records request is provided "as is" without warranty of any kind, and the COUNTY expressly disclaims all express and implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. The COUNTY does not warrant, guarantee, or make any representations regarding the use, or the results of the use, of the information provided to you by the COUNTY in terms of correctness, accuracy, reliability, timeliness or otherwise. The entire risk as to the results and performance of any information obtained from the COUNTY is entirely assumed by the recipient."  
 \*Please contact the responsible Martin County Department for specific determinations.  
 Created By : llambert@martin.fl.us  
 Plot Date : December 29, 2020  
 ArcMapProjectFile : T:\PWD\Traffic\_Engineering\Crashes\Crash Surveillance Reports\2020\Supporting Documents\GIS\Severity 2020.mxd  
 Plot Name : T:\PWD\Traffic\_Engineering\Crashes\Crash Surveillance Reports\2020\Supporting Documents\GIS\Severity 2020.pdf

# Crash Locations by Severity

July 1, 2018 - June 30, 2020



## Initial Review

Rear end collisions were found to be the most frequent crash type, accounting for more than one-third (3,108) of the total crashes. Year after year, these are the most prevalent crash type and they are the most difficult to mitigate because they involve motorists following too closely or motorists that are distracted. Technological advances in “smart” car sensors are changing and many newer vehicles provide a level of autonomy such as brake assist or collision detection warning. It is anticipated that these advances will reduce the number of rear end crashes. It should be noted that 75 percent of rear end collisions resulted in property damage without injuries, and together, they account for \$8.4M in estimated damage.

Crashes classified as “Other” account for nearly 15 percent (1,185) of the total. More than 80 percent resulted in property damage without injuries, and together they account for \$3.1M in estimated damages.

Roughly 85 percent of the crashes involving a pedestrian or a bicyclist resulted in an injury. This analysis is expanded upon in Section 4 – Non-Motorized.

Alcohol accounted for nearly 25 percent of fatalities.

Five fatal crashes occurred on a high-speed rural highway and involved a tractor trailer and thirteen fatal crashes involving motorcycles occurred. This analysis is expanded upon in Section 5 – Fatalities.

## Intersection Refinement

Intersections small and large contain the most conflict points on the transportation network. They are the critical points where motorists and non-motorist must make decisions regarding their trip. A network analysis was performed on all crashes within 250 feet of intersections in Martin County for the study period. This area will be referred to as the zone of influence. Intersections with at least ten crashes were then ranked by crash severity to follow the U.S. DOT’s approach to work towards zero fatalities. By doing so, many of the rear-end crashes that did not include injuries are removed from the analysis. The formula used by Signal Four Analytics to calculate crash severity is:

### Crash severity =

$$[(12 * \text{Number of Fatal Crashes}) + (4 * \text{Number of Injury Crashes}) + \text{Number of Property Damage Only Crashes}]$$

---

Total number of Crashes

This formula puts most of the emphasis on fatal crashes, with injurious crashes second, and property damage last. After the initial top ranked intersections are identified, staff read all the narratives to confirm their locations are correct. Table 2 displays the five intersections with the highest crash severity.

<b>Table 2</b>					
<b>Intersection</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Only Crashes</b>	<b>Total Number of Crashes</b>	<b>Crash Severity</b>
SE COVE RD & SE 44 <sup>TH</sup> AVE	1	5	8	14	2.86
SE COVE RD & SE CABLE DR	0	9	6	15	2.8
SE FEDERAL HWY & SE HERITAGE BLVD	0	8	6	14	2.71
SE FEDERAL HWY & SE FISCHER ST	1	17	21	39	2.59
SW KANNER HWY & SE COVE RD	2	9	20	31	2.58

A detailed review of each intersection identified Table 2 is expanded upon in the following pages.

