Florida Department of Transportation

2016 Performance Report

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WHAT are performance measures?

Performance measures are indicators of progress toward attaining a goal, objective, or target (a desired level of future performance). The Florida Department of Transportation's (FDOT) Performance Management Policy, which establishes the relationship between performance, plans, and programs, provides the basis and foundation for this performance framework.

HOW does FDOT use performance measures?

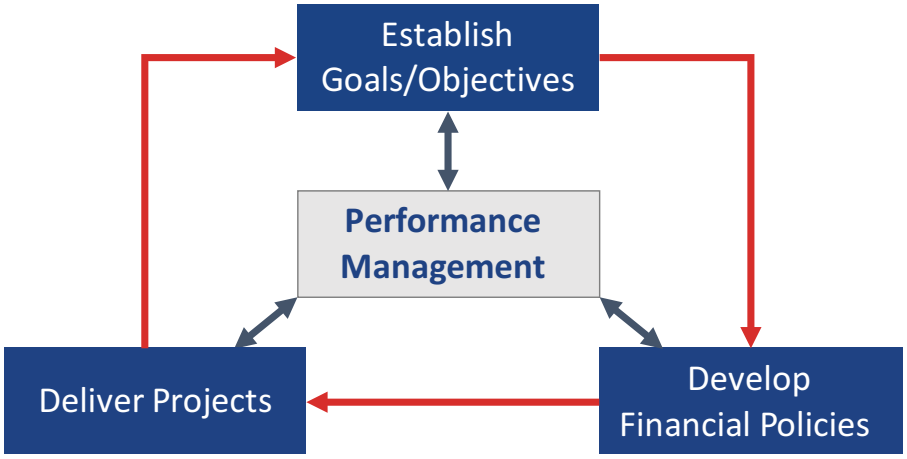
Because Florida's transportation system improvement needs exceed available funding, resources are invested in the most strategic, effective and efficient ways possible. Performance measures provide useful "feedback" and are integrated into FDOT's business practices on three levels:

At the strategic level – Performance measures help to establish and inform goals, objectives, and strategies as well as to monitor FDOT Mission attainment. Performance measures also communicate progress toward achieving goals in transportation plans and programs such as the Florida Transportation Plan, the Strategic Highway Safety Plan, and the Freight Mobility and Trade Plan.

At the decision-making level – Performance measures are used to inform and assess the financial policies for allocating funds among programs such as highway preservation, system expansion, and public transportation. These programs are defined in the Program and Resource Plan. Decision makers also consider various trends impacting transportation system performance.

At the project delivery level – After projects are selected, performance measures help to monitor the efficiency and effectiveness of projects and services in the Five Year Work Program and in relation to FDOT's Transportation Asset Management Plan. The measures also support organizational and operational improvements.

As shown in the **Performance-Based Planning and Programming Process** graphic below, performance management is at the heart of FDOT's planning and programming process.



WHY do we use them?

FDOT uses performance measures to:

- Assess how well Florida's multimodal transportation system is functioning—including feedback from and collaboration with key stakeholder organizations
- Provide information to support and inform decision-making
- Assess how effectively and efficiently transportation programs, projects and services are being delivered
- Determine customer satisfaction levels
- Demonstrate transparency and accountability to Florida's citizens and to foster collaboration with FDOT's transportation system stakeholders

WHAT does FDOT measure?

Each performance report is listed below along with some of the associated performance measures:

Safety – Fatal and serious injuries related to impaired driving, speeding and aggressive driving, distracted driving, at-risk drivers, vulnerable road users

Preservation – Percent of pavement and bridges meeting condition standards, percent of maintenance activities that meet department standards, roadway clearance times due to incidents and crashes

Mobility – Vehicle miles traveled, transit ridership, freight tonnage, freight and port access, hours of delay, travel time reliability, travel that is heavily congested

Economy – Return On Investment of FDOT programs, capacity funds for the SIS, Florida share of U.S. trade, Florida value of freight, construction projects completed on-time and within budget

Environment – Air quality, water quality, impacts to the physical, natural and cultural environment, vibrant and healthy communities, customer satisfaction

For more information

In addition to this report, the Florida Transportation Commission annually issues a Performance and Production Review. For more details on FDOT's performance reporting, go to FDOTPerforms.org.

Florida Department of Transportation 2016 Performance Report

Safety

Safe and Secure Travel

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SAFETY

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

INTRODUCTION

Transportation safety and security are among Florida's highest commitments to residents, businesses, and visitors. Safety improvements and promotion save lives, enhance quality of life, and support the state's economic competitiveness. It is essential to be vigilant about transportation system security for people and freight.

Transportation safety spans all modes. It is affected by many factors, such as driver behavior, road conditions, technology, enforcement and education, weather, and the natural environment. It is essential that federal, state, regional and local safety partners and other stakeholders work together to improve transportation safety.

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

FDOT's long-term aspirational vision is zero deaths on Florida's roadways. To advance this vision, safety is addressed in numerous FDOT plans, including the Florida Transportation Plan (FTP), the Florida Strategic Highway Safety Plan (SHSP), and the Florida Pedestrian and Bicycle Strategic Plan.

FDOT collaborates with its safety partners to implement Florida's SHSP to reduce fatalities and serious injuries by strategically targeting resources to the problems with the greatest potential for improvement. The SHSP provides a foundation for FDOT's highway safety activities and plans and is led by a group of dedicated public and private sector safety partners dedicated to achieving successful implementation.

In 2015, traffic fatalities increased by 17.8 percent over the prior year. 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 obviously more work to do. Driver behavior, for example, is a safety challenge requiring continuous attention. Safety improvements often take several years to properly evaluate. Readers should exercise restraint in making broad conclusions based on year-to-year fluctuations of safety statistics.

2016 PERFORMANCE HIGHLIGHTS

Safety and security is an FDOT priority and a primary focus of the Florida Transportation Plan. Key performance highlights include:

- Fatalities on Florida roads increased 17.8 percent from 2,494 to 2,939 between 2014 and 2015; while serious injuries increased 3.1 percent from 20,912 to 21,551 over the same period.
- The Florida roadway fatality rate (fatalities per 100 million vehicle miles traveled) increased from 1.24 to 1.42 between 2014 and 2015—a 14.5 percent increase.
- Fatalities due to lane departure and intersection crashes account for 69 percent of all traffic fatalities.
- Fatalities in construction work zones increased from 63 to 77 between 2014 and 2015—the most work zone fatalities since 2011.
- Safety belt usage continued to climb, improving to 89.4 percent statewide—almost one point higher than the national average.
- Fatalities due to impaired, speeding and aggressive driving increased over the prior year—impaired driving fatalities increased from 749 to 851; speeding and aggressive driving fatalities increased from 324 to 413.
- Fatalities involving at-risk drivers in 2015 increased over the prior year—aging road user fatalities increased from 468 to 531; and teen fatalities increased from 213 to 263.
- Fatalities involving vulnerable road users in 2015 increased over the prior year—pedestrian fatalities increased from 606 to 632; motorcyclist fatalities increased from 449 to 583; and bicyclist fatalities increased from 135 to 153.
- Fatalities involving commercial motor vehicles in 2015 increased 20.7 percent over the prior year from 232 to 280.
- Transit injuries decreased to 1,117 in 2015—transit fatalities remain low.

FLORIDA TRANSPORTATION PLAN

The Florida Transportation Plan (FTP) is Florida's long range transportation plan for meeting the dynamic mobility needs of residents, businesses, and visitors. FDOT's Safety Performance Report aligns with the FTP goal:

- *Safety and Security for Residents, Visitors, and Businesses*

This report highlights the core and supporting performance measures related to this FTP goal, and other transportation plans and programs.

FTP Goal: *Safety and Security for Residents, Visitors, and Businesses*

FTP Objectives	Related Performance Report Measures
Prevent transportation-related fatalities and injuries	**CORE MEASURES** Fatalities & Serious Injuries • *Fatality Rate*
Reduce the number of crashes on the transportation system	**SUPPORTING MEASURES** *Fatalities involving:* • *Lane Departures* • *Intersections* • *Work Zones* • *Impaired Driving* • *Speeding and Aggressive Driving* • *Distracted Driving* • *Aging Road Users* • *Teen Drivers* • *Pedestrians* • *Bicyclists* • *Motorcyclists* • *Commercial Motor Vehicles* • *Rail* • *Public Transit* • *Aviation*
Prevent and mitigate transportation-related security risks	*Additional Supporting Measures* • *Safety Belt Usage* • *Transit Injuries* • *Transit Revenue Miles Between Safety Incidents*
Provide transportation infrastructure and services to help prepare for, respond to, and recover from emergencies	

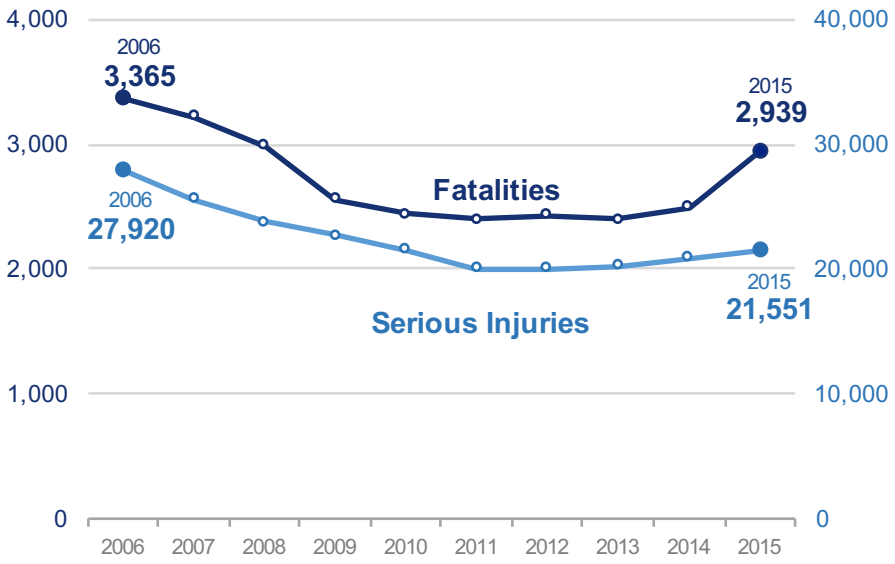
FATALITIES & SERIOUS INJURIES

CORE MEASURES

FDOT's core measures for transportation safety are fatalities and serious injuries. **Figure 1** shows that fatalities decreased between 2006 and 2011, but began to increase thereafter. Fatalities jumped sharply by 17.8 percent between 2014 and 2015. By comparison, population and vehicle miles traveled (VMT) grew by only 1.7 percent and 2.8 percent respectively over this same period. The number of serious injuries followed a similar trend, but the increase occurred at a slower rate.

Fatalities and serious injuries in 2015 increased over the prior year–fatalities by 17.8 percent and serious injuries by 3.1 percent.

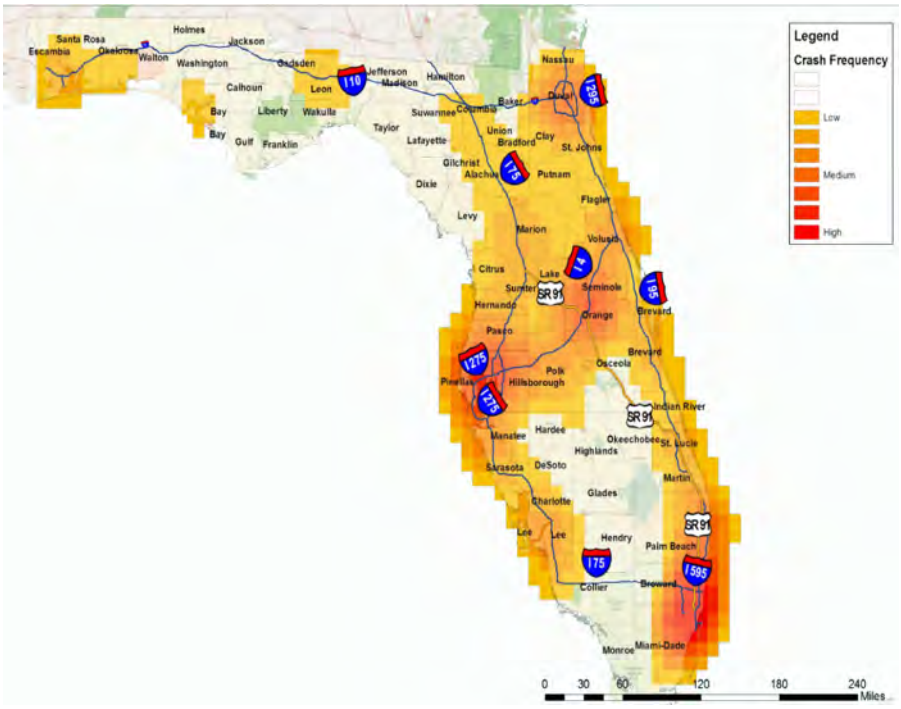
Figure 1: Fatalities and Serious Injuries



SOURCE: Florida Department of Transportation, State Safety Office

Figure 2 shows a safety locational "heat map" of Florida fatalities and serious injuries. The highest level of fatalities and serious injuries are concentrated within major urbanized areas and along Interstate highways.

Figure 2: Fatalities and Serious Injuries (2011-2015)



SOURCE: Florida Department of Transportation, State Safety Office

Strategic Highway Safety Plan (SHSP)

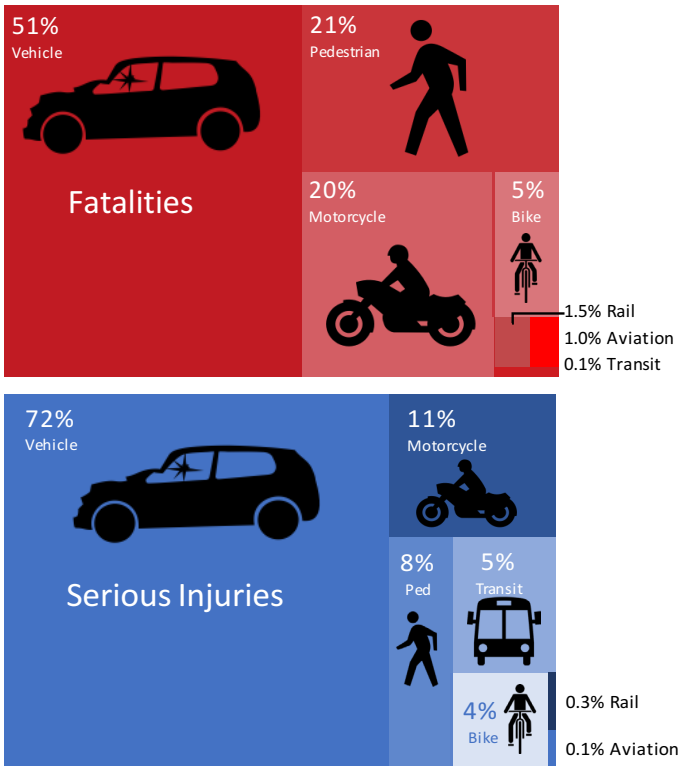
The Strategic Highway Safety Plan (SHSP) advances Florida's vision to eliminate fatalities and reduce serious injuries on all public roads. The SHSP was developed as a part of the Florida Transortation Plan (FTP) Implementation Element to address highway safety and aligns with the FTP Vision and Policy elements. The SHSP is a statewide, data-driven safety plan for all Florida road users. The SHSP includes 13 emphasis areas. It also defines a framework for implementation activities to be carried out through strategic safety coalitions as well as specific activities by FDOT, other state agencies, metropolitan planning organizations, local governments, and other partners.

Figure 3 shows that vehicle crashes accounted for the majority of fatalities and serious injuries in 2015. However, pedestrian and motorcycle fatalities were a significant portion of total fatalities and serious injuries (particularly in relation to the smaller portion of trips made using these modes). Although, it's important to note that fatal crashes went up across the board in 2015, pedestrian and bicyclist fatalities do represent a smaller percentage than in 2014.

- In 2014, pedestrians accounted for 23.9 percent of all fatalities. In 2015, pedestrians accounted for 21.2 percent of all fatalities. That's a 2.7 percent reduction.
- In 2014, bicyclists accounted for 5.5 percent of all fatalities. In 2015, bicyclists accounted for 5.2 percent of all fatalities. That's a 0.3 percent reduction.

Together bicycle and pedestrian fatalities were reduced from 29.8 percent in 2014 to 26.7 percent in 2015.

Figure 3: Florida Transportation Fatalities and Serious Injuries by Mode, 2015



SOURCE: Florida Department of Transportation, State Safety Office

KEY STRATEGIES TO REDUCE FATALITIES AND SERIOUS INJURIES

FDOT and partner organizations strive to reduce fatalities and serious injuries through the strategies identified below from the Florida Transportation Plan (FTP) and the Strategic Highway Safety Plan (SHSP):

- Pursue aligned activities for design, engineering, enforcement, education, and emergency response to reduce fatalities, injuries, and crashes.
- Identify, develop, and deploy engineering solutions and other promising practices that encourage safe driving behaviors and reduce roadway fatalities and serious injuries.
- Integrate safety focused policies and practices with roadway design, construction, operation, and maintenance to make Florida's transportation system safer for all users.
- Ensure that transportation facility designs include safe and efficient access for first responders.
- Increase safety and security for public transportation users.
- Increase safety and security for people with limited mobility.
- Expand the use of context-sensitive design to improve safety for all travelers, including pedestrians and bicyclists.
- Continue to support research, testing, policy, and deployment activities to realize the anticipated safety benefits of automated and connected vehicle technologies.
- Increase targeted enforcement activities in high-crash locations.
- Increase enforcement efforts that discourage high-risk driving behaviors.
- Coordinate with prosecutors and the courts to improve prosecution and adjudication of traffic safety-related cases.
- Educate all road users about sharing the road.
- Develop and implement communication strategies for all road users and improve public awareness of highway safety needs.
- Increase training and educational opportunities for first responders and other traffic safety partners focused on reducing roadway-related fatalities and serious injuries.

SUPPORTING MEASURES AND INFORMATION

In addition to the core measures, FDOT has identified several supporting measures 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
  - Work Zones
  - Impaired Driving
  - Speeding and Aggressive Driving
  - Distracted Driving
  - Aging Road Users
  - Teen Drivers
  - Pedestrians
  - Bicyclists
  - Motorcyclists
  - Commercial Motor Vehicles
  - Rail
  - Public Transit
  - Aviation
- Safety Belt Usage
- Transit Injuries
- Transit Revenue Miles Between Safety Incidents

Due to changes in Florida's crash reporting form, some historic data is unavailable for a full ten year period—data is reported for the years available. It is expected that all measures will eventually include data for a full ten-year period to reflect longer term trends.

SafeRoutes

Since Safe Routes to Schools (SRTS) legislation was enacted in 2005, SRTS programs have demonstrated the safety and health benefits associated with active travel (e.g., bicycling and walking). SRTS programs have improved safety and increased the number of students walking and bicycling to school.

Since 2014 the SRTS program has:

- Involved outreach to 1,036 schools
- Engaged 247,570 students
- Participated in 441 community events
- Engaged 80,931 people at community events
- Conducted 217 walkability checklists/site assessments

Fatality Rate

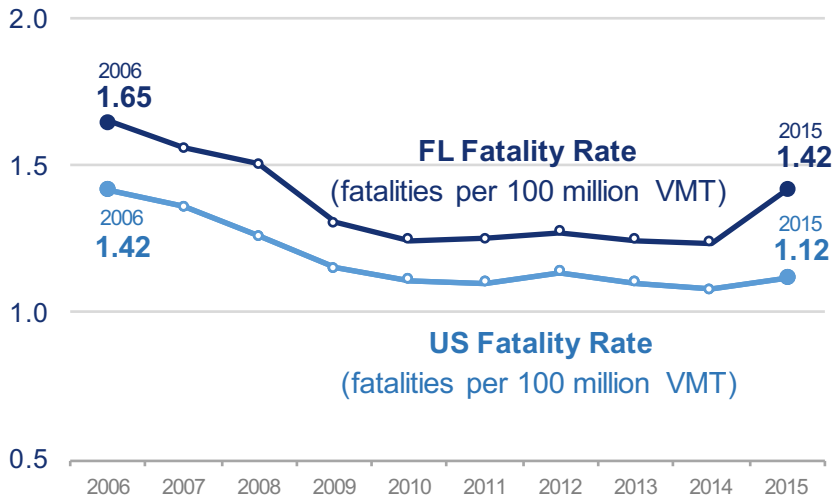
SUPPORTING MEASURE

The fatality rate is the number of fatalities per 100 million vehicle miles traveled (VMT). It 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 increased to 1.42 in 2015, and has been consistently higher than the national fatality rate over the past decade.

