

FLORIDA DEPARTMENT OF TRANSPORTATION



SAFETY & SECURITY

2014 PERFORMANCE REPORT

SAFETY and SECURITY

This report is part of the Performance-Based Planning and Programming Process used by the Florida Department of Transportation (FDOT). For a description of that process, updates to this report and other transportation performance reporting initiatives of FDOT, go to FDOTPerforms.org.

INTRODUCTION

The Strategic Highway Safety Plan (SHSP) provides a foundation for FDOT's safety activities and plans through engineering, enforcement, education, and emergency response.

Transportation system safety and security is among the state's highest commitments to its residents and visitors. Safety improvements save lives, enhance quality of life, and support Florida's economic competitiveness. It is also important to be ever vigilant about transportation system security for people and freight without compromising mobility.

Transportation safety is important for every mode of transportation. It is affected by many factors, such as driver behaviors, infrastructure, innovations in technology, enforcement and education, and even by weather and the natural environment. It is vital that Florida's federal, state, regional and local safety partners and stakeholders work together to improve transportation safety.

FDOT's long-term goal is zero deaths on Florida's roadways and to help achieve this goal, safety is a focus area in numerous FDOT plans, including the Florida Strategic Highway Safety Plan (SHSP) and the Florida Transportation Plan (FTP). Safety is front and center with a goal to "Provide a safe and secure transportation system for all users" with a clear objective to "Reduce by 5 percent annually the number of highway fatalities and serious injuries." FDOT has also collaborated with its safety partners to craft Florida's SHSP to reduce fatalities and serious injuries by strategically concentrating resources on the problems with the greatest potential for improvement. The SHSP provides a foundation for FDOT's safety activities and plans, including this safety chapter of the Performance Report.

The SHSP is led by a group of dedicated, public and private sector safety partners working together to achieve successful implementation. In 2013 the five-year rolling average for traffic fatalities dropped for the sixth straight year. This trend is a result of the efforts and initiatives outlined in the SHSP. Despite safer highway design, safer motor vehicles, increased safety belt use, improved public education, vigorous enforcement of laws, and improved emergency response and trauma treatment, there is more work to do in pursuit of FDOT's long-term goal of zero deaths on Florida's roadways.

2014 PERFORMANCE HIGHLIGHTS

The safety and security performance highlights include:

- The rolling average for traffic fatalities dropped for the sixth straight year to 2,448 in 2013
- The rolling average for serious injuries dropped for the ninth straight year to 20,413 in 2013
- The annual targets, to reduce fatalities and serious injuries by 5 percent, were not achieved – the five-year rolling average for fatalities decreased by 4.5 percent and for serious injuries by 3.5 percent
- The fatality rate, the measure of fatalities per million vehicle miles traveled, decreased slightly to 1.25
- Safety belt usage continued to increase, improving to 89 percent statewide
- The 2013 five-year rolling averages for fatalities involving vulnerable road users were similar to prior years – pedestrian fatalities essentially remained unchanged, dropping from 491 to 490; motorcyclist fatalities dropped from 420 to 412, and bicyclist fatalities increased slightly from 106 to 109
- Transit safety was similar to previous years - the average number of revenue miles between incidents decreased slightly to approximately 156,000 miles

FATALITIES & SERIOUS INJURIES



CORE
MEASURE

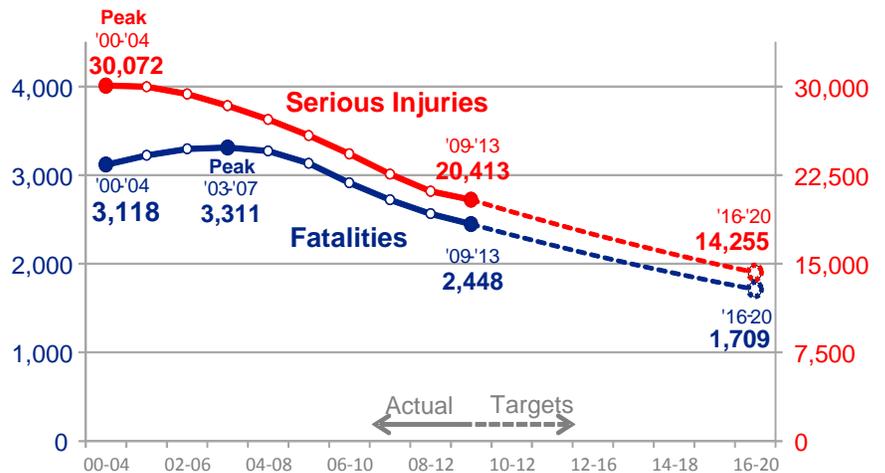
FDOT has identified a series of core measures that relate directly to a primary goal or function and/or support a key strategic initiative. FDOT's core measures for transportation safety are those related to the most severe consequences – fatalities and serious injuries.

It is common to measure fatalities and serious injuries in rolling multi-year averages instead of annual counts. This normalizes the effects of the random fluctuations that are common in traffic crash data and makes trends more apparent. Due to recent changes in the crash reporting form, some of the measures are not traceable back five years and are therefore measured in smaller increments.