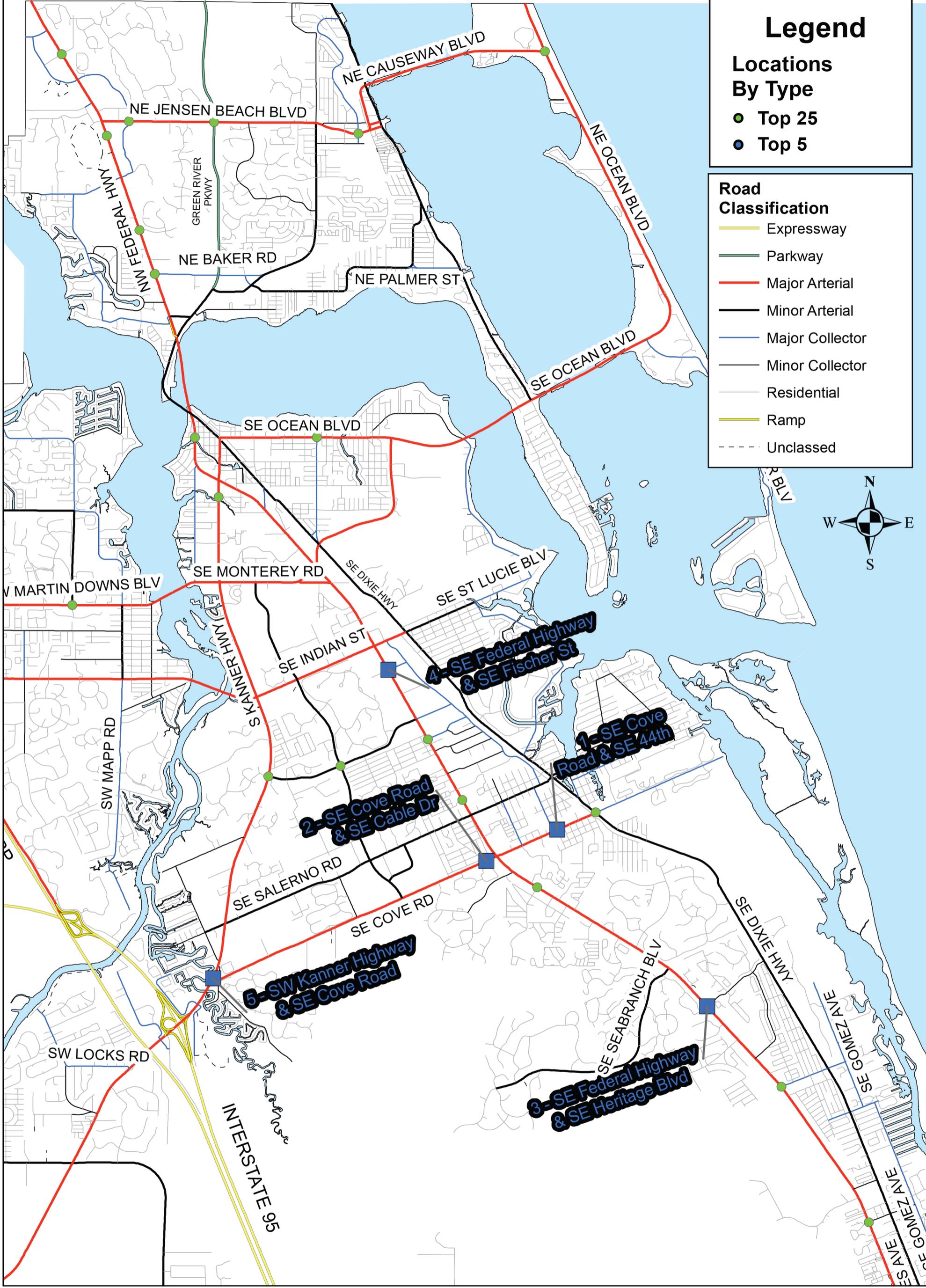
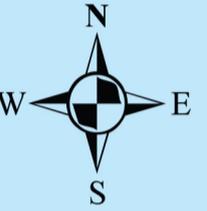
# Legend

## Locations By Type

- Top 25
- Top 5

## Road Classification

- Expressway
- Parkway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Residential
- Ramp
- - - Unclassed



Disclaimer  
 "This Geographic Information System Map Product, received from Martin County ("COUNTY") in fulfillment of a public records request is provided "as is" without warranty of any kind, and the COUNTY expressly disclaims all express and implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. The COUNTY does not warrant, guarantee, or make any representations regarding the use, or the results of the use, of the information provided to you by the COUNTY in terms of correctness, accuracy, reliability, timeliness or otherwise. The entire risk as to the results and performance of any information obtained from the COUNTY is entirely assumed by the recipient."  
 \*Please contact the responsible Martin County Department for specific determinations.\*  
 Created By : llambert@martin.fl.us  
 Plot Date : April 19, 2021  
 ArcMapProjectFile : T:\PWDITraffic\_Engineering\Crashes\Crash Surveillance Reports\2020\Supporting Documents\GIS\Analysis Locations 2020.mxd  
 Plot Name : T:\PWDITraffic\_Engineering\Crash Surveillance Reports\2020\Supporting Documents\GIS\Intersection Severity Analysis Locations 2020.pdf

# Intersection Severity Analysis Locations

July 1, 2018 - June 30, 2020



## 1 - SE Cove Road & SE 44<sup>th</sup> Avenue



### Crash Summary:

<b>Crash Severity:</b>	<b>2.86</b>
Total Crashes:	14
Most Prevalent Crash Type:	Left Turn
Number of Correctable Crashes:	0

### Geometric Configuration:

<b>SE Cove Road:</b>	2-lane, undivided
<b>SE 44<sup>th</sup> Avenue:</b>	2-lane, undivided
Signalized:	No
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

This intersection is in the Port Salerno Community Redevelopment Area (CRA). The properties in the vicinity of the intersection include residential, commercial, and industrial uses. There is a convenience store on the north side of the intersection. SE 44<sup>th</sup> Avenue provides the primary access to Murray Middle School from SE Cove Road and because of the many pedestrians and students that reside north of SE Cove Road, there is a mid-block crosswalk on SE Cove Road within a School Zone that is overseen by crossing guards on school days.

### Notables:

This location had the third-highest crash severity for Non-motorized crashes in the 2018 Crash Surveillance Report. This intersection is used daily by students walking to and from Murray Middle School. In the summer of 2020, the streetlights were upgraded from low-pressure sodium to LED. These LED lights provide a whiter and brighter light for the early school students.

Six of the crashes in the zone of influence occurred when left turning motorists on SE Cove Road failed to yield the right-of-way to the opposing motorists.

The fatality occurred when a southbound-to-westbound turning non-motorist failed to yield right-of-way to a westbound motorist and entered SE Cove Road. Alcohol played a part in the crash, as the non-motorist had a blood alcohol content double the legal limit.

