



2015 Pinellas County Traffic Crashes: Overview

This edition of the *Traffic Crash Trends and Conditions Report* summarizes the crashes, injuries, and deaths that occurred on Pinellas County roadways during the 2015 calendar year. The analysis contained in this report is based on available data from several sources including; the Pinellas County Crash Data Management System (CDMS), Florida Department of Highway Safety and Motor Vehicles (FDHSMV), Florida's Integrated Report Exchange System (FIRES), the National Highway Traffic Safety Administration (NHTSA), and other traffic crash data repositories. In most instances 2015 data was utilized, however in other cases the latest available data is from 2014 and is so noted.

Effective January 1, 2011, the FDHSMV mandated the use of a new Florida Traffic Crash Form, HSMV 90010S, which has been

utilized for all crashes involving a motor vehicle that occurred on or after that date. Several new fields were added to provide additional information on safety equipment, commercial vehicles, and crash conditions. Given the change in reporting formats that occurred in 2011, the bulk of the data contained in this report uses 2011 as a baseline year.

The information provided in this report will help to inform local governments, transportation planners, law enforcement agencies, consultants, traffic engineers, and others of the current trends in crashes, injuries, and fatalities in Pinellas County. This data should also be used, along with other criteria, in the planning and/or programming of transportation-related safety projects, grant applications, long-range transportation forecasting and targeted law enforcement activities.

In 2015:

- 28,501 traffic crashes occurred in Pinellas County and were reported to the Florida Department of Highway Safety and Motor Vehicles (FDHSMV) (*up 7% from 2014*)
- 101 people died (*down 15% from 2014*)
- 4,416 people were injured (*up 4% from 2014*)
- Estimated economic cost of crashes, injuries and fatalities in Pinellas County: \$1,540,835,100¹
- The intersection of Gulf-to-Bay Blvd. (SR 60) and Belcher Road in Clearwater was the most dangerous intersection in 2015 with an intersection crash rate of 5.23 crashes per million entering vehicles
- The segment of Live Oak Street from Alt. 19 to Safford Ave. in Tarpon Springs was the most dangerous corridor in 2014 with a segment crash rate of 77.42 crashes per million entering vehicles

On an average day in 2015:

- 77 crashes
- .27 deaths and 12 injuries
- Average daily cost in Pinellas County: \$4,221,466.03

2015 distracted driving statistics:

- 3,164 crashes
- 9 deaths and 569 injuries
- Estimated economic cost in Pinellas County: \$72,293,100

Key findings from the 2016 Traffic Crash Trends and Conditions Report

- Impaired driving traffic fatalities continue to decrease**
In 2015, Pinellas County experienced a total of 24 traffic fatalities due to driver impairment, a 57% decrease since 2011. This large percent reduction in fatalities is encouraging even though impaired driving crashes in Pinellas County have remained relatively constant since 2011 (up 1%).
- Teen driving traffic crashes continue to rise**
Over the past 5 years (2011 to 2015), the number of crashes involving drivers age 15 to 19 has dramatically increased from 1,616 to 3,128 (up 63%).
- An alarming number of pedestrian fatalities are occurring at night along illuminated roadways**
Almost two-thirds (65%) of the pedestrians killed in traffic crashes were walking along or across roads that were illuminated from overhead streetlights.

¹ http://www.nsc.org/NSCDocuments_Corporate/estimating-costs-unintentional-injuries-2016.pdf

Introduction

Providing a safe and secure transportation system for the traveling public is a fundamental goal of the Forward Pinellas 2040 Long Range Transportation Plan (LRTP) and Unified Planning Work Program (UPWP). This report supports that goal by detailing traffic crash trends and documenting progress towards achieving various safety goals. The purpose of the *Traffic Crash Trends and Conditions Report* is to provide summary information about the crashes that are reported each year. The term “crash” is used in preference to “accident”. The latter term suggests there is a random, unavoidable quality about the events in question. In fact, several decades of crash research strongly demonstrates that advances in engineering and technology, coupled with changes in public policy and individual human behavior, can dramatically reduce the number and severity of traffic crashes.

A single crash may have many contributing factors. For example, cell phone use or adjusting the radio may lead to driver distraction, which together with wet, slippery pavement and high traffic congestion at an intersection causes a traffic crash. In general, a handful of factors such as roadway characteristics and environmental factors affect the majority of traffic crashes. The following section outlines some of the factors most frequently associated with crash incidence and severity.

Vehicle Safety Factors - Engineering improvements to vehicle safety systems can help prevent crashes from occurring. Features such as lane departure warning systems and forward collision warning systems automatically notify the driver of unsafe situations and are becoming more common in new vehicles. When there is a crash, vehicles designed for safety can increase survivability. For example, the design of windshield glass and the location and durability of gas tanks can increase safety. The “passenger packaging” inside a vehicle can reduce injury severity through means such as padded dashboards and collapsible steering wheel columns. Passenger protection systems in vehicles (airbags, safety belts, etc.), if used, can eliminate injuries or reduce their severity. A review of the last 5 years of crash data in Pinellas County shows that while crashes have increased by 60% since 2011, the number of injuries have

decreased by 20% over the same time period. This inverse relationship is most likely due to advances in vehicle safety systems.

Behavior factors - For all crashes and fatal crashes, the driver behaviors police cite most often as contributing factors are, in order of frequency: operating a motor vehicle in a careless or negligent manner, failure to yield and improper backing. Reducing these behaviors would reduce crashes. Further, when there is a crash, using seat belts will likely reduce a crash’s severity.

Roadway characteristics - Limited access facilities and high speed/high volume roadways carry a majority of the traffic volume in Pinellas County. As Vehicle Miles Traveled (VMT) increases along these corridors, so does the probability of crashes and injuries.

Environmental factors - Weather conditions affect crash incidence and severity. Pinellas County does not experience significant weather variability; consequently, fatal crashes do not have a pronounced seasonal variation.

This report provides a statistical summary of crashes, injuries, and fatalities in the areas noted below.

- Performance Measures (Federal Highway Administration - FHWA and Strategic Highway Safety Improvement Plan - SHSP)
- Overall Trends in Florida
- Overall Trends in Pinellas County
- Intersection and Segment Crash Rates
- Gulf Boulevard Crashes
- Pedestrian Fatality Benchmark Against Other Urbanized Florida Counties

The performance measures section of the report is new this year and is included to inform the reader of the State and National metrics that will begin to be tracked in Pinellas County to monitor the effectiveness of traffic safety programs.

Performance Measures Key

Federal Highway Administration – Fixing America’s Surface Transportation Act or “FAST Act”	
Number of fatalities	Rate of fatalities
Number of serious injuries	Rate of serious injuries
Florida’s Strategic Highway Safety Improvement Plan (SHSP) Focus Areas	
Aggressive Driving	Lane Departures
Intersection Crashes	At-Risk Drivers
Vulnerable Road Users	Distracted Driving

“FAST Act” Performance Measures

On December 4, 2015, President Obama signed the Fixing America’s Surface Transportation (FAST) Act into law which among other things continued the reforms instituted in the Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012. This legislation requires the enactment of planning processes that are more streamlined, performance-based, and multimodal in order to address the safety challenges facing the U.S. transportation system. The FAST Act authorizes FHWA to establish safety performance measures however, local metropolitan planning organizations (MPO’s) have the ability to set their own targets. With this in mind, the *2016 Traffic Crash Trends and Conditions Report* has been re-structured to begin the process of reporting on those safety performance measures. Although the safety performance measures for the transportation

system have been established, safety targets and reporting requirements towards meeting those targets have not been set. The legislation requires that the identification of safety targets and reporting progress towards meeting those targets must begin within 180 days of the State of Florida establishing and reporting its Highway Safety Improvement Plan (HSIP) targets to FHWA. The process of identifying safety targets is anticipated to begin in the very near future.