Florida's fatality rate–the number of fatalities per 100 million VMT–increased between 2014 and 2015. Nationally the fatality rate increased as well, but at a lower rate.

Figure 4: Fatality Rate



SOURCE: Florida Department of Transportation, State Safety Office, the Florida Department of Highway Safety and Motor Vehicles, Traffic Crash Facts Annual Report, and the National Highway Traffic Safety Administration: Fatality Analysis Reporting System (FARS) Encyclopedia

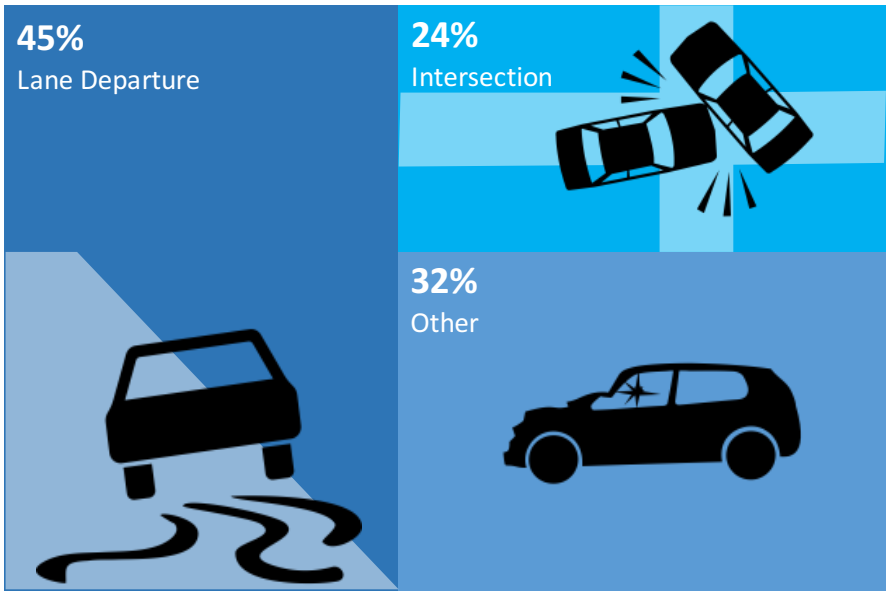
Fatalities Involving Lane Departures and Intersections

SUPPORTING MEASURE

45 percent of all fatalities on Florida roadways involve a vehicle lane departure—an increase of 14.5 percent over the prior year.

The majority of Florida's roadway crashes occur either at intersections or by vehicles departing their lane, as shown in **Figure 5**. These crash types are of particular concern.

Figure 5: Florida Fatalities by Crash Type, 2015



SOURCE: Florida Department of Transportation, State Safety Office

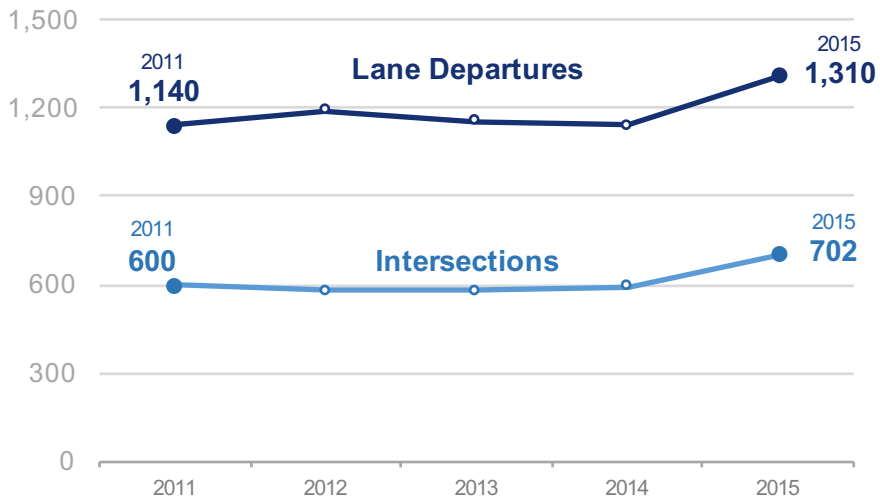
Approximately 45 percent of all 2015 Florida traffic fatalities involved lane departures. Lane departures include vehicles running off the road, crossing the center median into oncoming traffic, and sideswipe crashes. Lane departure crashes may also involve a vehicular rollover or hitting a fixed object such as a utility pole.

Traffic fatalities at intersections comprised 24 percent of statewide traffic fatalities in 2015. Identified as an emphasis area in the 2006, 2012, and 2016 Strategic Highway Safety Plans, Florida has improved intersection design and operation standards. These accidents have various causes, including driver behaviors, that must be addressed in other ways.

Lane departure and intersection fatalities increased between 2014 and 2015.

Figure 6 shows that 1,310 lane departure fatalities and 702 intersection fatalities occurred in 2015, both increases over the prior year.

Figure 6: Lane Departure and Intersection Fatalities



SOURCE: Florida Department of Transportation, State Safety Office

Efforts to keep vehicles from leaving the road or crossing the center median are essential for reducing the likelihood of vehicles overturning, crashing into roadside objects, or hitting other vehicles. The number and severity of lane departure crashes may be reduced by installing a guardrail or cable barrier, dividing highways, adding paved shoulders, using break-away sign posts, placing crash cushions at the end of roadside obstacles, highlighting pavement edges on rural highways, improving roadway curve design, and improving roadway lighting at intersections. The promotion and enforcement of safe driving behaviors also warrants continued if not greater emphasis in light of recent trends.

Lane Departure and Intersection Coalition

The Lane Departure and Intersection Coalition's mission is to analyze data, develop strategies, and implement improvements to eliminate fatal and serious injury crashes at intersections and those associated with lane departures. With assistance from the Federal Highway Administration, the Coalition developed the *Lane Departure Implementation Plan* and is also developing a plan for intersections. The Coalition also leverages efforts of other statewide coalitions such as the Safe Mobility for Life Coalition and the Florida Impaired Driving Coalition.

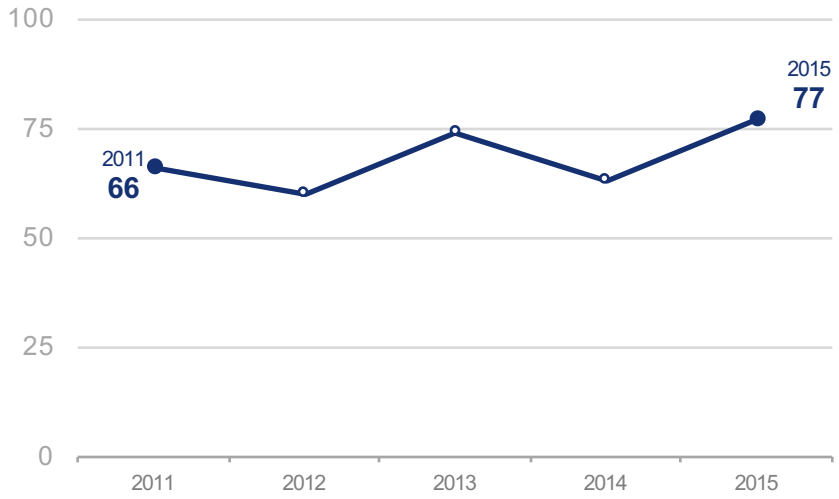
Fatalities in Work Zones

SUPPORTING MEASURE

The safe and efficient flow of traffic through work zones is an ongoing FDOT area of emphasis. Reducing work zone crashes can save lives and improve safety for FDOT employees and contractors. **Figure 7** shows that fatalities in work zones increased from 63 in 2014 to 77 in 2015.

Fatalities in work zones increased from 63 to 77 between 2014 and 2015—the highest number over the past five years.

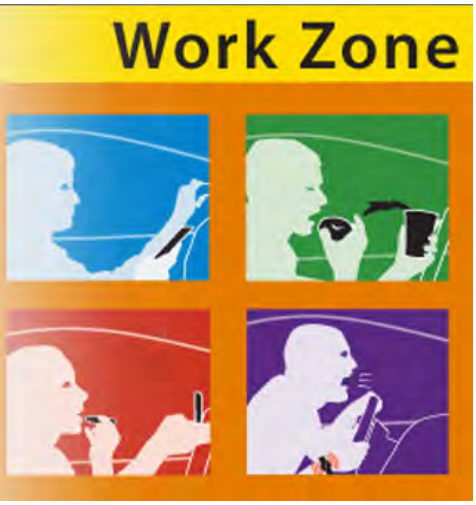
Figure 7: Fatalities Involving Work Zones



SOURCE: Florida Department of Transportation, State Safety Office

Work Zone Safety

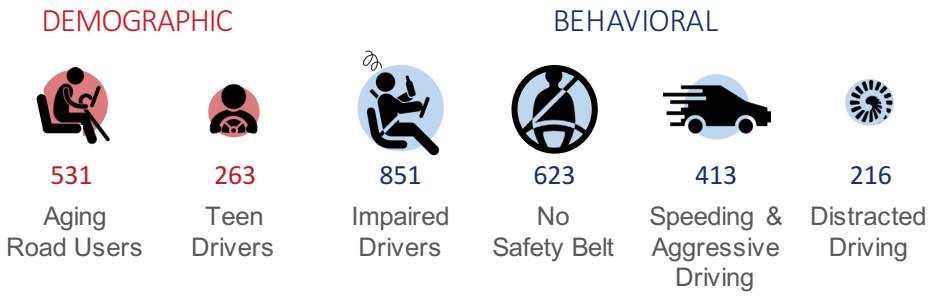
FDOT's Work Zone Safety campaign continues promoting recognition and prevention of the dangers of reckless driving in highway work zones. National Work Zone Awareness Week encourages safe driving through highway work zones and construction sites. The key message is to use extra caution in work zones. The theme for National Work Zone Awareness Week 2016 was "Don't Be That Driver."



Demographic and Behavioral Factors

Many crashes are caused by driver behaviors, poor choices, and inadequate skills/experience. **Figure 8** shows the number of 2015 fatalities by various demographic and behavioral factors. Some fatalities involve more than one factor. Any and all factors associated in any single fatality are counted as contributing causes. As such, the sum of the individual numbers shown is greater than the total number of actual fatalities.

Figure 8: Fatalities Involving Demographic and Behavioral Factors, 2015



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

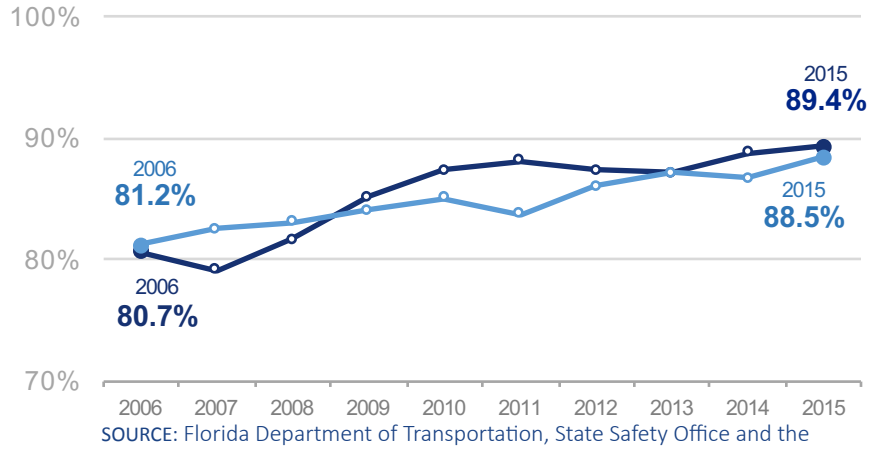
Safety Belt Usage

SUPPORTING MEASURE

Wearing a safety belt is the most important preventative measure that drivers and passengers can take for crash protection. **Figure 9** shows that Florida motorists are wearing safety belts at greater rates. 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 2015 the statewide safety belt usage rate stood at 89.4 percent, which is almost one point higher than the national average of 88.5 percent.

Florida's statewide safety belt usage rate of 89.4 percent is almost one point higher than the national average.

Figure 9: Safety Belt Usage Rate



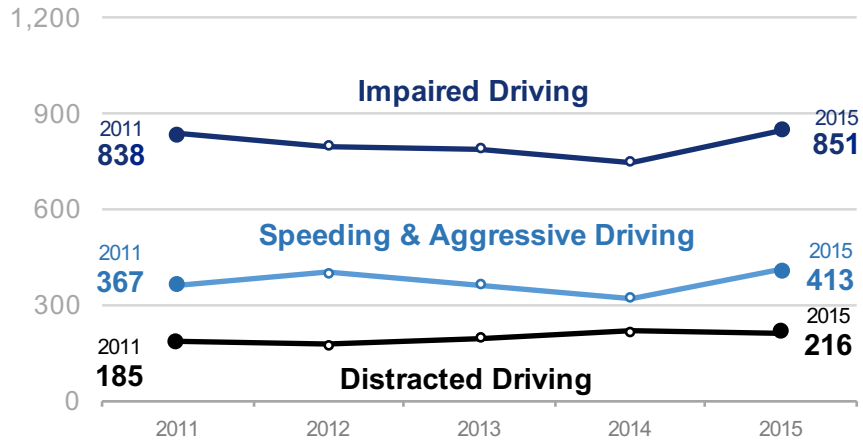
SOURCE: Florida Department of Transportation, State Safety Office and the National Traffic Safety Administration, Traffic Safety Fact (Feb. 2016)

Fatalities Involving Impaired, Speeding & Aggressive, and Distracted Driving

SUPPORTING MEASURE

Impaired, speeding, aggressive, and/or distracted driving often contributes to the frequency and severity of traffic crashes. **Figure 10** shows the number of fatalities involving impaired, speeding, aggressive, and distracted drivers. Due to crash reporting changes in 2011, historical comparisons prior to 2011 are difficult to make. These recent increases underscore that many of the fatal crashes are caused by poor choices and behaviors of drivers, underscoring that education and enforcement activities are essential.

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



SOURCE: Florida Department of Transportation, State Safety Office

Impaired driving continues to be a leading causal factor for traffic fatalities. In 2015, 851 fatalities were related to alcohol and drug use, which is a 13.6 percent increase over the prior year.

In 2015, 413 fatalities were caused by speeding and aggressive driving, a 27.4 percent increase over the prior year.

Speeding is a component of **aggressive driving**, which also includes unsafe or improper lane changes, following too closely, failure to yield the right-of-way, improper passing, red light running, weaving in and out of traffic, and passing improperly. In 2015, 413 fatalities were caused by speeding and aggressive driving, a 27.4 percent increase over the prior year.

Distracted driving occurs when a driver allows a mental or physical activity to divert his or her focus away from driving—i.e., taking hands off the wheel, taking eyes off the road, and 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 further driver distractions. In 2015, 216 fatalities were caused by distracted driving, a 1.4 percent decrease over the prior year.

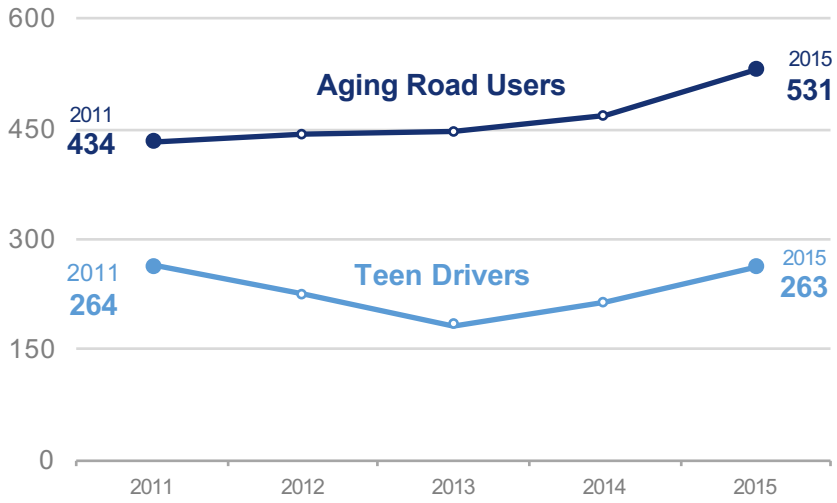
Fatalities Involving At-Risk Drivers

SUPPORTING MEASURE

Historically, fatalities involving aging road users (age 65 and over) and teen drivers (ages 15 to 19) accounted for about one quarter of all Florida traffic fatalities. **Figure 11** shows that fatalities involving at-risk drivers have increased in recent years. In 2015, fatalities involving at-risk drivers accounted for about 27 percent of all fatalities.

Fatalities involving aging road users and teen drivers have increased in recent years.

Figure 11: Fatalities Involving At-Risk Drivers



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

Today's seniors are driving longer and driving more miles. This trend is significant considering that 18 percent of Florida's population is 65 years of age and older—the most in the nation. According to the Florida Office of Economic and Demographic Research, by 2040, over 24 percent of Floridians will be over 65, and more than half will be over 75, making this a particularly pressing and looming safety challenge.

Motor vehicle crashes are the number one killer of teens, with more teens dying in crashes than the next three leading causes of death combined.

The other end of the age spectrum is the least experienced group of drivers—those between the ages of 15 and 19. Motor vehicle crashes involving teen drivers kill an average of 11 teens every day in the United States. 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.

Fatalities Involving Vulnerable Road Users

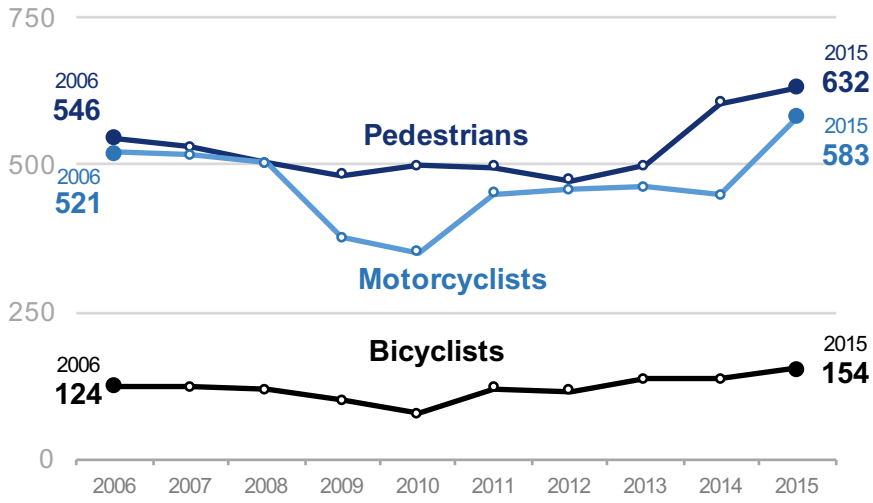
SUPPORTING MEASURE

Vulnerable road users include 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 high rate of fatalities among these road user groups. While vulnerable road user fatalities did increase over the prior year, they accounted for a smaller proportion of total fatalities.

Pedestrian and bicycle safety is an FDOT initiative, which includes a statewide bicycle pedestrian safety program manager in the Safety Office, and a designated champion for the effort in each district.

Fatalities among vulnerable road users have increased over the past few years.

Figure 12: Fatalities Involving Vulnerable Road Users



SOURCE: Florida Department of Transportation, State Safety Office

Florida Pedestrian and Bicycle Strategic Safety Plan

Florida is committed to improving transportation system safety through various programs and plans. The Florida Pedestrian and Bicycle Strategic Safety Plan directs funding and resources to the areas that have the greatest potential for reducing pedestrian and bicycle fatalities, injuries, and crashes. The plan provides guidance to FDOT, partners, and stakeholders on ways to develop a safer environment for walking and bicycling.

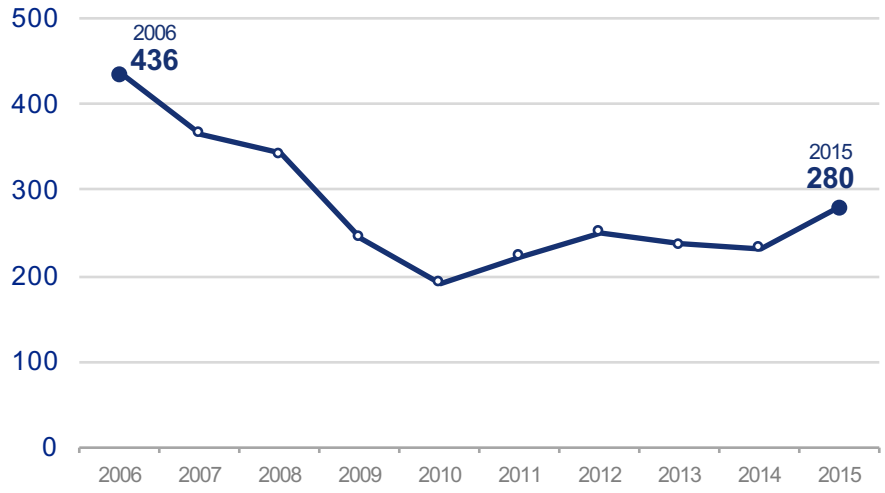
The plan is supported by the Safe Mobility for Life program, which promotes safety strategies for the state's aging population, and the Alert Today, Alive Tomorrow program, a media campaign to pay attention and follow the rules of the road.