## 2 - SE Cove Road & SE Cable Drive



### Crash Summary:

<b>Crash Severity:</b>	<b>2.80</b>
Total Crashes:	15
Most Prevalent Crash Type:	Left Turn
Number of Correctable Crashes:	6

### Geometric Configuration:

<b>SE Cove Road:</b>	4-lane, divided
<b>SE Cable Drive:</b>	2-lane, undivided
Signalized:	No
Intersection Type:	Four-Way
Lighting (street/ped/other):	Yes

The properties in the vicinity of the intersection include residential and retail uses. There is a convenience store with gasoline service within walking distance at the intersection of SR-5 (US-1 / SE Federal Highway) and SE Cove Road.

### Notables:

The most prevalent crash type here are left turn or angle crashes, of which nine resulted in injuries. Most crashes occurred when a westbound motorist attempted to turn left into the access road leading to the retail development. U-Turns are restricted at the intersection of SE Federal Highway and SE Cove Road.

Advance warning signs will be installed for eastbound traffic notifying motorist to be cautious of vehicle that may enter the intersection.

### 3 – SR-5 (US-1 / SE Federal Highway) & SE Heritage Boulevard



#### Crash Summary:

<b>Crash Severity:</b>	<b>2.71</b>
------------------------	-------------

Total Crashes:	14
----------------	----

Most Prevalent Crash Type:	Rear End
----------------------------	----------

Number of Correctable Crashes:	6
--------------------------------	---

#### Geometric Configuration:

<b>SE Federal Highway:</b>	4-lane, divided
----------------------------	-----------------

<b>SE Heritage Boulevard:</b>	4-lane, undivided
-------------------------------	-------------------

Signalized:	Yes
-------------	-----

Intersection Type:	Four-Way
--------------------	----------

Lighting (street/ped/other):	Yes
------------------------------	-----

The properties abutting the roadways are residential.

#### Notables:

Eight crashes occurred due to motorists failing to stop and rear-ending another motorist. Five left-turn crashes occurred, four of which resulted in injuries. On SE Federal Highway, left turns are permissive, meaning a green ball is displayed on a five-section signal head. A head-on crash occurred as a result of a U-TURNING motorist failing to yield the right-of-way to a southbound motorist.

An effective countermeasure to reduce crashes at this intersection would be to remove permissive turning movements and move to protected left turns. This would increase delay on SE Federal Highway and should be implemented after further review.

## 4 – SR-5 (US-1 / SE Federal Highway) & SE Fischer Street



### Crash Summary:

<b>Crash Severity:</b>	<b>2.59</b>
Total Crashes:	39
Most Prevalent Crash Type:	Rear End
Number of Correctable Crashes:	0

### Geometric Configuration:

<b>SE Federal Highway:</b>	4-lane, divided
<b>SE Fischer Street:</b>	2-lane, undivided
Signalized:	Yes
Intersection Type:	Four-Way
Lighting (street/ped/other):	Yes

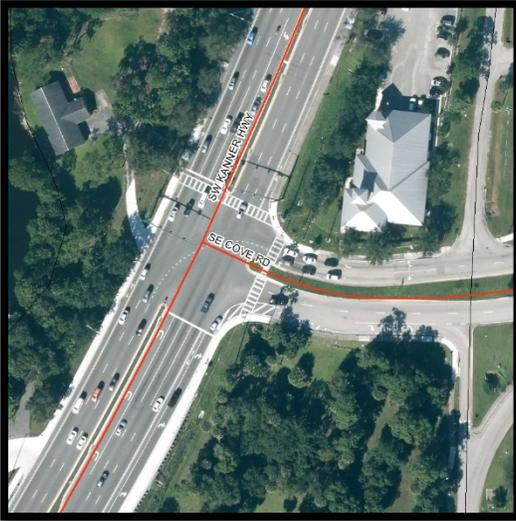
The properties abutting the intersection are commercial retail and automotive services.

### Notables:

A fatal crash occurred at this location when a northbound motorist travelling at a high rate of speed, failed to stop at a red light. The motorist struck a motorcyclist who was making an eastbound left-turn, obeying a green traffic light for their movement.

The overwhelming crash type at this location are rear-ends, accounting for 29 crashes, of which 11 resulted in injuries. Interestingly, a dozen crashes occurred on the northbound departure side of the intersection, meaning the rear-ends were due to traffic backing up from the intersection at SE Indian Street. Traffic Engineering operations staff will look at turning movement data to see if any signal timing improvements can be made upstream to alleviate this issue.

## 5 - SR-76 (SW Kanner Highway) & SE Cove Road



### Crash Summary:

<b>Crash Severity:</b>	<b>2.58</b>
Total Crashes:	31
Most Prevalent Crash Type:	Rear End
Number of Correctable Crashes:	4

### Geometric Configuration:

<b>SW Kanner Highway:</b>	6-lane, divided
<b>SE Cove Road:</b>	4-lane, divided
Signalized:	Yes
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

Located south of the Bridge Road Community Redevelopment Area (CRA), properties around the intersection are residential and conservation.

### Notables:

Rear-ends are predominant at this intersection, accounting for 55% of all crashes. A fatal rear-end crash involving a motorcyclist occurred on SW Kanner Highway when a motorist under the influence of drugs, quickly changed lanes into the right-turn lane and struck the motorcyclist. A second, fatal crash occurred when a westbound motorist, under the influence of drugs, drove over the median and struck another vehicle head-on. Unfortunately, these fatal crashes are not correctable.

