Florida Department of Transportation 2015 Performance Report

Safety

Safe and Secure Travel

Produced by the Florida Department of Transportation
Office of Policy Planning
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SAFETY

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

Transportation system safety and security are among Florida's highest commitments to its residents, businesses, and visitors. Safety improvements save lives, enhance quality of life, and support the state'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 conditions, innovations in technology, enforcement and education, and even by weather and the natural environment. It is vital that federal, state, regional and local safety partners and other stakeholders work together to improve transportation safety.

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

FDOT's long-term vision is zero deaths on Florida's roadways. To help achieve this vision, 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 specific objective to "Reduce by 5 percent annually the number of highway fatalities and serious injuries." FDOT also collaborates with its safety partners to implement 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.

The SHSP is led by a group of dedicated, public and private sector safety partners working together to achieve successful implementation. In 2014, the five-year rolling average for traffic fatalities dropped for the seventh consecutive year. This trend is a result, in part, of the SHSP efforts and initiatives. 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 vision of zero deaths on Florida's roadways.

2015 PERFORMANCE HIGHLIGHTS

The safety and security performance highlights are:

- The five-year rolling average for traffic fatalities dropped for the seventh consecutive year from 2,448 in 2013 to 2,434 in 2014.
- The five-year rolling average for serious injuries dropped for the tenth consecutive year from 20,413 in 2013 to 20,035 in 2014.
- The annual targets, to reduce fatalities and serious injuries by 5 percent, were not achieved – the five-year rolling average for fatalities decreased by 0.6 percent and for serious injuries by 1.9 percent—continued progress, but not at the rate desired.
- The fatality rate, the measure of fatalities per million vehicle miles traveled, decreased slightly from 1.25 to 1.24.
- Safety belt usage continued to climb, improving to 89.4 percent statewide - which is more than two points higher than the national average.
- The rolling averages for fatalities involving vulnerable road users in 2014 increased over prior years – pedestrian fatalities increased from 490 to 517; motorcyclist fatalities increased from 412 to 444; and bicyclist fatalities increased from 109 to 117.
- Transit safety was similar to previous years - the number of revenue miles between safety incidents dropped to approximately 142,000 miles in 2014.

Performance Profiles are included to highlight specific strategies and programs that support these performance measures.

Florida Strategic Highway Safety Plan

Florida is determined to drive down fatalities and injuries on our streets and highways.

The Florida departments of Education, Health, Highway Safety and Motor Vehicles, Transportation and the Florida Highway Patrol have partnered with agencies of the federal government and dozens of traffic safety organizations and private sector businesses to develop Florida's Strategic Highway Safety Plan.

FATALITIES & SERIOUS INJURIES

CORE MEASURE

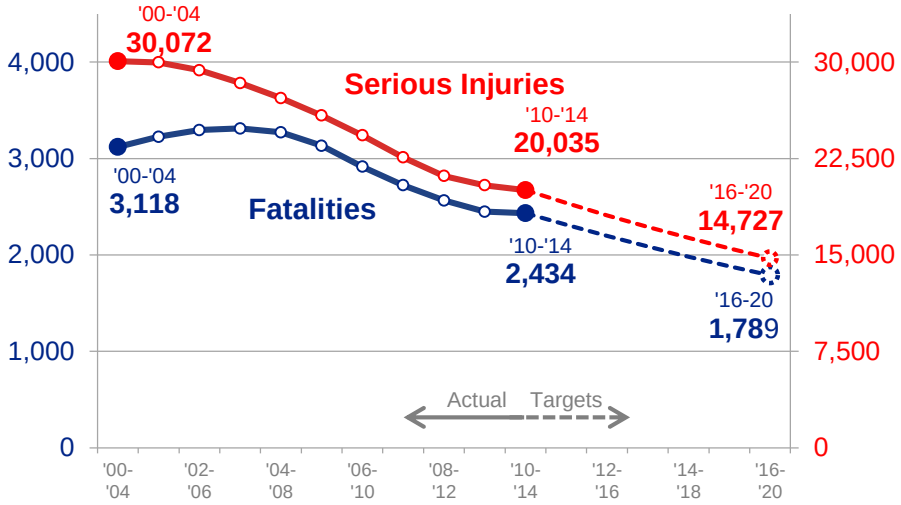
FDOT has identified a series of core measures that relate directly to a primary goal or function and/or support a key strategic initiative. FDOT's core measures for transportation safety are those related to the most severe consequences – fatalities and serious injuries.

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 real and meaningful 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 annual targets are to reduce the five-year rolling average number of fatalities and serious injuries on all Florida roads by 5 percent each year. These are "stretch" targets that may be difficult to achieve every year, reflecting a philosophy of making continuous improvement and a recognition that one life lost is one too many. **Figure 1** shows that the five-year rolling average for fatalities has dropped since 2007 from 3,311 to 2,434, a more than 26 percent reduction. Over the same time period, the five-year rolling average for serious injuries has decreased over 29 percent, from 28,371 to 20,035.

Since 2007, the five-year rolling averages for fatalities and serious injuries have dropped substantially by 26 percent and 29 percent, respectively.

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

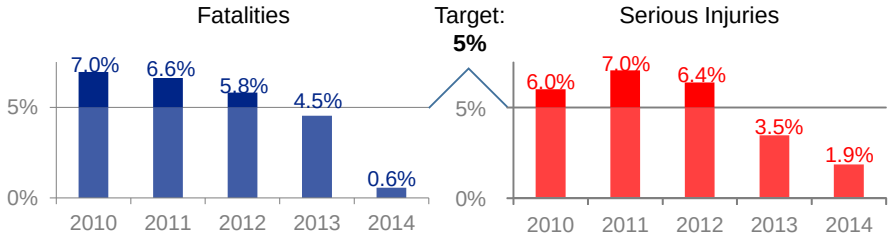


SOURCE: Florida Department of Transportation, State Safety Office

In 2014, 580, or just under one quarter of all fatalities, and 4,012, or nearly one fifth of serious injuries, occurred on Florida's Strategic Intermodal System (SIS) which includes most of the higher speed and higher traffic volume highways.