Below are charts and a scorecard for the FHWA Safety Performance Measures, as applied to Pinellas County, which indicates a positive trend for most of these safety metrics. The data included in the 2015 5-year rolling average will become the baseline for all future safety performance measure reporting.

Figure 1 – FAST Act Safety Performance Measures by Crash, 2011-2015

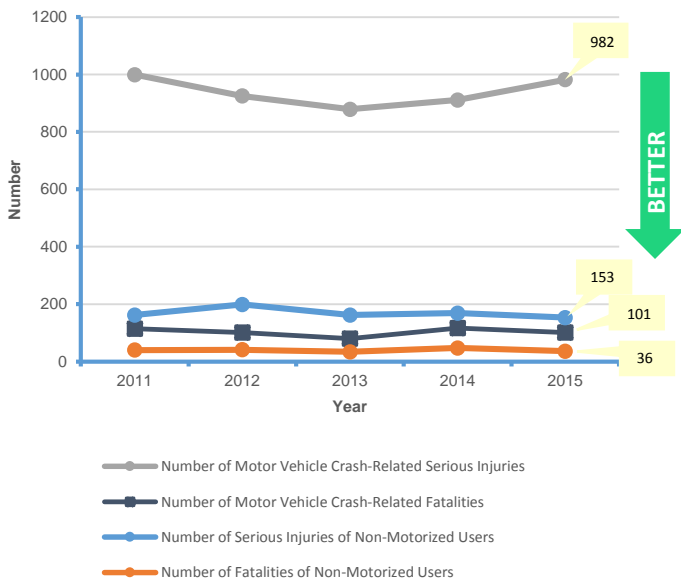


Figure 2 – FAST Act Safety Performance Measures by VMT, 2011-2015

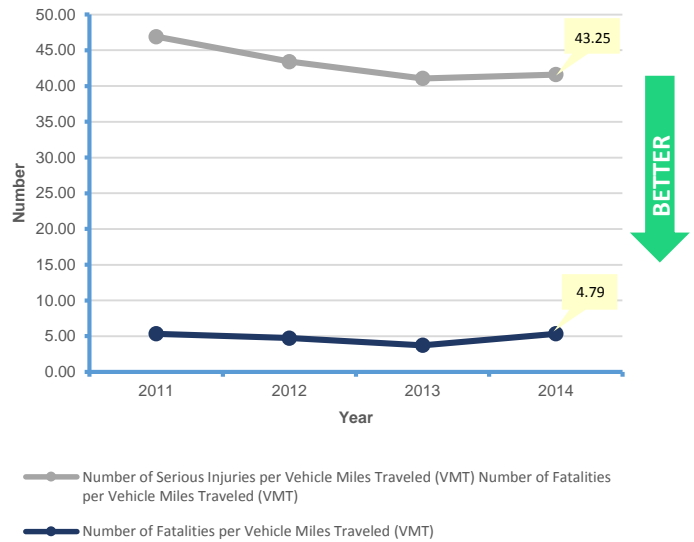


Table 1 – FHWA Safety Performance Measures, Pinellas County, 2011-2015

FHWA SAFETY PERFORMANCE MEASURES	2011	2012	2013	2014	2015	5 Year Rolling Avg. 2015	5 Year % Change (2011-2015)
Number of Motor Vehicle Crash-Related Serious Injuries	999	925	879	911	982	939	-1%
Number of Motor Vehicle Crash-Related Fatalities	114	101	80	117	101	103	-12%
Number of Serious Injuries of Non-Motorized Users	162	199	162	169	153	169	-5%
Number of Fatalities of Non-Motorized Users	40	41	34	47	36	40	-10%
Number of Serious Injuries per Vehicle Miles Traveled (VMT)	46.90	43.43	41.07	41.60	*	43.25	-11%
Number of Fatalities per Vehicle Miles Traveled (VMT)	5.35	4.74	3.74	5.34	*	4.79	-0.1%

* 2015 Vehicle Miles Traveled (VMT) data for Pinellas County was not available at the time this report was published

Florida’s Strategic Highway Safety Improvement Plan (SHSP) Performance Measures

Another element of transportation safety planning is the SHSP. The Florida Department of Transportation (FDOT) developed their SHSP in 2012 in collaboration with the Departments of Education, Health, Highway Safety and Motor Vehicles, Transportation, and the Florida Highway Patrol, dozens of traffic safety organizations, cities and counties, as well as private sector businesses. This effort resulted in a statewide, data-driven plan that addresses the “4-E’s” of safety – engineering, enforcement, education, and emergency response.

Florida’s SHSP goal is to achieve at least a five percent annual reduction in the actual number of fatal and serious injury crashes in seven focus areas that are defined below.

The hard work and dedication of safety partners in implementing the SHSP is paying off. Between 2011 and 2015, Pinellas County’s fatalities due to driver impairment dropped by 27% from 3,365 to 2,444, and serious injuries decreased 56% from 43 to 24. Furthermore, serious injuries resulting from aggressive driving, lane departures, as well as those incidents occurring at intersections and involving at-risk drivers all experienced double-digit percentage declines since 2011. Below are summary charts and a detailed scorecard on Pinellas County’s progress towards meeting the State’s five percent annual reduction goal for the identified focus areas.

- **Aggressive Driving** - A crash involving a driver who; failed to yield right-of-way, failed to keep in the proper lane, followed too closely, ran a red light, ran a stop sign, passed improperly, exceeded the posted speed limit, disregarded other road markings, operated a motor vehicle in an erratic

or reckless manner, or who disregarded other traffic signage.

- **Intersection Crashes** - A crash in which the first harmful event occurs within the limits of an intersection.
- **Vulnerable Road Users** - Pedestrians, bicyclists or motorcyclists.
- **Lane Departure Crashes** - A crash where the driver’s vehicle impacted a utility pole, light support, traffic sign/signal support, tree, mailbox, guardrail, fence, ditch, culvert, concrete traffic barrier, cable barrier, bridge trail, bridge pier or support. This definition also includes any vehicle sideswipe or rollover.
- **Impaired Driving** - A crash involving a person who is suspected of drug or alcohol use or is under the influence of medication.
- **At-Risk Drivers** - A crash involving a 15-19 year old person or a person 65 years old or older.
- **Distracted Driving** - A crash resulting from the driver being distracted by electronic communication devices (cell phone, etc.), other electronic devices (navigation device, DVD player), other distraction inside the vehicle, external distraction (outside the vehicle), texting or general inattentiveness.