FDOT’s target is to reduce the rolling five-year rolling average number of fatalities and serious injuries by 5 percent each year. This is a stretch target that may be difficult to achieve every year, but reflects a philosophy of continued improvement and recognition that one life lost is too many. As shown in **Figure 1**, since 2007 the five-year rolling average for fatalities has dropped from 3,311 to 2,448, a more than 26 percent reduction. Over the same time period, serious injuries have decreased by 28 percent, from 28,371 to 20,413.

Since 2007, the five-year averages for fatalities and serious injuries have dropped by 26 percent and 28 percent, respectively.

Figure 1: Fatalities and Serious Injuries
(5-Year rolling averages)



In 2013, 618, or approximately one quarter, of all fatalities and 4,133, or approximately one fifth, of serious injuries occurred on Florida’s Strategic Intermodal System (SIS).

As shown in **Figure 2**, in 2013, FDOT fell just short of its 5 percent annual reduction target – the five-year rolling average for fatalities of 2,448 was 12 fatalities higher than the target and the 20,413 serious injuries were 323 higher than the target. If the target of a 5 percent annual reduction is achieved in the future, the five-year rolling averages will drop to nearly 1,700 for fatalities and below 14,300 for serious injuries by 2020.

Figure 2: Annual Reduction in 5-Year Rolling Averages of Fatalities and Serious Injuries (Target: 5%)



KEY STRATEGIES TO REDUCE FATALITIES AND SERIOUS INJURIES

The recent downward trend in fatalities and serious injuries is attributed to several safety programs and initiatives, many of which are detailed in the SHSP. The SHSP establishes emphasis areas and key strategies that fall within one of the following four areas:

- Identify engineering initiatives to improve safety of the built environment
- Increase training opportunities and educational awareness of good transportation safety practices
- Improve enforcement of driving, bicycling and walking behaviors that can improve safety
- Improve the ability of emergency responders to reduce the severity of traffic crashes

SUPPORTING MEASURES AND INFORMATION

In addition to the core measures, FDOT has identified several supporting measures and other indicators of progress that provide further detail and context about the performance of Florida's transportation system. For safety and security, the supporting measures are:

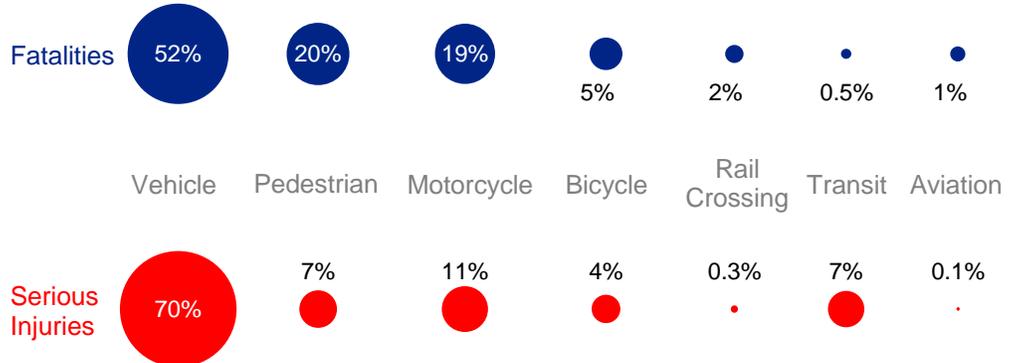
- Fatality Rate
- Fatalities involving:
 - Lane Departures
 - Intersections
 - Construction Work Zones
 - Impaired Driving
 - Aggressive Driving
 - Distracted Driving
 - Drivers 65 and Over
 - Teen Drivers
 - Pedestrians
 - Bicyclists
 - Motorcyclists
 - Rail Crossings
 - Public Transit
 - Aviation
- Seat Belt Usage
- Commercial Vehicle Crash Rate
- Railroad Derailments
- Transit Miles Between Safety Incidents

As previously noted, due to changes in the crash reporting form, some of the data is not available back far enough to calculate five-year rolling averages. In some cases, three-year rolling averages are used, or annual numbers are reported. For the future, it is expected that all of these measures will become five-year rolling averages.

Fatalities and Injuries by Mode

Most 2013 fatalities and serious injuries on Florida’s transportation system took place where the majority of travel occurs: on roadways and in personal vehicles. As **Figure 3** shows, fatalities and serious injuries involving pedestrians and motorcycles were also prevalent compared with other modes of transportation.

