

MARTIN COUNTY
CRASH SURVEILLANCE REPORT

FROM

JANUARY 1, 2013

TO

JUNE 30, 2016

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

JANUARY 20, 2017



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1 Executive Summary

The Martin County Comprehensive Growth Management Plan requires the Engineering 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 Five Year Work Program.

During the reporting period of this study from January 1, 2013 until June 30, 2016, there were a total of 16,433 reported crashes in Martin County involving 31,019 motorists, 219 Bicyclists and 181 pedestrians. The crashes resulted in: 83 fatalities (76 crashes), 4,700 personal injuries (3,268 crashes), and 13,089 crashes with property damage only. Total estimated damages come in at nearly \$51M. Table 1 provides a breakdown of the data by year, and also adds the crashes where alcohol, distracted driving or drug use were a contributing factor. The Crash Locations by Severity map on the following page is a visual display of the data use for this report.

Table 1							
Year	Number of Crashes	Fatality	Injury	Property Damage Only	Alcohol	Distraction	Drug
2013	4,462	17	782	3,663	150	174	26
2014	4,615	19	926	3,670	202	307	33
2015	4,751	27	1,022	3,702	194	303	36
Jan. 1 - June 30, 2016	2,605	13	538	2,054	95	193	26

- Traffic crashes resulting in fatalities have risen 50 percent in 2015 compared to 2013, and are on track to remain 50% higher in 2016. Please see the Fatal Crash Locations map on page 5.
- Alcohol accounted for one in five fatalities throughout the reporting period.
- Distracted driving accounted for two fatal crashes and both occurred on Interstate 95.
- Occurrences of distracted driving have risen 74 percent when comparing 2015 to 2013. If the pace continues, 2016 distracted driving will rise an additional 25 percent to be more than double the 2013 figure.
- The number of 2016 drug related crashes is on pace to double the 2013 number.

Top ranking intersections/segments identified in the Analysis Locations map on page 6 were chosen to receive individualized recommendations to promote safety. Section 3.2 explains methodology performed during the intersection analysis and Section 4.1 explains the non-motorized location selection. Each location has a detailed sheet that explains the types of crashes that occurred and provides recommended countermeasures. Blanket recommendations that staff follow are:

- Evaluate AASHTO *Highway Safety Manual* Crash Mitigation Factors where applicable throughout the county.
- Use recommendations from the *2016 Martin MPO Bicycle and Pedestrian Safety Action Plan*.
- Continue to promote education and enforcement through proper communication channels.

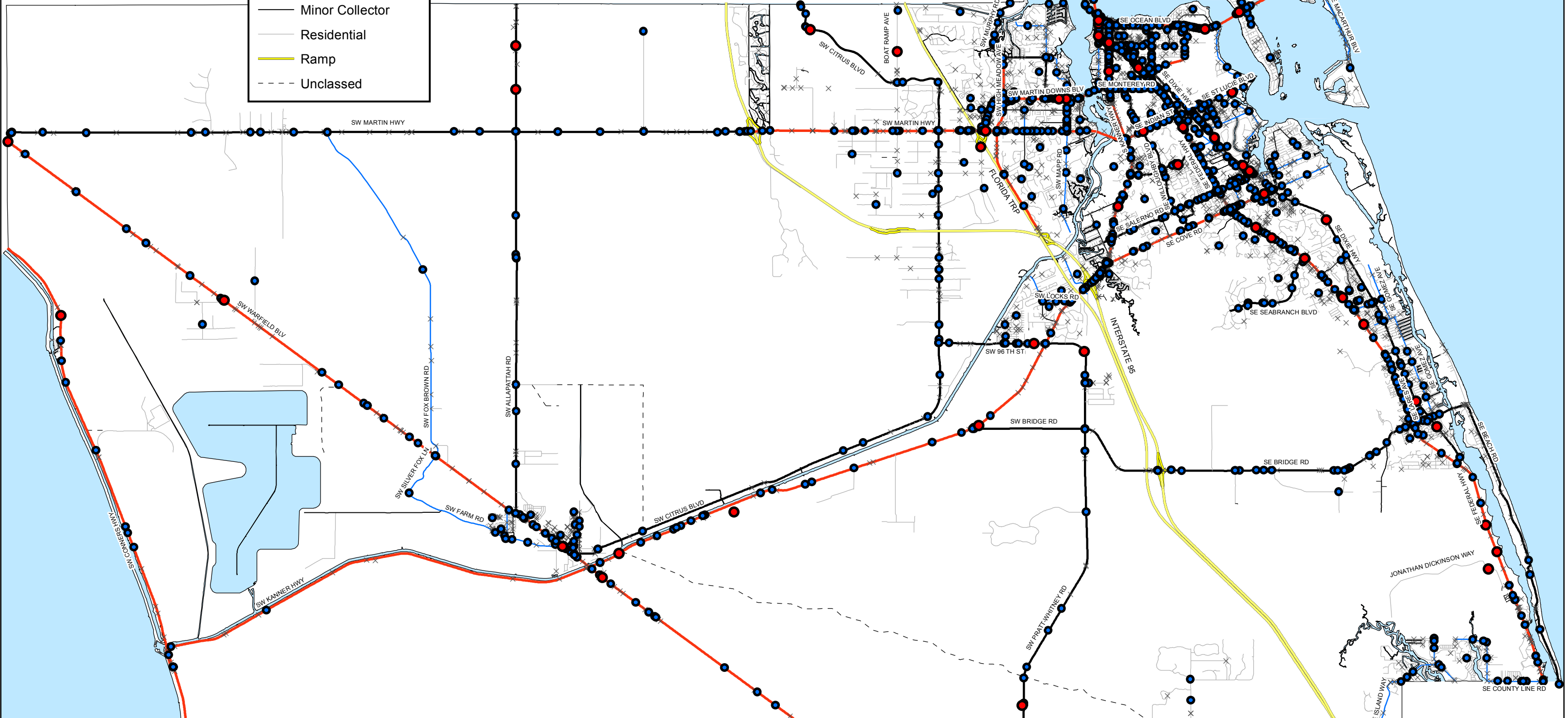
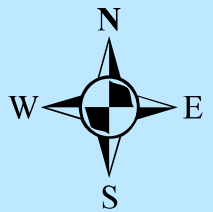
Legend