Figure 2 – SHSP Safety Performance Measures, Serious Injuries

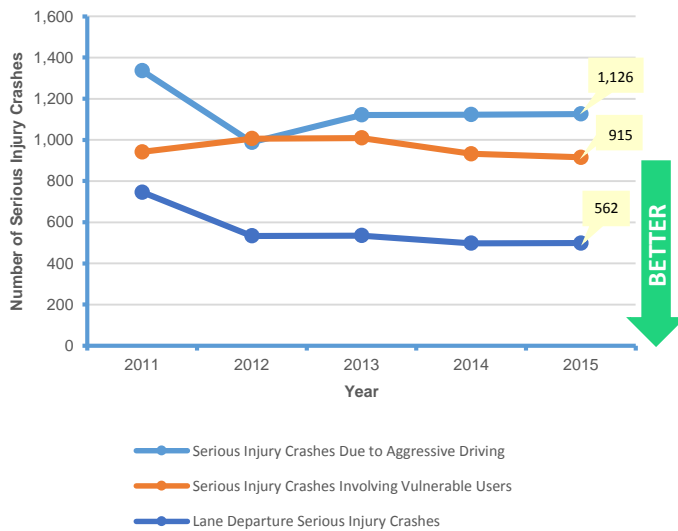


Figure 3 – SHSP Safety Performance Measures, Serious Injuries

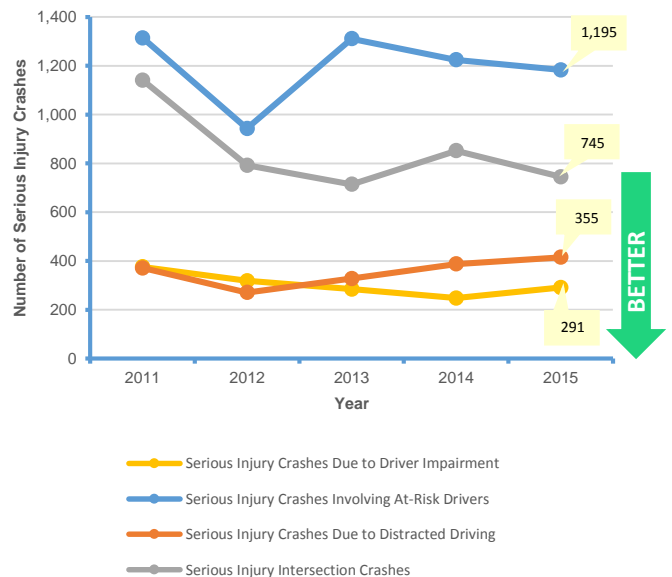


Figure 4 – SHSP Safety Performance Measures, Fatal Crashes

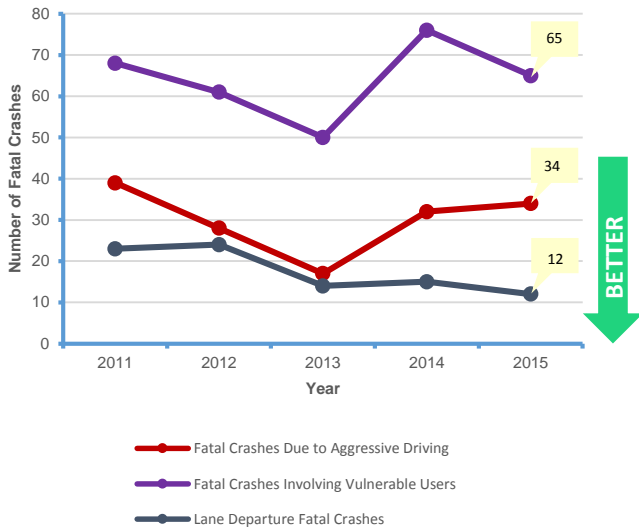


Figure 5 – SHSP Safety Performance Measures, Fatal Crashes

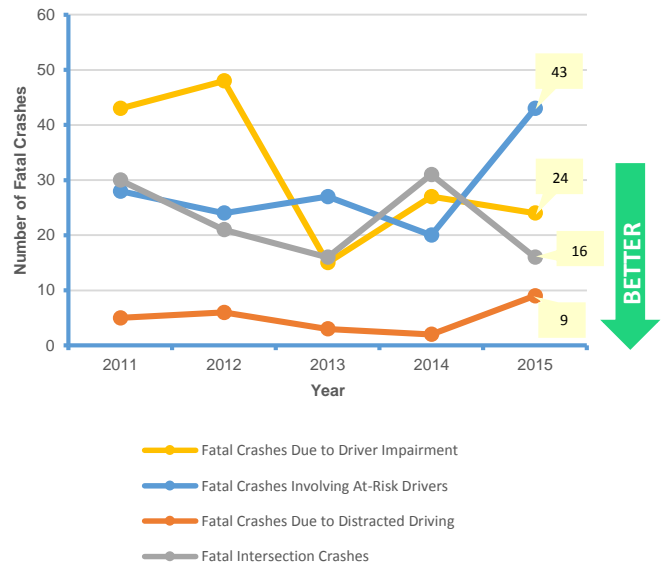


Table 2 – SHSP Safety Performance Measures, Pinellas County, 2011-2015

STRATEGIC HIGHWAY SAFETY PLAN FOCUS AREAS	2011	2012	2013	2014	2015	5 Year Rolling Avg. 2015	5 Year % Change (2011-2015)
Serious Injury Crashes Due to Aggressive Driving	1,336	988	1,121	1,123	1,126	1,139	-17%
Serious Injury Crashes Involving Vulnerable Users	942	1,006	1,009	932	915	961	-2%
Lane Departure Serious Injury Crashes	746	534	535	498	499	562	-39%
Serious Injury Crashes Due to Driver Impairment	376	319	285	248	291	304	-1%
Serious Injury Crashes Involving At-Risk Drivers	1,314	943	1,311	1,224	1,183	1,195	-25%
Serious Injury Crashes Due to Distracted Driving	371	271	328	388	415	355	11%
Serious Injury Intersection Crashes	1,141	792	714	852	745	849	-41%
Fatal Crashes Due to Aggressive Driving	39	28	17	32	34	30	-13%
Fatal Crashes Involving Vulnerable Users	68	61	50	76	65	64	-4%
Lane Departure Fatal Crashes	23	24	14	15	12	18	-62%
Fatal Crashes Due to Driver Impairment	43	48	15	27	24	31	-56%
Fatal Crashes Involving At-Risk Drivers	28	24	27	20	43	28	42%
Fatal Crashes Due to Distracted Driving	5	6	3	2	9	5	57%
Fatal Intersection Crashes	30	21	16	31	16	23	-60%

Source: Pinellas County Crash Data Management System (CDMS)

Trends in Florida

Florida is the 3rd most populous state in the country with over 20 million persons according to the latest population estimates from the United States Census Bureau. Florida's population has grown over 6% since 2011 and is projected to continue to climb well into the foreseeable future. This growth in population, along with other factors, has had a direct impact on the amount of users of the road network. Vehicle Miles Traveled (VMT), the number of

licensed drivers, and the average annual retail price of gasoline are all variables that directly impact the driving habits of Floridians. In 2015, all these factors were trending in a direction which resulted in an increase in motor vehicle usage. You will see on the following page that these trends have resulted in a higher occurrence of traffic crashes, injuries, and fatalities across the state.