Figure 3: Florida Transportation Fatalities and Injuries by Mode, 2013



Fatality Rate

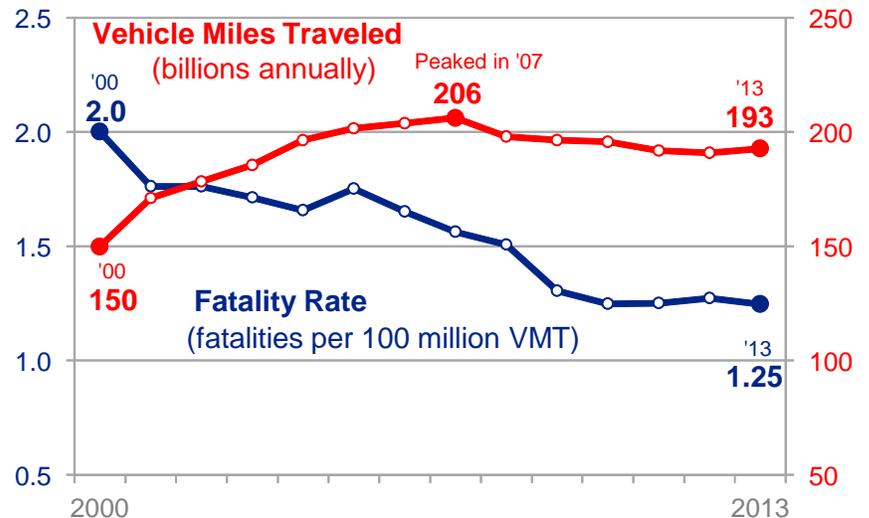


To help account for the relationship between fatalities and miles driven, highway safety experts often calculate a “fatality rate” by measuring fatalities per 100 million vehicle miles traveled (VMT). The fatality rate includes motor vehicle and motorcyclist fatalities as well as bicyclist and pedestrian fatalities involving motor vehicles.

As shown in **Figure 4**, Florida’s highway fatality rate per 100 million VMT dropped to 1.25 in 2013 and remains far below the fatality rates of the early 2000s.

The Fatality Rate – the number of fatalities per 100 million VMT – has remained fairly flat over the last five years.

Figure 4: Fatality Rate vs. Vehicle Miles Traveled

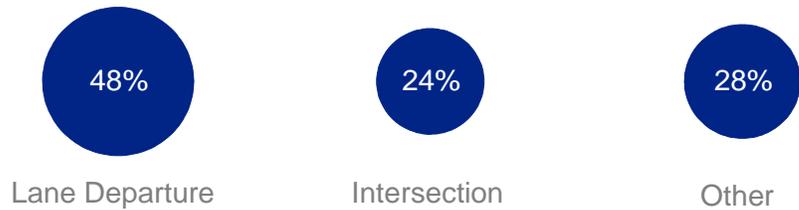


Fatalities Involving Lane Departures and Intersections



The majority of roadway crashes occur either at intersections or vehicles departing their lane, as shown in **Figure 5**. These crash types are of particular interest because FDOT strives to ensure that the design, construction, maintenance, and operation of facilities on the State Highway System meet safety standards.

Figure 5: Florida Fatalities by Crash Type, 2013



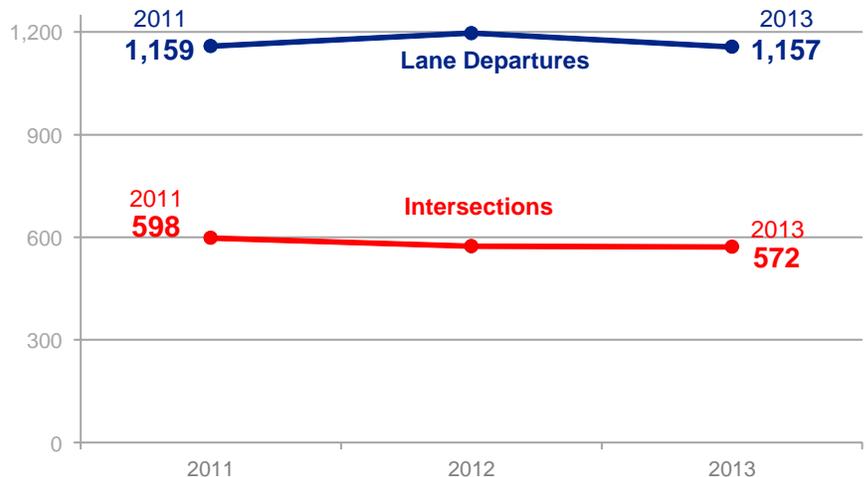
Nearly half of all fatalities on Florida roadways involve a lane departure.

Approximately 48 percent of all traffic fatalities in 2013 involved lane departures. Lane departures include running off the road, crossing the center median into oncoming traffic and sideswipe crashes. Lane departure crashes may also involve a vehicular rollover or hitting a fixed object such as a utility pole.

Traffic fatalities at intersections comprised 24 percent of statewide traffic fatalities in 2013. Identified as an emphasis area in the 2006 and 2012 Strategic Highway Safety Plans (SHSP), Florida improved intersection design and operation standards by implementing the 2006 Intersection Safety Implementation Plan.

As shown in **Figure 6**, 1,157 lane departure fatalities and 572 intersection fatalities occurred in 2013, both slight declines since 2011.

Figure 6: Lane Departure and Intersection Fatalities



Overall, lane departure and intersection fatalities have declined slightly over the past few years.

Efforts must be made to keep vehicles from leaving the road or crossing the center median to reduce the likelihood of vehicles overturning or crashing into roadside objects. The number and severity of lane departure crashes may be reduced by installing guardrail or cable barrier, dividing highways, adding paved shoulders, using break-away sign posts, placing crash cushions at the end of roadside obstacles, highlighting the edge of pavement on rural highways, improving roadway curve design, and improving roadway lighting at intersections.