Figure 2 shows that FDOT fell short of its 5 percent annual reduction targets in 2014 – the five-year rolling average of 2,434 fatalities were 108 higher than the target, and the five-year rolling average of 20,035 serious injuries were 1,020 higher than the target. Assuming the targets are achieved in the future, the five-year rolling averages would drop to approximately 1,789 fatalities and 14,727 serious injuries by 2020.

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



SOURCE: Florida Department of Transportation, State Safety Office

KEY STRATEGIES TO REDUCE FATALITIES AND SERIOUS INJURIES

The downward trend in fatalities and serious injuries is attributed, in part, to several safety programs and initiatives, many of which are from the SHSP. FDOT will help ensure continued progress to improve its core measures associated with reducing fatalities and serious injuries through strategies such as those identified below in the five emphasis areas in the SHSP:

- Identify engineering initiatives to improve safety of the built environment.
- Increase training opportunities and educational awareness of good transportation safety practices.
- Support campaigns and education initiatives targeted to discourage DUI.
- 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.

Medians Save Lives

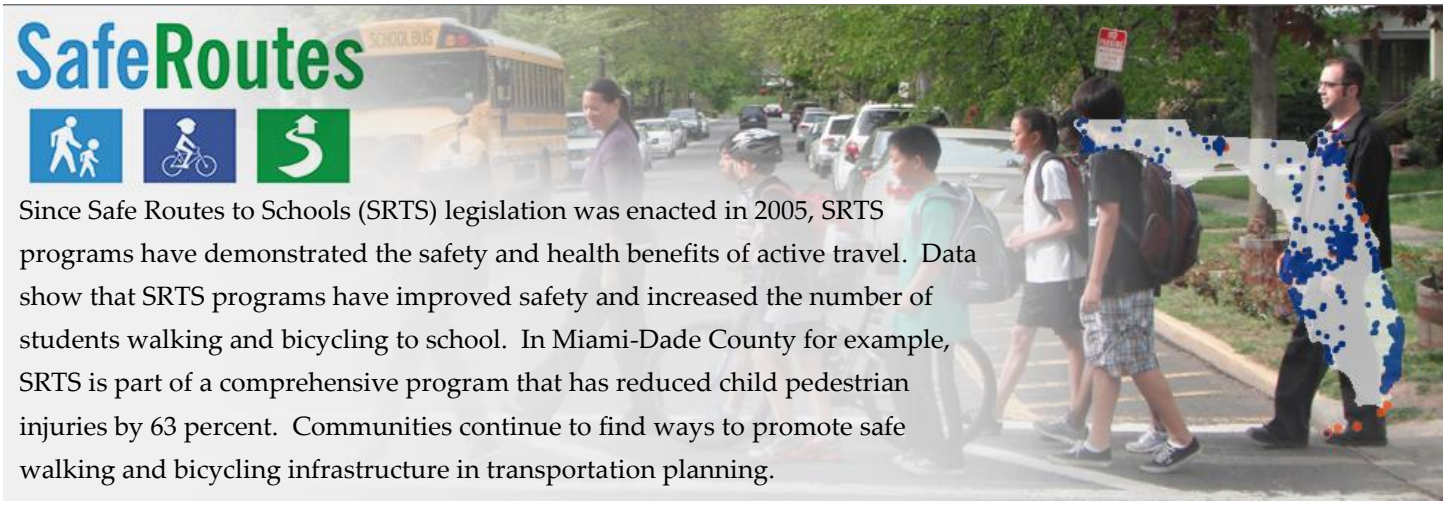
FDOT continues to pursue its policy of retrofitting multi-lane streets with two-way-center turn-lanes to raised medians. This has proven to be effective in reducing serious injuries on urban streets. Florida is one of a few states that have instituted this as a general policy. This policy has been in place since 1992. A recent study of 18 retrofitted corridors showed a decrease in fatal and injury crashes of over 36 percent.

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 historic data is not available to calculate five-year rolling averages. In some cases, three-year rolling averages are used, or annual numbers are reported when the five year trend data is not available. For the future, it is expected that all of these measures will eventually become five-year rolling averages.

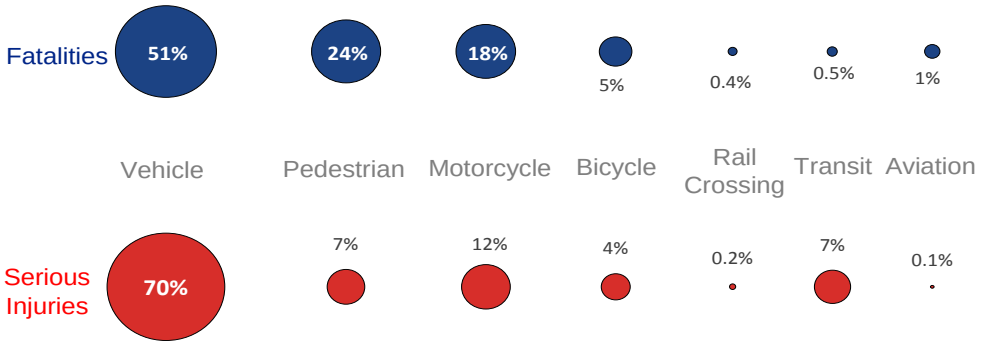


Since Safe Routes to Schools (SRTS) legislation was enacted in 2005, SRTS programs have demonstrated the safety and health benefits of active travel. Data show that SRTS programs have improved safety and increased the number of students walking and bicycling to school. In Miami-Dade County for example, SRTS is part of a comprehensive program that has reduced child pedestrian injuries by 63 percent. Communities continue to find ways to promote safe walking and bicycling infrastructure in transportation planning.

Fatalities and Injuries by Mode

Most 2014 fatalities and serious injuries on Florida's transportation system occurred where the majority of travel occurs: on roadways and in personal vehicles. **Figure 3** shows that fatalities and serious injuries involving pedestrians and motorcycles were also prevalent as compared to other modes of transportation.