Figure 6 – Population in Florida, 2011-2015

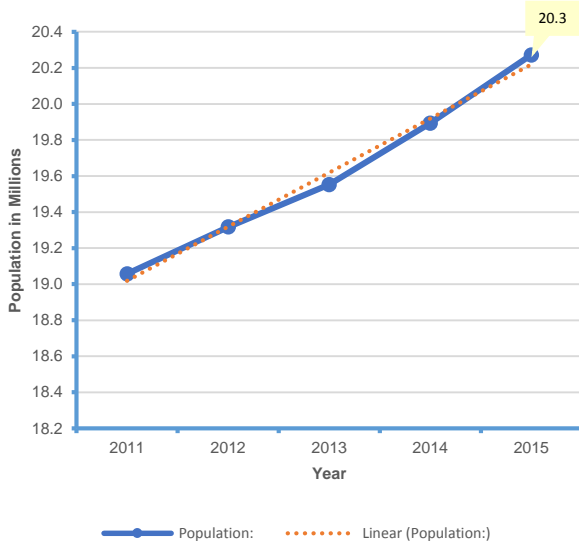


Figure 7 – Vehicle Miles Traveled in Florida, 2011-2014

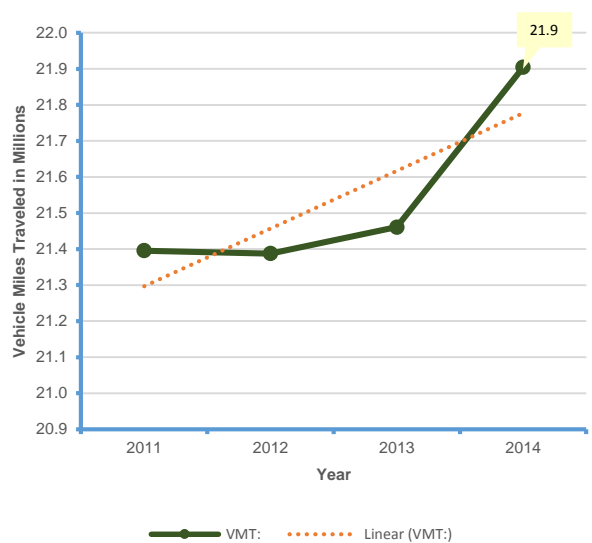


Figure 8 – Licensed Drivers in Florida, 2011-2015

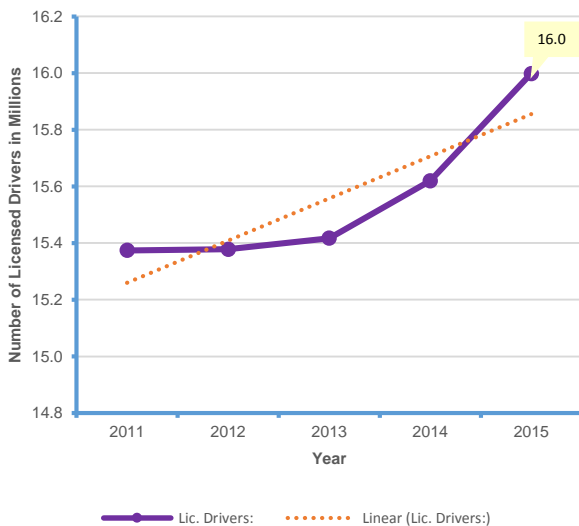
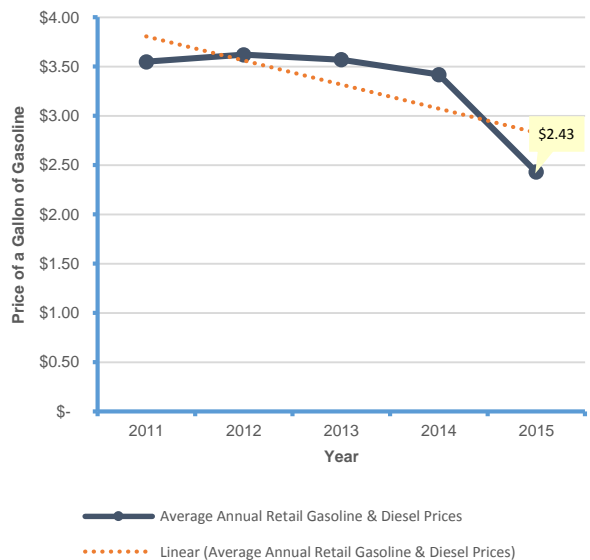


Figure 9 – Average Annual Price of Retail Gasoline in Florida, 2011-2015



There were 374,511 traffic crashes reported to FDHSMV in 2015, an increase of 8% from 2014. There were 2,938 deaths on Florida roads, a 19% increase from the previous year. Over the 5-year time period, crashes, injuries, and fatalities involving motor vehicles as well as those involving pedestrians and bicyclists have experienced double-digit increases since the 2011 baseline year. Based on these figures it is clear that much work still needs to be done. There must continue to be a

sustained focus on taking additional steps to improve traffic safety including strengthening traffic laws, enhancing enforcement, expanding education and outreach, and continuing to develop engineering solutions, where feasible. These elements are all part of the state's "Alert Today Alive Tomorrow" initiative – a multidisciplinary program addressing traffic issues at all levels of government.

Figure 10 – Crash Trends in Florida, 2011-2015

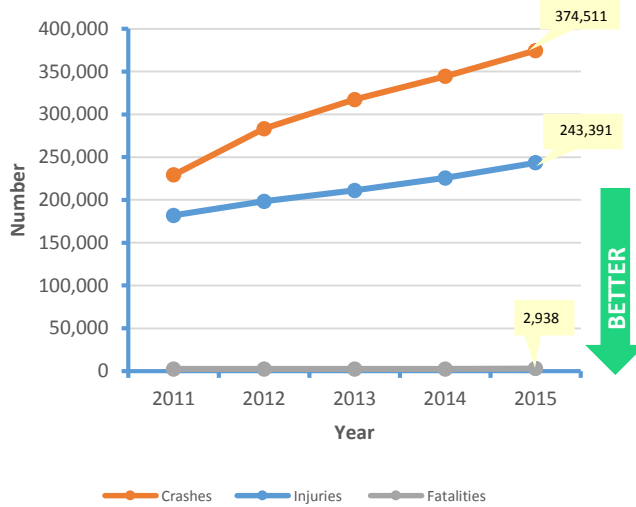


Figure 11 – Pedestrian/Bicycle Crash Trends in Florida, 2011-2015

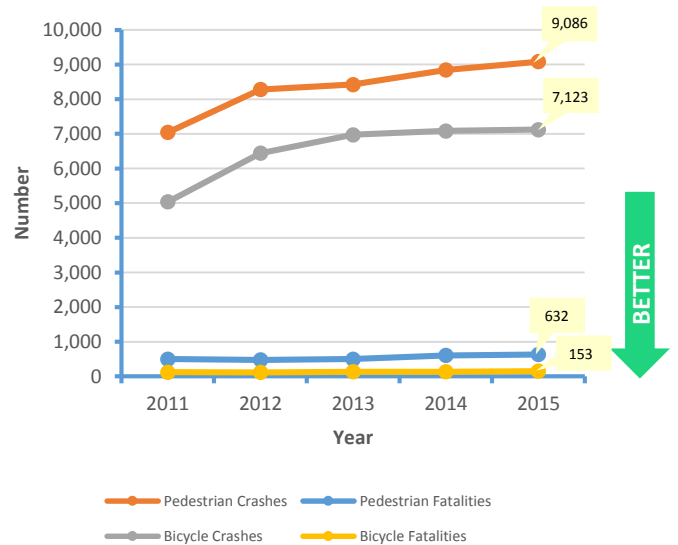


Table 3 – Florida Crash and Driving Data, 2011-2015

FLORIDA TRENDS	2011	2012	2013	2014	2015	5 Year % Change (2011-2015)
Total Motor Vehicle Crashes	229,214	283,370	317,259	344,478	374,511	48%
Total Injuries	182,010	198,483	211,124	225,758	243,391	28%
Total Fatalities	2,404	2,422	2,403	2,497	2,938	19%
Total Pedestrian Crashes	7,045	8,280	8,422	8,845	9,086	25%
Total Pedestrian Fatalities	498	476	498	607	632	23%
Total Bicycle Crashes	5,037	6,442	6,974	7,086	7,123	34%
Total Bicycle Fatalities	120	117	135	135	153	24%
Population	19,057,542	19,317,568	19,552,860	19,893,297	20,271,272	6%
Vehicle Miles Traveled (VMT)	21,395,381	21,387,550	21,460,593	21,904,344	*	2%
Licensed Drivers	15,374,230	15,378,206	15,417,032	15,620,312	15,998,416	3%
Avg. Annual Retail Gasoline & Diesel Prices	\$3.55	\$3.62	\$3.57	\$3.42	\$2.43	-37%

Source: Florida Department of Highway Safety and Motor Vehicles (FDHSMV), Florida's Integrated Report Exchange System (FIRES)

* 2015 Vehicle Miles Traveled (VMT) data for Pinellas County was not available at the time this report was published

Trends in Pinellas County

In 2015, a total of 28,501 motor vehicle crashes were reported in Pinellas County. Of these, 99 resulted in one or more fatalities, while 3,465 caused serious injuries. For the vast majority of crashes (20,798), there were no injuries or fatalities reported. There were 101 traffic crash fatalities in Pinellas County in 2015-16 less fatalities than the 117 in 2014. The 15% decrease is generally consistent in the downward trend of traffic fatalities since 2011 as reflected in the graph and table below.

Reducing the number of traffic crashes remains a challenge given increases in population, VMT, the number of licensed drivers, and the declining price in the cost of a gallon of gasoline. As these numbers steadily increase, Pinellas County continues to face challenges in reducing the number and severity of traffic crashes.