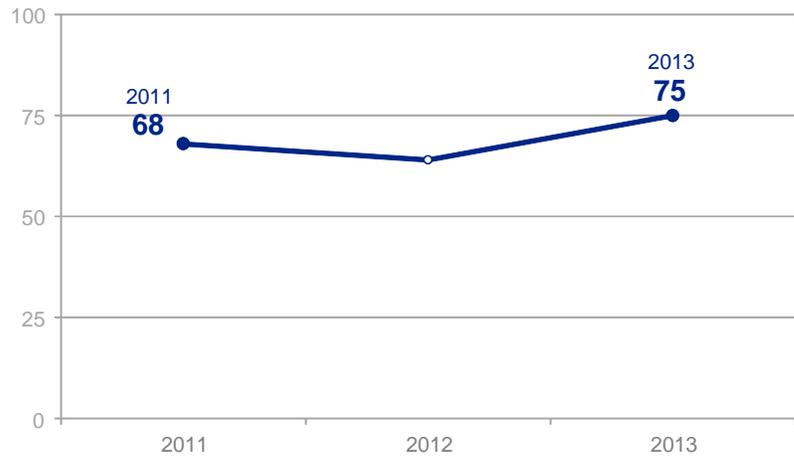
Fatalities in Construction Work Zones



The safe and efficient flow of traffic through work zones is an ongoing FDOT priority. Reducing work zone crashes not only decreases the number of fatalities and injuries of road users, it also improves safety for FDOT employees and private contractors working in construction zones. **Figure 7** shows that fatalities in work zones increased to 75 in 2013, up from 64 in 2012 and 68 in 2011.

Fatalities in work zones increased in 2013.

Figure 7: Fatalities Involving Work Zones



Demographic and Behavioral Factors

Despite FDOT’s efforts to ensure that roadways meet or exceed safety standards, many crashes still occur due to driver related behaviors, choices, and skills. **Figure 8** shows 2013 fatalities by the various demographic and behavioral factors.

Figure 8: Fatalities Involving Demographic and Behavioral Factors, 2013



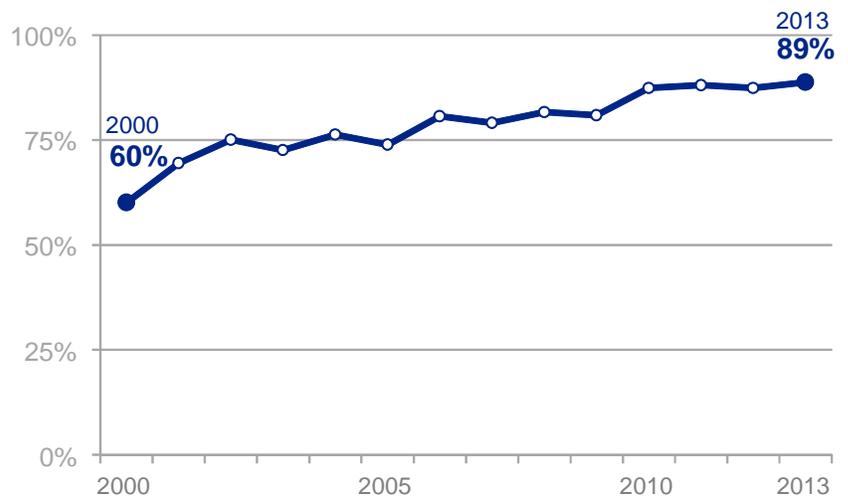
Seat Belt Usage



Wearing a safety belt is one of the most important measures drivers can take for crash protection. As shown in **Figure 9**, Florida motorists are increasingly wearing safety belts over the past decade. The increase is likely due in part to the passage of a primary enforcement law in 2009 – the usage rate jumped from 81 percent to 87 percent the following year. In 2013 the statewide safety belt usage rate was 89 percent, which is slightly higher than the national average of 87 percent.

Florida’s statewide safety belt usage rate of 89 percent is two points higher than the national average.

Figure 9: Statewide Seat Belt Usage Rate

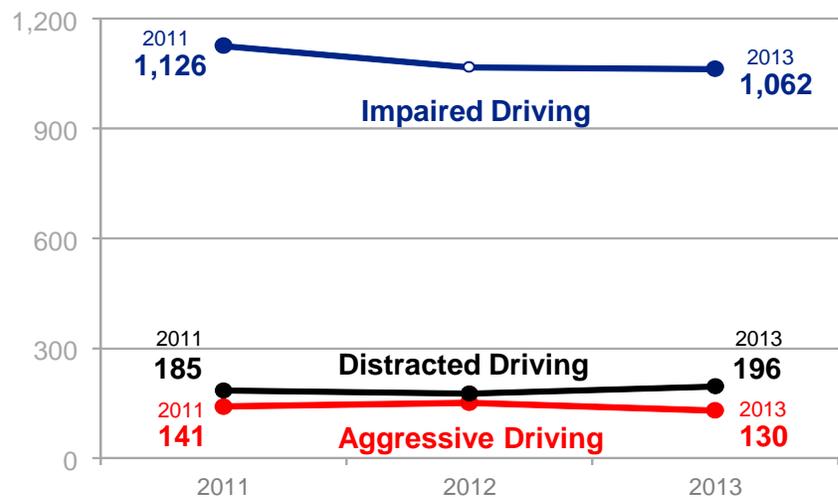


Fatalities Involving Impaired Drivers, Aggressive and Distracted Driving



Impaired, aggressive, or distracted driving often plays a role in the frequency and severity of traffic crashes. **Figure 10** shows the number of fatalities involving impaired, aggressive, and distracted drivers. Due to a change to the crash reporting form in 2011, historical comparisons prior to 2011 are difficult to evaluate.