## Review of Previous High Hazard Intersections

SE Morningside Drive at SE Federal Highway experienced eighteen injury crashes over the span of the two previous Crash Surveillance Reports (January 1, 2013-June 30, 2018); during the timespan of this study, none occurred. SE Federal Highway has been under construction since early 2019, the cause of the reduction in crashes may be attributed to the lower “work zone” speeds on SE Federal Highway and increased driver awareness.

SE Indian Street at SE Aster Lane had the second highest crash severity, due to a fatal crash that occurred resultant from a medical condition the motorist experienced. Injury crashes at this location were half as many as reported during the previous study, likely due to signalized operational changes made in 2017.

SW 96th Street at SW Citrus Boulevard reappears as a location with fatal traffic crashes occurring in June and December of 2018. The fatalities occurred due to westbound motorist’s failure to stop at the intersection. In late October 2019, audible rumble strips were installed on the westbound approach and a flashing red beacon was affixed above the STOP sign to notify motorists of the impending intersection. This intersection has gone 500 plus days with no further injury crashes reported since the countermeasures were installed.

Detecting a correctable pattern on SE Dixie Highway at SE Pettway Street which experienced 10 total crashes during each study period is difficult; however, injury crashes decreased by sixty-six (66) percent. Right-of-way is extremely limited at this location due to the railroad corridor; staff will continue to monitor this location.

Traffic Engineering staff and the District 3 Commissioner worked with FDOT to prioritize the installation of a signalized intersection on SE Federal Highway at SE Dixie Highway after observing a pattern of left-turn/angle crashes at the intersection. This safety project was fast tracked by utilizing FDOT’s push-button contract; signalized operations will commence in mid-2021.

## Highway-Rail Crossings

The Federal Railroad Administration (FRA) Office of Safety is the maintaining agency of rail related crashes. The FRA reports there was one highway-rail crash reported in Martin County between July 1, 2018 to June 30, 2020. The incident occurred at the CSX grade crossing MP SX929.2 at SW Amaryllis Avenue and resulted in a single fatality. This grade crossing is not equipped with gates or warning lights. In place are Manual of Uniform Control Device W10-1 Grade Crossing Advance Warning signs and R15-1 RAILROAD CROSSING signs fixed atop of R1-1 STOP signs.

## Non-motorized

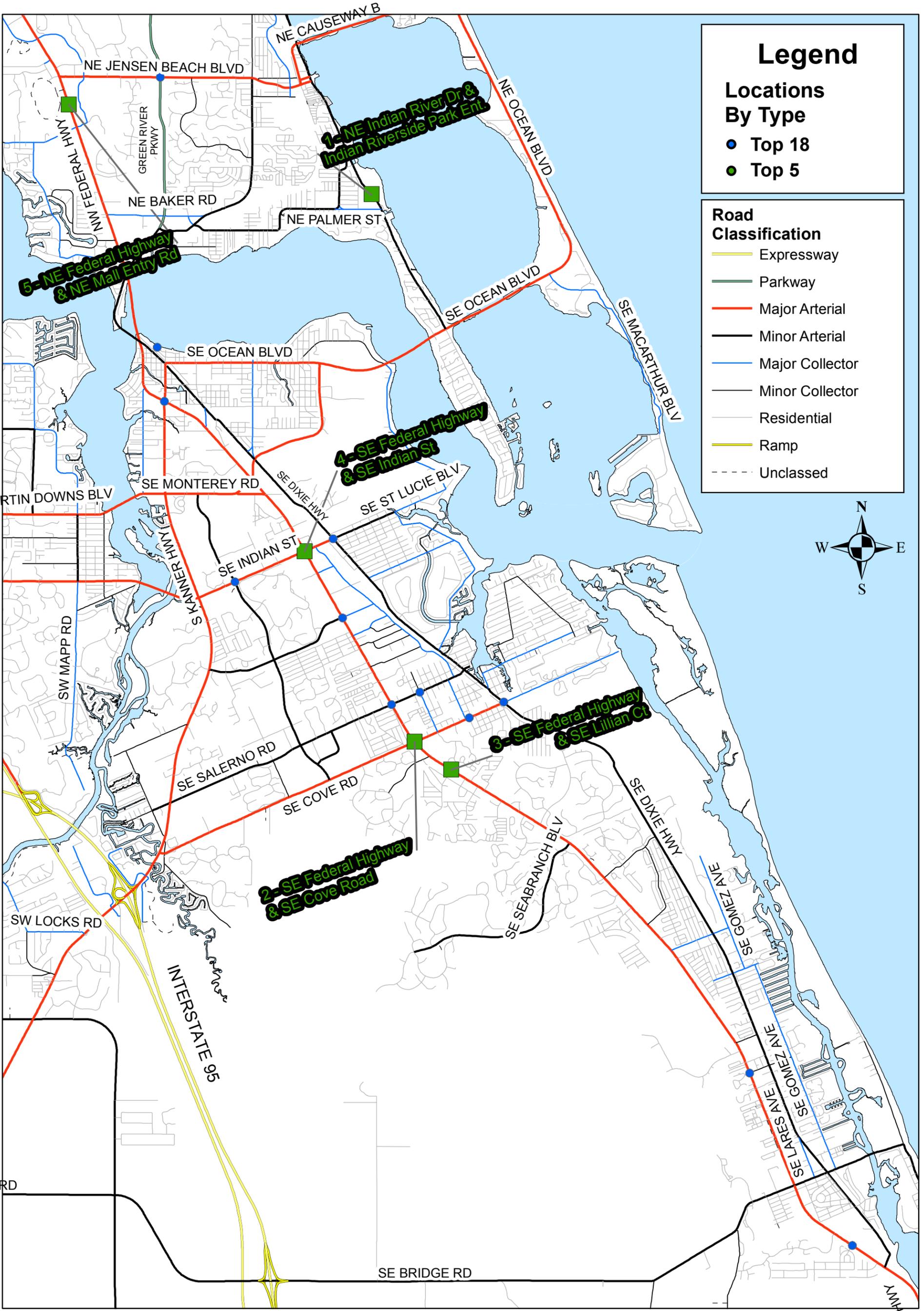
Pedestrians and cyclists are the most vulnerable users of the transportation network; every trip begins and ends as a pedestrian. The Florida Department of Transportation (FDOT) produces its *Highway Safety Plan* to improve the safety of Florida’s roadways and specifically targets non-motorized users by producing a *Pedestrian and Bicycle Strategic Safety Plan*. In 2020, FDOT allocated \$2.7 million out of \$23 million towards Pedestrian and Bicycle Safety which is one of fifteen Program Areas.