Figure 13 – Crash Trends in Pinellas County, 2011-2015

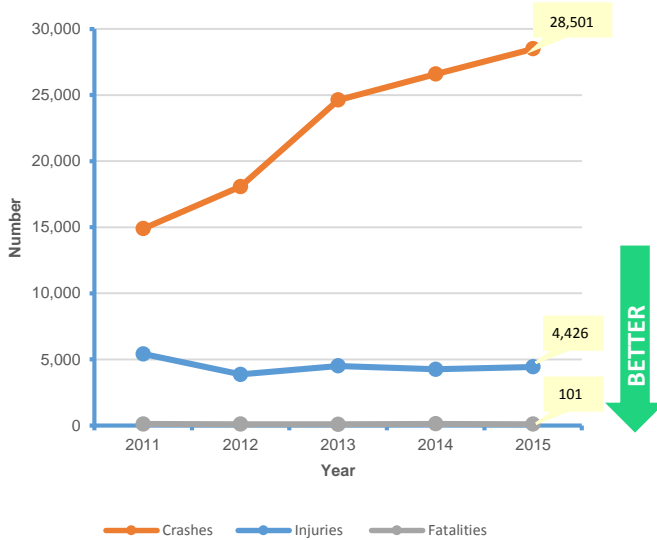


Figure 14 – Vulnerable User Crash Trends in Pinellas County, 2011-2015

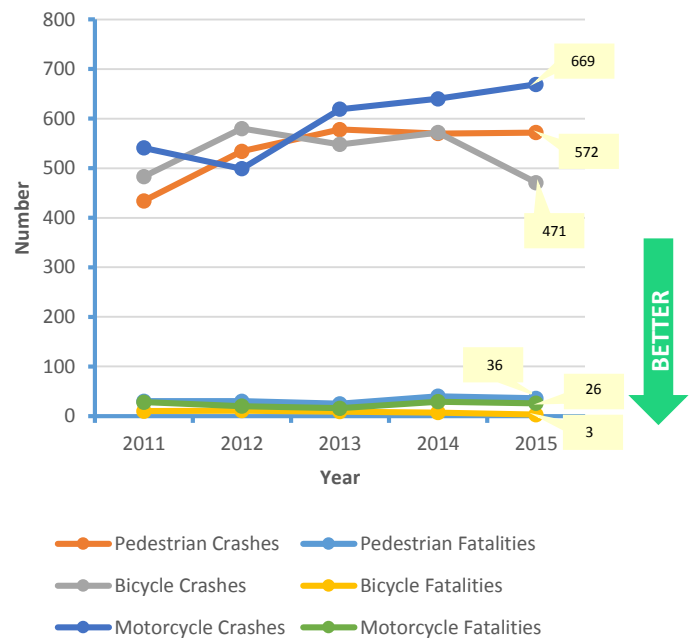


Table 4 – Pinellas County Crash Trends, 2011-2015

PINELLAS COUNTY CRASH TRENDS	2011	2012	2013	2014	2015	5 Year % Change (2011-2015)
Total Motor Vehicle Crashes	14,896	18,071	24,624	26,580	28,501	62%
Total Injuries	5,416	3,859	4,502	4,249	4,426	-20%
Total Fatalities	114	101	80	117	101	-12%
Total Pedestrian Crashes	434	534	578	570	572	27%
Total Pedestrian Fatalities	30	30	25	40	36	18%
Total Bicycle Crashes	483	580	548	572	471	-2%
Total Bicycle Fatalities	10	11	9	7	3	-107%
Total Motorcycle Crashes	541	499	619	640	669	21%
Total Motorcycle Fatalities	28	20	16	29	26	-7%

Source: Pinellas County Crash Data Management System (CDMS)

WHO was involved

Among drivers, young people and males are over-represented in traffic crashes in Pinellas County. There are 734,149 licensed drivers in the county. People aged 15-19 make up 4% of the licensed drivers, yet they accounted for 9% of the crash-involved drivers. However, drivers aged 20-29 are the worst from this perspective. In 2015, they represented 14% of the licensed drivers, but 24% of all crash-involved drivers. By contrast drivers 60-69 made up 16% of the driving population, but only accounted for 10% of crash-involved drivers. Crash-involved drivers are also more likely to be males: 77% of drivers in fatal crashes were male; 50% of drivers in all crashes were male.

Traffic crashes are a leading cause of death in young people². In Pinellas County last year, 22 people under the age of 30 died in crashes, representing 22% of all traffic deaths. The National Safety Council reports that traffic crashes are the leading cause of death among persons aged 1 to 34. Among people injured, young people are particularly impacted. There were 1,378 people under age 30 who were injured representing 33% of the total number of people injured in traffic crashes.

WHY they happened

An understanding of the causes of crashes informs infrastructure investments, enforcement activities, and educational efforts. For instance, unsafe speeds can be addressed by traffic enforcement and road design, while the tendency of motorists to drive off the road can be mitigated with guardrail or rumble strips. Similarly, enforcement and education could reduce the number of crashes attributable to driver impairment. Operating a vehicle in a careless or negligent manner once again was the most common cause of crashes, contributing to over 11,000 crashes in 2015. Failure to yield right-of-way, improper backing, and following too closely were also significant crash factors.

WHAT the conditions were

The “at-fault” vehicles involved in traffic crashes are mostly motorcycles, passenger cars or pickups. Of the 101 traffic fatalities, 73 (72%) involved these 3 vehicle types. There were also 36 pedestrians and 3 bicyclists who died in traffic crashes. There was 1 death to a moped rider and 1 death involving a medium/heavy truck (more than 10,000 lbs.). Almost all crashes occur in good driving conditions. Over 41% of the fatal crashes and over 68% of the non-fatal crashes occurred during daylight hours. A majority of crashes occur in good weather conditions. Over 71% of all crashes occur in

“clear” weather. Road surface conditions were usually good. For fatal crashes, 91% were on dry roads and 7% were on wet roads.

WHERE they happened

Fatal crashes tend to occur between intersections as these areas experience higher speeds and do not have the same safety treatments as intersections. Last year, 67% of fatalities were classified as “non-junction”, meaning that they occurred between intersections. Additionally, only 15% of fatalities occurred at an intersection.

WHEN they occurred

A fatal traffic crash is most likely to occur at night during the time period between 7:00 p.m. and 11:00 p.m. As for total crashes, the six hour time period of 12:00 p.m. – 6:00 p.m. had the most. In that time frame, 52% of all crashes occurred. Thursdays, Fridays and Saturdays accounted for 52 of the 101 fatalities (51%). Total crashes are more evenly distributed across days of the week, although Fridays had the most (16%) and Sundays had the least (10%).

Recent Trends involving Vulnerable Users

Pedestrians: In 2015, there were 36 pedestrians killed and 302 seriously injured in traffic crashes in Pinellas County. On average, a pedestrian was killed every 10 days and was seriously injured every 1.2 days. Pedestrian deaths accounted for 35% of all traffic fatalities and the intersection of East Bay Drive at Starkey Road was the most dangerous with 15 pedestrian crashes from 2011-2015.

Bicyclists: In 2015, there were only 3 bicyclists killed and 231 seriously injured in traffic crashes in Pinellas County. Since 2011, bicycle fatalities and injuries have decreased by 107% and 27%, respectively. These figures are the lowest recorded over the 5-year timeframe. The intersections with the most bicycle crashes were; U.S. 19 at 62nd Avenue and 49th Street at Park Boulevard which experienced 12 crashes each.

Motorcyclists: In 2015, there were 26 motorcyclists killed and 382 seriously injured in motor vehicle traffic crashes—a decrease of 7% from the 28 motorcyclists killed in 2011. Motorcyclists accounted for 25% of all traffic fatalities and 8% of all people injured. The most dangerous intersection was the I-275 interchange at the Roosevelt Boulevard interchange with 19 crashes. However, this intersection was followed closely by the intersection of U.S. 19 at Curlew Road and U.S. 19 at Tampa Road (18 and 15).