Figure 3: Florida Transportation Fatalities and Injuries by Mode, 2014



SOURCE: Florida Department of Transportation, State Safety Office

Fatality Rate

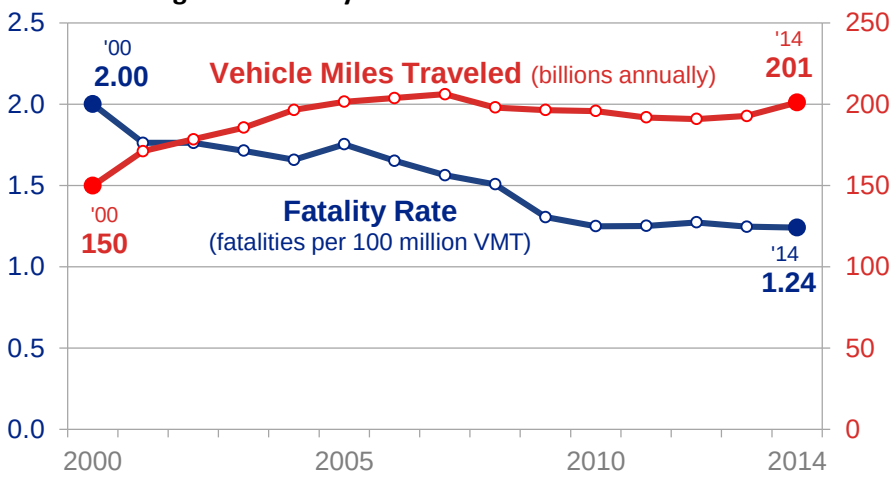
SUPPORTING MEASURE

The Fatality Rate – the number of fatalities per 100 million VMT – has remained fairly flat over the last five years after decreasing sharply during the previous five year period.

To help account for the relationship between fatalities and miles driven, highway safety experts use a "fatality rate" by calculating the number of fatalities per 100 million vehicle miles traveled (VMT). The resultant fatality rate includes motor vehicle and motorcyclist fatalities as well as bicyclist and pedestrian fatalities involving motor vehicles.

Figure 4 shows that Florida's highway fatality rate per 100 million VMT dropped to 1.24 in 2014 and remains far below the fatality rates of the early 2000s.

Figure 4: Fatality Rate vs. Vehicle Miles Traveled



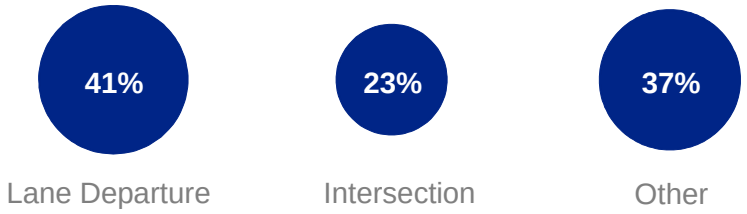
SOURCE: Florida Department of Transportation, State Safety Office; FDOT General Interest Highway Statistics Source Book; and the Florida Department of Highway Safety and Motor Vehicles, Traffic Crash Facts Annual Report

Fatalities Involving Lane Departures and Intersections

SUPPORTING MEASURES

The majority of roadway crashes occur either at intersections or by 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, 2014



SOURCE: Florida Department of Transportation, State Safety Office

41 percent of all fatalities on Florida roadways involve a lane departure.

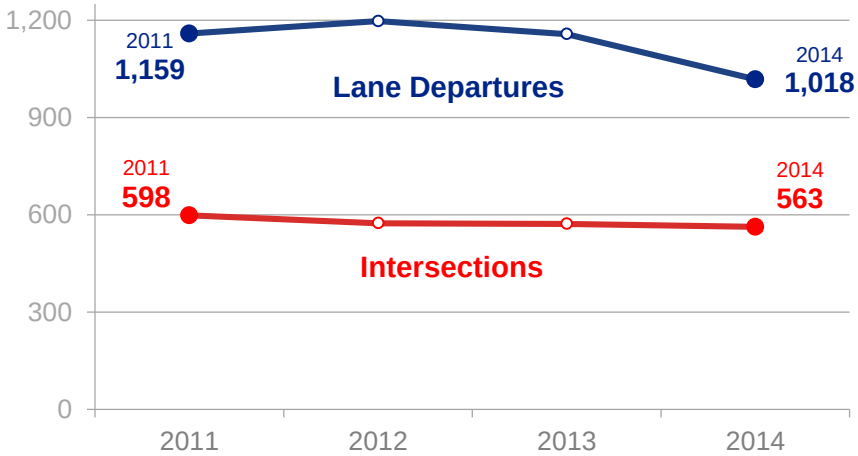
Approximately 41 percent of all traffic fatalities in 2014 involved lane departures. Lane departures include running off the road, crossing the center median into oncoming traffic, and sideswipe crashes. Lane departure crashes may also involve a vehicular rollover or hitting a fixed object such as a utility pole.

Traffic fatalities at intersections comprised 23 percent of statewide traffic fatalities in 2014. 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.

Figure 6 shows that 1,018 lane departure fatalities and 563 intersection fatalities occurred in 2014, both exhibiting overall declines since 2011.

Figure 6: Lane Departure and Intersection Fatalities

Lane departure and intersection fatalities have declined over the past few years.



SOURCE: Florida Department of Transportation, State Safety Office

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 or other vehicles. 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. Safe driving behaviors also warrants continued emphasis.