FDOT encourages a more localized effort by requiring each Metropolitan Planning Organization (MPO) to develop a Pedestrian Safety Action Plan. In May 2016, the Martin MPO completed its *Bicycle and Pedestrian Safety Action*

*Plan* and in December 2017 its *Bicycle, Pedestrian & Trails Masterplan* for Martin County. The locations identified as a result of this report are an attempt to avoid duplication of efforts made by the MPO.

In 2018, Martin County installed “Pedestrian Count Down” notifications at all signalized intersections. By virtue of seeing this count-down notification and the allotted time for crossing, they motivate pedestrians to use the striped intersection rather than crossing mid-block which is more dangerous.

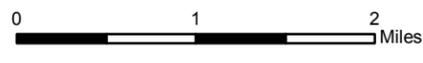
During the study period, there were 63 pedestrian crashes of which 54 (86%) resulted in an injury and 4 (6%) were fatal. There were 77 bicycle crashes of which 64 (83%) resulted in an injury and 4 (5%) were fatal. Table 3 displays the top five intersections and roadway segments with at least 2 crashes within 250ft of another, have not been recently reconstructed, and are prioritized by crash severity.



Disclaimer  
 \*This Geographic Information System Map Product, received from Martin County ("COUNTY") in fulfillment of a public records request is provided "as is" without warranty of any kind, and the COUNTY expressly disclaims all express and implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. The COUNTY does not warrant, guarantee, or make any representations regarding the use, or the results of the use, of the information provided to you by the COUNTY in terms of correctness, accuracy, reliability, timeliness or otherwise. The entire risk as to the results and performance of any information obtained from the COUNTY is entirely assumed by the recipient.  
 \*Please contact the responsible Martin County Department for specific determinations.  
 Created By: llambert@martin.fl.us  
 Plot Date: April 19, 2021  
 ArcMapProjectFile: T:\PW\Traffic\_Engineering\Crash Surveillance Reports\2020\Supporting Documents\GIS\Analysis Locations 2020.mxd  
 Plot Name: T:\PW\Traffic\_Engineering\Crash Surveillance Reports\2020\Supporting Documents\GIS\Non-Motorized Analysis Locations 2020.pdf

# Non-Motorized Analysis Locations

July 1, 2018 - June 30, 2020



**Table 3**

<b>Location</b>	<b>Number of Crashes</b>	<b>Crash Severity</b>	<b>Fatality</b>	<b>Injury</b>	<b>PDO</b>
NE INDIAN RIVER DR & INDIAN RIVERSIDE PARK ENTRANCE	3	8.33	2	0	1
SE FEDERAL HWY & SE COVE RD	2	8.00	1	1	0
SE FEDERAL HWY & SE LILLIAN CT	2	8.00	1	1	0
SE FEDERAL HWY & SE INDIAN ST	3	4.00	0	3	0
NW FEDERAL HWY & NW MALL ENTRY RD	2	4.00	0	2	0

## 1 – NE Indian River Drive & Indian Riverside Park Entrance



### Crash Summary:

<b>Crash Severity:</b>	<b>8.33</b>
Total Crashes:	3
Total Fatal Crashes:	2
Total Injury Crashes	0
Total PDO Crashes	1

### Geometric Configuration:

<b>NE Indian River Drive:</b>	2-lane, undivided
<b>Indian Riverside Park Ent.:</b>	2-lane, undivided
Signalized:	No
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

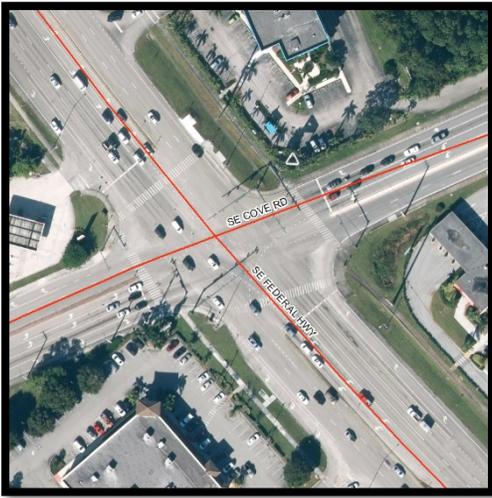
The area is recreational riverfront with vast residential surrounding; an assisted-living facility is immediately adjacent to the park.