² www.cdc.gov/injury/wisqars/overview/key_data.html.

Key Contributing Factors

Driver Impairment: 23% of all traffic fatalities in 2015 in Pinellas County involved a person who was impaired by drugs or alcohol. Of particular note is the intersection of U.S. 19 and Tampa Road which had the highest number of crashes and injuries involving impaired drivers from 2011 thru 2015.

Aggressive Driving: 33% of all traffic fatalities in 2015 in Pinellas County were due to aggressive driving.

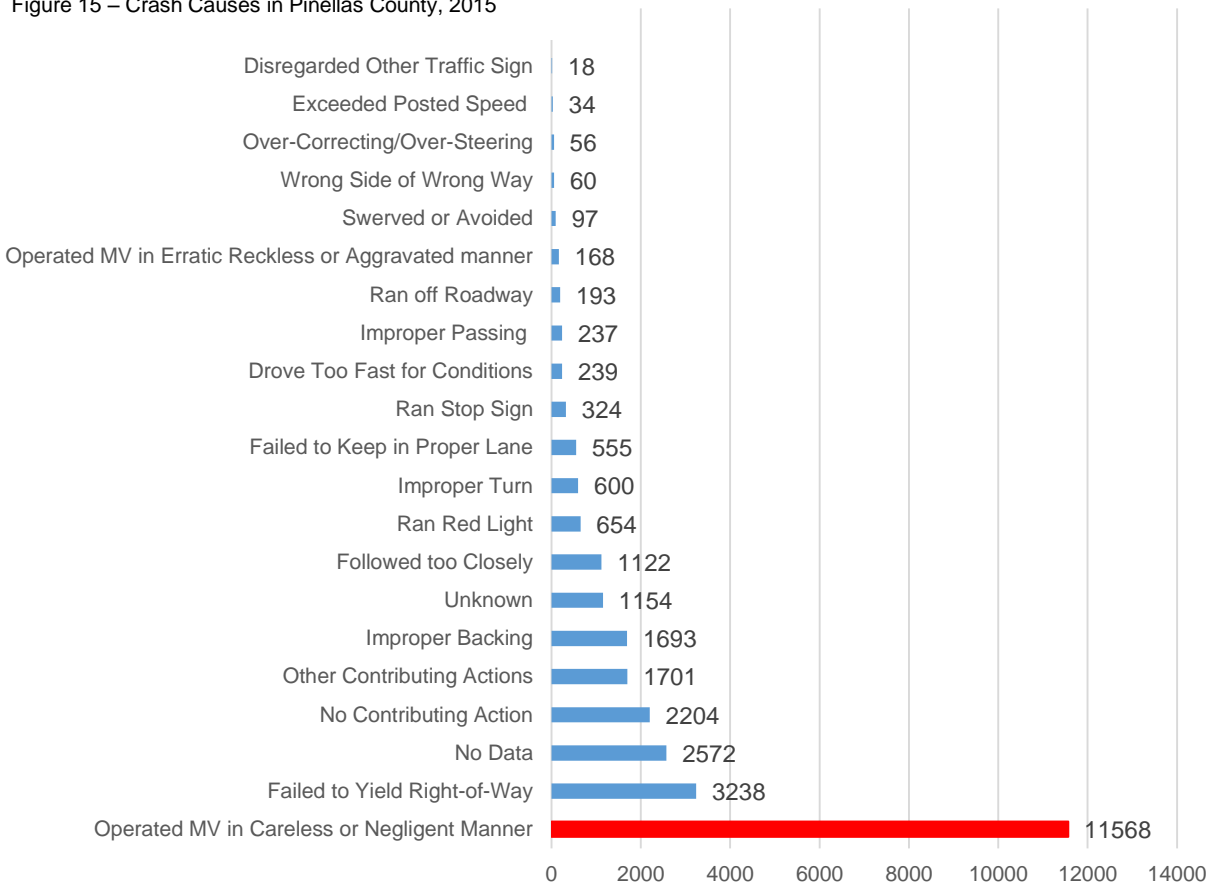
Roadway Lane Departure: Roadway lane departure crashes occur when a driver does not maintain vehicle position within a lane and either crosses into oncoming traffic or runs off the road into a tree, utility pole, down an embankment, or into a body of water. Roadway lane departures accounted for 11% of the traffic fatalities in Pinellas County. These departures often relate to a

combination of factors such as speeding, driver distraction, and driver impairment.

Low-Light Conditions: Pedestrian activity in Pinellas County occurs at various times during the day and night. Data shows that almost two-thirds (65%) of the pedestrians killed in traffic crashes were walking along or across roads that were illuminated from overhead streetlights. It is critical that pedestrians and drivers operate with care in low-light conditions, that pedestrians take reasonable steps to be visible, and local governments should work towards providing adequate lighting in high-conflict areas.

Driver Distraction: 11% of all traffic crashes and 8% of fatalities were due to distracted driving.

Figure 15 – Crash Causes in Pinellas County, 2015



Source: Pinellas County Crash Data Management System (CDMS)

High Crash Intersections and Segments

Historically, traffic crash frequency has been the preferred approach to analyze and measure the safety of an intersection and/or road segment in Pinellas County. While crash frequency is one of the simplest forms of crash data analysis, it does have limitations when comparing roadways that carry high volumes of traffic to roadways that have much less capacity, and thus smaller numbers of crashes. For the *2016 Traffic Crash Trends and Conditions Report* a different methodology was used. Crash rates were calculated for all intersection and roadway segments within the Forward Pinellas Transportation Planning Inventory (TPI) network database. Crash rates were calculated by adding the number of crashes of the individual intersections or roadway segments and dividing the sum of the entering traffic volumes, converted to million vehicles entering (for intersections) or million vehicle miles traveled (for roadway segments). This metric is considered a more reliable measure of the relative safety of an intersection or segment because it incorporates exposure data into the calculation which allows for a more effective comparison of varying locations throughout the transportation system.

During 2015, the intersection with the greatest crash rate was Gulf-to-Bay Boulevard (S. R. 60) & Belcher Road,

followed by U.S. Highway 19 & Tampa Road. For the same time period, the road segment with the highest crash rate was Live Oak Street from Alt. 19 to Safford Avenue, followed by Court Street from Chestnut Street to Oak Avenue. Collision diagrams for the Gulf-to-Bay Boulevard (S. R. 60) & Belcher Road and the U.S. Highway 19 & Tampa Road intersections were evaluated to determine the dominant crash type. For both intersections rear end collisions accounted 30% and 58% respectively, for all collisions that occurred at these intersections. It is important to note that even though U.S. Highway 19 is grade-separated through the Drew Street area, this intersection is still experiencing a high rate of traffic crashes because of the high number of at-grade conflict points below the overpass.

Future reports should consider new additional analyses such as a comparison of intersections based on crash severity, and a comparison of crash rates among intersections with similar operating characteristics. These additional analyses will further aid transportation planners, engineers, and officials in effectively identifying hazardous locations, and securing funding to fix them. Below is a listing of the Top 10 intersections and segments based on crash rate.