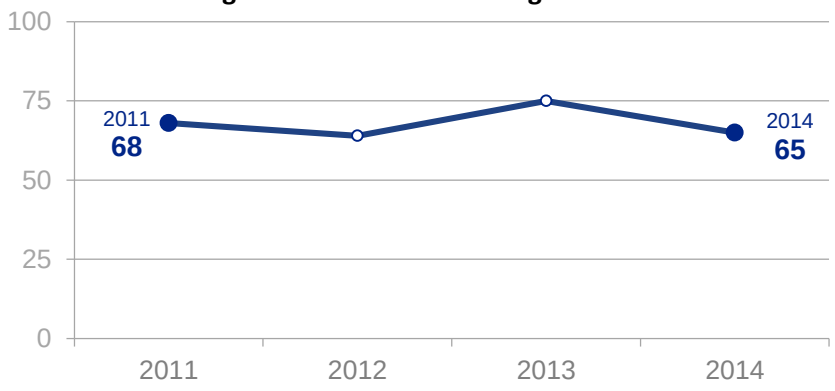
Fatalities in Construction Work Zones

SUPPORTING MEASURE

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. While **Figure 7** shows that fatalities in work zones have been fairly constant over the past four years, they did decrease markedly from 75 in 2013 down to 65 in 2014.

Fatalities in work zones decreased over 13 percent between 2013 and 2014.

Figure 7: Fatalities Involving Work Zones



SOURCE: Florida Department of Transportation, State Safety Office

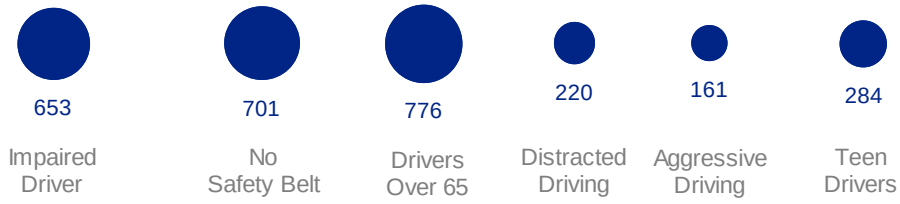
EXPECTTHEUNEXPECTED

FDOT's Work Zone Safety campaign continues its message that everyone needs to recognize the dangers of reckless driving through highway work zones. National Work Zone Awareness Week is an annual spring campaign held to encourage safe driving through highway work zones and construction sites. The key message is for drivers to use extra caution in work zones. The theme for National Work Zone Awareness Week 2015 was "Expect the Unexpected."

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 2014 fatalities by various demographic and behavioral factors. Some of the fatalities shown below may involve more than one factor. Any and all factors associated in any single fatality are counted. As such, the sum of these numbers would be greater than the total number of fatalities.

Figure 8: Fatalities Involving Demographic and Behavioral Factors, 2014



SOURCE: Florida Department of Transportation, State Safety Office
NOTE: These numbers include the driver and other involved persons

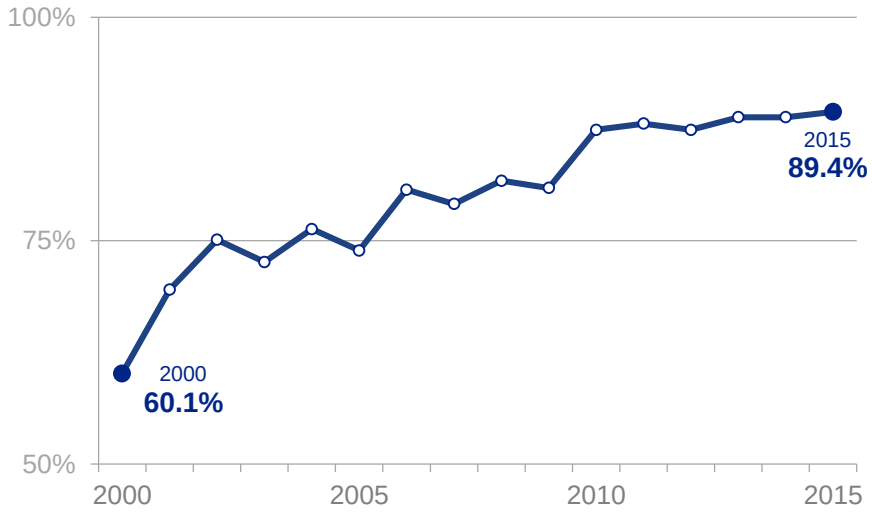
Seat Belt Usage

SUPPORTING MEASURE

Wearing a safety belt is the most important preventative measure that drivers can take for crash protection. **Figure 9** shows that Florida motorists are increasingly wearing safety belts. The increase is 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 2014 the statewide safety belt usage rate was 89.4 percent, which is higher than the national average of 87 percent.

Florida's statewide safety belt usage rate of 89.4 percent is more than two points higher than the national average.

Figure 9: Statewide Seat Belt Usage Rate



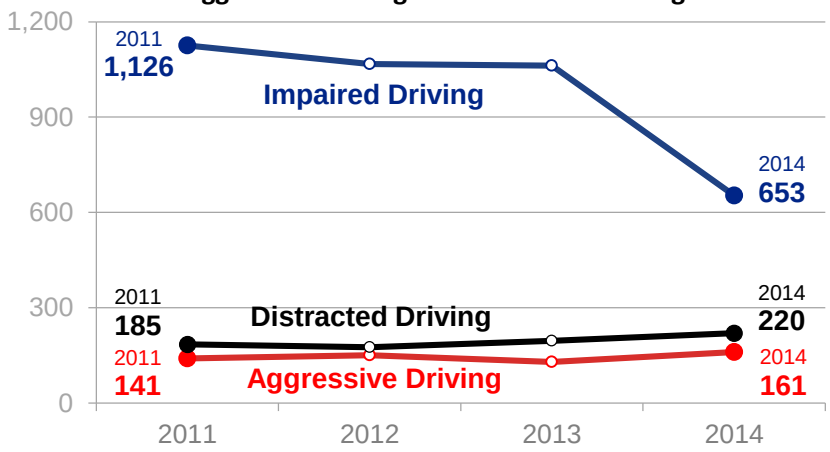
SOURCE: Florida Department of Transportation, State Safety Office

Fatalities Involving Impaired Drivers, Aggressive and Distracted Driving

SUPPORTING MEASURES

Impaired, aggressive, or distracted driving often contributes to 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



SOURCE: Florida Department of Transportation, State Safety Office

Impaired driving continues to be a leading contributing factor for traffic fatalities. In 2014, 653 alcohol-related and drug traffic fatalities occurred, which is a significant decrease over prior years.