Crashes by Severity

- Fatality
- Injury
- × Property Damage Only

Road Classification

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

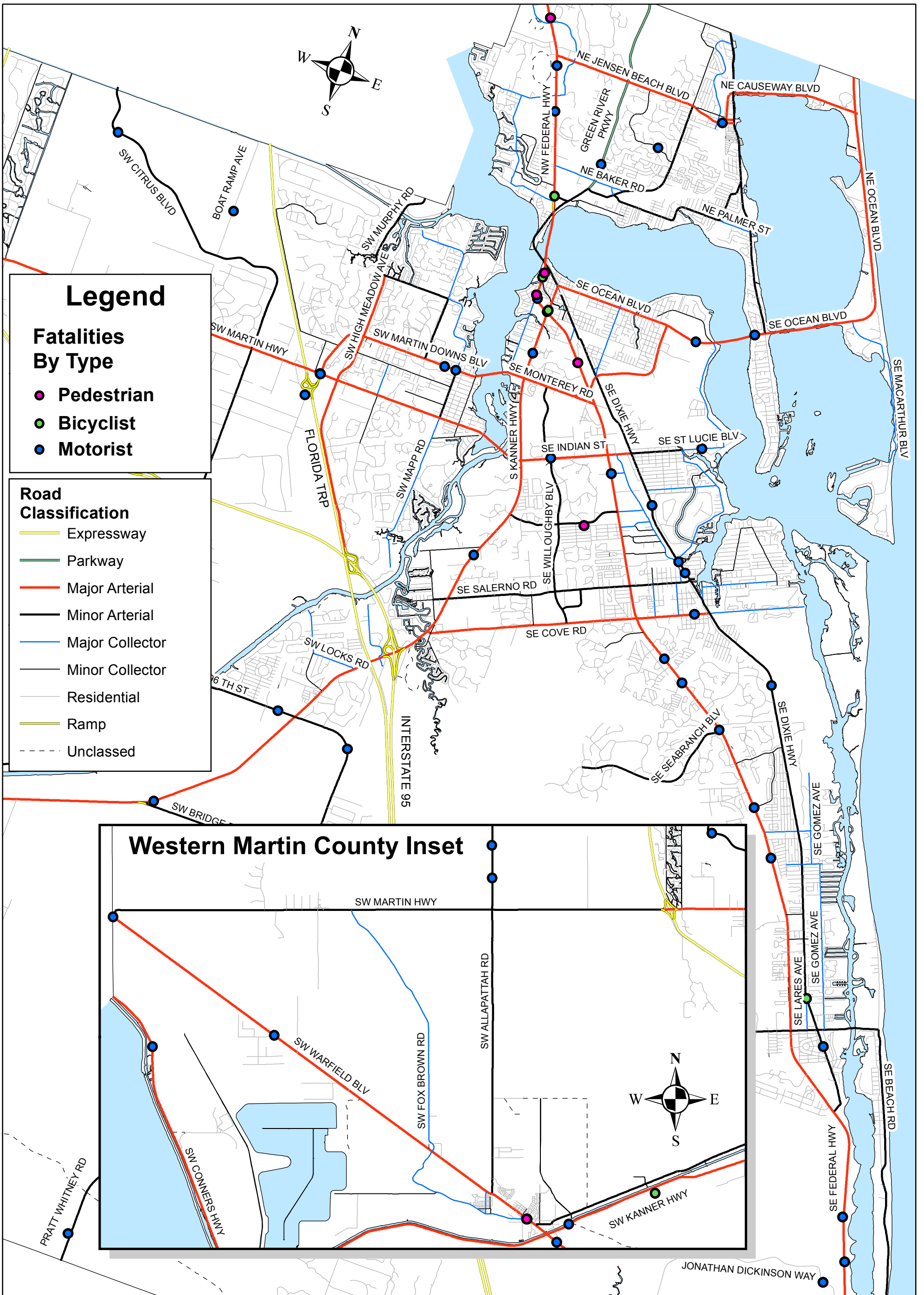


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Crash Locations by Severity

Jan 1, 2013 - June 30, 2016

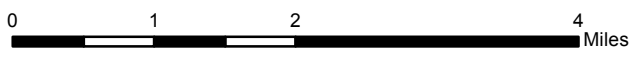


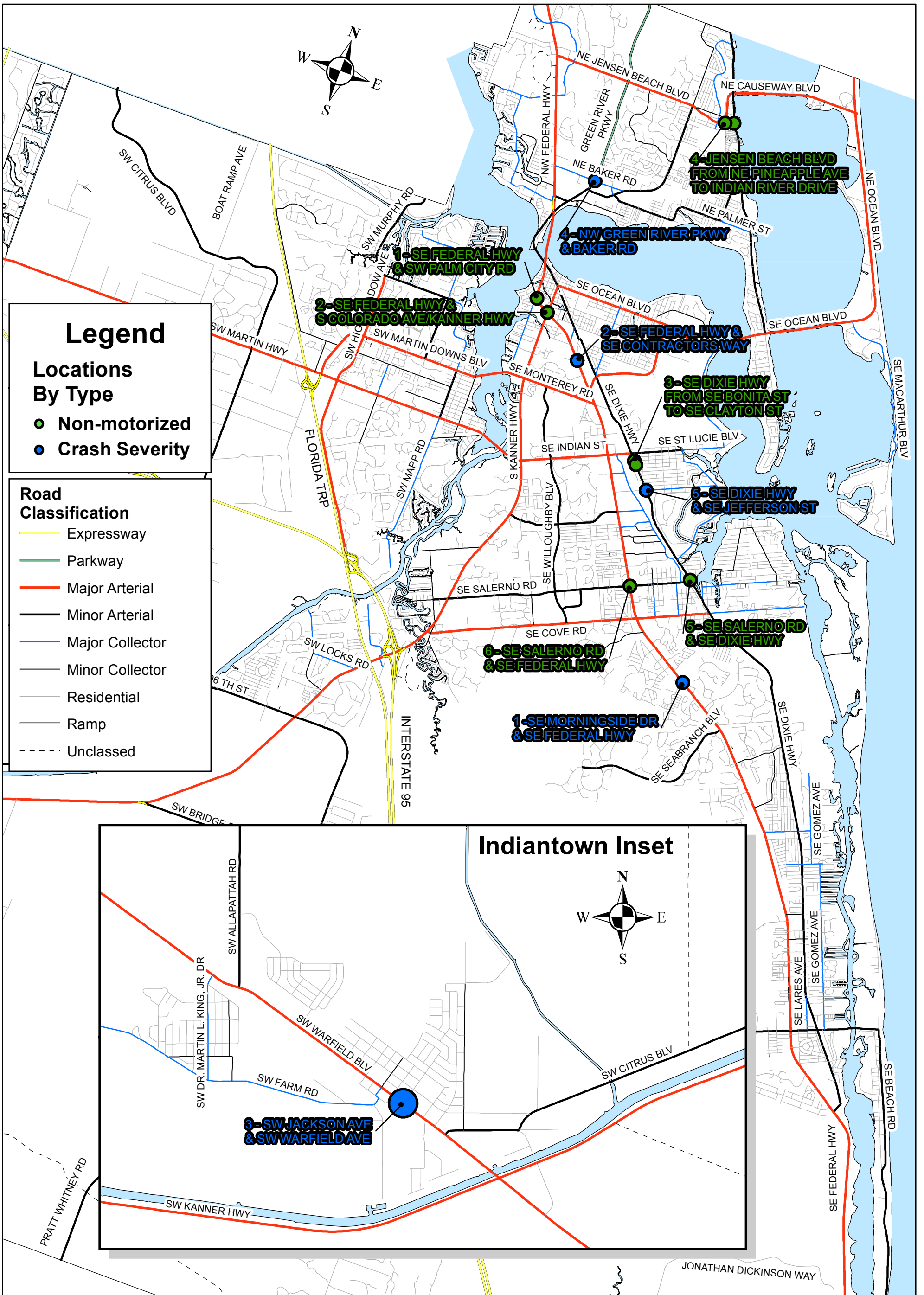


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Fatal Crash Locations

Jan 1, 2013 - June 30, 2016





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Analysis Locations

Jan 1, 2013 - June 30, 2016

0 1 2 4 Miles



2 Introduction

2.1 Background and Purpose

The U.S. Department of Transportation's (DOT) Strategic Plan articulates the goal of "working toward no fatalities across all modes of travel". Federal Highway Administration (FHWA) has adopted *Toward Zero Deaths* and Florida Department of Transportation annually produces its' *Highway Safety Plan*. The Martin County Comprehensive Growth Management Plan requires the Engineering Department 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 Five Year Work Program. The last Crash Surveillance Report collected data through June 30, 2013. Due to restrictions in the data source, this report has a six month overlapping period with the previous report.

2.2 Data Source