Fatalities Involving Commercial Motor Vehicles

SUPPORTING MEASURE

Population growth brings new opportunities as well as challenges for freight movement. FDOT strives to improve commercial motor vehicle safety with the Florida Highway Patrol's (FHP) Commercial Vehicle Enforcement (CVE) Office by conducting safety inspections and enforcing safety requirements. **Figure 13** shows that fatalities involving commercial motor vehicles decreased from 436 in 2006 to 192 in 2010, which correlates with the decrease in commercial motor vehicle truck miles traveled (see **Figure 3** in the **Mobility Report**). Consistent with the increase in truck miles traveled, fatalities began to rise after 2010, with 280 fatalities in 2015 related to commercial motor vehicles.

Figure 13: Commercial Motor Vehicle Fatalities



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

Fatalities Involving Railroads

SUPPORTING MEASURE

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

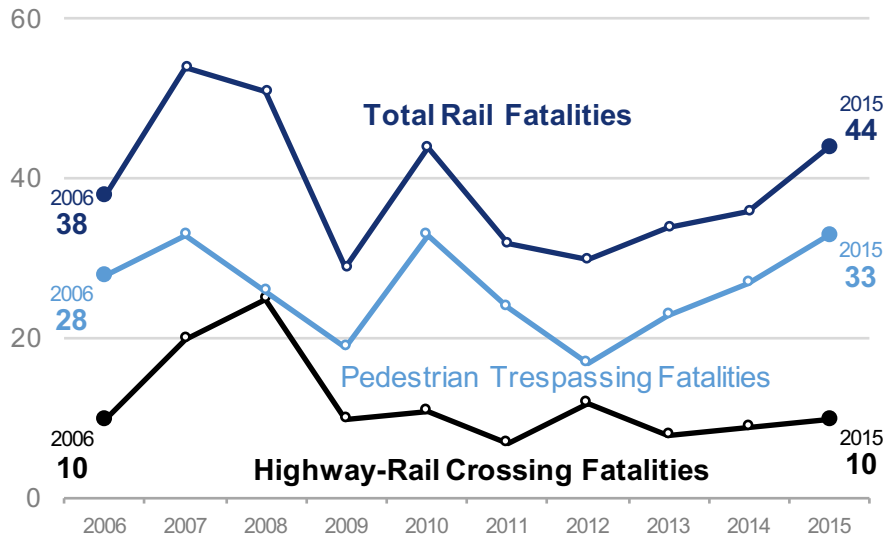
Florida has 3,690 public at-grade rail crossings with approximately 80 percent equipped with active warning devices (crossing arms, flashing lights, bells, etc.). Nationally approximately 50 percent of rail crossings have such safety features. However, both crashes and fatalities at rail crossings have been increasing. This is noteworthy as more trains are operating on fewer rail lines. This concentration of rail traffic may allow greater targeting of safety improvements.

Pedestrian trespassing on railroad property is a problem that FDOT and the railroads are addressing. There were 33 fatalities at these locations in 2015. Preventive measures include installing no trespassing signs, installing and repairing fencing, and working with local police departments to issue warnings and citations.

Figure 14 shows that the number of rail-related fatalities (pedestrian trespassing and rail crossing) have fluctuated over the past decade, but began to trend upwards after 2012. While total rail fatalities have been increasing (due to the increase pedestrian trespassing fatalities), the number of highway-rail crossing fatalities have remained fairly constant since 2009.

Reducing rail-related fatalities remains a challenge.

Figure 14: Rail Fatalities



SOURCE: Federal Railroad Administration, Office of Safety Analysis

Florida Operation Lifesaver

Florida Operation Lifesaver is a non-profit public awareness and education program dedicated to ending collisions, fatalities, and injuries at highway-rail grade crossings and on railroad property. Every 3 hours, a person or vehicle is hit by a train in the United States. Operation Lifesaver is working to promote safe behavior around railroad tracks and crossings with the national public awareness campaign, *"See Tracks? Think Train!"*

Fatalities and Injuries Involving Public Transit

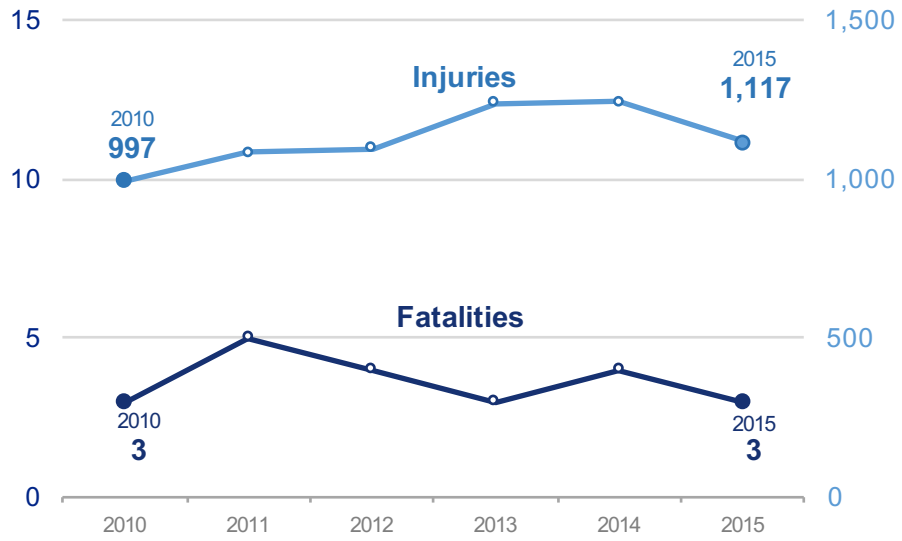
SUPPORTING MEASURE

Figure 15 shows the number of transit related safety incidents (fatalities and injuries) reported to the National Transit Database (NTD). NTD safety incidents include both major and minor incidents. Major incidents include fatalities and injuries requiring immediate medical attention and minor incident injuries including slips, trips and falls. The number of transit related injuries increased to a high of 1,242 in 2014, but decreased to 1,117 in 2015. The number of transit related fatalities remained low over the period.

Florida has 31 fixed-route transit systems (including Metrorail, Tri-Rail and SunRail) with approximately 270.8 million transit trips in 2015. Most of Florida's public transit systems operate buses on roads and highways. 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 impede the flow of automobile traffic.

The number of transit related injuries declined in 2015.

Figure 15: Transit Fatalities and Injuries



SOURCE: Florida Department of Transportation, Public Transit Office
Data represents Florida's 31 fixed-route transit systems

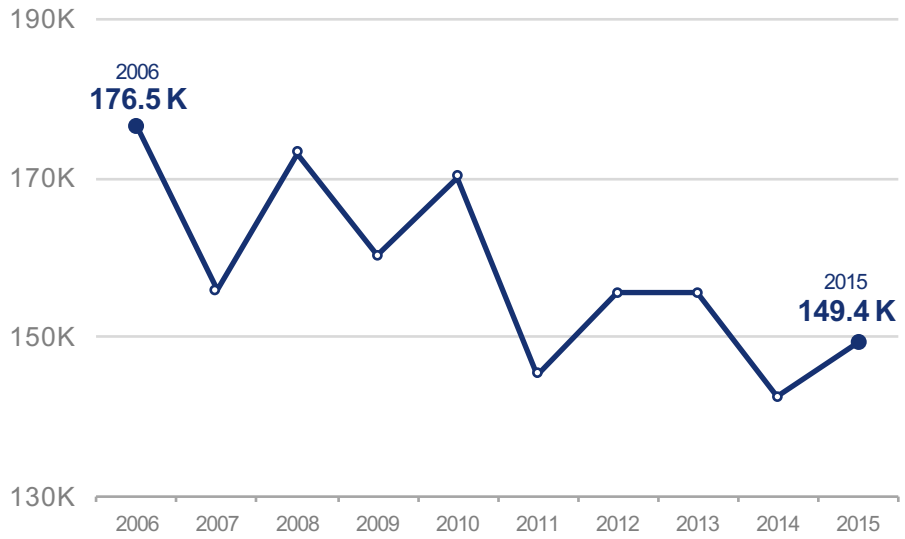
Transit Revenue Miles between Safety Incidents

SUPPORTING MEASURE

In 2015, the number of transit revenue miles between safety incidents improved slightly to one per 149,437 miles from one per 142,425 miles in 2014.

Figure 16 illustrates the number of revenue miles between public transit safety incidents. This measure reflects safety incident frequency in relation to transit revenue miles traveled. The goal is to decrease the frequency of safety incidents. In 2015, the number of revenue miles between safety incidents increased (i.e., improved) to one per 149,437 revenue miles from one per 142,425 miles in 2014. FDOT's Transit Office provides training and technical assistance to Florida transit agencies to promote a safe traveling environment.

Figure 16: Transit Revenue Miles between Safety Incidents (thousands)



SOURCE: Florida Department of Transportation, Public Transit Office
Data represents Florida's 31 fixed-route transit systems

Fatalities Involving Aviation

SUPPORTING MEASURE

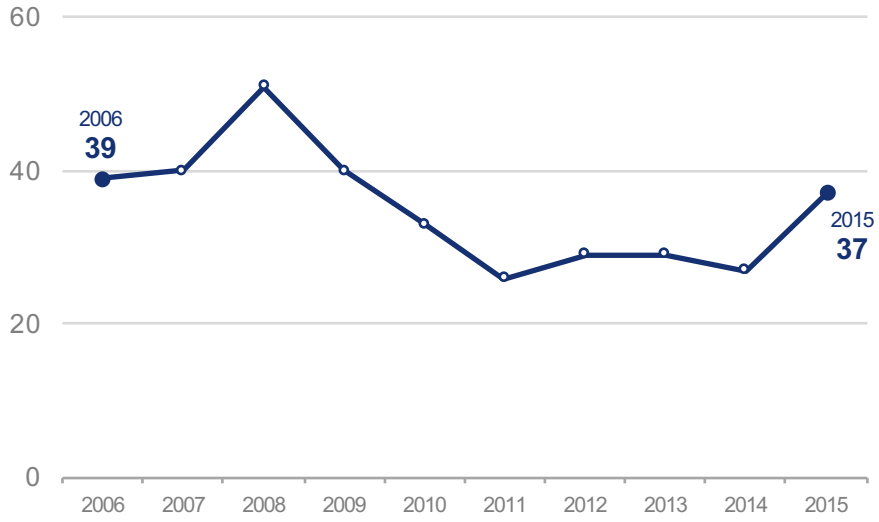
Between 2006 and 2015, there were 351 aviation fatalities in Florida, with a high of 51 in 2008 and a low of 26 in 2011. The average number of fatalities per year was 35 between 2006 and 2015. In 2015, 37 fatalities occurred in Florida, more than in the previous five years. The number of aviation fatalities has fluctuated—increasing between 2006 and 2008, declining between 2008 and 2011, leveling off between 2011 through 2014, and then increasing back up in 2015. **Figure 17** shows the overall trend for aviation fatalities.

Florida has 20 commercial service airports serving 73.2 million passengers in 2015. Statewide there are 779 public, private, and military aviation facilities. Close to two thirds (63 percent) are airports and another third (37 percent) are heliports. Florida has 108 general aviation public-use facilities meeting corporate, training and other needs by providing critical access 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.

Aviation fatalities increased in 2015 relative to the prior five years.

Figure 17: Aviation Fatalities



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

Transportation security entails comprehensive emergency preparedness efforts and vigilant oversight of modal facilities and services. Emergency management and transportation security requires collaboration with law enforcement agencies and others. Security remains a challenging area of performance measurement, but requires vigilance for all modes. The scope of transportation security is extensive, including emergency management, cybersecurity, human trafficking, bio-hazards, and terrorism prevention.

Emergency management, including preparedness planning, response and recovery activities, is primarily the responsibility of the Florida Division of Emergency Management. 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 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 through coordinated response with the Florida Division of Emergency Management and local Emergency Operation Centers.

Each county must have an emergency management plan per state statute (252.38, F.S.) – all 67 Florida counties are currently in compliance.

Since September 11, 2001, cargo and passenger safety and security have become paramount to local governments, transit agencies, airports, and water port authorities. Seaports have enhanced security systems to control and protect both land-side and water-side access in compliance with all 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.

Transportation Security

The U.S. Department of Homeland Security's Transportation Security Administration recognized Pinellas Suncoast Transit Authority (PSTA), Miami-Dade Transit (MDT) and Hillsborough Area Regional Transit as among the nation's best transit systems in terms of safety and security.

The TSA awarded PSTA the "Gold Standard" designation for the transit agency's dedication to building a strong safety and security program, in accordance with the TSA's Baseline Assessment for Security Enhancement (BASE) criteria.

Transportation system security involves many varied organizations including:

- U.S. Department of Homeland Security
  - U.S. Citizenship and Immigration Services (USCIS)
  - U.S. Coast Guard (USCG)
  - U.S. Customs and Border Protection (CPB)
  - U.S. Immigration and Customs Enforcement (ICE)
  - U.S. Secret Service (USSS)
  - U.S. Transportation Security Administration (TSA)
- Federal Emergency Management Agency (FEMA)
- Other designated federal agencies
- Florida Department of Law Enforcement
- Florida Department of Highway Safety and Motor Vehicles
  - Florida Highway Patrol (FHP)
  - FHP's Commercial Vehicle Office (CVE)
- Transit, airport, seaport, and rail security officials
- Local law enforcement agencies

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

KEY STRATEGIES TO ENHANCE SECURITY

FDOT supports and partners with various organizations to improve security in advancing the strategies identified below:

- Increase the efficiency and capacity of customs, immigration, and other security processes at airports, seaports, and other hubs to accommodate growth in demand including peak flows related to larger vehicles.
- Improve emergency response time.
- Provide transportation connectivity to Florida's military facilities to support their national security and emergency response functions.
- Use technology, information, and operations strategies for all modes to improve transportation security and emergency preparedness and response.
- Provide training to first responders to improve trauma management.
- Enhance transportation security systems to address continuing, new, and emerging threats, such as biosecurity, food security, invasive species, nuclear materials, and human trafficking.
- Provide more diversity and redundancy in the transportation system to allow alternatives for evacuation and response during emergencies.
- Reduce the vulnerability of transportation technologies to hacking, cyberattacks, system failure, and other disruptions.
- Continue to develop and implement safety and security improvement plans for all modes of transportation at the state, regional, and local levels, such as Florida's Strategic Highway Safety Plan.
- Strengthen state and local enforcement and prosecutorial capabilities to ensure compliance with transportation safety and security laws and regulations.
- Develop and implement comprehensive emergency response and recovery plans involving state, regional, and local transportation, law enforcement, and emergency management agencies.
- Identify opportunities to work with federal, military and civil, state, and local partners and the private sector to integrate new aviation and space technologies while ensuring the safety and security of the airspace.
- Enhance security regulations, processes, communications, information systems, and infrastructure to improve customer service and reduce customer wait time.

Partner Connections

Partner Connections highlights FDOT's recent collaborations with various partner and stakeholder organizations to consider ways to improve our transportation system performance together.

> "Don't let your car be your casket."
>
> McKenzie (6th Grade)
> Three Oak Middle School

> "Even one death on our transportation system is unacceptable."
>
> Toward Zero Deaths
> *Federal Highway Administration*

Strategic Safety Partners

Federal Highway Administration

Federal Motor Carrier Safety Administration

Florida Association of County Engineers and Road Superintendents

Florida Highway Patrol

Florida Police Chiefs Association

Florida Rail Enterprise

Florida Sheriffs Association

Metropolitan Planning Organization Advisory Council

National Highway Traffic Safety Administration

Innovation

PERFORMANCE SUMMIT 2016
FOR TRANSPORTATION PARTNERS

Safety

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Identify ways that technology can improve public safety including reducing crashes, reducing crime, improving transit safety, etc.
- Evaluate how connected and autonomous vehicles will impact safety
- Leverage advances in safety data and mapping software to present safety performance data more visually
- Consider incorporating questions in the driver license exam related to bicycle and pedestrian safety
- Provide bicycle and pedestrian safety training classes in schools
- Increase awareness, education, and enforcement related to aggressive and distracted driving

Collaboration

Potential Measures

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Place greater emphasis on safety in state and regional transportation planning
- Provide technical assistance and/or guidance so that safety considerations can be effectively coordinated with land use— safe walkability, for example, is a key attribute for successful transit oriented development around stations
- Expand and improve partner and stakeholder shared strategies for improving transportation safety
- Ensure that transportation gets sufficient consideration in emergency response planning
- Identify and incorporate transit performance measures related to safety and security
- Consider the potential benefit of independent reviews of safety performance measures
- Use Complete Streets measures related to safety improvement—e.g., comparing crash rates for streets that have and don't have complete street elements
- Collect low cost bicycle and pedestrian count data as an important component of gauging safety—this could help prevent accidents
- Explore collaborative approaches to partner with varied organizations to share and compare safety data

Partner Connection Reports

Florida Strategic Highway Safety Plan

August 2016

The Strategic Highway Safety Plan (SHSP) is a statewide, data-driven safety plan for all of Florida's road users. The plan is the state's five-year comprehensive roadway safety plan for achieving Florida's vision of zero traffic-related fatalities. The SHSP includes 13 emphasis areas that guide Florida's safety efforts.

Florida Department of Transportation 2016 Performance Report

Preservation

Maintenance and Operations

TABLE OF CONTENTS

PRESERVATION

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

INTRODUCTION

Florida has invested billions of dollars in roads, bridges, rail networks, airports, public transportation systems, and seaports. Regular maintenance and improvements keep these assets operating efficiently, extending their useful life and delaying the substantial cost of reconstruction or replacement.

The Florida Department of Transportation (FDOT) continues to make substantial investments to meet established standards for highway pavement, bridges, and routine maintenance to keep state highwways and bridges in acceptable condition. Roadways owned by local governments and other transportation facilities such as transit systems, airports, seaports, railroads, trails, and spaceports are maintained by their respective public or private owners and operators. FDOT helps to fund some of these facilities. The performance of all transportation system elements is important, particularly in terms of their preservation and resilience to risks, including extreme weather and other environmental conditions.

Regular maintenance and improvements keep assets operating efficiently, extending their useful life and delaying the substantial cost of reconstruction or replacement.

Managing the transportation system also means ensuring that it efficiently carries people and goods to meet the demands of population growth, an expanding economy, and changing travel patterns. FDOT is expanding the use of Intelligent Transportation Systems, transportation demand management, access management, incident management, and other techniques to maximize the operational efficiency and safety of the system.

FDOT has primary jurisdiction over the State Highway System (SHS). Although this system consists of only 12,116 (9.9 percent) of the 122,392 public road miles in Florida, these higher volume roads carry over half (53.8 percent) of all traffic. For the SHS, FDOT resurfaces roads, repairs or replaces bridges, and conducts routine maintenance activities such as mowing grass, litter removal, guardrail repair, and sign replacement. The maintenance of transportation infrastructure is the most effective investment strategy from a benefit-cost perspective.

2016 PERFORMANCE HIGHLIGHTS

The effective and efficient preservation of Florida's state roads and bridges and other modes protects the state's substantial infrastructure investment and helps to ensure the performance of the transportation system. Key performance highlights include:

- State Highway System (SHS) pavement is in excellent condition, with 91.5 percent exceeding FDOT standards.
- FDOT maintained bridges are also in excellent condition, with 95.1 percent exceeding FDOT standards.
- FDOT has met or exceeded its roadway maintenance standard every year since 1994—a generation of maintenance excellence.
- Florida transit agencies kept bus and passenger train breakdowns to around one per 4,000 revenue miles—fewer breakdowns means more reliable transit service and performance.
- The number of miles managed by Intelligent Transportation System (ITS) technologies has increased over six-fold from 269 miles in fiscal year 2005/06 to 1,636 miles in fiscal year 2015/16.
- Over 33 million messages, calls, web hits, app sessions, tweets, and alerts were made through Florida's 511 program in 2015—an increase of nearly one-third over the prior year.
- Road Ranger services were provided to nearly 250,000 stranded motorists in fiscal year 2015/16.
- FDOT consistently and substantially exceeds its 90-minute target for clearing roadways after incidents (50.1 minute average for the SHS and 67 minute average for severe incidents handled by local Incident Response Teams).