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 2014, 161 fatalities were related to aggressive driving, which is an increase over prior years.

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

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 by about 19 percent from 185 in 2011 to 220 in 2014. There are three main types of distraction: manual (taking hands off the wheel), visual (taking eyes off the road), and cognitive (taking one's 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.

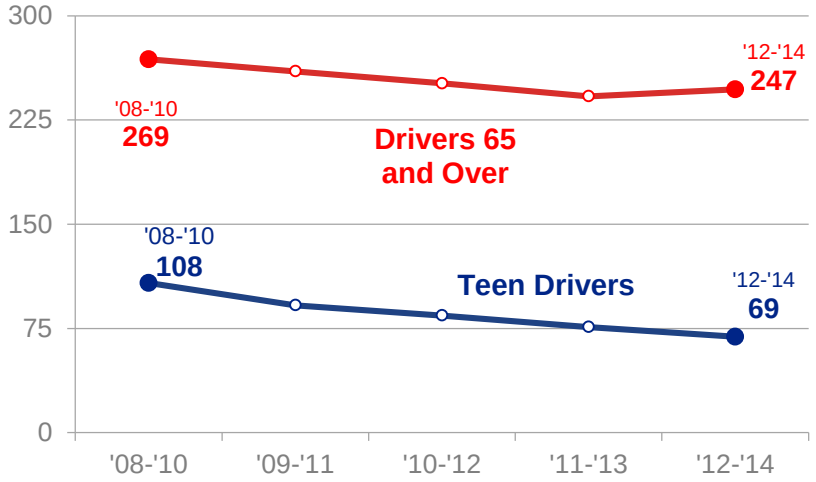
Fatalities Involving At-Risk Drivers

SUPPORTING MEASURE

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 fatalities involving at-risk drivers have declined in recent years. In 2014, fatalities involving at-risk drivers accounted for about 13 percent of all fatalities.

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



SOURCE: Florida Department of Transportation, State Safety Office
NOTE: The data presented above only includes the teen and over 65 drivers. It does not include other people that died as a result of the crashes.

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 them 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

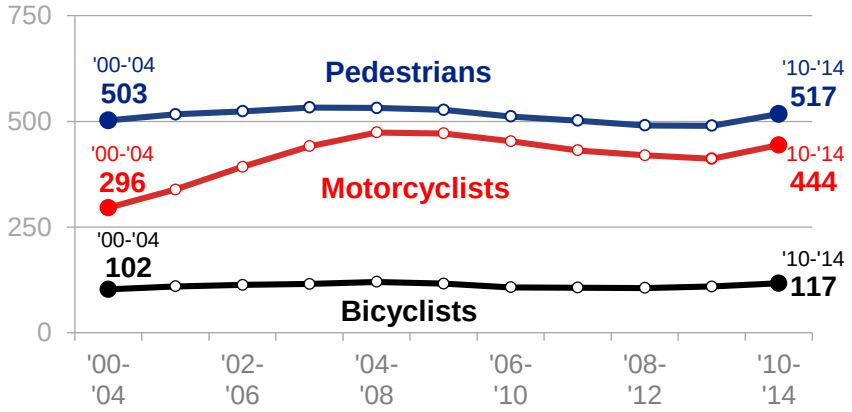
SUPPORTING MEASURES

Vulnerable road users, by definition, are pedestrians, bicyclists, and motorcyclists. **Figure 12** shows that vulnerable road user fatalities are increasing. 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. It has a state bicycle/pedestrian safety program manager and all FDOT Districts have bicycle/pedestrian coordinators.

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

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



SOURCE: Florida Department of Transportation, State Safety Office

Bicycle-Pedestrian Safety Efforts

In 2012, Florida's ranking among states for pedestrian deaths per capita fell out of the top three for the first time in decades. FDOT District One Secretary Billy Hattaway is a big believer in the Three E's of Safety: engineering, enforcement, and education. In addition to helping develop the first-ever statewide pedestrian and bicycle strategic safety plan, which includes a significant investment in outreach and stepped up law enforcement, he has also led efforts to train planners and engineers.

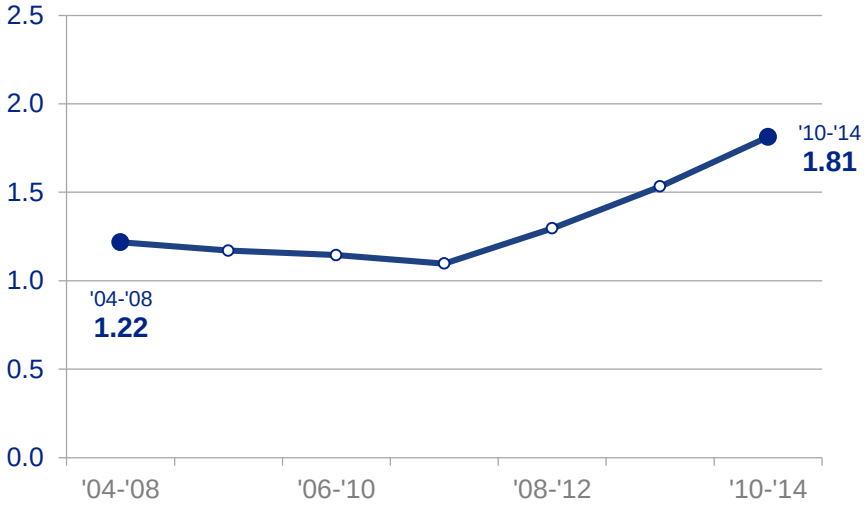
Commercial Vehicle Crash Rate

SUPPORTING MEASURE

Our population growth brings new challenges for freight traffic. FDOT strives to improve commercial motor vehicle safety by coordinating with the Florida Highway Patrol's (FHP) Commercial Vehicle Enforcement (CVE) Office to conduct safety inspections and enforcement of safety requirements. Changes to Florida Statute 316.066 in 2012 require that all crashes involving a commercial motor vehicle be reported to the Florida Department of Highway Safety and Motor Vehicles (DHSMV). This change caused a corresponding increase in the number of reported commercial motor vehicle crashes, thereby leading to an increase in the commercial vehicle crash rate. **Figure 13** illustrates the commercial vehicle crash rate since 2004.