The information provided in this report was obtained from Signal Four Analytics (<https://s4.geoplan.ufl.edu/>). Signal Four Analytics 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 platform is an interactive, web-based spatial database designed to support the crash mapping and analysis needs of law enforcement and transportation agencies. The data is compiled from long and short form reports provided by the Division of Highway Safety and Motor Vehicles (DHSMV) and local law enforcement agencies such as the Martin County Sheriff's Office. Strong efforts have been made by staff to "scrub" the data to ensure its accuracy.

Crash data and statistics are available in many forms and it is also important to note that other agencies, such as the Florida Department of Transportation (FDOT), 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 Short and Long Form crash reports.

The crashes are categorized into the following categories and shown with their respective percent of total:

- Rear end (32.7%)
- Off Road (6.8%)
- Angle (3.9%)
- Unknown (2.5%)
- Rollover (1.3%)
- Pedestrian (0.9%)
- Other (29.7%)
- Left Turn (5.9%)
- Head on (3.9%)
- Right Turn (1.4%)
- Bicycle (1.3%)
- Animal (0.4%)

The crash types are self-explanatory with the exception of "Other". Examples include single vehicle crashes, parked vehicle crashes, and backing vehicle crashes. After reviewing the data, some instances of "Other" included cyclist or pedestrians and were reclassified as such.