### Notables:

Two fatal crashes at this location occurred when westbound non-motorists were departing Indian Riverside Park and crossing NE Indian River Drive. The motorists were travelling southbound and the crashes occurred outside of the marked mid-block crosswalk. A third crash involving a southbound motorist occurred when the driver failed to recognize that the vehicle in front of them was coming to a stop for a non-motorist crosswalk NE Indian River Drive westbound.

This mid-block crosswalk is at the crest of a hill; due to the elevation change, MUTCD compliant Advance Non-Vehicular Warning signs have been in place for many years. Non-Vehicular Warning signs advising motorists of the possibility of non-motorists entering the roadway were also in place at the time of the crashes. As the population on the Treasure Coast continues to grow and there are more potential for motorist and non-motorist interactions at this location, these signs have been upgraded to push-button activated, edge-lit flashing Pedestrian Crossing (W11-2) signs.

## 2 – SE Federal Highway (US-1) & SE Cove Road



### Crash Summary:

<b>Crash Severity:</b>	<b>8.00</b>
Total Crashes:	2
Total Fatality Crashes:	1
Total Injury Crashes:	1
Total PDO Crashes:	0

### Geometric Configuration:

<b>SE Federal Highway:</b>	6-lane, divided
<b>Se Cove Road:</b>	2-lane, divided
Signalized:	Yes
Intersection Type:	4-Way
Lighting (street/ped/other):	Yes

The area is a mix of commercial with retail, banking, gas stations and residential surrounding.

### Notables:

The fatality occurred at 8:00 P.M. when a non-motorist attempted to cross SE Federal Highway westbound, approximately 60 feet north of the marked crosswalk. The motorist was travelling northbound in the middle lane and changed lanes to the inside lane due to traffic slowing ahead when the crash occurred. Streetlights are present at this location and the crash report does not specify whether the pedestrian crosswalk phase was activated.

The second crash involved a westbound to northbound, right-turning motorist who failed to yield to the southbound non-motorist. The cyclist was injured while using the crosswalk. Unfortunately, staff cannot recommend any physical counter measures at this location that would have mitigated these pedestrian crashes. Motorist and non-motorists must share responsibilities by obeying traffic laws.

### 3 - SE Federal Highway (US-1) & SE Lillian Court



#### Crash Summary:

<b>Crash Severity:</b>	<b>8.00</b>
Total Crashes:	2
Total Fatality Crashes:	1
Total Injury Crashes:	1
Total PDO Crashes:	0

#### Geometric Configuration:

<b>SE Federal Highway:</b>	6-lane, divided
<b>SE Lillian Court:</b>	2-lane, undivided
Signalized:	Yes
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

SE Federal Highway is lined with commercial development and residential development surrounding.

#### Notables:

The fatality occurred around 10PM when the non-motorist attempted to cross SE Federal Highway while not in the crosswalk, approximately 218 feet south of the intersection. The non-motorist crossed three southbound lanes and was struck in the outside northbound lane. Toxicology results indicated that the non-motorist was impaired.

The second crash involved a southbound motorist who failed to stop at a red-indicated traffic signal and struck the non-motorist in the crosswalk and then fled the scene. Neither crash can be corrected by a counter-measure.

## 4 - SE Federal Highway (US-1) & SE Indian Street



### Crash Summary:

<b>Crash Severity:</b>	<b>4.00</b>
Total Crashes:	3
Total Fatality Crashes:	0
Total Injury Crashes:	3
Total PDO Crashes:	0

### Geometric Configuration:

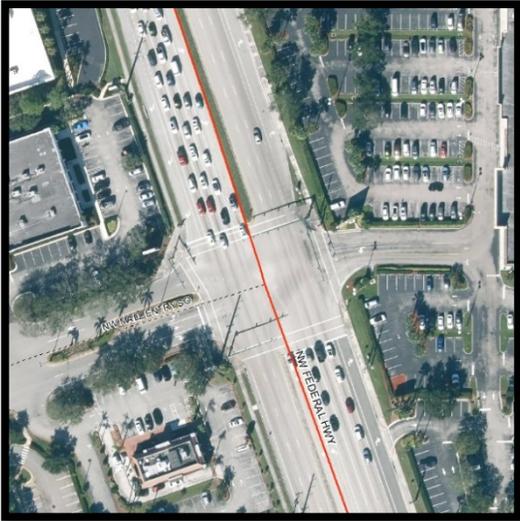
<b>SE Federal Highway:</b>	6-lane, divided
<b>SE Indian Street:</b>	4-lane, divided
Signalized:	Yes
Intersection Type:	4-Way
Lighting (street/ped/other):	Yes

SE Federal Highway and SE Indian Street have intense commercial development which attracts and generates vehicular and non-motorized traffic.

### Notables:

All crashes involving non-motorist occurred after 5PM, and all instances, were struck by left-turning motorists when the non-motorists failed to clear the intersection during the pedestrian phase. Traffic Engineering operations staff will evaluate if sufficient pedestrian crossing time is available at this location. This intersection is a candidate for High Visibility Enforcement (HVE) due to the sheer volume of vehicles and pedestrians at this location.