Figure 10: Fatalities Involving Impaired Drivers, Aggressive Driving and Distracted Driving



Impaired driving continues to be a leading contributing factor for traffic fatalities. In 2013, 1,062 alcohol-related traffic fatalities occurred, accounting for over 37 percent of statewide traffic deaths.

Aggressive driving, as defined by state statute, requires inclusion of at least two of the following contributing causes: speeding, unsafe or improper lane change, following too closely, failure to yield the right-of-way, improper passing, and failure to obey traffic control devices. Aggressive driving is not presently an enforceable offense in Florida. In 2013, 130 fatalities were related to aggressive driving.

Distracted driving occurs when a driver allows a mental or physical activity to shift his or her focus from the task of driving. Fatalities involving distracted driving have increased slightly since 2011, to 196 in 2013. There are three main types of distraction: manual (taking hands off the wheel), visual (taking eyes off the road), and cognitive (taking mind off driving). Not only are drivers distracted because of activities such as adjusting the radio, eating, reading, and grooming; new technologies have introduced global positioning system (GPS) navigation, direction way-finding, telephone use, mobile web surfing, and texting as additional driver distractions. Additionally, passengers can be especially distracting to young inexperienced drivers.

The revised 2011 crash reporting form improved the manner in which incidents can be measured.

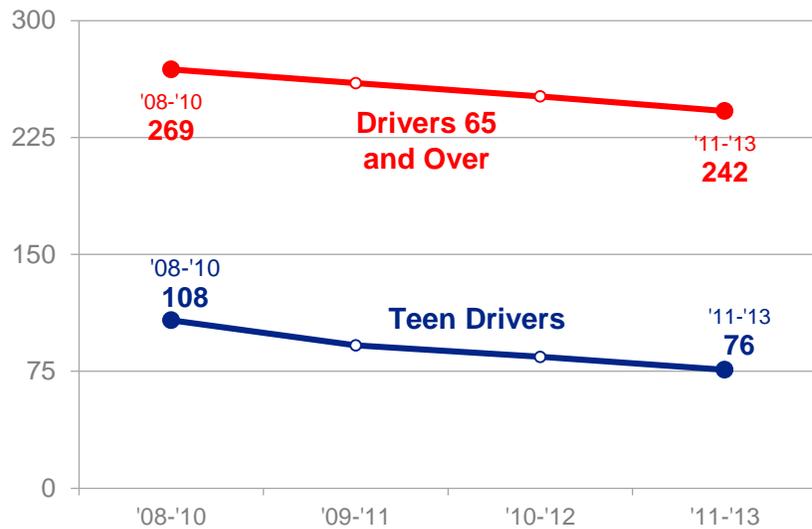
Fatalities Involving At-Risk Drivers



Fatalities involving teen drivers and drivers over 65 have declined in recent years.

Historically, fatalities involving drivers 65 and over and teen drivers (ages 15 to 19) typically account for around one quarter of all Florida traffic fatalities. **Figure 11** shows that the historical number of fatalities involving these at-risk drivers has declined in recent years. In 2013, fatalities involving at-risk drivers accounted for about 15 percent of all fatalities.

Figure 11: Fatalities Involving At-Risk Drivers
(3-year rolling averages)



Today’s older drivers are driving longer and are driving more miles per year. This trend is especially important considering that Florida currently leads the nation with 18 percent of its population 65 years of age and older. According to the Florida Office of Economic and Demographic Research, by 2030, over 24 percent of Floridians will be over 65, and more than half of those will be over 75, making this a particularly pressing safety issue.

The other end of the age spectrum involves the least experienced drivers—ages 15 to 19. Motor vehicle crashes are the number one killer of teens, with more teens dying in crashes than the next three leading causes of death (homicide, suicide, and disease) combined. Motor vehicle crashes involving teen drivers kill an average of 11 teens per day in the United States.

Fatalities Involving Vulnerable Road Users

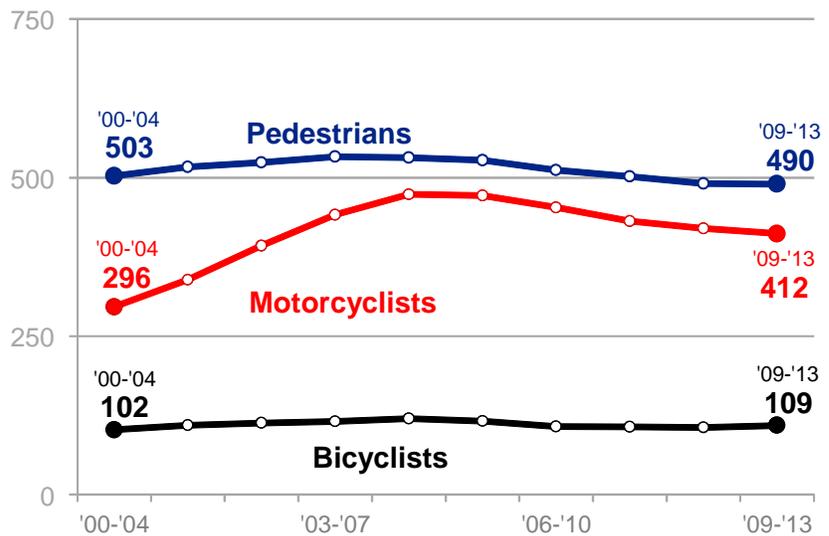


Vulnerable road users include pedestrians, bicyclists, and motorcyclists. As shown in **Figure 12**, vulnerable road user groups have not experienced the recent dramatic decreases in fatalities that have been common in other modes. Florida’s climate, conducive to year-round walking, bicycling and motorcycling, is a factor in the relatively high fatality rates among these road user groups.