Table 5 – Top 10 Intersections by Crash Rate in Pinellas County, 2015

Rank	Main Route	Minor Route	Jurisdiction	No. of Crashes	Total Intersection AADT	Intersection Crash Rate
1	S.R. 60	Belcher Road	Clearwater	141	73,904	5.23
2	U.S. Highway 19	Tampa Road	Unincorporated	170	107,523	4.33
3	54 th Ave. S.	31 st Street South	St. Petersburg	46	36,492	3.45
4	Alternate 19	Curlew Road	Dunedin	42	34,241	3.36
5	66 th St. N. (S.R. 693)	38 th Avenue North	St. Petersburg	72	62,396	3.16
6	U.S. Highway 19	Drew Street	Clearwater	131	116,958	3.07
7	U.S. Highway 19	Curlew Road	Unincorporated	128	115,750	3.03
8	U.S. Highway 19	Alderman Road	Unincorporated	89	86,758	2.81
8	Gandy Boulevard	4 th Street North	St. Petersburg	77	75,125	2.81
9	Alternate 19	Rosery Road	Largo	45	44,215	2.79
10	Fort Harrison Avenue	Chestnut Street	Clearwater	33	32,776	2.76

Source: Pinellas County Crash Data Management System (CDMS)

Table 6 – Top 10 Road Segments by Crash Rate, 2015

Rank	Roadway	Limits	Roadway Jurisdiction	Segment Length (miles)	Posted Speed Limit	AADT	No. of Crashes	Segment Crash Rate
1	Live Oak Street	from Alt. 19 to Safford Ave.	Pinellas County	0.15	30	2,560	16	114.29
2	Court Street	from Chestnut St. to Oak Ave.	FDOT	0.041	30	16,000	26	108.33
3	Belcher Road	from Publix entry to S.R. 60	Pinellas County	0.12	35	24,710	95	87.96
4	28 th Street N.	from Scherer Dr. to Roosevelt Blvd.	Pinellas County	0.063	40	13,816	27	84.38
5	Central Ave.	from 4 th St. N. to 3 rd St. N.	St. Petersburg	0.086	15	6,548	16	76.19
6	Tarpon Ave.	from Shopping Center to U.S. 19	Tarpon Springs	0.112	35	16,000	47	72.31
7	43 rd St. N.	from 70 th Ave. N. to Park Blvd.	Pinellas Park	0.252	35	3,617	23	69.7
8	28 th St. N.	from Central Ave. to 1 st Ave. N.	St. Petersburg	0.062	35	5,880	9	69.23
9	22 nd Ave. S.	from I-275 to 31 st St. S.	St. Petersburg	0.126	35	15,301	47	67.14
10	Enterprise Rd.	from U.S. 19 to Village Dr.	Clearwater	0.10	40	11,864	28	65.12

Source: Pinellas County Crash Data Management System (CDMS)

Figure 16 – Collision Diagram: S.R. 60 @ Belcher Road, 2015

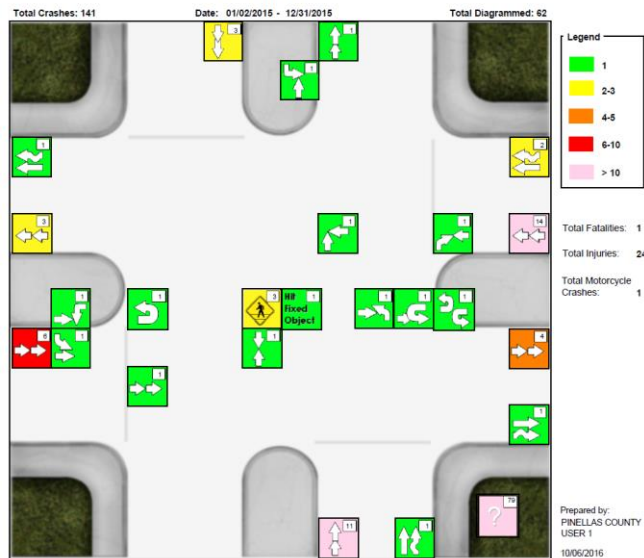
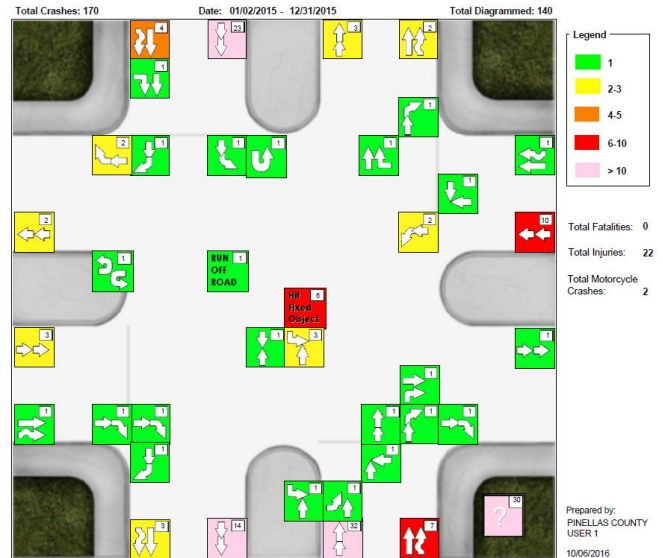


Figure 17 – Collision Diagram: US 19 @ Tampa Road, 2015



Safety along Gulf Boulevard

Since the early 2000's, Gulf Boulevard has been selected for specialized traffic safety treatments and programs due to its close proximity to the beaches, high rates of pedestrian and bicycle activity, and high concentration of tourist-oriented uses. The crash data analyzed for this corridor is used to uncover any crash trends that may be happening along this popular stretch of roadway. Several safety initiatives, including the WalkWise Key to Safety cards and the Gulf Boulevard Beautification Program, have been instituted in this area with the goal of reducing pedestrian crashes, injuries, and fatalities. The WalkWise Key to Safety card is an insert the same size as a room key which allows hotels along Gulf Boulevard to distribute them to guests during check-in. The goal of this insert is to educate and inform tourists regarding pedestrian safety through the WalkWise tips. The tips include;

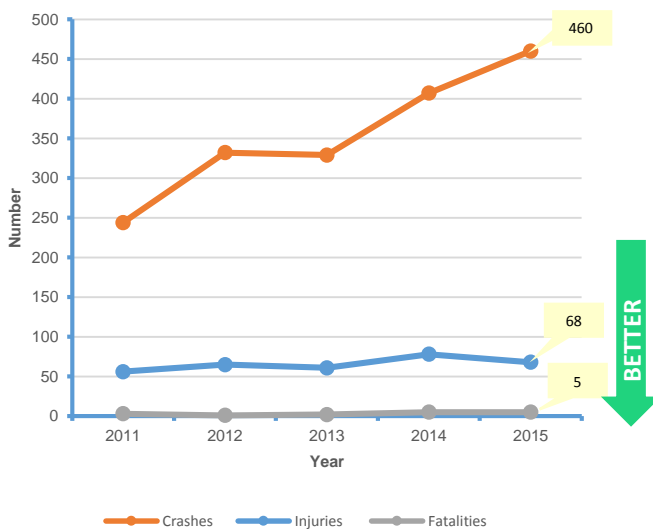
- Walk without distraction – wait to text or talk on cell phones
- Always follow the Walk/DON'T Walk signals – use pedestrian push buttons at crossings
- Look left, right and left again before crossing
- Know your surroundings
- Wear bright colors – be seen night and day
- Impaired walking can be dangerous
- Stay on sidewalks – walk facing traffic and use crosswalks
- Expect the unexpected – walk defensively

The Gulf Boulevard Beautification Program encompasses 11 beach communities and includes a manual that provides guidance on strategies to make the corridor consistent with common amenities and streetscape improvements.

An analysis of the crash data for Gulf Boulevard shows that crashes, injuries, and fatalities have all risen over the last 5 years, with total crashes increasing by 50% since 2011. Furthermore, there were 99 crashes and 11 fatalities involving pedestrians over the same time period. These figures underscore the need to implement additional initiatives to improve safety along this corridor.