FLORIDA TRANSPORTATION PLAN

The Florida Transportation Plan (FTP) is Florida's long range transportation plan for meeting the dynamic mobility needs of residents, businesses, and visitors. FDOT's Preservation Performance Report aligns with the FTP goal:

- *Agile, Resilient, and Quality Infrastructure*

This report highlights the core and supporting performance measures related to this FTP goal, and other transportation plans and programs.

FTP Goal: *Agile, Resilient, and Quality Infrastructure*

FTP Objectives

Meet or exceed industry, state, national, or international standards for infrastructure quality, condition, and performance for all modes of transportation

Optimize the functionality and efficiency of existing infrastructure and right-of-way

Adapt transportation infrastructure and technologies to meet changing customer needs

Increase the resiliency of infrastructure to risks, including extreme weather and other environmental conditions

Related Performance Report Measures

CORE MEASURE — Pavement Condition
- *Percent Lane Miles Resurfaced*

CORE MEASURE — Bridge Condition
- *Bridges with Weight Restrictions*
- *Bridge Repair Projects Let*
- *Bridge Replacement Projects Let*

CORE MEASURE — Maintenance
- *Roadway Maintenance*
- *Roadside Maintenance*
- *Traffic Services Maintenance*
- *Drainage Maintenance*
- *Vegetation Aesthetics Maintenance*

CORE MEASURE — Transit State of Good Repair

SUPPORTING MEASURES — *Intelligent Transportation Systems*
- *ITS Miles Managed by FDOT*
- *Florida 511 Touch-Points*

Incident Management
- *Road Rangers Service Assists*
- *State Roadway Clearance Times*
- *Rapid Incident Scene Clearance (RISC) Times*

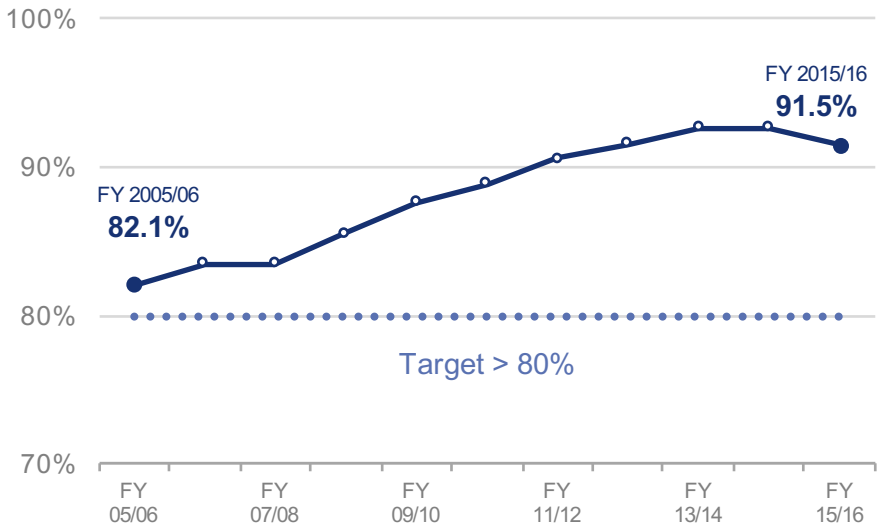
PAVEMENT CONDITION

CORE MEASURE

State Highway System pavement is in excellent condition, with 91.5 percent currently meeting FDOT standards.

FDOT has identified a set of core measures related to the preservation (maintenance and operation) of the transportation system, which is a primary department goal. **Figure 1** shows that State Highway System (SHS) pavement is in excellent condition, with 91.5 percent currently exceeding FDOT standards (Section 334.046(4), F.S.). This percentage is expected to remain above the 80 percent target, as it has throughout the past decade.

Figure 1: Percent Pavement on the State Highway System Meeting Department Standards



SOURCE: Florida Department of Transportation, Office of Maintenance

Resurfacing needs are identified through FDOT's annual pavement condition survey. This survey evaluates pavement conditions in terms of ride quality, crack severity, and average depth of wheel-path ruts.

"Ride quality" is what the motorist experiences (i.e., smoothness of the ride). Crack severity, or "cracking," refers to the deterioration of the pavement, which leads to loss of smoothness and, ultimately, deterioration of the road base by water seepage, if not corrected. Wheel-path ruts, or "rutting," are pavement depressions caused mainly by heavy use. These depressions or ruts can collect water, creating a potential safety hazard.

Truck traffic contributes to substantial wear on roadways, because of the force exerted on the pavement. One five-axle, 80,000 pound semi-trailer truck causes pavement distress equivalent to an estimated 9,600 cars. When vehicles exceed the allowable weight limit, adverse impacts to pavement longevity can be significantly increased. FDOT establishes legal weight limits, while FDOT's Motor Carrier Size and Weight Office and the Florida Highway Patrol's Office of Commercial Vehicle Enforcement enforce them.

KEY STRATEGIES TO IMPROVE PAVEMENT CONDITION

FDOT will ensure continued high levels of performance for pavement condition through strategies such as:

- Balance the programming of resurfacing projects in relation to needs and optimize the timing of projects through a robust pavement management system.
- Coordinate with FDOT's Motor Carrier Size and Weight Office and the Florida Highway Patrol's Office of Commercial Vehicle Enforcement to minimize the illegal operation of overweight commercial motor vehicles on Florida's public roads and bridges.
- Facilitate training and technical assistance to assist local governments in conducting pavement condition surveys and ratings.
- Identify and implement practices which reduce the time and cost of preserving the SHS.
- Lead the nation in research, development, and deployment of state-of-the-art materials, technology, and methodologies for transportation infrastructure design, construction, maintenance, and operations.
- Incorporate the risks of extreme weather and other environmental conditions into planning, project development, design, and operations.

SUPPORTING MEASURES AND INFORMATION

In addition to its core pavement condition measure, FDOT has identified a supporting measure that provides further detail and context about the performance of Florida's transportation system. For pavement condition, the supporting measure is:

Percent Lane Miles Resurfaced

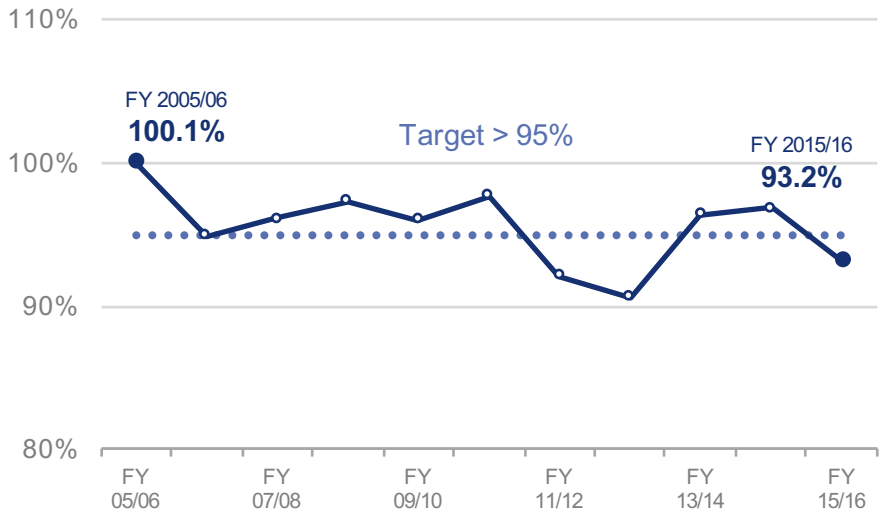
Percent Lane Miles Resurfaced

SUPPORTING MEASURE

The percent of lane miles resurfaced on the SHS provides a gauge of FDOT's commitment and capacity to maintain and improve roadways by comparing the actual number of annual lane miles resurfaced to what was planned. FDOT has a target of completing at least 95 percent of its planned resurfacing lane miles each year. **Figure 2** shows that FDOT fell just short of meeting its target in fiscal year 2015/16, having resurfaced 2,477.5 (93.2 percent) lane miles compared to the 2,659.6 lane miles that had been planned.

FDOT completed 93.2 percent of its planned resurfacing lane miles in fiscal year 2015/16.

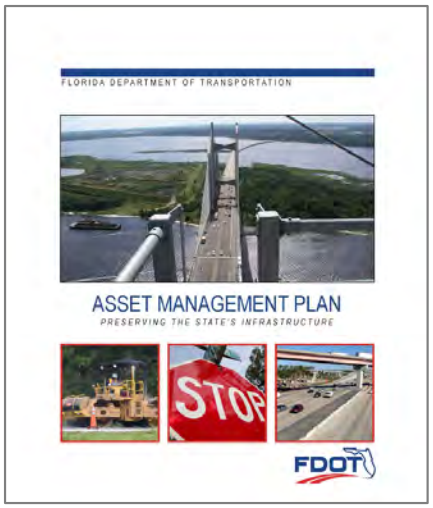
Figure 2: Percent Lane Miles Resurfaced on the State Highway System



SOURCE: Florida Department of Transportation, Office of Maintenance

Asset Management Plan

The Florida Transportation Asset Management Plan (TAMP) contains the processes and policies affecting pavement and bridge condition and performance. Transportation Asset Management is a strategic and systematic process of operating, maintaining, and improving physical assets effectively throughout their lifecycle. It applies business, economic, and engineering practices to optimize resource allocation, project selection, and infrastructure utilization. The objective is to inform decision-making using quality information and well-defined objectives.



BRIDGE CONDITION

CORE MEASURE

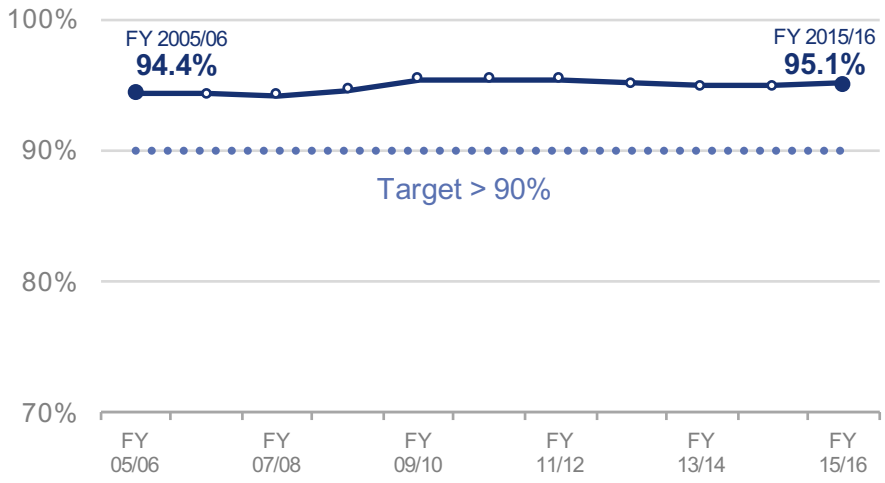
FDOT's core bridge measure is to have 90 percent of the bridges it maintains achieve a National Bridge Inventory (NBI) rating of 6 or higher. The NBI is a Federal Highway Administration requirement/standard for evaluating bridge conditions, based on a 0 to 9 scale with 0 indicating a failed condition and 9 indicating an excellent condition. An NBI rating of 6 or 7 means a bridge is in good condition.

As of fiscal year 2015/16 there are 12,262 bridges in Florida. Of that total, FDOT has maintenance responsibility for 6,424 bridges on the SHS, or 52.4 percent of the bridges in Florida. The other bridges are maintained by counties, cities/towns, and other entities.

Figure 3 shows that 95.1 percent of all FDOT-maintained bridges meet the standard (i.e., an NBI rating of 6 or higher), which substantially exceeds the department's 90 percent target (Section 334.046(4), F.S.). The vast majority of FDOT-maintained bridges do not show evidence of structural deterioration nor are they weight restricted. FDOT takes a proactive approach to bridge maintenance, which has proven to be cost-effective. Preventative maintenance and repairs are performed so that bridges won't deteriorate and require greater repair costs. This helps to ensure that FDOT-maintained bridges meet or exceed their life expectancy, resulting in a lower frequency of replacements. All FDOT-maintained bridges that are open to the public are safe.

Ninety percent or more of State Highway System bridges have met FDOT's condition standard since 1996.

Figure 3: Percent of Bridges on the State Highway System Meeting Department Standards



SOURCE: Florida Department of Transportation, Office of Maintenance

KEY STRATEGIES TO IMPROVE BRIDGE CONDITION

FDOT will ensure continued progress to improve its core measure of bridge condition through strategies such as:

- Include projects for all FDOT-maintained bridges needing repair in the Work Program within 12 months of deficiency identification.
- Replace or repair all structurally deficient FDOT-maintained bridges and those bridges posted for weight restriction within six years of deficiency identification.
- Replace all other FDOT-maintained bridges designated for replacement within nine years of deficiency identification.
- Coordinate with FDOT's Motor Carrier Size and Weight Office and Florida Highway Patrol's Office of Commercial Vehicle Enforcement to reduce the illegal operation of overweight commercial motor vehicles on Florida's public roads and bridges.
- Continue to monitor bridges scheduled to be replaced and make interim repairs, as necessary, to safeguard the traveling public.
- Lead the nation in research, development, and deployment of state-of-the-art materials, technology, and methodologies for transportation infrastructure design, construction, maintenance, and operations.
- Incorporate the risks of extreme weather and other environmental conditions into planning, project development, design, and operations.

SUPPORTING MEASURES AND INFORMATION

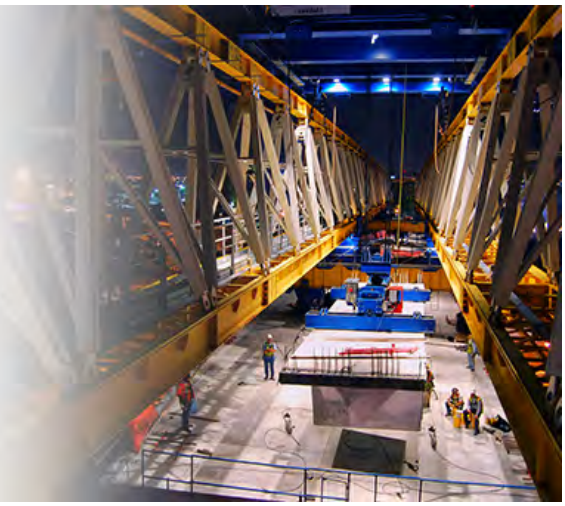
In addition to its core measure for bridges, FDOT has identified several supporting measures that provide further detail and context about the performance of Florida's transportation system. For bridge condition, the supporting measures are:

- Bridges with Weight Restrictions
- Bridge Repair Projects Let
- Bridge Replacement Projects Let

Accelerated Bridge Construction

The Accelerated Bridge Construction program lowers construction costs by reducing construction time, along with paying special attention to preservation, service life, and construction costs.

With the Interstate Highway program moving well beyond its 60th anniversary, bridge repair and replacement needs have increased. Accelerated Bridge Construction positively impacts construction time, drivers' time, the environment, and work zone safety. Reconstruction of the massive interchange in west Miami-Dade County between State Roads 826 and 836 was accomplished through Accelerated Bridge Construction.



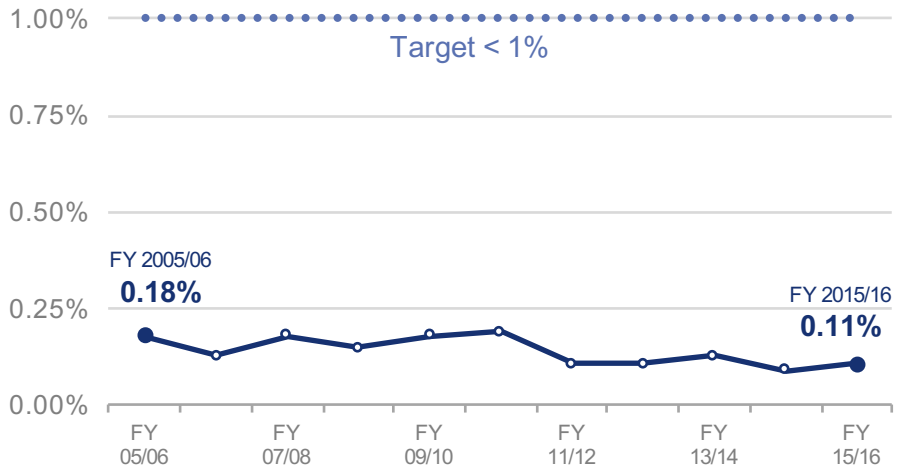
Bridges with Weight Restrictions

SUPPORTING MEASURE

The supporting measure Percent Bridges with Posted Weight Restrictions on the SHS is one way FDOT assesses its performance related to improving bridge conditions. FDOT has set a target that no more than 1 percent of all SHS bridges have a posted weight restriction. In 2016, only 7 out of 6,424 state maintained bridges had a posted weight restriction. **Figure 4** illustrates that this equates to 0.11 percent of bridges, which is nearly 10 times better than the target or ceiling of no more than 1 percent.

In fiscal year 2015/16, only 7 out of 6,424 state maintained bridges had a posted weight restriction.

Figure 4: Percent Bridges on the State Highway System with Posted Weight Restrictions



SOURCE: Florida Department of Transportation, Office of Maintenance

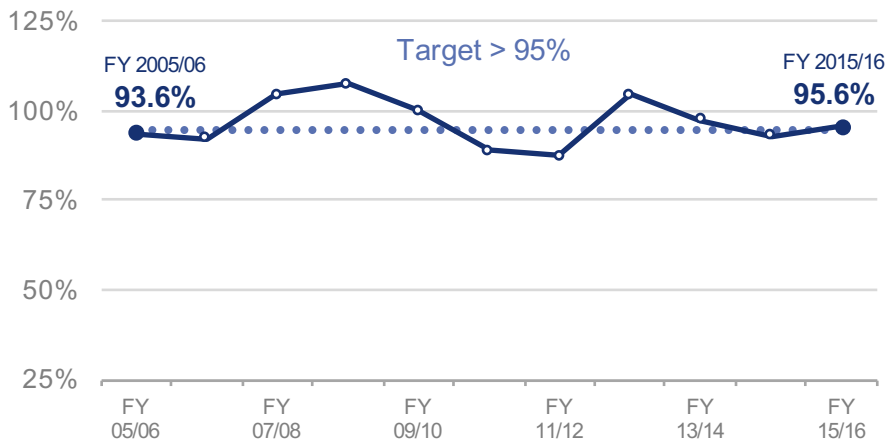
Bridge Repair Projects Let

SUPPORTING MEASURE

The supporting measure Percent Bridge Repair Projects Let (i.e., executed contracts) is another way FDOT measures its commitment to improving bridge conditions. FDOT has set a target of letting at least 95 percent of its planned contracts for bridge repair during the year. **Figure 5** shows that FDOT achieved 95.6 percent of its planned project lettings in fiscal year 2015/16, surpassing its 95 percent target for the sixth time in the last ten years.

FDOT achieved 95.6 percent of its planned bridge repair project lettings in fiscal year 2015/16, surpassing its 95 percent target.

Figure 5: Percent Bridge Repair Projects Let



SOURCE: Florida Department of Transportation, Office of Maintenance

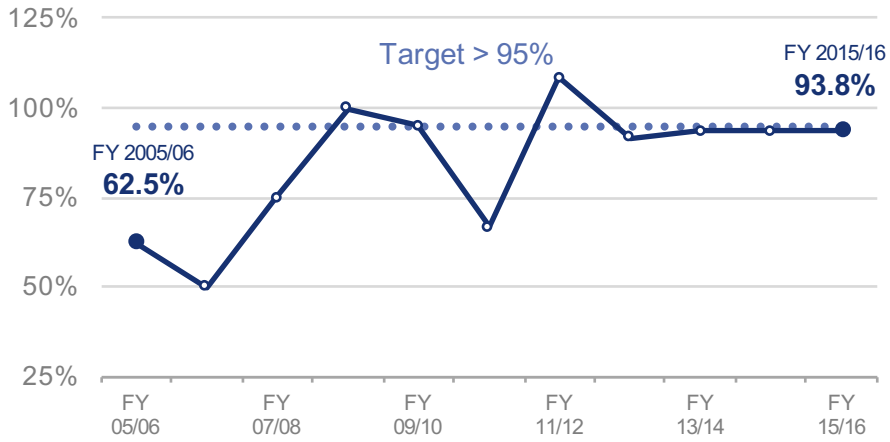
Bridge Replacement Projects Let

SUPPORTING MEASURE

The supporting measure Percent Bridge Replacement Projects Let is another way FDOT measures its bridge improvement efforts. FDOT's target is to let at least 95 percent of its annual planned contracts for bridge replacements each year. **Figure 6** shows that FDOT achieved 93.8 percent of its planned project lettings in fiscal year 2015/16, falling slightly short of the 95 percent target.