FDOT has elevated pedestrian and bicycle safety to a department initiative. A state bicycle/pedestrian safety program manager was appointed in 2011 and bicycle/pedestrian coordinators were hired in each FDOT District in 2013.

Vulnerable road user groups have not experienced the recent dramatic decreases in fatalities that have been common in other modes.

Figure 12: Fatalities Involving Vulnerable Road Users
(5-year rolling averages)



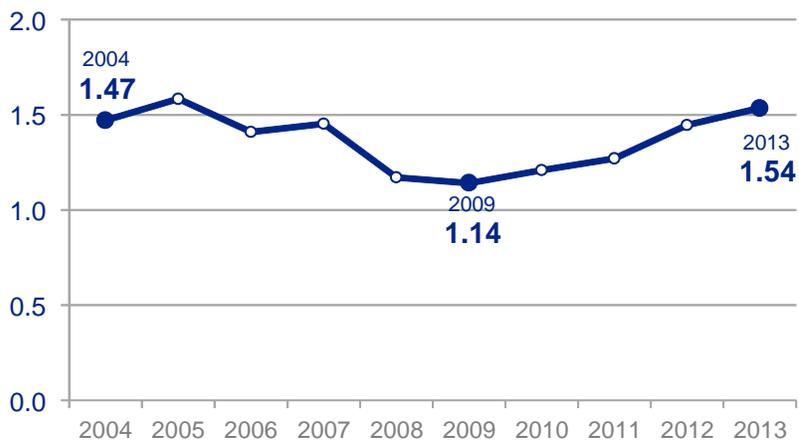
Commercial Vehicle Crash Rate



As the economy has rebounded from the recession, the commercial vehicle crash rate has increased.

Crashes involving commercial vehicles can be especially severe. FDOT strives to improve commercial motor vehicle safety by coordinating with Florida Highway Patrol's (FHP) Commercial Vehicle Enforcement (CVE) Office to conduct safety inspections and enforcement of safety requirements. **Figure 13** illustrates the commercial vehicle crash rate since 2004.

Figure 13: Commercial Vehicle Crash Rate
(Crashes per million vehicle-miles of truck travel)



Rail Crossing Fatalities and Railroad Derailments



Approximately 80 percent of Florida's public at-grade rail crossings are equipped with active warning devices compared to approximately 50 percent nationally.

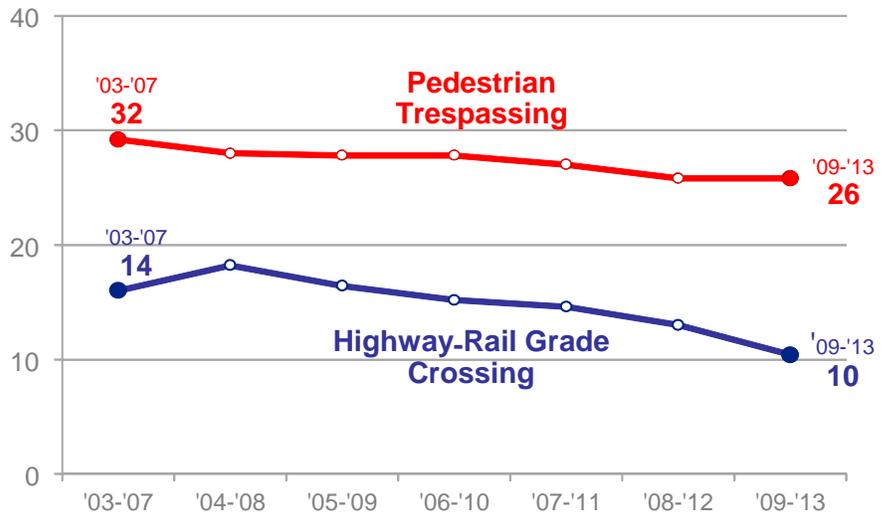
As of January 2014, Florida has 3,784 public at-grade rail crossings with approximately 80 percent equipped with active warning devices compared to approximately 50 percent nationally. Both crashes and fatalities at rail crossings have declined in recent decades. This is especially noteworthy given increased highway traffic and operational changes that have resulted in more trains on fewer rail lines.

Pedestrian trespassing on railroad tracks also is a problem FDOT works to curb. This includes installing no trespassing signs, installing and repairing fencing, and working with local police departments to issue warnings and citations.

Figure 14 shows the number of fatalities since 2003, including highway-rail grade rail crossings and pedestrian trespassing.

Rail crossing fatalities have been decreasing over the past decade.