Figure 13: Commercial Vehicle Crash Rate

(Crashes per million vehicle-miles of truck travel: 5-year rolling averages)



SOURCE: Florida Highway Safety and Motor Vehicles; Traffic Crash Facts Annual Report, FDOT Multimodal Mobility Performance Measures Source Book

Rail Crossing Fatalities and Railroad Derailments

SUPPORTING MEASURES

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

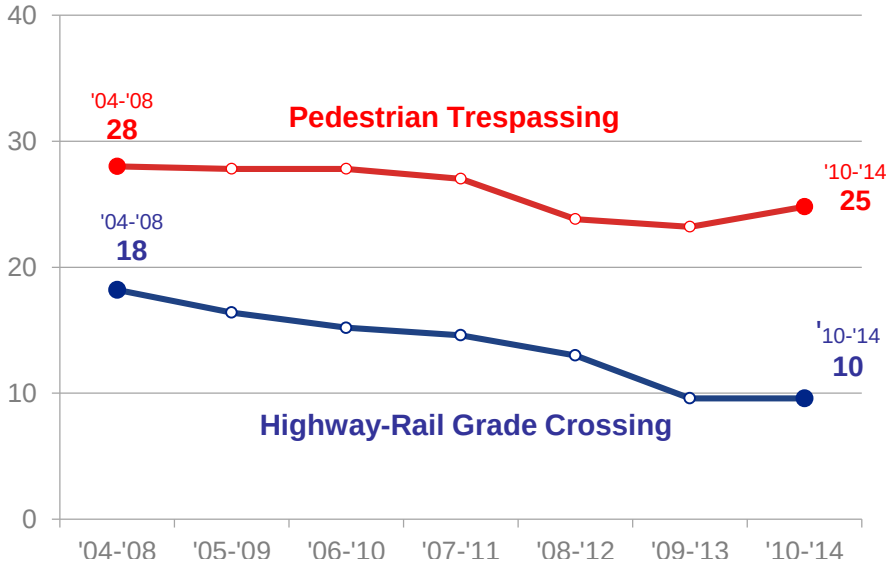
As of January 2014, Florida has 3,784 public at-grade rail crossings with approximately 80 percent equipped with active warning devices compared to approximately 50 percent nationally. Both crashes and fatalities at rail crossings have declined in recent decades. This is especially noteworthy given increased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

Pedestrian trespassing on railroad tracks is a problem that FDOT is working 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 five-year rolling average of fatalities since 2004 at highway-rail grade rail crossings and those involving pedestrians.

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)

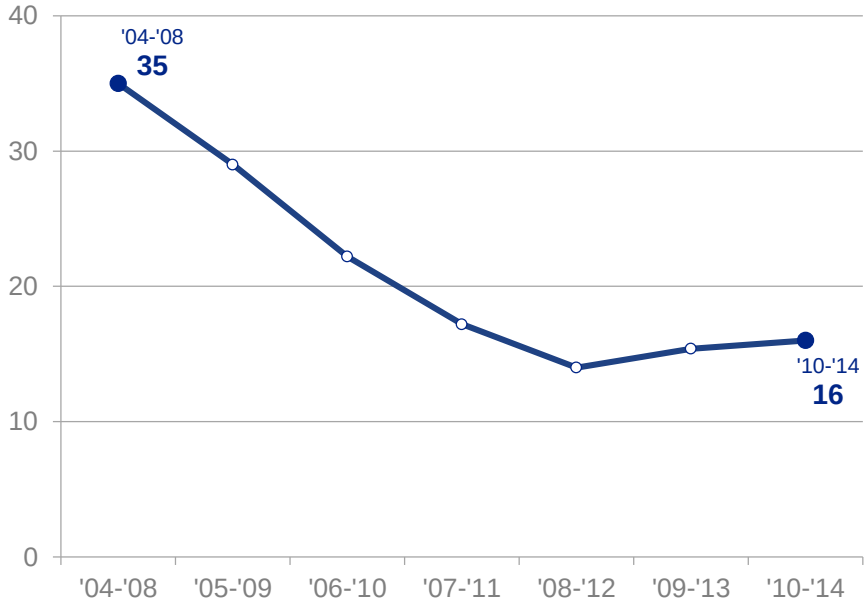


SOURCE: Federal Railroad Administration, Office of Safety Analysis

In 1977, the year before FDOT began its railroad safety inspection program, there were 259 train derailments. **Figure 15** shows that derailments have increased in recent years but are still far below pre-1977 levels. The 2010-2014 five-year rolling average is 16 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 privately owned railroad companies.

Railroad derailments have risen slightly in recent years. Most derailments occur within industrial yards and result in little damage.

Figure 15: Railroad Derailments (5-year rolling averages)



SOURCE: Federal Railroad Administration, Office of Safety Analysis

Florida Operation Lifesaver

Florida Operation Lifesaver is a statewide, non-profit public awareness and education program dedicated to ending tragic collisions, fatalities, and injuries at highway-rail grade crossings and on railroad property. It is working to change people's behavior around railroad tracks and crossings with the national public awareness campaign, "See Tracks? Think Train!"