FDOT achieved 93.8 percent of its planned bridge replacement project lettings in fiscal year 2015/16, falling slightly short of the 95 percent target.

Figure 6: Percent Bridge Replacement Projects Let



SOURCE: Florida Department of Transportation, Office of Maintenance

MAINTENANCE

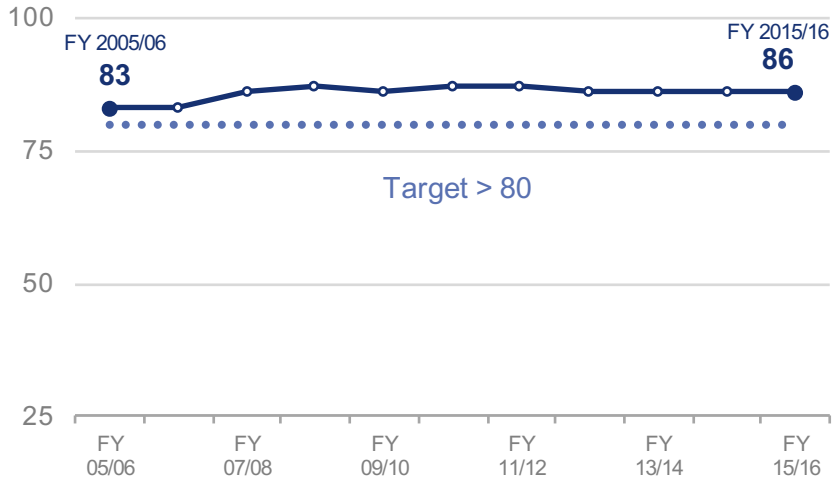
CORE MEASURE

FDOT has reconfirmed its long-standing commitment to surpass its standard for maintenance on the SHS. FDOT is responsible for scheduling and performing routine maintenance on the SHS to preserve its condition.

FDOT's primary measure is to achieve an overall Maintenance Rating Program score of at least 80 for the SHS (Section 334.046(4), F.S.). FDOT has met or exceeded this target every year since 1994. **Figure 7** highlights this accomplishment over the past decade.

FDOT has met or exceeded its roadway maintenance standard every year since 1994—a generation of maintenance excellence!

Figure 7: Maintenance Rating of the State Highway System



SOURCE: Florida Department of Transportation; Maintenance Rating Program Level of Maintenance Summary

Maintenance Rating: Field conditions are evaluated by rating each highway feature to develop an overall maintenance condition score. Conditions are compared to FDOT standards and a composite state score is set. The maintenance condition rating system evaluates five highway components:

- Roadway – potholes, pavement joints, paved shoulders, and pavement distress
- Roadside – unpaved shoulders, slopes, sidewalks, and fences
- Traffic services – signs, lighting, guardrails, striping, attenuators, handrail, and pavement markers
- Drainage – storm drains, ditches, roadway sweeping, inlets, and pavement edge drain outlets
- Vegetation/aesthetics – landscaping, mowing, litter removal, turf condition, and tree trimming

It is important to maintain roads at an optimal level for driver safety, mobility, and comfort. Through routine maintenance, highway rest stops are kept clean and attractive, wildflowers are planted along roadsides, roadway striping is kept reflective for safe nighttime travel, guardrails are repaired, signs are kept clean and visible, and potholes are filled. FDOT staff and contractors also mow grass, remove litter, perform bridge inspections, make bridge repairs, clean out ditches and storm drains, and do many other jobs needed to make highway travel easier and safer.

KEY STRATEGIES TO IMPROVE MAINTENANCE

FDOT will ensure continued progress to improve its core measure of maintenance through strategies such as:

- Continue to identify and implement practices which reduce the time and cost of preserving the SHS.
- Emphasize use of state-of-the-art technologies and innovative contracting methods to increase the efficiency of system maintenance.
- Continue to monitor and adjust maintenance standards to preserve the state's investment and provide safe roadways for Florida motorists, including special population groups.
- Continue to respond to and evaluate customer input, suggestions, and feedback.
- Lead the nation in research, development, and deployment of state-of-the-art materials, technology, and methodologies for transportation infrastructure design, construction, maintenance, and operations.
- Incorporate the risks of extreme weather and other environmental conditions into planning, project development, design, and operations.

SUPPORTING MEASURES AND INFORMATION

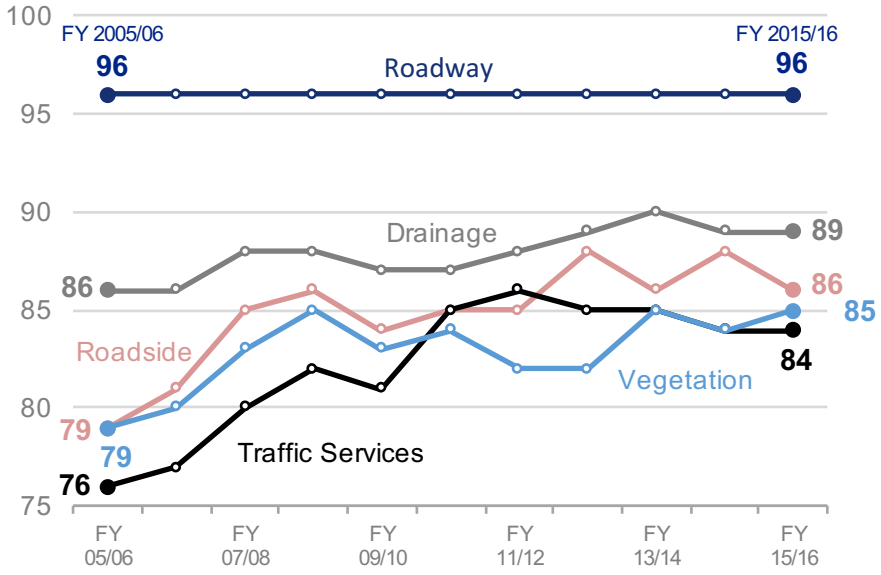
In addition to its core measure on maintenance, FDOT has identified several supporting measures that provide further detail and context about the performance of Florida's highway and bridge system. The supporting measures are components of the overall Maintenance Rating Program score, which includes:

- Roadway Maintenance
- Roadside Maintenance
- Traffic Services Maintenance
- Drainage Maintenance
- Vegetation Aesthetics Maintenance

Scores for each of the five maintenance components are shown in **Figure 8**, followed by an explanation of each component (i.e., its supporting measures).

All five maintenance supporting measures have either remained constant or improved over the past decade – contributing to FDOT's improved maintenance core measure score.

Figure 8: Maintenance Rating Program Components



SOURCE: Florida Department of Transportation, Office of Maintenance

Roadway Maintenance

SUPPORTING MEASURE

The Roadway Maintenance scores have remained at 96 since 2002—reflecting FDOT's continuous notable performance.

The Roadway Maintenance Supporting Measure evaluates multiple components of the roadway:

FLEXIBLE PAVEMENT (typically asphalt)

- Potholes
- Edge raveling
- Shoving
- Depression/bumps
- Paved shoulder/turnouts

RIGID PAVEMENT (typically concrete)

- Potholes
- Depression/bumps
- Joint/cracking
- Paved shoulder/turnouts

Conditions are compared to FDOT standards and a composite score is calculated between 0 and 100. The Roadway Maintenance scores have remained at 96 since 2002. This is a significant measure as it represents the composite of all of the varied items listed above. As such, FDOT's performance in this area is particularly notable.

Roadside Maintenance

SUPPORTING MEASURE

The Roadside Maintenance scores have hovered around the mid to high 80s since fiscal year 2007/08.

The Roadside Maintenance Supporting Measure evaluates five components of the roadway:

- Unpaved shoulder
- Front slope (a gradual and contoured transition from a roadway's shoulder edge to the ditch or slope)
- Slope pavement (missing, settled or misaligned areas of sloped pavement greater than 10 square feet)
- Sidewalk
- Fence

Conditions are compared to FDOT standards and a composite score is calculated between 0 and 100. The Roadside Maintenance scores have hovered around the mid to high 80s since fiscal 2007/08.

Traffic Services Maintenance

SUPPORTING MEASURE

The Traffic Services Maintenance scores have leveled-out around the mid 80s range since fiscal year 2010/11.

The Traffic Services Maintenance Supporting Measure evaluates nine components of the roadway:

- Raised pavement markers
- Striping
- Pavement symbols
- Guardrail
- Attenuator
- Signs less than or equal to 30 sq. ft.
- Signs greater than 30 sq. ft.
- Object markers and delineators
- Lighting

Conditions are compared to FDOT standards and a composite score is calculated between 0 and 100. The Traffic Services Maintenance scores have leveled-out around the mid 80s since fiscal year 2010/11.

Pavement Marking Management System (PMMS)

Pavement marking visibility or reflectivity is important for safe night-time driving. Drivers depend on clear pavement markings for their safety and comfort on Florida's state highway system.

PMMS is an efficient way to manage and evaluate the data associated with maintaining the minimum levels of reflectivity for pavement markings—including the selection of appropriate materials and application techniques. This innovative approach and use of technology will result in more cost-effective pavement markings and ensure the safety of the traveling public.

Drainage Maintenance

SUPPORTING MEASURE

The Drainage Maintenance scores have hovered around the high 80s since fiscal year 2007/08.

The ability to quickly drain water from roadways is key to preservation of the roadways and the safety of those using them. The Drainage Maintenance Supporting Measure evaluates six components of the roadway:

- Side/cross drain
- Roadside/median ditch
- Outfall ditches
- Inlets
- Miscellaneous drainage structures
- Roadway sweeping

Conditions are compared to FDOT standards and a composite score is calculated between 0 and 100. The Drainage Maintenance scores have hovered around the high 80s since fiscal year 2007/08.

Vegetation Aesthetics Maintenance

SUPPORTING MEASURE

The Vegetation Aesthetics Maintenance scores have remained between the low to mid 80s since fiscal year 2006/07.

The Vegetation Aesthetics Maintenance Supporting Measure evaluates seven components of the roadway:

- Roadside mowing
- Slope mowing
- Landscaping
- Tree trimming
- Curb/sidewalk edge
- Litter removal
- Turf condition

Conditions are compared to FDOT standards and a composite score is calculated between 0 and 100. The Vegetation Aesthetics Maintenance scores have remained between the low to mid 80s since fiscal year 2006/07. Effective maintenance in this area also can contribute indirectly to safer conditions for motorists, cyclists, and pedestrians.

Florida Wildflowers

The FDOT Wildflower and Natural Areas Program was created in 1963. FDOT values the importance of preserving naturally occurring wildflowers and remnants of native plant communities along Florida's 12,116 miles of state-maintained roads. FDOT's preservation philosophy includes all facets of the highway experience.

TRANSIT STATE OF GOOD REPAIR

CORE MEASURE

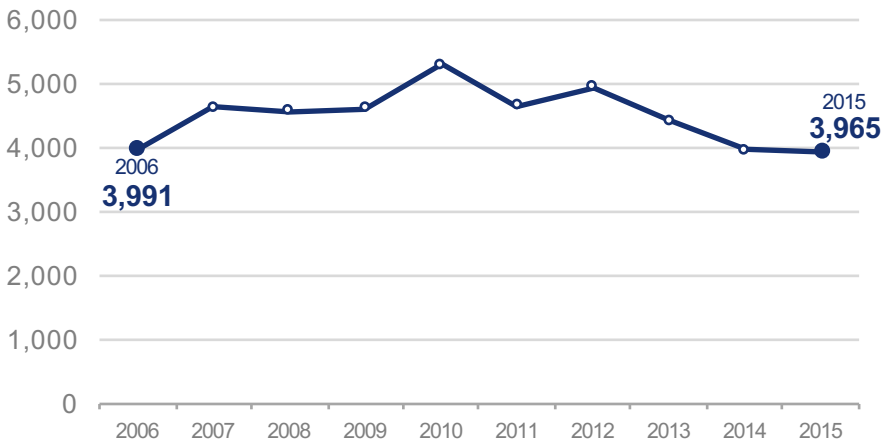
Underinvestment in public transportation infrastructure can have significant consequences.

FDOT has a long-standing commitment in assisting Florida's transit agencies in the area of asset management, including training, technical guidance, and vehicle procurement and inspections. Underinvestment in public transportation infrastructure can have significant consequences, such as increased incidents, compromised passenger safety, and higher operating costs due to increased costs of maintaining assets that are being used beyond their useful lives.

A core measure that represents Florida's transit agencies' investment in, and preservation of, infrastructure is the number of revenue miles between bus and passenger train failures (i.e. breakdowns). It is an indicator of the average frequency of delays due to vehicle problems or failures. Higher values indicate less failures/breakdowns. **Figure 9** highlights data from the National Transit Database (NTD)[1] showing that Florida's 31 fixed route transit agencies, on average, experienced one breakdown every 3,965 revenue miles.

Over the past decade Florida transit agencies have kept vehicle breakdowns to around one per 4,000 revenue miles.

Figure 9: Transit Revenue Miles Between Failures



SOURCE: Florida Department of Transportation; Florida Transit Handbook

Over the past decade this number has moved up and down—decreasing the past couple of years—reflecting changes in levels of maintenance and new vehicle investments by transit agencies in their fixed route systems. All transit agencies receiving federal funds are required to develop transit asset management plans. FDOT has historically monitored and managed transit state of good repair and is updating state requirements and measures to reflect FTA requirements as they become available. Most of Florida's transit agencies have implemented asset management plans based on prior federal requirements. Additionally, FDOT monitors state of good repair through established statewide performance measures.

[1] The data in Figure 9 is based on the National Transit Database (NTD) annual reporting period, which is unique to each transit agency.

KEY STRATEGIES TO IMPROVE TRANSIT STATE OF GOOD REPAIR

FDOT will ensure that continued progress is made to improve its core measure of transit state of good repair through strategies such as:

- Coordinate with urban transit agencies and metropolitan planning organizations in establishing performance measures and targets in accordance with the FAST Act.
- Provide guidance to transit agencies in the development or enhancement of transit asset management plans and programs.
- Provide technical assistance, training and guidance to transit agencies in the field of vehicle maintenance and asset management.
- Proactively manage transportation assets to achieve acceptable conditions, expanding from our traditional focus on highways to encompass all modes.

In support of these key strategies, FDOT's Transit Office has for several years conducted several programs pertaining to transit vehicle procurement and maintenance:

- Transit Research, Inspection and Procurement Services (TRIPS),
- Transit Maintenance Analysis and Resource Center (TMAARC), and
- Preventative Maintenance Planning and Training Program (PrMPT).

Intelligent Transportation Systems (ITS)

The FDOT District Six ITS Program uses advanced electronic technologies to manage traffic flow in Miami-Dade and Monroe counties. District Six has instrumented approximately 213.5 center line roadway miles with ITS devices. The goal is to promote safer, more efficient travel conditions for all drivers and to ensure quality mobility in our communities. This also enabled study of the Transit Signal Priority system and express buses on I-95.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

In addition to its core measures, FDOT has identified several supporting measures that provide further detail and context about the performance of Florida's transportation system. For operational Intelligent Transportation Systems (ITS), the supporting measures are:

- ITS Miles Managed by FDOT
- Florida 511 Program (FL511) Touch-Points

SUPPORTING MEASURES AND INFORMATION

ITS is the application of real-time information systems and advanced technologies such as transportation management tools to improve the movement of people, goods and services. ITS uses advanced technologies to remedy mobility and safety problems, which may delay or possibly eliminate having to build new roads or widen existing roads. As ITS expands throughout Florida, the development and reporting of operational performance measures will help to demonstrate and document their benefits.

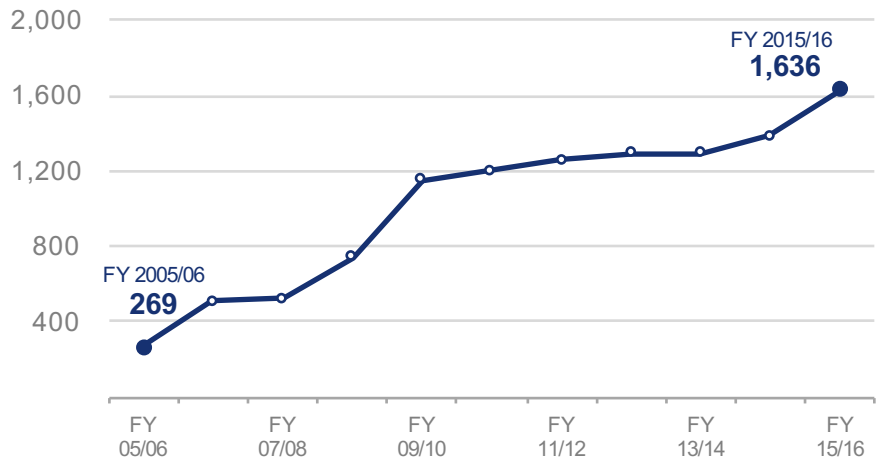
ITS Miles Managed by FDOT

SUPPORTING MEASURE

By fiscal year 2015/16 1,636 ITS miles were managed by FDOT. This represents 13.5 percent of the State Highway System and 38 percent of the Strategic Intermodal System.

Figure 10 highlights that 1,636 centerline miles were managed by FDOT through ITS in fiscal year 2015/16. This represents 13.5 percent ITS coverage of the State Highway System (SHS) and 38 percent ITS coverage of the Strategic Intermodal System (SIS). Extensive ITS deployments have taken place during the past decade throughout the state.

Figure 10: ITS Miles Managed by FDOT



SOURCE: Florida Department of Transportation; Statewide Intelligent Transportation Systems Performance Measures

FL511 Touch-Points

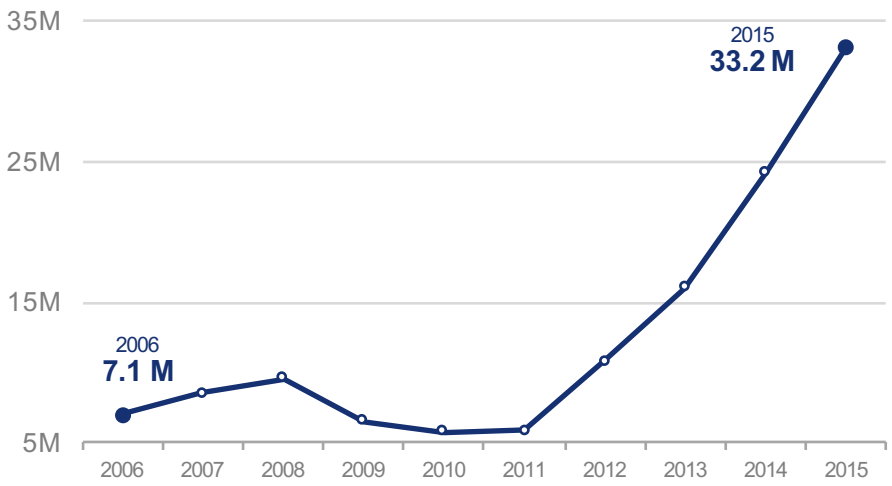
SUPPORTING MEASURE

Florida's 511 program, dubbed FL511, provides accurate real-time information to travelers on traffic and road conditions, alternate routes (during incidents), construction, weather-related problems and public transportation information/options.

Approximately 1.7 million FL511 calls were made in 2015. However, tracking phone calls to FL511 is no longer a key indicator of system usage as more travelers use automated and mobile applications. Social media continues to be a prime means of disseminating traveler information. Florida's 511 Twitter feeds grew from 20,561 followers in 2014 to 30,379 in 2015. **Figure 11** shows that over 33 million touch-points (calls, web hits, app sessions, tweets, and e-mail/text/phone message alerts) were made in 2015, keeping travelers on Florida's highways informed and engaged to an unprecedented degree.

Over 33 million calls, web hits, app sessions, tweets, and e-mail/text/phone message alerts were made in 2015, keeping travelers on Florida's highways informed.

Figure 11: FL511 Touch-Points
(Calls, Web Hits, App Sessions, Tweets & Alerts)



SOURCE: Florida Department of Transportation; Florida's 511 Progress Report

INCIDENT MANAGEMENT

In addition to its core measures, FDOT has identified several supporting measures that provide further detail and context about the performance of Florida's transportation system. For operational incident management, the supporting measures are:

- Road Rangers Service Assists
- State Roadway Clearance Times
- Rapid Incident Scene Clearance (RISC) Times

SUPPORTING MEASURES AND INFORMATION

Vehicle crashes typically affect far more travelers and businesses than those directly involved in the crash. It is critical that crash victims be attended to as soon as possible to reduce the possibility of death or serious injury. It is not unusual for major highways to be partially or fully closed while vehicles and debris are removed, which creates or compounds traffic congestion and causes delay for travelers in the vicinity of the crash. Occasionally, hazardous materials—some of which can be life-threatening—and other commodities are spilled as a result of these crashes or as a result of crashes on other transportation modes such as rail. Quickly responding to and clearing an incident allows the highway to return to normal capacity and traffic flow sooner. Moreover, the faster incidents can be cleared, the greater the reduction of secondary crashes.