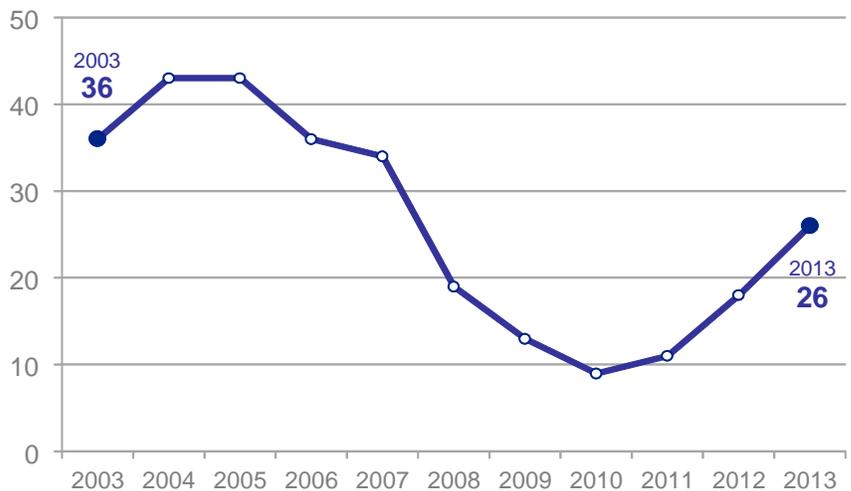
Figure 14: Rail Crossing Fatalities - Highway-Rail Grade Crossings & Pedestrian Trespassing (5-year rolling averages)



In 1977, the year before FDOT began its railroad safety inspection program, there were 259 train derailments. As **Figure 15** illustrates, derailments have increased in recent years but are still far below pre-1977 levels. The 2009-2013 five-year annual average is 15 derailments. Most derailments occur on tracks within industrial yards and result in little damage. FDOT performs annual safety inspections on over 5,000 miles of track, 3,000 turnouts, 14,000 freight cars, and 500 locomotives, observing in excess of 1,000 rail operating practices in the process. These inspections and practices supplement and support the safety operations conducted by individual privately owned railroad companies.

Railroad derailments have risen in recent years. Most of today's derailments occur within industrial yards and result in little damage.

Figure 15: Railroad Derailments



Fatalities Involving Public Transit and Revenue Miles between Safety Incidents



The majority of Florida’s public transit systems operate on the roadway system. As such, the performance and safety of the roadway system can affect public transit safety and on-time performance. Similarly, incidents involving public transit vehicles can affect the flow of automobile traffic.

Safety is a priority for every transit agency, and preventing injuries and fatalities is an ongoing effort. **Figure 16** illustrates the number of Florida transit related fatalities and serious injuries reported to the National Transit Database (NTD). NTD only reports major injuries that require immediate medical attention away from the scene of an accident. Between 2008 and 2013, Florida transit agencies have experienced a small increase in serious injuries and fatalities. Due to significant changes in reporting thresholds and limited data availability, data for transit related fatalities and injuries is only available from 2008 forward.

Between 2008 and 2013, Florida transit agencies have experienced a small increase in serious injuries and fatalities.

Figure 16: Transit Fatalities and Serious Injuries
(3-year rolling averages)

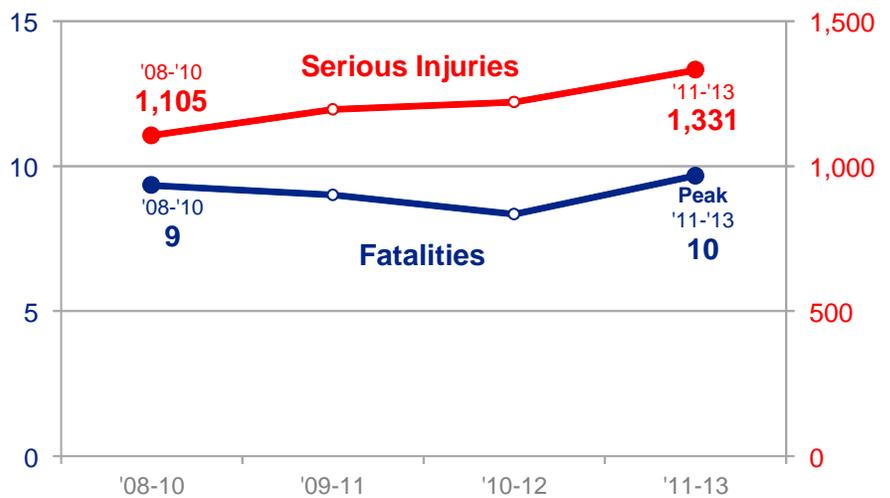
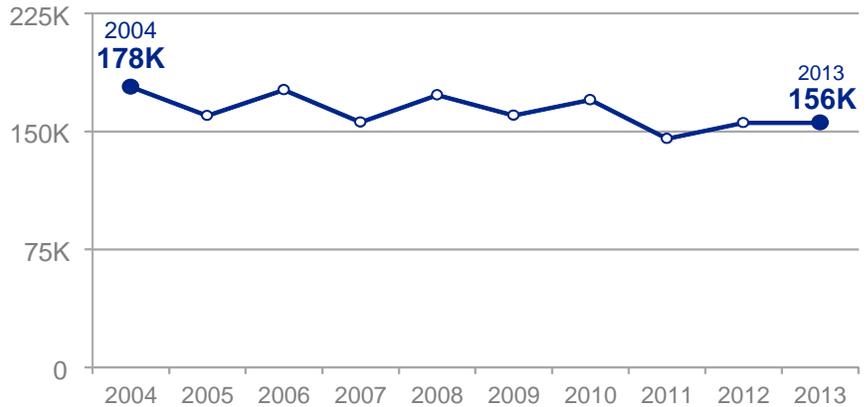


Figure 17 illustrates the revenue miles between safety incidents for transit. This measure of transit safety provides insight into the frequency of such incidents. As Florida transit agencies consistently increase the number of service miles each year, ideally the revenue miles between incidents should also increase as the frequency of incidents decreases. Since 2004, Florida has seen a slight reduction in revenue miles between incidents, which is directly related to the slight increase in incidents and accidents. Between 2012 and 2013, the revenue miles between incidents decreased by less than 900 miles.