Fatalities Involving Public Transit and Revenue Miles between Safety Incidents

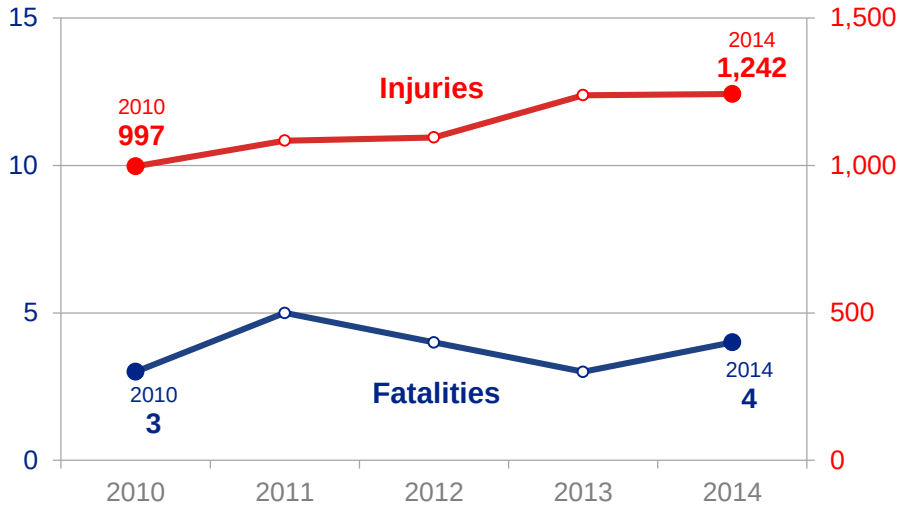
SUPPORTING MEASURES

Most 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 data for public transit are reported to the National Transit Database (NTD). Within the NTD, safety incidents can include both major and minor incidents. Major incidents include fatalities and injuries needing immediate medical attention and minor incidents include slips, trips and falls. **Figure 16** illustrates that between 2010 and 2014, the number of major and minor transit incidents related to injuries increased slightly but fatalities remained close to the same.

Between 2010 and 2014 the number of transit incidents related to injuries increased slightly but fatalities remained close to the same.

Figure 16: Transit Fatalities and Injuries

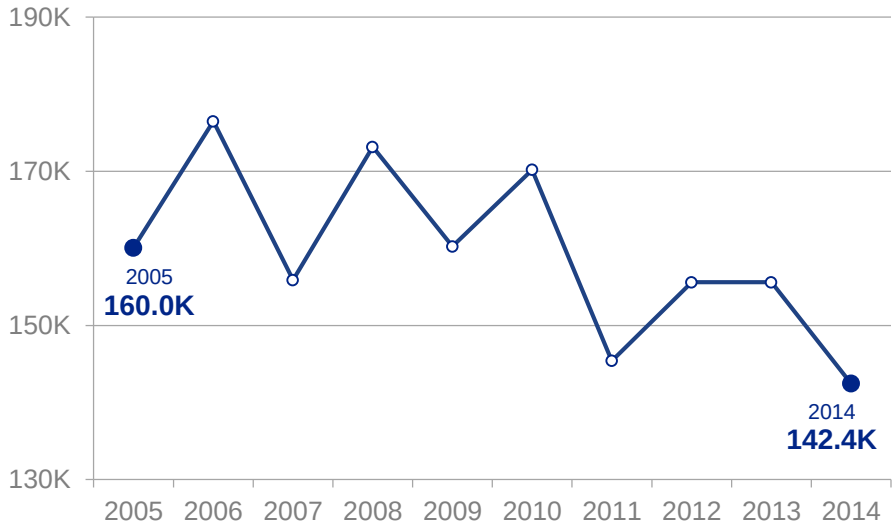


SOURCE: Florida Department of Transportation, Public Transit Office
Data represents Florida's Urban Fixed Route Transit Systems

Figure 17 illustrates revenue miles between safety incidents for public transit. This measure provides insight into the frequency of safety incidents in relation to transit miles traveled. As Florida transit agencies increase the number of service miles, ideally revenue miles between safety incidents will also increase as the frequency of safety incidents decreases. In 2014, the number of revenue miles between safety incidents decreased to 142,425 from 155,633 in 2013, due to a slight increase in reported safety incidents. FDOT's Transit Office provides continuous training and technical assistance to Florida transit agencies to assist in reducing the number of injuries and fatalities in order to provide a safe traveling environment.

In 2014, the number of revenue miles between safety incidents decreased to 142,425 from 155,633 in 2013, due to a slight increase in safety incidents.

Figure 17: Revenue Miles between Safety Incidents (thousands)



SOURCE: Florida Department of Transportation, Public Transit Office
Data represents Florida's Urban Fixed Route Transit Systems

Aviation Fatalities

SUPPORTING MEASURE

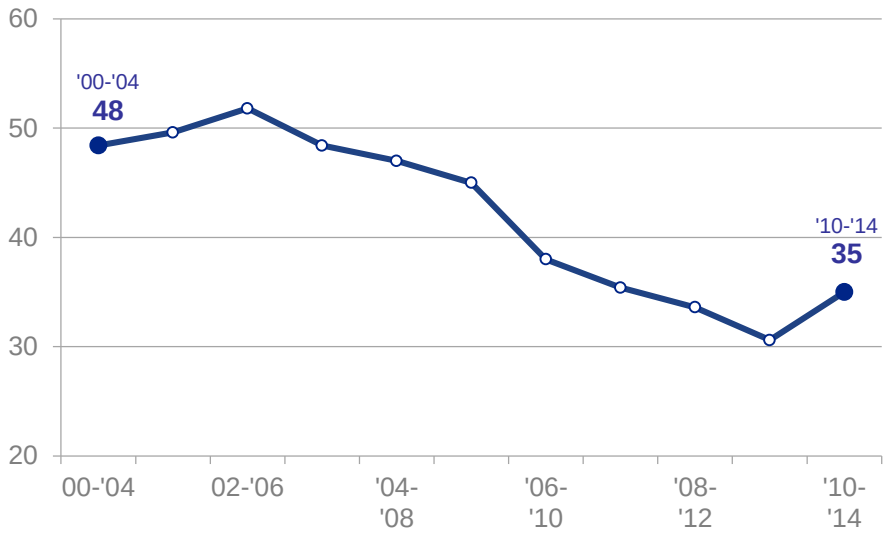
Florida has 20 commercial service airports that served 72.3 million passengers in 2014. Statewide there are 779 public, private and military aviation facilities. More than half (63 percent) are airports and another third (37 percent) are heliports. Florida has 108 general aviation public-use facilities meeting general aviation needs that provide 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 2004 and 2014, there were 450 general aviation fatalities in Florida, with a high of 64 in 2005 and a low of 26 in 2011. The average number of fatalities per year was 41 between 2004 and 2014. In 2014, 62 fatalities occurred in Florida, which brought the 2010-2014 five-year rolling average up to 35. Overall the five-year rolling average of aviation fatalities has generally been declining. **Figure 18** shows the overall trend in aviation fatalities.