## 5 - NW Federal Highway (US-1) & NW Mall Entry Road



### Crash Summary:

<b>Crash Severity:</b>	<b>4.00</b>
Total Crashes:	2
Total Fatality Crashes:	0
Total Injury Crashes:	2
Total PDO Crashes:	0

### Geometric Configuration:

<b>NW Federal Highway:</b>	6-lane, divided
<b>NE Mall Entry Road:</b>	4-lane, divided
Signalized:	Yes
Intersection Type:	4-Way
Lighting (street/ped/other):	Yes

NW Federal Highway and NW Mall Entry Road have intense commercial development including the only mall in the Treasure Coast area. It attracts and generates vehicular and non-motorized traffic and is a popular destination for area youth.

### Notables:

Both incidents resulted in injuries and were the result of the motorist failing to yield to the non-motorists who had the right-of-way.

## Review of Previous Non-Motorized

During the previous study period, SW Martin Highway (CR-714) at SW Berry Avenue experienced one fatal crash and one injury crash involving a non-motorist on separate occasions, ranking it with the highest severity. There were not any crashes involving non-motorists between July 1, 2018 to June 30, 2020 at this location.

SE Federal Highway at SE Indian Street had the second highest crash severity with three crashes involving non-motorists; there were three crashes during this study period and was discussed as the fourth highest crash severity under non-motorized. This location is key for education and enforcement; we will make recommendations through the Martin Metropolitan Planning Organization, the Martin County Sheriff's Office, and the Florida Department of Transportation.

SE Cove Road & SE 44th Avenue reappears as a location involving non-motorized crashes and is the number one location in the current report; please see the recommendations on page 11.

SE Federal Highway at SE Salerno Road experienced two injury crashes and one property-damage only crash previously; current data identifies two injury crashes. The first crash was the result of the right-turning motorist failing to observe a cyclist in the crosswalk during the time when non-motorist crossing was not permitted. The second crash occurred in the crosswalk over southbound Federal Highway also during the time when non-motorist crossing was not permitted. This location is key for education and enforcement.

SE Dixie Highway at SE Indian Street was the fifth location previously identified with five total crashes. Two crashes involving non-motorists occurred during this report, the first occurred when a cyclist in the through-lane was hit when a motorist passed the cyclist and then merged right. The second crash occurred when a right-turning motorist failed to observe the non-motorist in a crosswalk under a permitted crosswalk phase. This location is adjacent to Federal Highway and is also key for education and enforcement.

## Fatalities

During the study period, there were a total of 49 fatal crashes in Martin County. Of the 33 fatal crashes occurring off Interstate-95 and Florida's Turnpike, 13 involved a motorcycle. Three bicycle crashes resulted in fatalities; one was discussed in the narrative for the highest-ranked intersection by crash severity of SE Cove Road and SE 44<sup>th</sup> Avenue and are remaining two are detailed in Table 4. There was a total of four pedestrian crashes resulting in a fatality during the study period, these are discussed in detail in the non-motorized reviews. Ten fatal crashes occurred due to the driver impairment; the remaining are reviewed in Table 4.