In order to improve incident management, Florida has a statewide Traffic Incident Management Program, which is comprised of road ranger service, roadway clearance, rapid incident clearance, and traffic management teams.

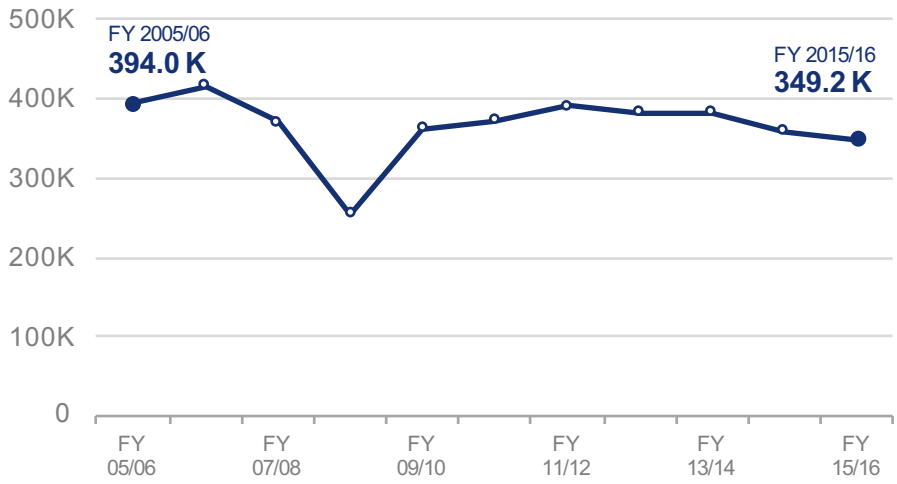
Road Ranger Service Assists

SUPPORTING MEASURE

The Road Ranger service is provided by FDOT and its partners, at no charge, to motorists. It consists of roving vehicles which patrol congested areas and high incident locations along urban freeways. All seven FDOT Districts and the Turnpike Enterprise provide Road Ranger services covering 1,493 miles of state roads. Other than in fiscal year 2008/09 when the legislature instituted a 50 percent reduction in Road Ranger funding (which it re-instated the following year), Road Rangers have consistently assisted approximately 350,000 motorists annually. **Figure 12** shows that Road Rangers provided services to 349,223 motorists in fiscal year 2015/16.

Service patrols, such as Road Rangers, can reduce travel delays by up to 45 percent.

Figure 12: Road Ranger Service Assists (thousands)



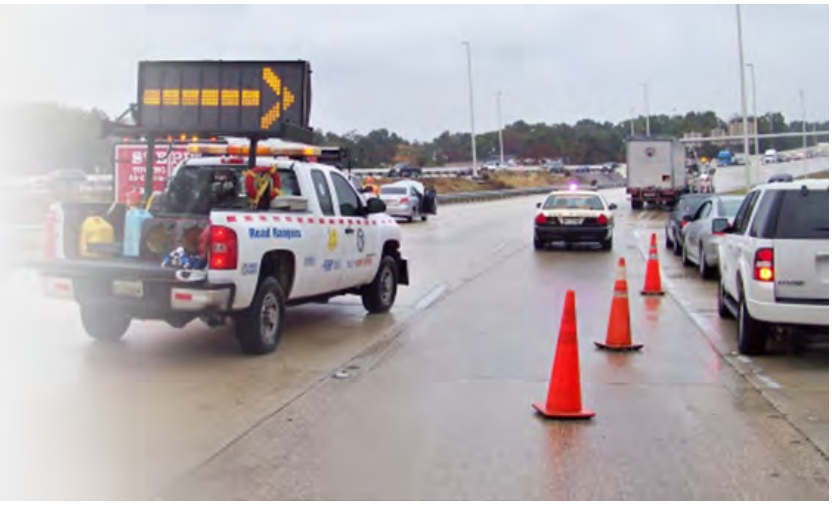
SOURCE: Florida Department of Transportation, State Traffic Engineering Operations Office; Statewide Intelligent Transportation Systems Performance Measures (Annual Report)

Road Rangers

Road Rangers exist to clear traffic incidents safely and quickly. Road Rangers are one of the most essential components of a successful traffic incident management program.

"I truly felt my life was in danger as cars and trucks whizzed by… I felt my life was saved today by the Road Rangers."

Florida Highway User



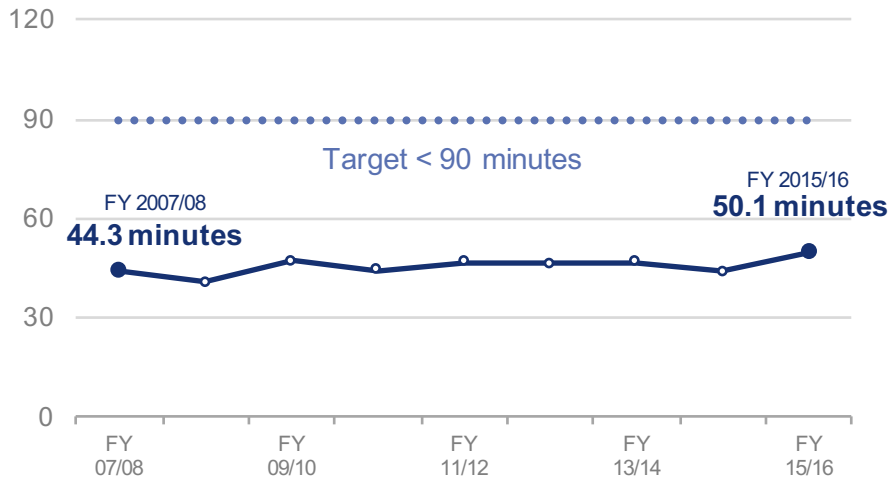
State Roadway Clearance Times

SUPPORTING MEASURE

In an effort to provide the traveling public a cost-effective and high quality transportation system, FDOT and the Florida Highway Patrol implemented the "Open Roads Policy." The goal is to clear damaged vehicles, spilled cargo and debris from roadways as soon as it is safe to do so. A combined target of agencies is for all incidents to be cleared within 90 minutes of the arrival of the first responding officer. **Figure 13** shows that the average clearance time in fiscal year 2015/16 was 50.1 minutes, which is far faster than the 90-minute target of the "Open Roads Policy." It is recognized that at some point it might be appropriate to reevaluate and reset this target.

The average clearance time in fiscal year 2015/16 was 50.1 minutes, which is far faster than the 90-minute target of the "Open Roads Policy."

Figure 13: State Roadway Clearance Times (minutes)



SOURCE: Florida Department of Transportation; Statewide Intelligent Transportation Systems Performance Measures (Annual Report)

Rapid Incident Scene Clearance (RISC) Times

SUPPORTING MEASURE

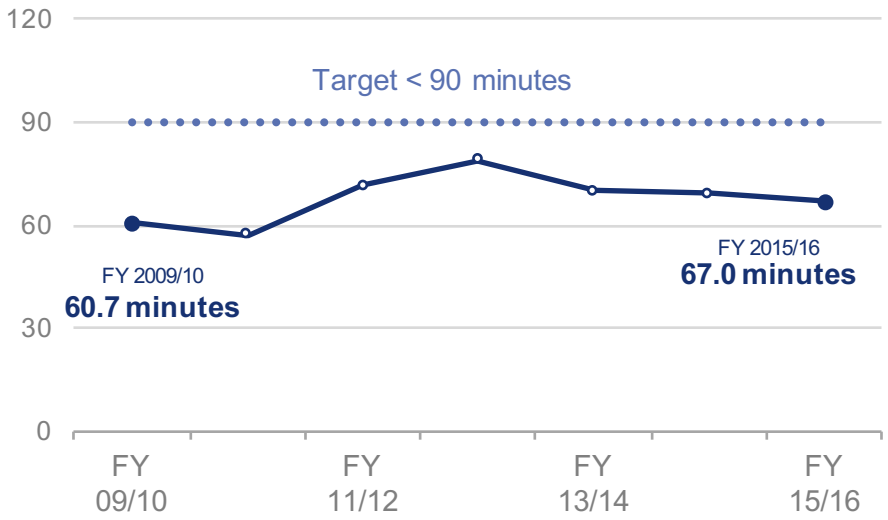
The Rapid Incident Scene Clearance (RISC) Program is an innovative, incentive-based program to meet the goal of safely clearing major highway incidents and truck crashes. The RISC program is most often used during major incidents that cause complete roadway closures on limited access facilities where it is imperative to quickly restore traffic flow. RISC is typically activated for incidents involving:

- Trucks over 16,000 pounds
- Motor homes and motor coaches
- Buses capable of carrying 16 or more passengers
- Aircraft, and
- Large yacht-type boats and mobile homes

Roadway clearance times for crashes on major highways vary. **Figure 14** highlights that the average clearance time increased in 2012 and 2013, but decreased (improved) to 67 minutes in 2016.

The average RISC clearance time increased in fiscal years 2011/12 and 2012/13, but decreased (improved) to 67 minutes in fiscal year 2015/16.

Figure 14: Rapid Incident Scene Clearance (RISC) Times (minutes)



SOURCE: Florida Department of Transportation; Rapid Incident Scene Clearance (RISC) Annual Report

FDOT now requires specialized equipment and trained operators to quickly remove heavy trucks hauling larger loads after an incident. Consistent with the "Open Roads Policy," several FDOT Districts have adopted an innovative clearance strategy by implementing the RISC Program to significantly reduce the time to clear major accidents and incidents. This program contracts for specialized heavy-duty wreckers and equipment to rapidly clear the roadway on limited access facilities.

Florida also has a State Emergency Response Team composed of staff from key state agencies to ensure the state is prepared to respond to emergencies, recover from them and mitigate their impacts. The State Emergency Operations Center (SEOC) provides direction and coordination of emergency response and recovery efforts before, during and after serious emergencies or disasters. When the magnitude of an emergency or disaster exhausts local response capabilities, the SEOC may be activated to respond.

Traffic Incident Management (TIM) Teams

Traffic Incident Management (TIM) Teams bring together all of the agencies involved in clearing an accident, including Florida Highway Patrol (FHP), local law enforcement, fire departments, emergency medical personnel, towing companies, and spill response firms, along with FDOT Traffic Management Center (TMC) operators, Road Rangers, and maintenance crews. TIM Teams strive to reduce the time needed to reopen travel lanes and get traffic moving again by reviewing past response actions, exploring ways to improve incident management, and coordinating upcoming planned events or planning for unplanned events, such as hurricanes, wildfires, and floods. TIM Teams are currently active in all of FDOT's Districts and Florida's Turnpike Enterprise.

Partner Connections

Partner Connections highlights FDOT's recent collaborations with various partner and stakeholder organizations to consider ways to improve our transportation system performance together.

> "Florida ranks number one in infrastructure rankings in the nation."
>
> Mark Wilson
> The Florida Chamber

> "FDOT consistently meets the capacity and mobility needs of its people, businesses and visitors while investing its budgeted dollars efficiently and effectively. FDOT gets an 'A' on its report card."
>
> Jay Trumbull
> FTC Chairman

Strategic Preservation Partners

1000 Friends of Florida

Asphalt Contractors Association

Concrete Coalition of Florida

Federal Highway Administration

Florida Association of Counties

Florida League of Cities

Florida Public Transportation Association

Florida Regional Councils Association

Florida Transportation Builders Association

Florida Transportation Commission

Floridians for Better Transportation

ITS Florida

Metropolitan Planning Organization Advisory Council

Innovation

PERFORMANCE SUMMIT 2016
FOR TRANSPORTATION PARTNERS

Preservation

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Be a national leader in research, development, and deployment of state-of-the-art materials, technology, and methodologies for transportation infrastructure
- Develop multimodal hubs to provide access services at a single location and that accommodate larger or advanced commercial passenger and freight vehicles
- Retrofit, adapt, or augment critical infrastructure to reduce vulnerability to extreme weather events and other environmental conditions
- Develop enhanced transportation corridors that:
  - » Incorporate and support emerging technologies such as connected vehicles or alternative fuel sources
  - » Include managed lanes
  - » Enable separation of freight and passenger vehicles, where appropriate, to improve safety and mobility
  - » Enable separation of through and local trips, where appropriate, to improve safety and mobility

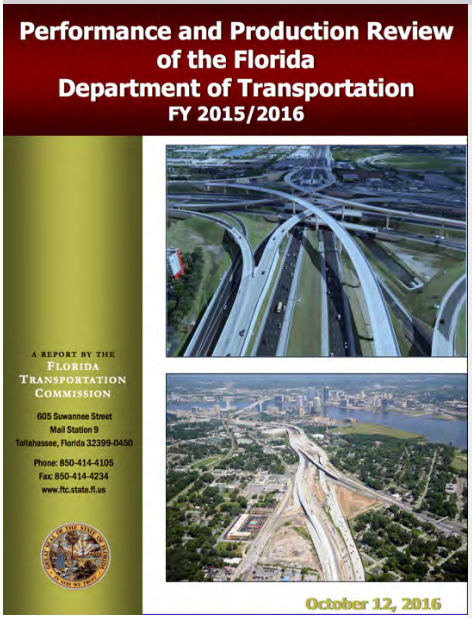
Collaboration

Potential Measures

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Manage all transportation assets to achieve acceptable conditions
- Use Bike Share program data to analyze travel patterns for multi-purpose roads (e.g., roads converted to bike only on weekends)
- Enhance safety while performing preservation activities
- Consider using vehicle condition and average fleet age for transit performance measures
- Bicycle and pedestrian facilities from a maintenance perspective, including facilitating access to transit.
- Bike/ped maintenance measures
- Percent system that is at-risk / retrofitted for resiliency

Partner Connection Reports



Performance and Production Review of the Florida Department of Transportation

October 2016

The Performance and Production Review of the Florida Department of Transportation is an annual report produced by the Florida Transportation Commission that evaluates how effectively the Department has addressed the transportation needs of our state through the implementation of its work program. The Commission uses 36 measures - 17 primary and 19 secondary - to evaluate the Department's performance.

Florida Department of Transportation 2016 Performance Report

Mobility

Efficient Movement of People and Goods

TABLE OF CONTENTS

MOBILITY

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

INTRODUCTION

Core Measures span the four dimensions of mobility

Moving people and goods efficiently, affordably, and reliably is vital to Florida's economic prosperity. By providing mobility, FDOT and other transportation system operators make a significant contribution to Florida's economic competitiveness and quality of life.

Florida travel is diverse. People use various modes to commute to jobs, conduct business, and obtain services for many other purposes. They walk, drive, bike, and use public transit. Raw materials, finished products, and packages comprise a robust freight movement system of air cargo, trucking, seaports, and freight railroads—and the connections between these modes. Because mobility is vital, measuring mobility performance is likewise essential.

FDOT's core mobility measures include:

- **Travel Quantity**
- **Travel Quality**
- **Accessibility**
- **System Utilization**

Together they provide a picture of how the transportation system is being used, how travelers experience the system, how easy or hard it is to use the system, and what system capacity remains.

Florida's Transportation System

Florida's transportation system users have varied mobility needs and requirements. Passenger and freight movement occurs through our extensive network of highways, airports, seaports/waterways, public transit systems, and rail lines. Bicycle and pedestrian accommodation has also become a very important emphasis area for FDOT, communities and others. Florida's spaceports and launch facilities are also significant elements of our 21st century transportation system.

Florida has identified a Strategic Intermodal System (SIS) that includes those transportation facilities and services of statewide and interregional significance. This priority multimodal network carries most of Florida's passenger and freight trips. Essential facts about Florida's transportation system, including the State Highway System (SHS) can be found in Fast Facts at aboutfdot.org

2016 PERFORMANCE HIGHLIGHTS

Mobility, including choices, is a strategic FDOT priority and primary focus of the Florida Transportation Plan. Key performance highlights are:

- Vehicle miles traveled (VMT)—overall and per capita—increased slightly since 2012 on both the State Highway System (SHS) and the Strategic Intermodal System (SIS).
- Public transit ridership in 2015 decreased 2.7 percent (nearly 7.5 million annual trips) from its peak level in 2013.
- Florida's passenger rail ridership increased by nearly 38 percent since 2006, mainly due to Miami-Dade's Metrorail and Central Florida's new SunRail system.
- Freight truck tonnage has trended upwards since 2011, with a significant increase in 2015. Air cargo and waterborne freight tonnage have remained relatively flat since 2011, while rail freight tonnage increased from 2008 through 2013, but decreased in 2014 (latest available data).
- Vehicle hours of delay in the seven most populous urban metropolitan areas on both the SHS and SIS has worsened since 2010, although levels are substantially better than in the early/mid 2000's.
- Travel time reliability on freeways in the seven most populous urban metropolitan areas improved between 2006 and 2012, but declined over the ensuing years back to 2006 levels.
- On-time departures at airports occurred 82.6 percent of the time in 2015, and on-time passenger rail departures for SunRail and Tri-Rail occurred 96 and 81 percent of the time respectively in 2015, while on-time departures for Amtrak declined to 26 percent.
- Florida roads are increasingly accommodating of pedestrians and bicyclists as sidewalk mileage on the SHS in urban areas increased from 59.4 to 65.0 percent between 2011 and 2015, while bike lane and shoulder mileage increased from 57.6 to 61.5 percent.
- Heavy congestion in the seven most populous urban metropolitan areas increased slightly since 2010.

FLORIDA TRANSPORTATION PLAN

The Florida Transportation Plan (FTP) is Florida's long range transportation plan for meeting the dynamic mobility needs of residents, businesses, and visitors. FDOT's Mobility Performance Report aligns with two FTP goals:

- *Efficient and Reliable Mobility for People and Freight*
- *More Transportation Choices for People and Freight*

This report highlights the core and supporting performance measures related to these FTP goals, and other transportation plans and programs.

FTP Goal: *Efficient and Reliable Mobility for People and Freight*

FTP Objectives

- *Reduce delays related to bottlenecks, gaps, and crashes and other incidents for all modes of Florida's transportation system*
- *Increase the reliability of all modes of Florida's transportation system*
- *Increase customer satisfaction with Florida's transportation system and regulatory processes for residents, visitors, and businesses*
- *Increase the efficiency of the supply chain for freight moving to, from, and through Florida*
- *Increase the efficiency and flexibility of transportation related regulatory processes*

Related Performance Report Measures

Travel Quantity
- *Vehicle Miles of Travel*
- *Vehicle Miles of Travel per Capita*
- *Combination Truck Miles of Travel*
- *Transit Passenger Trips*
- *Aviation Passenger Boardings*
- *Seaport Passenger Trips*
- *Rail Passenger Trips*

Travel Quality
- *Level of Service (LOS)*
- *Bicycle and Pedestrian LOS*
- *Vehicle Hours of Delay*
- *Combination Truck Hours of Delay*
- *Travel Time Reliability*

Accessibility
- *Bicycle and Pedestrian Facilities*
- *Aviation, Rail, and Seaport Highway Adequacy*

System Utilization
- *Miles Heavily Congested*
- *Travel Heavily Congested*

FTP Goal: *More Transportation Choices for People and Freight*

FTP Objectives

- *Increase the use of new mobility options and technologies such as shared, automated, and connected vehicles*
- *Increase the share of person trips using public transportation and other alternatives to single occupancy motor vehicles*
- *Increase the number of quality options for visitor travel to, from, and within Florida*
- *Increase the number of quality options for moving freight to, from, and within Florida*
- *Increase the efficiency and convenience of connecting between multiple modes of transportation*

Related Performance Report Measures

Travel Quantity
- *Transit Passenger Trips*
- *Aviation Passenger Boardings*
- *Seaport Passenger Trips*
- *Rail Passenger Trips*
- *TEU Containers*
- *Freight Tonnage*

Travel Quality
- *Vehicle Hours of Delay*
- *Bicycle and Pedestrian LOS*
- *Combination Truck Hours of Delay*
- *Aviation and Rail Departure Reliability*

Accessibility
- *Commute Times Greater than 30 Minutes*
- *Bicycle and Pedestrian Facilities*

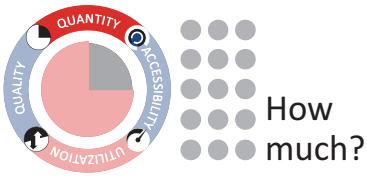
System Utilization
- *Miles Heavily Congested*
- *Transit Trips per Revenue Mile*

NOTE: Related Performance Measures may appear in both FTP Goals

TRAVEL QUANTITY

CORE MEASURE

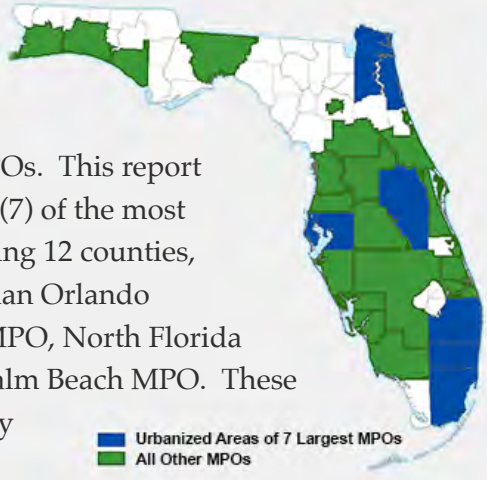
FDOT has identified a set of core measures and supporting measures related to transportation system mobility. Travel quantity, as a core measure, reflects the magnitude of travel on the transportation system, or a particular mode, facility or transportation service—i.e., how many people move or how much freight is transported. The supporting measures for travel quantity are:



- Vehicle Miles of Travel
- Vehicle Miles of Travel Per Capita
- Combination Truck Miles of Travel
- Transit Passenger Trips
- Aviation, Seaport, and Rail Passenger Trips
- TEU (20-foot equivalent unit) Containers
- Freight (Truck, Seaport, Rail, Aviation) Tonnage

Florida's 7 Largest MPOs

Metropolitan Planning Organizations (MPOs) are transportation organizations that study, plan, prioritize and coordinate transportation improvements throughout urbanized areas. In Florida there are 27 MPOs. This report highlights mobility measures at both the statewide level and for seven (7) of the most populated metropolitan planning areas. These seven MPOs, representing 12 counties, include: Broward MPO, Forward Pinellas, Hillsborough MPO, MetroPlan Orlando (representing Orange, Osceola, and Seminole counties), Miami-Dade MPO, North Florida TPO (representing Clay, Duval, Nassau, and St. Johns counties), and Palm Beach MPO. These MPOs represent the most urbanized/congested areas of Florida, as they comprise more than 58 percent of the state's population.