Since 2004, Florida has seen a slight reduction in revenue miles between incidents.

Figure 17: Revenue Miles between Safety Incidents (thousands)



Aviation Fatalities



SUPPORTING MEASURE

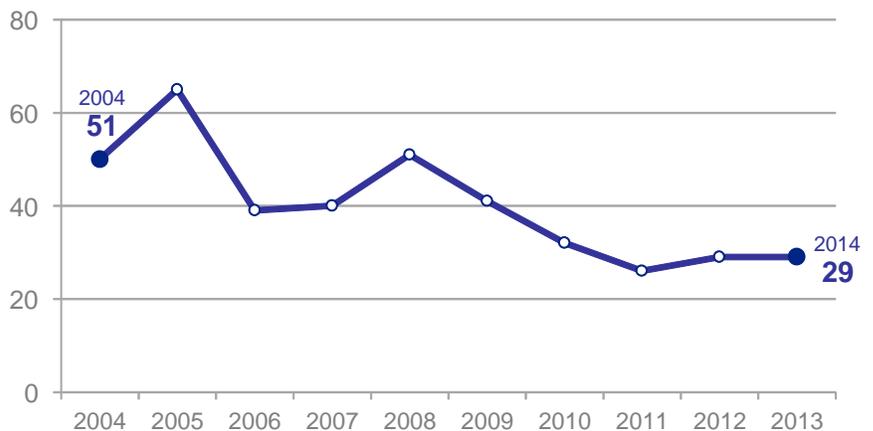
Florida has 19 commercial service airports that served 70.5 million passengers in 2013. Statewide there are 775 (public, private and military) aviation facilities. More than half (63 percent) are airports and another third (37 percent) are heliports. Of these, Florida has 110 general aviation public-use facilities and one joint-use facility (military and civilian) meeting general aviation needs and providing critical service to local communities.

FDOT regulates Florida’s public-use aviation facilities through permitting, safety inspection and licensing. All private-use facilities are registered with FDOT.

Between 2003 and 2013, Florida experienced 239 fatal aircraft accidents, with a high of 31 in 2005 and a low of 13 in 2013. The average number of fatal incidents was 24 per year over that period. In 2013, 79 accidents (13 fatal) occurred in Florida, resulting in 29 fatalities. **Figure 18** shows the downward trend in aviation related fatalities.

In 2013, 79 accidents occurred in Florida, resulting in 29 fatalities.

Figure 18: Aviation Fatalities



TRANSPORTATION SECURITY

Security involves comprehensive emergency preparedness efforts and vigilant oversight. Emergency management and transportation security require collaboration among many entities outside the transportation field and close coordination at many levels.

Emergency management, including preparedness planning, response and recovery activities, is primarily the responsibility of the Florida Division of Emergency Management within the Executive Office of the Governor. The division works as a team with emergency responders and agencies at federal, state, regional, and local levels as well as private sector and volunteer organizations. By state statute (252.38, F.S.), each county must have an emergency management plan – all 67 Florida counties are currently in compliance. FDOT participates in this process by preparing for and addressing the aftermath of severe storms.

The security of the transportation system also involves organizations typically not associated with FDOT's operation and management. Security system partners include:

- U.S. Department of Homeland Security/Transportation Security Administration (TSA)
- Other designated federal agencies
- Florida Department of Law Enforcement
- Florida Highway Patrol's (FHP) Commercial Vehicle Enforcement (CVE) Office

The FHP/CVE law enforcement activities, such as hazardous vehicle inspections, are a crucial element in domestic security.

Since September 11, 2001, cargo and passenger safety and security have become increasingly important issues to local governments and port authorities that own and operate Florida's seaports. For example, security costs for Florida's 15 deep-water seaports were \$12.3 million annually pre-9/11 and grew to \$46.8 million by 2005. Seaports develop, design, and deploy enhanced security systems to control and protect both land-side and water-side access to meet state and federal security requirements. Seaports work directly with the Florida Department of Law Enforcement and federal agencies such as the Coast Guard to ensure compliance with these requirements.

FDOT's Aviation and Spaceports Office also supports security planning efforts and operations through several programs. For example, FDOT provides support for the Airport Watch Program, which partners with the Aircraft Owners and Pilots Association and the TSA to coordinate a nationwide program that uses the eyes and ears of approximately 50,000 Florida pilots for observing and reporting suspicious activities. Other activities include FDOT's review of the security plans for all general aviation airports, support of compliance with TSA's rules for commercial service airport security, and administration of security project funding as authorized through revenues generated by "United We Stand" Florida license plate sales.