3 Crash Analyses

From January 1, 2013 until June 30, 2016 there were a total of 16,433 reported crashes in Martin County involving 31,019 motorists, 219 Bicyclists and 183 pedestrians. The crashes resulted in: 83 fatalities (76 crashes); 4,632 personal injuries (3,270 crashes); and 13,087 crashes with property damage only.

Where applicable, suggestions to improve safety will be recommended. The American Association of State Highway and Transportation Officials, or AASHTO, produces many guiding documents related to transportation. This report will focus on the *Highway Safety Manual (HSM)* and the *Manual on Uniform Traffic Control Devices*, or MUTCD. The HSM was created in order to “measurably reduce the frequency and severity of crashes” and is a guiding document for physical changes to the built environment. Suggested countermeasures come with a crash mitigation factor (CMF) which serves as a guide when selecting an appropriate method to reduce crashes. The MUTCD is the guiding authority for traffic control devices throughout the nation to ensure minimum standards are met and to ensure conformity to help reduce crashes and congestion, and improves the efficiency of the surface transportation system.

3.1 Initial Review

Rear end collisions were found to be the most frequent crash type, accounting for nearly one-third (5,374) of the total crashes. Year after year, these are the most prevalent crash type. Regrettably, these crashes are not correctable by introducing changes to the built environment. 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. 77 percent of rear end collisions result in property damage only and account for \$25.8M in estimated damage.

Crashes classified as “Other” account for nearly 30 percent (4,877) of the total. Of these, 89 percent resulted in property damage only. 79 percent of pedestrian crashes and 75 percent of bicycle crashes resulted in an injury and are expanded upon in section 4. Although only accounting for 1.3 percent of the total crashes, rollovers are the most dangerous crash type. 52 percent resulted in injury and 4 percent were fatal. On the opposite end of the spectrum, only 10 percent of head on collisions resulted in injury and only 1 percent resulted in a fatality. Other facts of interest include:

- Traffic crashes resulting in fatalities have risen 50 percent in 2015 compared to 2013, and are on track to remain 50% higher in 2016.
- Alcohol accounted for one in five fatalities throughout the reporting period.
- Distracted driving accounted for two fatal crashes and both occurred on Interstate 95.
- Occurrences of distracted driving have risen 74 percent when comparing 2015 to 2013. If the pace continues, 2016 distracted driving will rise an additional 25 percent to be more than double the 2013 figure.
- The number of 2016 drug related crashes is on pace to double the 2013 number.

The core purpose of the report is to identify hotspots in order to establish priorities and implement changes that create a safer transportation network. High crash locations have and continue to be the focus of this report.

3.2 Intersection Refinement

A network analysis was performed on all crashes within 250 feet of the intersections in Martin County for calendar years 2013 through 2015 based on Signal Four’s crash severity formula. Crash severity was chosen over total number of crashes to follow the U.S. DOT’s approach of working towards zero fatalities.

Crash severity =

$$\frac{((12 * \text{Number of Fatal Crashes}) + (4 * \text{Number of Injury Crashes}) + \text{Number of Property Damage Only Crashes})}{\text{Total number of Crashes}}$$

This initial screening has a data limitation in that it does not analyze the entire study period. After the initial top five are selected, a secondary search will gather data until June 30, 2016. After verifying the new data is accurate, the crash severity will be updated. Table 2 displays the top 5 ranked intersections.

Table 2				
Intersection	Initial Number of Crashes	Initial Crash Severity	Total Number of Crashes	Final Crash Severity
SE MORNINGSIDE DR & SE FEDERAL HWY	12	2.92	16	3.19
SE FEDERAL HWY & SE CONTRACTOR WAY	15	3	15	3
SW JACKSON AVE & SW WARFIELD BLVD	11	2.82	15	2.43
NW GREEN RIVER PKWY & NE BAKER RD & NW BAKER RD	15	2.73	22	2.23
SE JEFFERSON ST & SE DIXIE HWY	11	2.64	16	2.13

Each location in Table 2 is expanded upon in the following pages.

1 - SE Morningside Drive & SE Federal Highway (US-1)



Crash Summary:

Crash Severity:	3.19
Total Crashes:	16
Total Fatality Crashes:	1
Total Injury Crashes:	8
Total PDO Crashes:	7

Geometric Configuration:

SE Morningside Dr:	2-lane, undivided
SE Federal Hwy:	6-lane, divided
Signalized:	No
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

SE Morningside Drive is the only ingress/egress for a 300+ unit, age restricted Planned Unit Development (PUD).

Notables:

More than half of the crashes at this location occurred due to motorists making a northbound left turn movement and either being struck by southbound motorists or rear end crashes occurring in the median. The lone crash resulting in a fatality occurred while attempting the northbound left movement. The speed limit on US-1 is 55 miles per hour.

An example of an effective countermeasure to reduce crashes at this intersection would be to change this open median geometry to a left-in only median. Motorists exiting Morningside Drive who wish to travel northbound on US-1 would be forced to head south 1,000 feet and make a U-turn via another left-only median opening with 500 feet of vehicle storage. Since Federal Highway is a state maintained facility, the recommendation will be transmitted to the Florida Department of Transportation.