Vehicle Miles of Travel

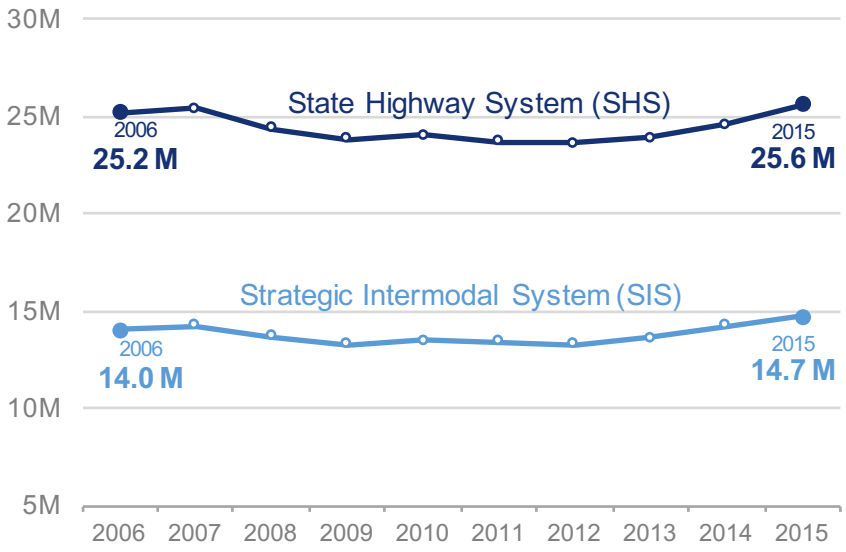
SUPPORTING MEASURE

Vehicle Miles of Travel (VMT) during the peak travel period is an indicator of system demand at the time of greatest need/use. VMT has increased since 2012 for both the SHS and the SIS.

Figure 1 shows State Highway System (SHS) and Strategic Intermodal System (SIS) Vehicle Miles of Travel (VMT) in millions of miles during the peak travel period over ten years. VMT during the peak travel period is an indicator of system demand at the time of greatest need/use. VMT has increased slightly since 2012 on both the SHS and the SIS.

Growing—or even steady—VMT underscores the importance of continued investment in maintenance, capacity improvements, and improved operations to maximize transportation system efficiency.

Figure 1: Vehicle Miles Traveled Daily During Peak Period (millions)



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Mobility Performance Measures

Since moving people and goods is the core function of transportation agencies, performance measures are essential. Mobility measures are organized by four broad dimensions/categories: quantity of travel, quality of service, accessibility, and utilization. Florida is a national leader and innovator in developing mobility performance measures. These measures can be used at both the state and regional levels.

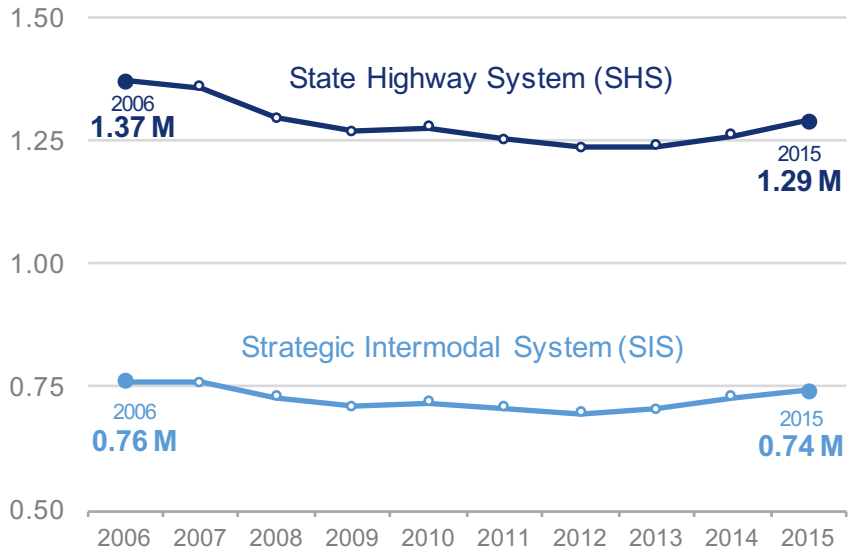
Vehicle Miles of Travel per Capita

SUPPORTING MEASURE

VMT per capita has been increasing over the past several years after a steady decline.

Similar to overall VMT in **Figure 1**, VMT per capita began to increase after 2012. **Figure 2** shows that VMT per capita during the peak travel period declined on both the SHS and the SIS over most of the past decade (7.1 and 2.6 percent respectively). Depending on the extent to which this upward trend continues, it could impact future system capacity needs.

Figure 2: Vehicle Miles Traveled Daily During Peak Period Per Capita



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

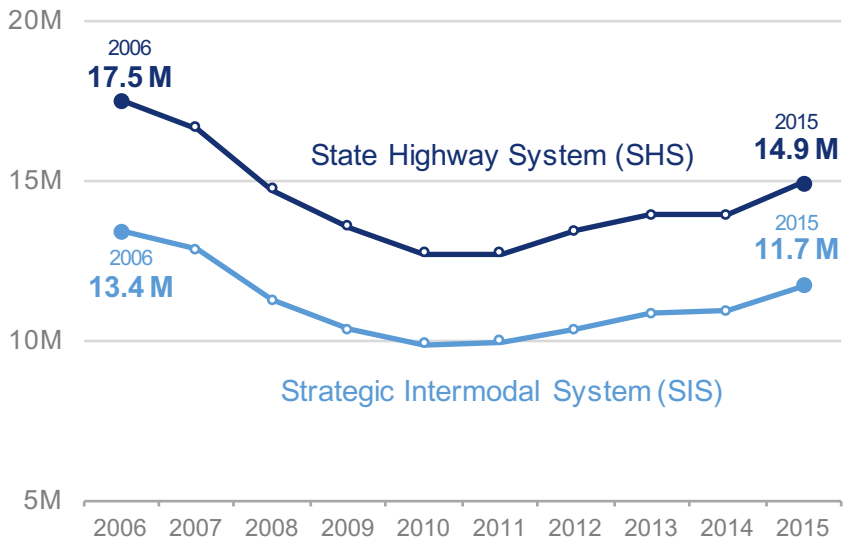
Combination Truck Miles of Travel

SUPPORTING MEASURE

Combination truck miles of travel is a measure of motor carrier activity. It reflects the vast quantity of goods and materials being moved to meet the varied needs of consumers and producers. Combination vehicles typically consist of a tractor and a trailer. As shown in **Figure 3**, combination truck miles traveled has trended upward since 2010 on the SHS and the SIS. However, it is still below 2006 levels. As truck miles traveled increases, it typically reflects corresponding economic growth and the possible need to add system capacity.

Combination truck miles of travel is a measure of transportation system usage associated with moving vast quantities of goods and materials. While truck miles traveled are steadily trending upward, they are still below 2006 levels.

Figure 3: Combination Truck Miles Traveled Daily (millions)



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Freight Mobility and Trade

The FDOT Office of Freight, Logistics, and Passenger Operations works to connect, develop, and implement the freight planning process by coordinating public and privately-owned resources to create multimodal connections. Florida is a global hub for trade, logistics, and export-oriented manufacturing. The PortMiami tunnel provides direct access between the seaport (Miami-Dade County's second largest economic generator) and Interstate highways to improve its hub connection and reduce congestion on downtown streets. Nationally it has been recognized as a noteworthy major investment for freight mobility and overall system efficiency and performance.

Transit Passenger Trips

SUPPORTING MEASURE

Transit options and access enhance local and regional mobility and livability for many Florida communities, businesses, and residents. FDOT's target is to increase transit ridership at twice the rate of population growth.

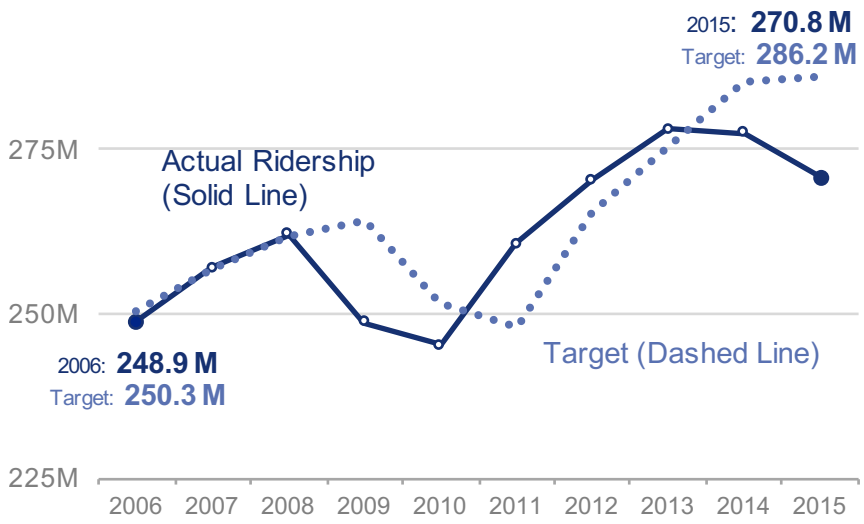
FDOT assists its transit partners to increase ridership. Approximately 91 percent of Floridians live in urban areas and 80 percent live in transit-served areas. Transit use helps reduce congestion and greenhouse gas emissions.

Figure 4 shows that passenger trips served by transit throughout Florida's 31 fixed-route transit systems (including Metrorail, Tri-Rail and SunRail, but not Amtrak) has declined since 2013. In 2015 there were approximately 270.8 million transit trips in Florida, a decrease of 2.4 percent from 2014—falling short of the target of 286.2 million transit trips.

FDOT uses the ratio of transit growth to population growth to evaluate transit ridership performance. For most of the past decade Florida's transit ridership growth was near to, or more than, the target. However, transit ridership has not met this threshold since 2013.

In 2015 there were 270.8 million Florida transit trips, a decrease of 2.4 percent from 2014 and 15.4 million below the 286.2 million target.

Figure 4: Annual Transit Passenger Trips



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Note: Population data used to assess the ridership target came from the Office of Economic and Demographic Research.

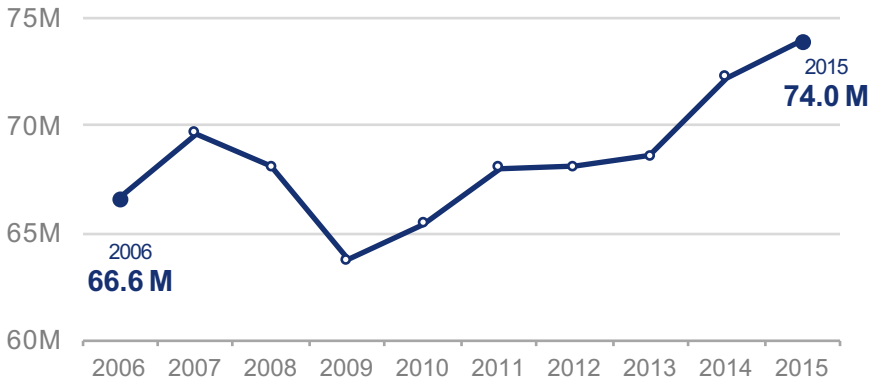
Aviation Passenger Boardings

SUPPORTING MEASURE

Annual aviation boardings increased to 74.0 million in 2015.

Figure 5 shows Florida's substantial growth in aviation passenger boardings between 2006 and 2015. The number of passenger boardings increased in 2015 to 74.0 million. The six-year upward trend since 2009 reflects Florida's special attraction as both a tourist and a business origin/destination—bolstering the state's competitive position.

Figure 5: Annual Aviation Passenger Boardings



SOURCE: FDOT; Florida Transportation Indicators: Annual Enplanements at Major Florida Commercial Airports, www.floridatransportationindicators.org

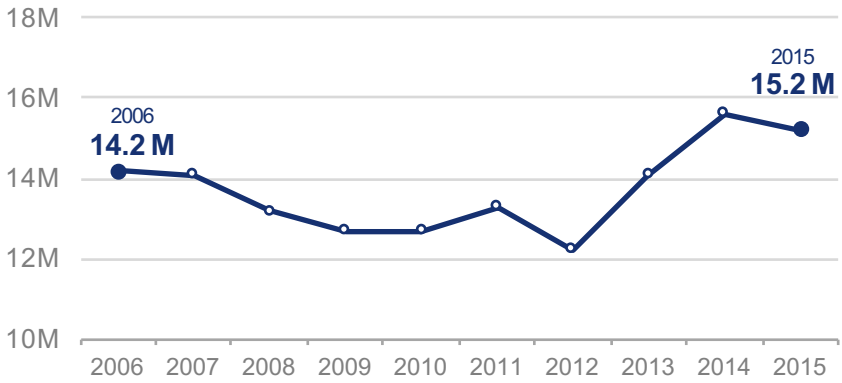
Seaport Passenger Trips

SUPPORTING MEASURE

60 percent of all U.S. cruise passengers embark from Florida seaports.

Figure 6 shows Florida's overall increase in seaport passenger (cruise) trips between 2006 and 2015. In 2015, the number of trips declined by 2.6 percent to 15.2 million passengers from its highest reported level in 2014. 2015 trips were more than 7 percent higher than 2006. Significantly, 60 percent of all U.S. cruise passengers embark from Florida seaports. As this upward trend continues it will positively impact the state's economy.

Figure 6: Annual Seaport Passenger Trips



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

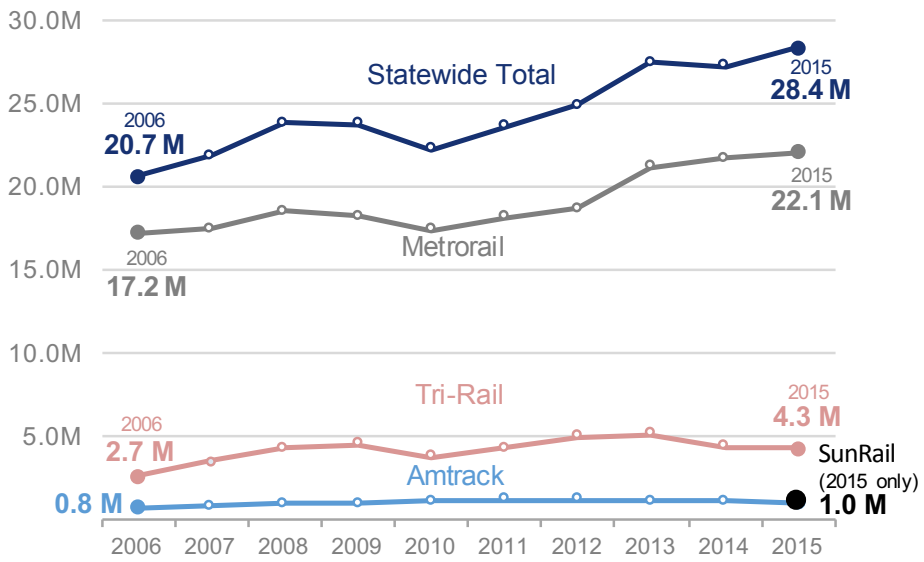
Rail Passenger Trips

SUPPORTING MEASURE

Overall passenger rail ridership has increased. The 2015 increase is primarily due to Metrorail and the new SunRail system.

Rail passenger ridership consists of the combined annual passenger trips on Metrorail, Tri-Rail, SunRail and Amtrak (SunRail data is only available for 2015[1]). As **Figure 7** shows, overall passenger rail ridership has trended upward over the past decade. The 2015 increase is primarily due to Metrorail and the 1 million new SunRail system passengers. Metrorail ridership has been increasing since 2010, but Tri-Rail and Amtrak ridership declined over the past two years.

Figure 7: Annual Rail Passenger Trips



NOTE: The 2015 data point for SunRail's annual passengers is the same as Amtrak's 2015 number of passengers—1 million passengers.

[1] SunRail officially opened on May 1, 2014. As a result, 2015 was the first year for which a full year of data was available.

TEU (20-foot equivalent unit) Containers

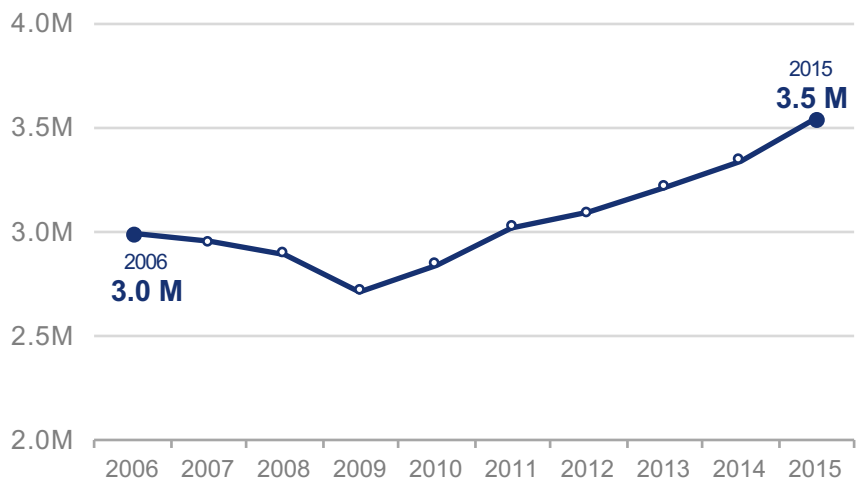
SUPPORTING MEASURE

The efficient movement of goods is key to Florida's economic strength and growth. The 20-foot equivalent unit (TEU) container provides an approximate gauge of intermodal container movements. The TEU is based on the volume of a 20-foot-long intermodal container, a standard-sized metal box which can be easily transferred between different modes of transportation, such as ships, trains and trucks.

Figure 8 shows that since 2009 Florida had a nearly 31 percent increase in TEUs moving through its seaports, reflecting a number of positive trends including expanded economic activity/trade, and growing use of intermodal transportation. If this rate of growth continues, the state's investments in system capacity, intermodal connectivity, and improved transportation operations—especially on the Strategic Intermodal System (SIS)—will become even more important to accommodate economic expansion.

Since 2009 Florida has had a nearly 31 percent increase in TEU Containers moving through its seaports.