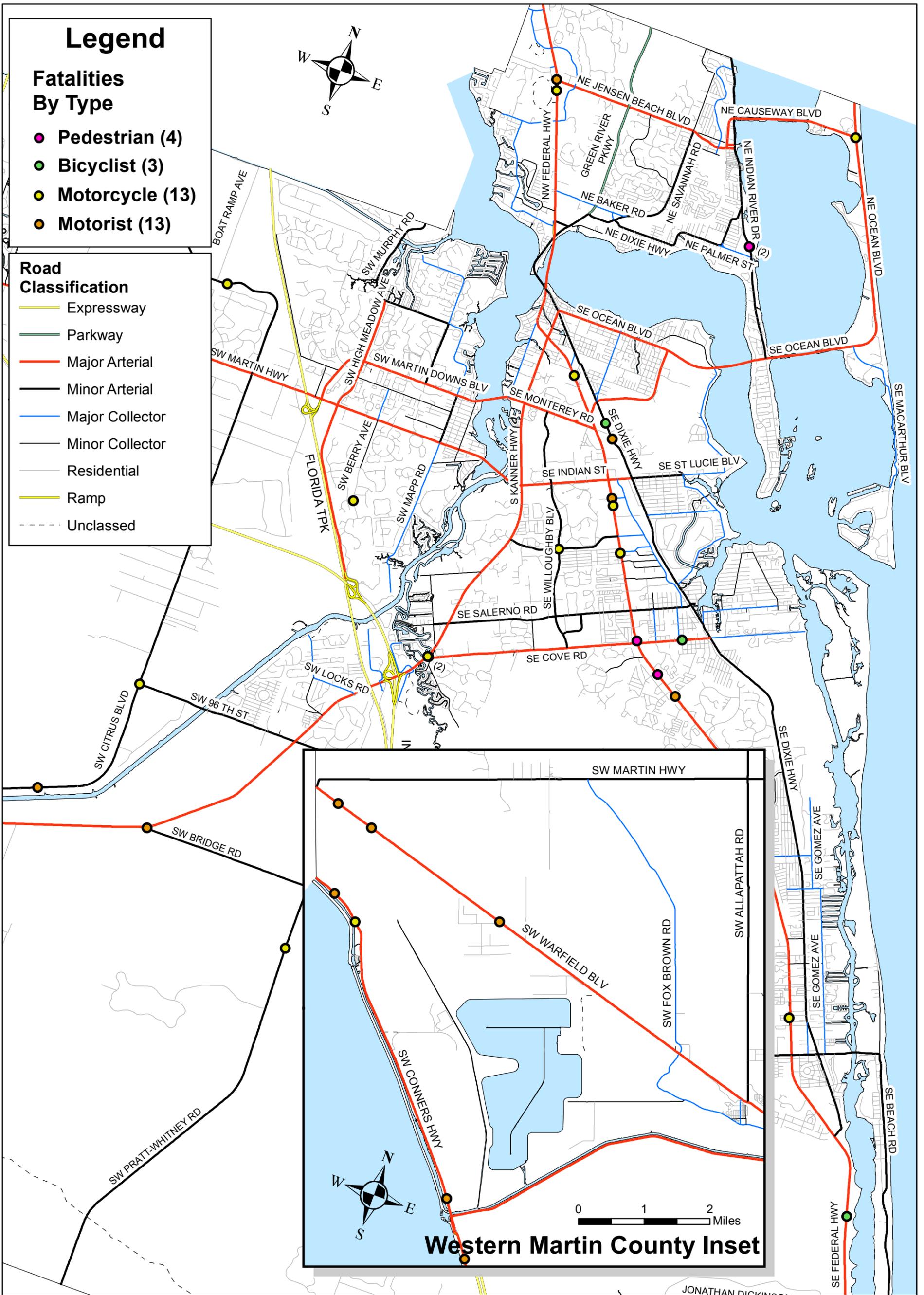
# Legend

## Fatalities By Type

- Pedestrian (4)
- Bicyclist (3)
- Motorcycle (13)
- Motorist (13)

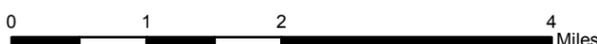
## Road Classification

- Expressway
- Parkway
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Residential
- Ramp
- - - Unclassed



# Fatal Crash Locations

July 1, 2018 - June 30, 2020



Disclaimer  
 \*This Geographic Information System Map Product, received from Martin County ("COUNTY") in fulfillment of a public records request is provided "as is" without warranty of any kind, and the COUNTY expressly disclaims all express and implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. The COUNTY does not warrant, guarantee, or make any representations regarding the use, or the results of the use, of the information provided to you by the COUNTY in terms of correctness, accuracy, reliability, timeliness or otherwise. The entire risk as to the results and performance of any information obtained from the COUNTY is entirely assumed by the recipient.  
 \*Please contact the responsible Martin County Department for specific determinations.\*

Created By: llambert@martin.fl.us

Plot Date: December 17, 2020  
 ArcMapProjectFile:T:\PW\DTraffic\_Engineering\Crashes\Crash Surveillance Reports\2020\Supporting Documents\GIS\Fatalties 2020.mxd  
 Plot Name: T:\PW\DTraffic\_Engineering\Crashes\Crash Surveillance Reports\2020\Supporting Documents\GIS\Fatalties 2020.pdf

Table 4				
Location	Fatalities	Injuries	Crash Type	Contributing Factor
NW FEDERAL HIGHWAY & NW JENSEN BCH BLVD	1	3	Left Turn	Failed to STOP at red light
SE COVE ROAD & SW KANNER HIGHWAY (SR-76)	1	1	Head On	Crossed median
SE DIXIE HWY SOUTH OF AIRPORT RD	1	0	Unknown	Fail to maintain lane
SE FEDERAL HIGHWAY & SE MARKET PLACE	1	0	Rear End	Excessive speed
SE FEDERAL HIGHWAY & SE SUNSET STREET	1	0	Left Turn	Failed to STOP
SE FEDERAL HWY & SE FISCHER ST	1	1	Left Turn	Failed to STOP at red light
SE POMEROY STREET & SE WILLOUGHBY BLVD	1	1	Left Turn	Fail to yield
SE US1 HWY N OF SE CONTRACTORS WAY	1	0	Other	Motorcycle
SW BERRY AVE & SW GOLDEN BEAR WAY	1	0	Other	Motorcycle
SW CITRUS BLVD & SW MARTIN HIGHWAY	1	4	Angle	Motorcycle
SW CONNERS HWY & SW KANNER HWY (SR-76)	1	2	Head On	Failed to maintain lane
SW CONNORS HWY & SW KANNER HWY (SR-76)	1	0	Head On	Failed to maintain lane
SW BRIDGE ROAD & STATE ROAD 76	1	0	Other	Medical
SW PRATT WHITNEY ROAD & SW BRIDGE ROAD	1	0	Rear End	Motorcycle
SW WARFIELD BLVD (SR-710) & SW MARTIN HWY	1	1	Head On	Failed to maintain lane
SW WARFIELD BLVD (SR-710) & SW TOMMY CLEMENTS ST	1	0	Other	Tractor trailer

## Conclusion

Producing a Crash Surveillance Report will always seem like a reactive measure, but it is important to review recent data to make informed decisions that will affect the future. One of the most important things Public Works staff can do is to participate in and provide recommendations during all transportation project scoping meetings. Most recently, Martin County collaborated with FDOT for safety improvements on SW Warfield Boulevard (SR-710) near SW Tommy Clements Street; as well as SW Connors Highway (US-98) and Federal Highway (US-1) for upcoming projects through their Five Year Work Program.