2 - SE Federal Highway (US-1) & SE Contractors Way



Crash Summary:

Crash Severity:	3.00
Total Crashes:	15
Total Fatality Crashes:	0
Total Injury Crashes:	10
Total PDO Crashes:	5

Geometric Configuration:

SE Federal Hwy:	6-lane, divided
SE Contractors Way:	2-lane, undivided
Signalized:	No
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

The properties abutting the roadways include numerous restaurants/bars, retail space, car washes, recreational venues and a gas station.

Notables:

There were two pedestrian crashes and both occurred during non-daylight hours. Lighting is not present on the northbound side of US-1, south of SE Contractors Way. There is observed high pedestrian traffic at this location due to activities on either side of the roadway while the nearest crosswalk is .25 miles south.

One bicycle crash occurred at this location resulting in injury to the bicyclist. The bicyclist attempted to cross SE Federal Highway (east to west), failed to yield the right-of-way to oncoming traffic, and crashed into a motorist in transit. The bicyclist was cited for "Obstruction of Public Streets without Permit".

The remaining twelve crashes at this location involved only motorists. The prevailing crash type is rear end due to "failure to yield" and "careless driving". This location appears in the MPO's *Bicycle and Pedestrian Safety Action Plan* and its recommendation for engineering improvements will be identified in its *US1 Multimodal Corridor Study Phase II*.

3 - SW Jackson Avenue & SW Warfield Boulevard (SR-710)



Crash Summary:

Crash Severity:	2.43
Total Crashes:	14
Total Fatality Crashes:	1
Total Injury Crashes:	3
Total PDO Crashes:	10

Geometric Configuration:

SW Jackson Ave:	2-lane, undivided
SW Warfield Blvd:	4-lane, undivided
Signalized:	No
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

The properties abutting the roadways include numerous restaurants, retail space, banks, and a gas station.

Notables:

The lone pedestrian crash was also the only fatality. An alcohol-impaired pedestrian attempted to cross Warfield Boulevard and was struck by an eastbound motorist. At the time of the incident, Warfield Boulevard was undergoing construction. A signalized crosswalk has since been installed which provides a safe crossing point for individuals to reach their destinations and eliminate future pedestrian crashes.

4 - NW Green River Parkway & NE Baker Road & NW Baker Road



Crash Summary:

Crash Severity:	2.29
Total Crashes:	21
Total Fatality Crashes:	0
Total Injury Crashes:	9
Total PDO Crashes:	12

Geometric Configuration:

NW Green River Pkwy:	2-lane, undivided
NE Baker Rd:	2-lane, undivided
NW Baker Rd:	2-lane, undivided
Signalized:	No
Intersection Type:	Roundabout
Lighting (street/ped/other):	Yes

There are no businesses or residences that abut the roundabout.

Notables:

The predominant crash type at this location is “failure to yield”, which results in motorists driving straight through the circle or rear end collisions. There were ten single-vehicle crashes reported and six of those crashes identified the driver as operating under the influence of alcohol. Proper roadway signage notifying drivers of the roundabout are installed. Transverse rumble strips will be evaluated for their effectiveness and advanced warning beacons could be considered as a supplemental countermeasure.

5 - SE Jefferson Street & SE Dixie Highway (CR-A1A)



Crash Summary:

Crash Severity:	2.13
Total Crashes:	16
Total Fatality Crashes:	0
Total Injury Crashes:	6
Total PDO Crashes:	10

Geometric Configuration:

SE Dixie Hwy:	4-lane, undivided
SE Jefferson St:	2-lane, undivided
Signalized:	Yes
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

Located in the Golden Gate Community Redevelopment Area (CRA), properties around the intersection include restaurants, retail space, industrial uses and a church.

Notables:

Sideswipe crashes in the vicinity of this location are the highest among the analyzed intersections. Heading southbound on Dixie Highway, motorists in the outer lane are forced to merge within 300 feet of Jefferson Street. Although proper signage is installed notifying drivers of the impending merge, the signs will be upgraded for better visibility. The lone bicycle crash occurred when a motorist turning right-on-red, failed to see a cyclist and crept into the crosswalk. This section of Dixie Highway will be evaluated for a raised median to establish a divided highway and pedestrian scale lighting.

3.3 Rail Crossings

The Federal Railroad Administration (FRA) Office of Safety is the maintaining agency of rail related crashes. The FRA reports there were two such crashes reported in Martin County from January 1, 2013 to June 30, 2016:

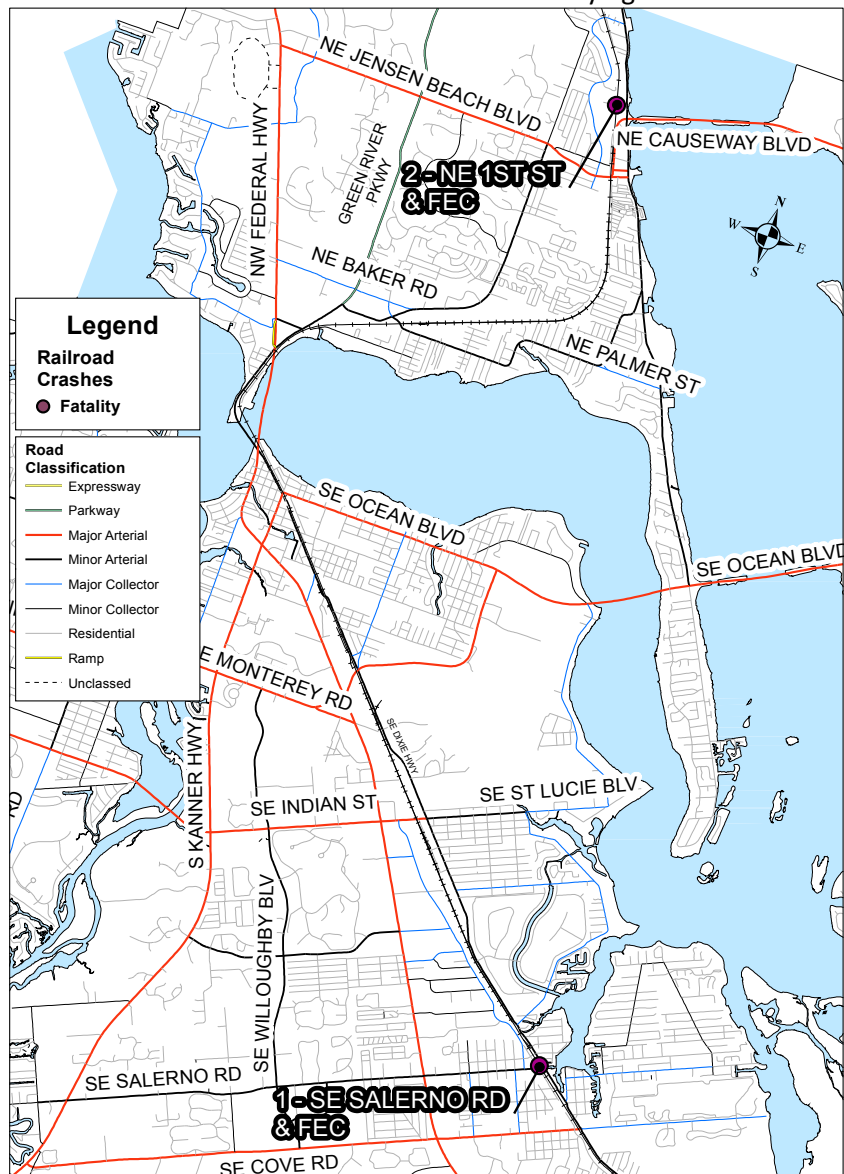
1 - SE Salerno Road over the FEC Railway

Motorist was heading eastbound on Salerno and made a momentary stop at the lowered gates. The driver maneuvered around the gate arms and was struck by the lead engine. Both the driver and a passenger sustained fatal injuries.

2 - NE 1st Street over the FEC Railway

The train was headed north on the Florida East Coast (FEC) Railway and a pickup truck was stopped on the track with its headlights off. The driver made no attempt to move from the path of the train and was struck by the lead engine. The driver was transported to the trauma center with unspecified injuries.

Both of these crashes are not correctable and are instances of disobeying the law.



4 Non-motorized

Pedestrians and cyclists are the most vulnerable users of the transportation network; and 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*. The Department has allocated \$100 million over the next five years for targeted State Highway System Intersection Lighting Retrofits to improve night-time visibility of pedestrians.

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* for Martin County. The locations identified as a result of this report are an attempt to avoid duplication of efforts made by the MPO.

4.1 Analysis of Non-motorized Crashes

During the study period, there were 140 pedestrian crashes of which 110 (79%) resulted in an injury and 8 (6%) were fatal. Nearly one-third of pedestrian crashes occurred in parking lots. There were 214 bicycle crashes of which 161 (75%) resulted in an injury and 5 (2%) were fatal. Table 3 displays both intersections and roadway segments with at least 3 crashes within 250ft of another, have not been recently reconstructed, and are prioritized by crash severity.

Location	Number of Crashes	Crash Severity	Fatality	Injury
SE FEDERAL HWY & PALM CITY RD	3	5.67	1	1
SE FEDERAL HWY & COLORADO ST / KANNER HWY	8	5.00	1	7
SE DIXIE HWY FROM BONITA ST TO CLAYTON ST	5	4.00	0	5
JENSEN BEACH BLVD FROM PINEAPPLE AVE TO INDIAN RIVER DR	6	3.50	0	5
SE DIXIE HWY & SE SALERNO RD	5	3.40	0	4
SE FEDERAL HWY & SE SALERNO RD	6	3.00	0	4

1 - SE Federal Highway (US-1) & Palm City Road



Crash Summary:

Crash Severity:	5.67
Total Crashes:	3
Total Fatality Crashes:	1
Total Injury Crashes:	1
Total PDO Crashes:	1

Geometric Configuration:

SE Morningside Dr:	2-lane, undivided
SE Federal Hwy:	6-lane, divided
Signalized:	Yes
Intersection Type:	T-Intersection
Lighting (street/ped/other):	Yes

The area is a mix of residential, office, restaurants and grocery store.

Notables:

The lone crash resulting in a fatality occurred in the afternoon on a clear day when an individual in a motorized wheelchair attempted to cross Federal Highway. The crash report does not specify further details such as signal phasing, possible distracted driving or whether or not the crash occurred in the crosswalk. Pedestrian activated beacons are available to cross Federal Highway.

Southbound motorists on Federal Highway are able to access Palm City Road via a channelized right. An injury crash occurred when a cyclist was in the roadway and a motorist made this free-flow right movement and could not brake in time to avoid the crash. Transverse rumble strips are installed to notify motorists of a speed reduction on Palm City Road. This location will be evaluated in the MPO's upcoming *US1 Multimodal Corridor Study Phase II*.