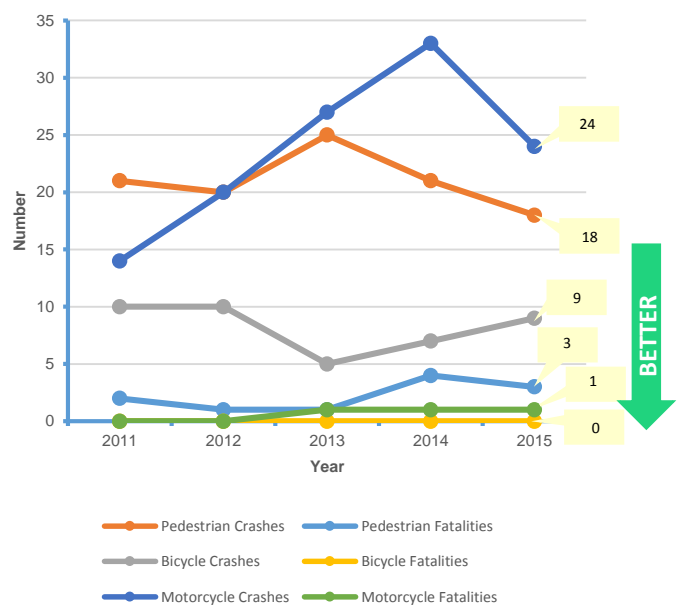
Forward Pinellas is working to “Enhance Beach Community Access” as part of its Strategic Planning and Operations Topics Emphasis Area initiative. During the public outreach and engagement phase, several comments and concerns related to traffic safety were voiced by the public. This has led to staff incorporating the development of a Vision Zero approach for Gulf Boulevard. Vision Zero is a community commitment to reduce the loss of life and major injuries on roadways to zero. This approach uses a data-driven and coordinated framework to design safer streets, educate the public, evaluate what works, and enforce effective traffic safety laws that create streets that are safe for everyone – people on foot, in cars, using public transit, and on bikes. Vision Zero puts the safety of human life above all else and the intent is to gather a multi-agency coalition to apply this concept to Gulf Boulevard.

Figure 13 – Crash Trends on Gulf Blvd., 2011-2015



Source: Pinellas County Crash Data Management System (CDMS)

Figure 14 – Vulnerable User Crash Trends on Gulf Blvd., 2011-2015



Source: Pinellas County Crash Data Management System (CDMS)

Table 7 – Gulf Boulevard Crash Trends, 2011-2015

GULF BOULEVARD CRASH TRENDS	2011	2012	2013	2014	2015	5 Year % Change (2011-2015)
Total Motor Vehicle Crashes	244	332	329	407	460	61%
Total Injuries	56	65	61	78	68	19%
Total Fatalities	3	1	2	5	5	50%
Total Pedestrian Crashes	21	20	25	21	18	-15%
Total Pedestrian Fatalities	2	1	1	4	3	40%
Total Bicycle Crashes	10	10	5	7	9	-10%
Total Bicycle Fatalities	0	0	0	0	0	no change
Total Motorcycle Crashes	14	20	27	33	24	52%
Total Motorcycle Fatalities	0	0	1	1	1	200%

Source: Pinellas County Crash Data Management System (CDMS)

Pedestrian Fatality Benchmark against other Urbanized Florida Counties

The majority of Florida's urbanized areas developed post-World War II which resulted in suburban-style development patterns with small and somewhat dispersed centers of commercial, industrial, and residential uses. These separated centers of activity were connected by a network of surface streets that were originally designed for local motor vehicle travel but these streets have been adapted over time to accommodate a greater number of motor vehicles with longer and longer trip lengths.

Florida's urban areas also have a high number of pedestrians that commonly share the street network with increasing numbers of motor vehicles. This inherent conflict has led to Florida having an infamous reputation of being the most dangerous state for pedestrian travel. For instance, Smart Growth America published *Dangerous by Design* in 2014 which ranked the country's largest metropolitan areas by their share of traffic deaths




involving pedestrians. Unfortunately, four of the top five most dangerous places to walk were located in Florida. Specifically, Orlando-Kissimmee, Tampa-St. Petersburg-Clearwater, Jacksonville, and the Miami-Fort Lauderdale-Pompano Beach metropolitan areas scored the highest according to the Smart Growth America Pedestrian Danger Index (PDI). The PDI is a metric that gives an indication of the likelihood of a person on foot being hit by a vehicle and killed.

The information contained below summarizes the pedestrian fatalities per capita for similar urbanized counties in Florida. Unfortunately, Pinellas County's pedestrian fatality rate is the highest amongst urbanized counties and 80% above the national average from 2011-2015. If the County's rate could be brought down to the national average, a significant number of lives could be saved each year.

Table 8 – Pedestrian Fatalities Per Capita, 2011-2015

Urbanized County in Florida	2011	2012	2013	2014	2015	Average
Pinellas County	3.63	2.93	2.83	4.41	3.72	3.50
Palm Beach County	1.44	1.80	2.61	2.57	2.55	2.20
Orange County	2.43	3.42	3.00	3.61	3.04	3.10
Miami-Dade County	3.15	2.16	2.67	2.95	3.51	2.89
Hillsborough County	2.52	2.64	2.52	2.62	3.64	2.79
Broward County	1.66	3.45	2.81	3.33	3.24	2.90
National (Average)	1.42	1.51	1.50	1.53	*	1.49

Source: National Highway Traffic Safety Administration and Florida's Integrated Report Exchange System (FIRES)

	Highest Number of Per Capita Pedestrian Fatalities
	Second Highest Number of Per Capita Pedestrian Fatalities
	Third Highest Number of Per Capita Pedestrian Fatalities

Conclusion

This report has demonstrated a number of meaningful trends relating to motor vehicle crashes in Pinellas County. The information should inform transportation decision-making and, ultimately, lead to a safer, more efficient transportation system.

Some problem areas noted in this and past reports have already been improved or are in the process of being addressed. For example, Pinellas County is conducting a Project Development & Environmental Study (PD&E) of the Belcher Road corridor from Druid Road to Drew Street, which includes the intersection of Gulf-to-Bay Boulevard, to identify improvements that will reduce the number of crashes, injuries, and fatalities that are occurring along this road segment. The Florida Department of Transportation (FDOT) partnered with Forward Pinellas and the Pinellas Suncoast Transit Authority (PSTA) on the *US 19 Safe Access to Transit Study* which focused on identifying strategies to improve the safety and accessibility of pedestrians, bicyclists, and transit users. The study identified short-term improvements and long-term strategies that will be utilized in future FDOT design plans and safety initiatives along the US 19 corridor. Furthermore, Pinellas County, the City of St. Petersburg and other local governments continue to install rectangular rapid flashing beacons (RRFB's) at intersections and trail crossings to increase bicyclist, pedestrian, and motorist safety. Currently, there are approximately 221 RRFB's installed across Pinellas County. Lastly, the Forward Pinellas 2040 LRTP includes an annual set aside of between \$1-\$5 million dollars for projects that will improve roadway management, operations, and safety conditions. In future years, it is recommended that Forward Pinellas analyze the impact of these improvements. The evaluation of past and future

crash data at these locations will further aid in implementing appropriate and effective mitigation strategies to reduce crashes.

There are many additional locations that will require further study to see if physical improvement could be implemented to improve safety. Several intersections along corridors such as East Bay Drive and Ulmerton Road continue to be problematic due to the sheer frequency of crashes. Due to jurisdictional boundaries at these locations, state and local officials, engineers, and staff will need to coordinate targeted safety improvements and reach agreements before any improvements can occur.

Data and analysis on other attributes are included within the report, providing additional information to identify trends and/or areas of concern. Future versions of this report may consider a more detailed analysis of the circumstances of fatal and incapacitating crashes and the characteristics of individuals involved. In particular, age-related factors and impacts should be further explored. An improved understanding of these factors would help the community to better focus its efforts on reducing serious traffic injuries and their impact on our community, which is one of the primary purposes of this report.

By identifying potentially problematic locations, this report continues to advance initiatives, programs, and projects that improve safety on our roadways. It is expected that transportation planners, engineers, and local government officials together will use this information to determine locations that need attention, and seek funding for necessary physical improvements or other means (enforcement, education) to improve safety.