The five-year rolling average of aviation fatalities has generally been declining.

Figure 18: Aviation Fatalities
(5-year rolling averages)



SOURCE: National Transportation Safety Board, Aviation Accident Database & Synopses (includes: airplanes, gliders, balloons, blimps/dirigibles, ultralights, gyroplanes, powered-lifts, powered-parachutes, and weight-shifts)

TRANSPORTATION SECURITY

Security involves comprehensive emergency preparedness efforts and vigilant oversight. Emergency management and transportation security requires 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 the 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.

Security remains a challenging area of performance measurement, but one that deserves continued attention—even from the perspective that transportation performance is multi-dimensional and includes all modes. As FDOT and others promote public transportation, for example, recognition of the importance of security for transit users is essential. Further, perceptions regarding transit security can be a challenge in promoting its use—even when perceptions and reality do not align. Transportation agencies, communities, law enforcement officials and others will continue to need to partner to ensure secure transit stations and stops, particularly in areas with crime or other issues.

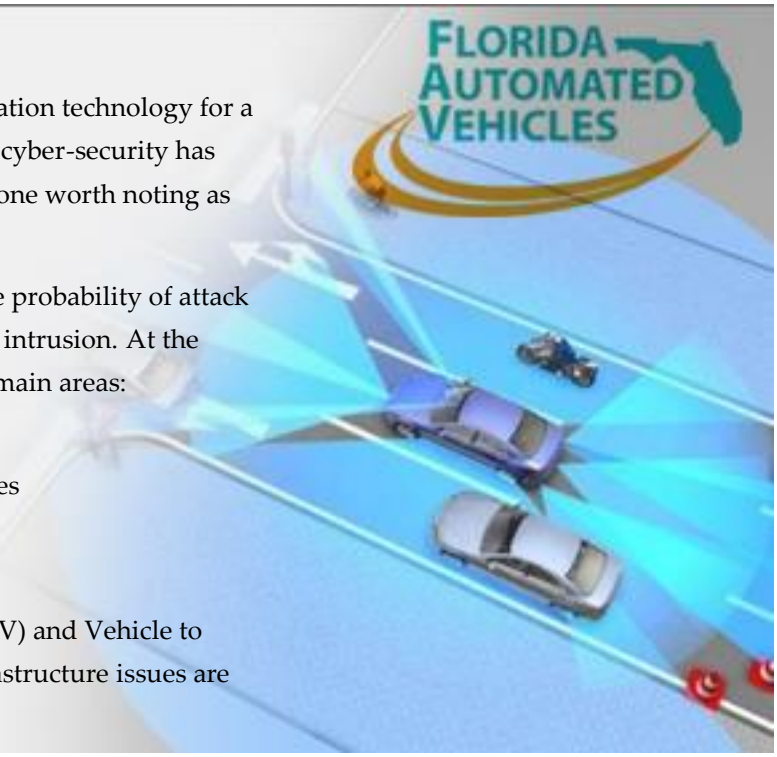
Cybersecurity for Automobiles

As vehicles have become increasingly reliant on information technology for a wide range of components and operating performance, cyber-security has become a concern. While this is a fairly new issue, it is one worth noting as vehicles become increasingly computerized.

A layered approach to vehicle cybersecurity reduces the probability of attack and mitigates the potential ramifications of a successful intrusion. At the vehicle level this approach includes the following four main areas:

- Protective/preventive measures and techniques
- Real-time intrusion (hacking) detection measures
- Real-time response methods
- Assessment of solutions

In addition, legal improvements, Vehicle to Vehicle (V2V) and Vehicle to Infrastructure (V2I) Communications and Security Infrastructure issues are being considered.



FOR THE FUTURE

FDOT strives to be forward thinking in regards to performance measurement. Many measures can be valuably used year after year. But DOTs and the states they serve continue to both lead change and adapt to change. This year we are introducing a section in each performance chapter that identifies potential measurement considerations for the future.

Multimodal Safety

With continued and enhanced focus on multi-modal mobility across the state, there will be opportunities to address safety performance for all modes, building on our experience and depth of data for highways. Fatalities and serious injuries, for example, are critically important measures regardless of mode. This will also support a greater collaboration around safety across the various transportation modes.

Education and Enforcement

FDOT places a strong emphasis on all facets of safety including education and enforcement. Looking ahead we want to find ways to meaningfully report on the performance of our diverse education and enforcement efforts.

Bicycle and Pedestrian/Complete Streets/ Transit Oriented Development

With Florida's growing priority for bicycle and pedestrian transportation we will continue to look for ways to make our performance measures more complete. For example, with better information on the number of bicyclists and pedestrians and the trips they make, we would be better able to gauge exposure to possible accidents. Complete Streets have an important safety dimension that favorably impacts safety performance and could be a future measurement focus area (e.g., comparative crash rates for streets with and without Complete Streets elements). In addition, safe walkability is a key attribute for successful transit oriented development around transit stations.

Roundabouts

Florida has few roundabouts, but they have been very effective here and elsewhere in terms of the reduction and severity of accidents. In the short term it may be useful to compare the number and severity of crashes at roundabouts, signalized intersections, and non-signalized intersections with similar traffic volumes.

FOR THE FUTURE

Technology and Visualization

Advances in safety data and mapping software should afford the opportunity to more visually present safety performance data. As transportation and information technology continues to advance and blend together, security aspects will be as important for information systems as it is for transportation facilities.

Project Development

FDOT and other transportation operators increasingly incorporate safety into the design of transportation facilities. The effectiveness and extent of safety integration with project development might be an area for future measurement and reporting.