2 - SE Federal Highway (US-1) & Colorado Street / Kanner Highway (SR-76)



Crash Summary:

Crash Severity:	5.00
Total Crashes:	8
Total Fatality Crashes:	1
Total Injury Crashes:	7
Total PDO Crashes:	0

Geometric Configuration:

SE Federal Hwy:	6-lane, divided
Colorado St:	2-lane, divided
Kanner Hwy:	6-lane, divided
Signalized:	Yes
Intersection Type:	4-Way
Lighting (street/ped/other):	Yes

The area is a mix of retail, office, restaurants and banking institutions.

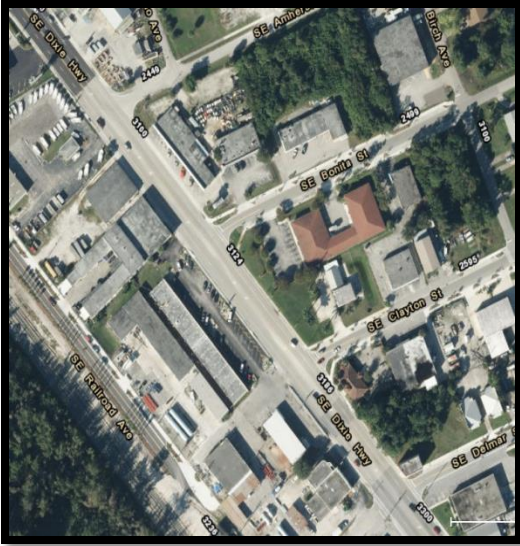
Notables:

This intersection is one of the busiest in Martin County. From the AM peak until the PM peak, this intersection handles between 2000 and 4000 vehicles per hour. Three of the five crashes occurred when motorist were attempting to pull into traffic and hit or were hit by non-motorist in the egress. One of these crashes was incorrectly labeled a fatality and reclassified by staff. In another case, a cyclist was hit in the northbound approach crosswalk when the pedestrian crossing phase ended and they were only half way across the intersection.

The most serious injury occurred when a pedestrian attempted to cross Federal Highway while not in the crosswalk on the westbound approach. An impaired driver turned southbound to westbound to the innermost lane, struck the pedestrian and fled the scene. A fatality occurred at this intersection which involved an alcohol-impaired cyclist who struck a motorist and sustained a serious head injury. The cyclist did not have proper lighting equipment or a helmet.

Roadway lighting is prevalent on the north side of Federal Highway and FDOT is currently evaluating the need for pedestrian scale lighting at this location and all of its other signalized intersections on the State Highway System.

3 - SE Dixie Highway (CR-A1A) from Bonita Street to Clayton Street



Crash Summary:

Crash Severity:	4.00
Total Crashes:	5
Total Fatality Crashes:	0
Total Injury Crashes:	5
Total PDO Crashes:	0

Geometric Configuration:

SE Dixie Hwy:	4-lane, undivided
Bonita St:	2-lane, undivided
Clayton St:	2-lane, undivided
Signalized:	No
Intersection Type:	T-Intersection(s)
Lighting (street/ped/other):	Yes

Located in the Golden Gate Community Redevelopment Area (CRA), properties around the segment include restaurants, retail space, industrial uses and a church.

Notables:

4 of the 5 non-motorist crashes occurred after dusk. This segment of Dixie Highway will be evaluated for a raised medians and highly visible mid-block crosswalks. This will provide a refuge for non-motorists crossing the street and are shown to reduce pedestrian and motorist crash rates. The intersection of Jefferson and SE Dixie Highway, just south of this segment which appears on the crash severity list, will benefit from these treatments as well.

4 – Jensen Beach Boulevard from Pineapple Avenue to Indian River Drive (CR-707)



Crash Summary:

Crash Severity:	3.50
Total Crashes:	6
Total Fatality Crashes:	0
Total Injury Crashes:	5
Total PDO Crashes:	1

Geometric Configuration:

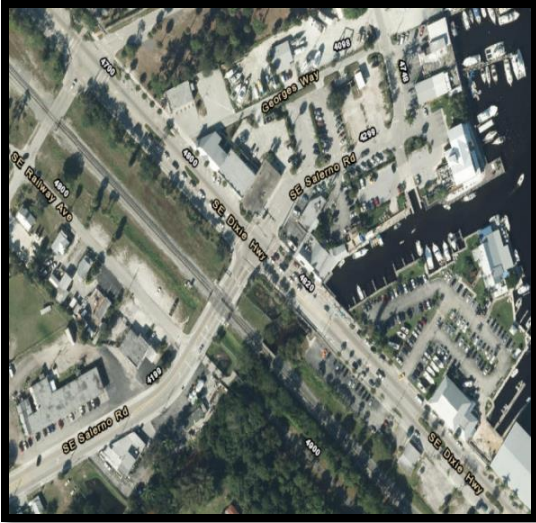
Jensen Beach Blvd:	2-lane, undivided
Pineapple St:	2-lane, undivided
Indian River Dr:	2-lane, undivided
Signalized:	No, Yes
Intersection Type:	Roundabout, T-Intersection
Lighting (street/ped/other):	Yes

Located in the Jensen Beach CRA, properties around the segment include many restaurants, retail space, banking institutions and grocery shopping.

Notables:

All crashes in this segment occurred in a crosswalk or driveway. Two incidents are the result of cyclists failing to yield to motorists who were obeying the traffic laws and had the right-of-way. Three instances occurred when motorist crept forward into the sidewalk/crosswalk and impeded the movement of the non-motorist. The final crash was the result of a non-motorist traveling against the flow of traffic on an electric scooter and was struck by the motorist. The crashes in driveways are typically the case of motorists having limited sight distance; reported injuries were minor.

5 - SE Dixie Highway (CR-A1A) & SE Salerno Road



Crash Summary:

Crash Severity:	3.40
Total Crashes:	5
Total Fatality Crashes:	0
Total Injury Crashes:	4
Total PDO Crashes:	1

Geometric Configuration:

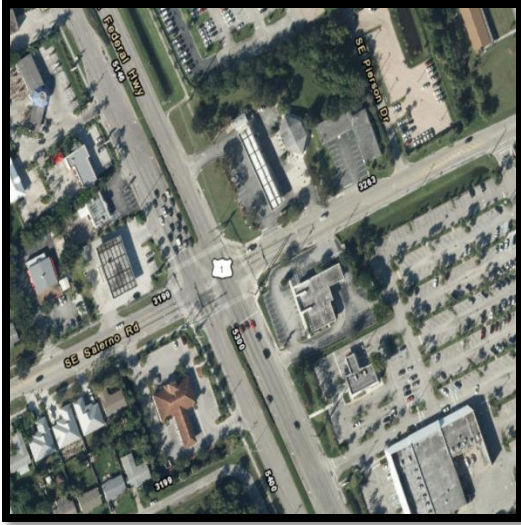
SE Dixie Hwy:	2-lane, undivided
SE Salerno Rd:	2-lane, undivided
Signalized:	Yes
Intersection Type:	4-Way
Lighting (street/ped/other):	Yes

Located in the Port Salerno CRA, properties around the segment include many restaurants, bars and retail space with residential properties surrounding.

Notables:

In three instances of injuries, non-motorists failed to yield to motorists whom were obeying the traffic laws. The remaining injury occurred when a backing motorist hit a pedestrian in a parking lot. The property damage only crash is the result of a motorist attempting a U-turn and failing to yield to a southbound cyclist. All of the injury crashes occurred after 6PM in this high pedestrian traffic area. Pedestrian lighting at the intersection will be included with the FY 17 streetlight replacement project.

6 - SE Federal Highway (US-1) & SE Salerno Road



Crash Summary:

Crash Severity:	3.00
Total Crashes:	6
Total Fatality Crashes:	0
Total Injury Crashes:	4
Total PDO Crashes:	0

Geometric Configuration:

SE Federal Hwy:	6-lane, divided
SE Salerno Rd:	2-lane, undivided
Signalized:	Yes
Intersection Type:	4-Way
Lighting (street/ped/other):	Yes

Properties around the intersection include retail space, banking institutions, restaurants, gas stations and grocery shopping.

Notables:

In two instances of injury crashes, motorists failed to yield to cyclists who were obeying the traffic laws. Two other injury crashes occurred when non-motorists failed to yield to motorists. One cyclist was involved in a PDO crash by improperly riding in the bicycle lane, against traffic, along Federal Highway.

Three pedestrians were involved in one incident when attempting to cross Salerno Road downstream from the marked crosswalk. Due to the number of crashes throughout the years, a traffic separator on the east approach of Salerno will be included with the FY 20 resurfacing project.

5 Fatalities

During the study period, there were a total of 76 fatal crashes in Martin County. Seventeen occurred on either Interstate 95 or Florida's Turnpike which did not involve non-motorists and will not be expanded upon in this report. After excluding incidents from the two interstate highways, 44 fatal crashes involved motorists only. Thirteen of these fatalities involved alcohol-impairment. Five bicycle crashes resulting in a fatality are detailed in Table 4. Nine pedestrian crashes resulting in a fatality were reported and are detailed in Table 5.

Five bicyclist fatalities were recorded during the study period.

Table 4			
Location	Fatalities	Crash Type	Contributing Factor
SE FEDERAL HWY & COLORADO ST / KANNER HWY	1	Bicycle	Impaired Cyclist
11500 SW KANNER HWY / PRIVATE ROAD	1	Bicycle	Improper Backing
SE FEDERAL HWY & WRIGHT ST	1	Bicycle	Visibility
SE DIXIE HWY & LARES AVE	1	Bicycle	Cyclist
SE FEDERAL HWY & SW 3 RD ST	1	Bicycle	Cyclist

Ten pedestrian fatalities were recorded during the study period.

Table 5			
Location	Fatalities	Crash Type(s)	Contributing Factor
US-1 & HARPER ST	1	Pedestrian	N/A
US-1 & JOAN JEFFERSON WAY	1	Pedestrian	N/A
US-1 & GOLDENROD ROAD	1	Pedestrian	N/A
WARFIELD BLVD & JACKSON AVE	1	Pedestrian	Impaired Pedestrian
WASHINGTON ST & DRYFUS AVE	1	Pedestrian	N/A
FEDERAL HWY & PALM CITY RD	1	Pedestrian	N/A
PARKING LOT NEAR WARFIELD BLVD & JACKSON AVE	2	Pedestrian	Improper Backing
I-95 NORTH OF KANNER HWY	1	Pedestrian	Impaired Pedestrian
I-95 2 MILES NORTH OF INDIANTOWN RD	1	Pedestrian	N/A