Figure 8: Annual TEU Containers Moved Through Florida Seaports



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Freight Tonnage

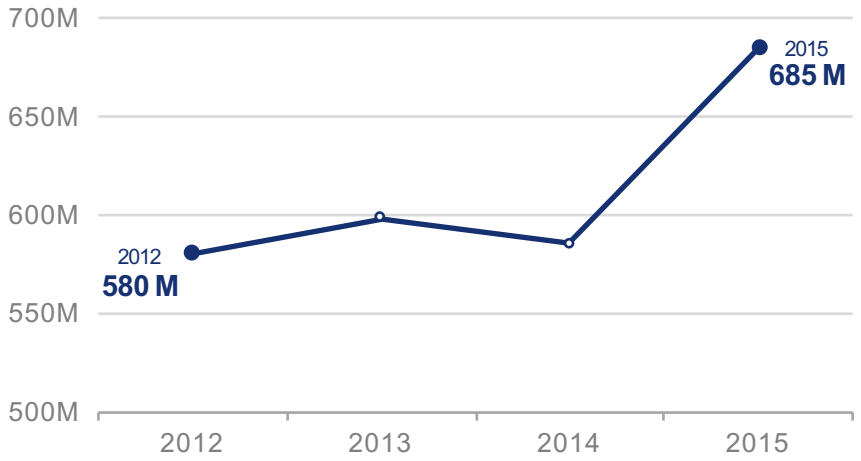
SUPPORTING MEASURE

The freight tonnage measure reflects the extent to which freight is moving on Florida's transportation system across the various modes.

Figures 9(a) and **9(b)** show Florida freight tonnage by mode (data in Figure 9a includes only four years due to a methodological change in 2012). Products and raw materials increasingly are moving between origins and destinations using more than one transportation mode—making connectivity with the Strategic Intermodal System (SIS) of particular significance (data for rail tonnage was not available for 2015).

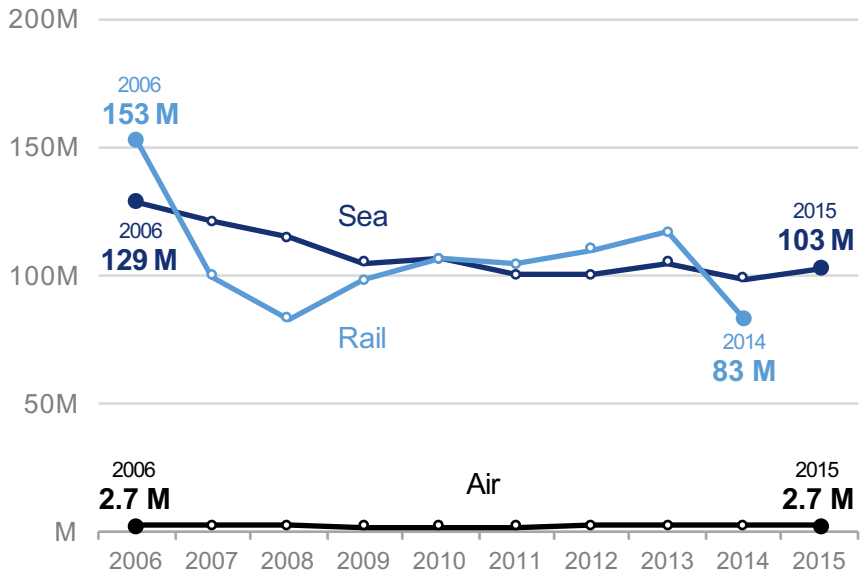
Truck freight tonnage increased by 18.1% since 2012, with most of the increase between 2014 and 2015.

Figure 9(a): Annual Freight Tonnage by Truck



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Figure 9(b): Annual Freight Tonnage by Sea, Rail, and Air



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Freight movement is part of a dynamic and fluid logistics system in which shippers and receivers of raw materials, intermediate products, and final goods rely on making the most cost-effective use of each available mode. Florida is well positioned to meet these requirements, particularly through its extensive SIS. As seen in **Figures 9(a)** and **9(b)** on the previous page, Florida freight trends indicate that:

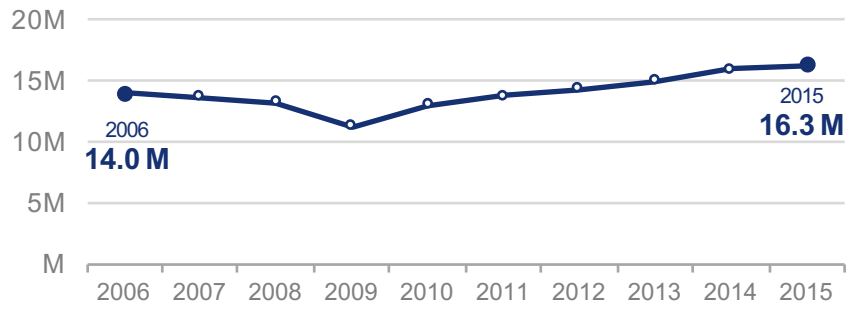
- Truck tonnage increased nearly 17 percent from 2014 to 2015. With a growing economy, intermodal movements have increased.
- Warehousing and distribution rely heavily on trucking, and some of this growth may reflect the advantages of improved logistics favoring surface movement of goods and materials.
- Rail tonnage increased steadily from 2008 through 2013, but declined in 2014 (latest year for which data is available).
- Seaport cargo tonnage levels have remained relatively steady since 2011.
- Air cargo tonnage has remained flat over the ten-year period. Typically air cargo is low weight/high value, so tonnage alone can underestimate the economic importance of these movements.

National Intermodal Loadings

The intermodal movement/transfer of freight between modes has been increasing nationally. **Figure 10** shows that in 2015 more than 16 million containers and trailers used multiple modes. State level data is not immediately available, so this national trend is presented for context and could approximate Florida's trend as well. Intermodal movements are growing because they combine the best capabilities and advantages of each transportation mode to deliver service, efficiency, and logistical solutions for shippers.

By collaborating, trucking companies, ocean steamship lines and railroads are able to provide a cost-effective, seamless, reliable, and efficient way to move freight from origin to destination. Throughout the process, intermodal facilitators, or third-party logistics providers, arrange for each piece of the move from pick up to storage to drop off.

Figure 10: Annual National Intermodal Loadings (millions)



SOURCE: Intermodal Association of North America (IANA) Intermodal Market Trends and Statistics Report

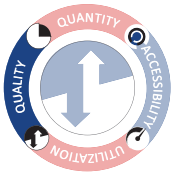
KEY STRATEGIES TO IMPROVE TRAVEL QUANTITY

FDOT helps to ensure continued progress for improving travel quantity through strategies such as those listed below. It is important to note that travel quantity is also impacted by trends beyond FDOT's control including fuel prices and economic conditions.

- Continue to support the high-priority role of the Strategic Intermodal System (SIS) connecting Florida's regions and connecting Florida to other states and nations.
- Continue the Future Corridor Planning Process to transform existing interregional corridors and to close interregional connectivity gaps, building on guiding principles developed cooperatively with state, regional, and local agencies and environmental stakeholders.
- Increase the efficiency and capacity of Florida's major airports, seaports, spaceports, and other freight and passenger terminals through strategic investments in new capacity and enhanced operations.
- Increase the efficiency, capacity, and connectivity of major truck, rail, and water corridors through targeted capacity improvements, accommodations for heavy freight movement, and separation of freight and passenger traffic on shared corridors.
- Promote multi-modal options, including non-motorized travel, for people movement within existing and future corridors.
- Continue implementation of FDOT's Complete Streets Policy to improve access and mobility for public transit riders, pedestrians and bicyclists.
- Enhance Florida's role as a global hub by increasing the flow of domestic and international trade through the state's seaports and airports.
- Ensure connectivity between the Strategic Intermodal System (SIS) and regional and local transportation facilities to support complete end-to-end trips.
- Promote travel options that increase vehicle occupancy.

TRAVEL QUALITY

CORE MEASURE



How good or bad?

FDOT has identified a set of core measures and supporting measures related to transportation system mobility. The travel quality core measure helps to generally assess how good or bad the travel experience is using a range of supporting measures:

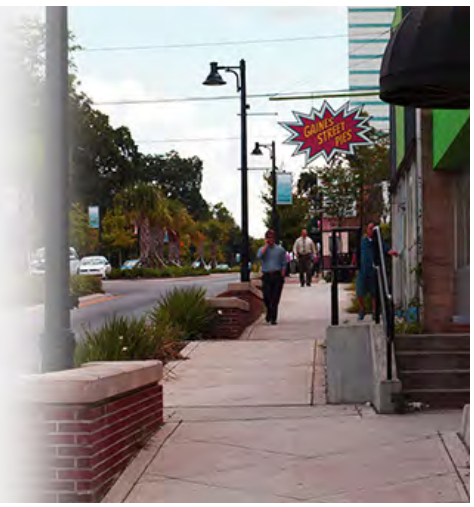
- Highway Level of Service (LOS)
- Bicycle and Pedestrian LOS
- Vehicle Hours of Delay
- Combination Truck Hours of Delay
- Travel Time Reliability
- Rail and Aviation Reliability

Level of Service (LOS), delay, and reliability each describe the quality of the transportation system in different ways. At a facility level, LOS is an excellent measure that approximates a user's perspective of how well the facility is operating in relation to traffic flow and congestion. Travel time reliability is important because most travelers are less tolerant of unexpected delays, as such delays often have consequences worse than drivers face with routine congestion. Travelers also tend to remember the few bad days spent in traffic, rather than an average time for travel throughout the year.

Complete Streets

Complete Streets incorporates context appropriate roadway designs that accommodate users of all ages and abilities, including bicyclists, pedestrians, motorists, transit riders, and freight. FDOT recognizes that demographics, travel preferences, business practices, local land development patterns, and the built environment require a broad focus beyond the automobile. A Complete Street considers:

- Context-appropriate streets
- Economic development
- Safety of pedestrians and cyclists
- Right size streets to fit context
- Cost-effective solutions



Highway Level of Service (LOS)

SUPPORTING MEASURE

Highway Level of Service (LOS) provides a measure for evaluating roadway performance by relating travel demand to roadway capacity. Various LOS "grades" are established along with thresholds that provide a basic standard of acceptability. There are several key elements that affect vehicle LOS:

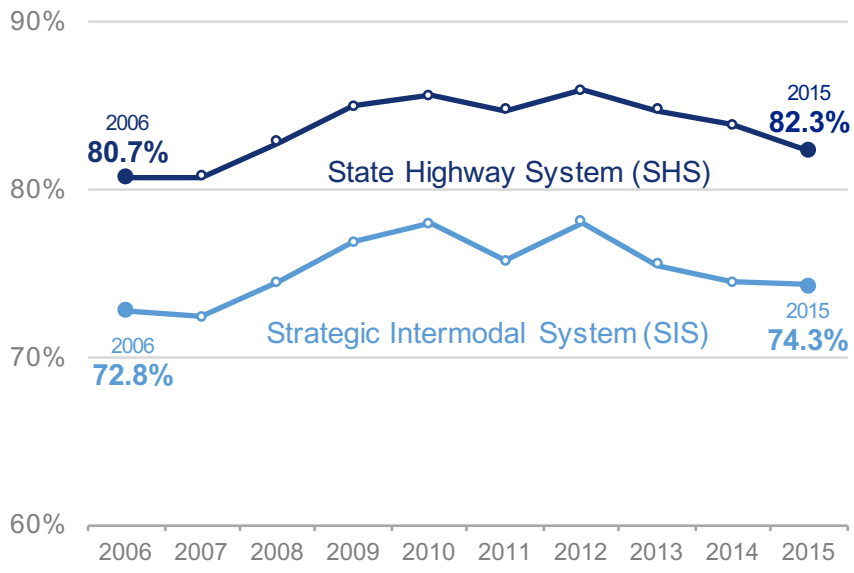
- Traffic volume
- Number of travel lanes
- Roadway facility type (uninterrupted vs. interrupted flow)
- Travel flow (persons or vehicles per hour)
- Travel speeds

FDOT's policy is that the State Highway System (SHS) perform at acceptable operating conditions.

In 2015, 82.3 percent of the SHS and 74.3 percent of the Strategic Intermodal System (SIS) during the peak period of travel met or exceeded acceptable LOS criteria—a decrease of 1.8 percent and 0.1 percent respectively over the prior year (as shown in **Figure 11**). Maintaining acceptable LOS performance is important for Florida to support the effective and efficient movement of people and goods.

The overall LOS trend since 2006 is generally steady travel improvement, but decreases occurred on both the SHS and the SIS since 2012.

Figure 11: Travel Meeting Acceptable LOS During Daily Peak Period



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Bicycle & Pedestrian LOS

SUPPORTING MEASURE

58 percent of SHS roads in urban areas had a bicycle LOS of "C" or better in 2015.

23 percent of SHS roads in urban areas had a pedestrian LOS of "C" or better in 2015.

Bicycle Level of Service (LOS) is a measure of the quality of service a roadway provides to bicyclists. Unlike automobile LOS which is largely affected by the number of motorized vehicles on the road, bicycle LOS is based on factors and conditions that are particularly important to bicyclists:

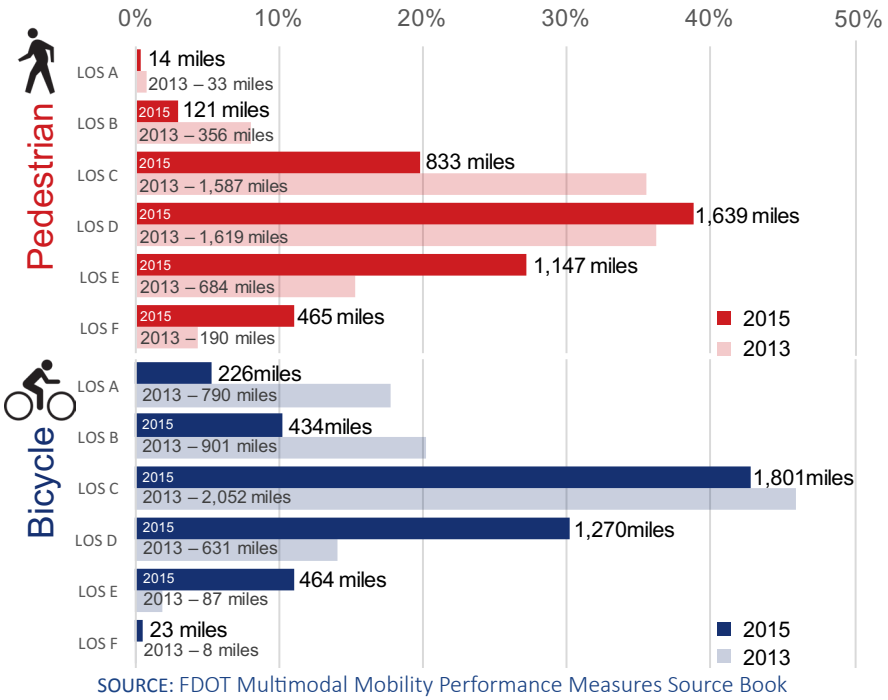
- Presence of bike lanes/shoulders and other outside travel lane considerations
- Motorized vehicle volume (less being better)
- Motorized vehicle speeds (lower being better)
- Heavy vehicle (truck) volume (less being better)
- Pavement conditions

Pedestrian LOS is a measure of the quality of service a roadway provides to pedestrians. Similar to bicycle LOS, pedestrian LOS is based on factors and conditions that are important to pedestrians:

- Existence of sidewalks
- Lateral separation of pedestrians from motorized vehicles
- Motorized vehicle volume (less being better)
- Motorized vehicle speeds (lower being better)

Figure 12 highlights that 58 percent of SHS roads in urban areas[2] had a bicycle LOS of "C" or better in 2015, while only 23 percent of SHS roads in urban areas had a pedestrian LOS of "C" or better.

Figure 12: Bicycle and Pedestrian LOS
on the State Highway System (SHS) in Urban Areas



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

[2] This includes all urban areas in Florida.

Vehicle Hours of Delay

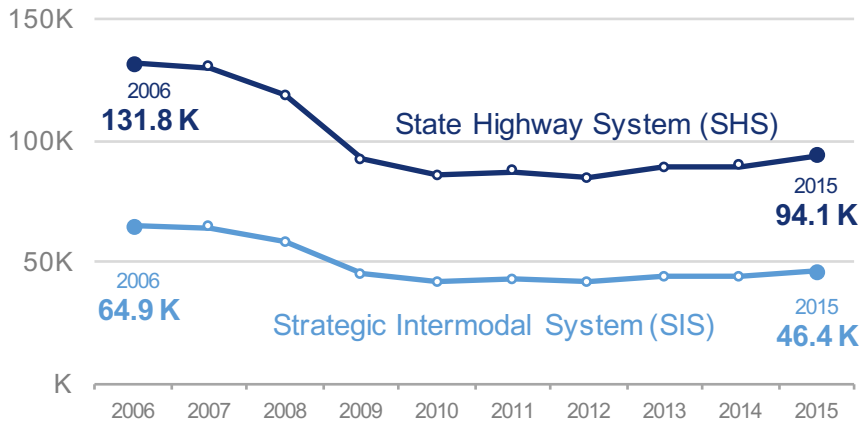
SUPPORTING MEASURE

Vehicle hours of delay on the SHS and the SIS has generally been declining over the past decade. A reduction in delay translates into savings for companies and individuals.

As shown in **Figure 13a**, vehicle hours of delay statewide on the SHS and the SIS have generally been declining over the past decade. Delay is important because ultimately it equates to cost in time and money for individuals and businesses.

Delay, however, should not be considered in isolation from other factors. Note, for example, the steep drop in delay between 2007 and 2010. This demonstrates that while delay reduction is desirable from a transportation perspective, that reduction is undesirable if it is due to an economic downturn (which likely explains much of the drop during that period).

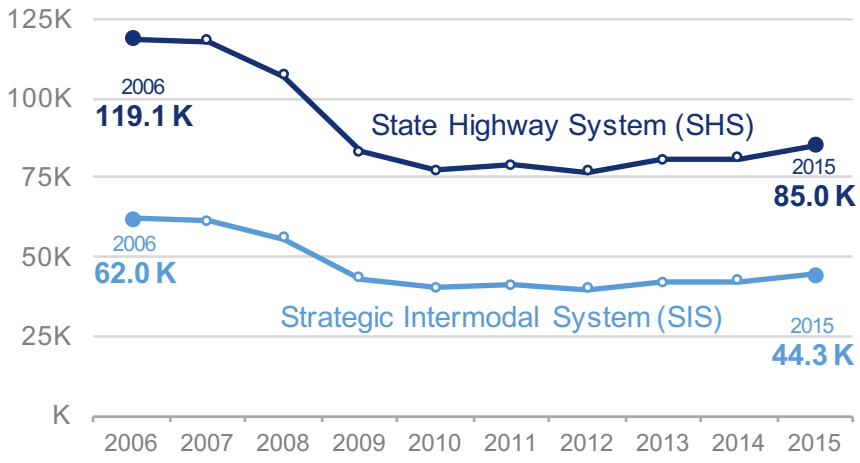
Figure 13a: Vehicle Hours of Delay During Daily Peak Period — Statewide



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Since 2010, vehicle hours of delay in the seven most populous urban metropolitan areas has steadily but slowly increased (see **Figure 13b**). The hours of delay, however, are still well below the levels of the early 2000's. As such, Florida's transportation system appears to be accommodating economic development with capacity to support further economic growth.

Figure 13b: Vehicle Hours of Delay During Daily Peak Period — 7 Most Populous MPOs



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

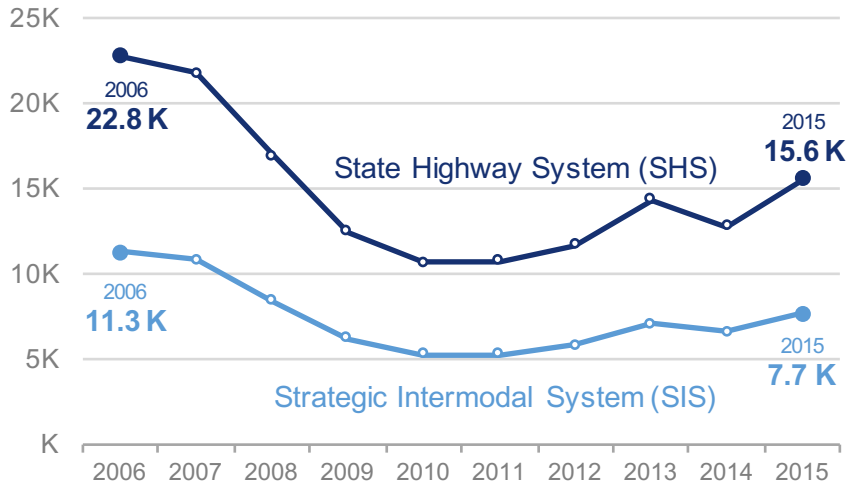
Combination Truck Hours of Delay

SUPPORTING MEASURE

Truck hours of delay has generally been trending upward since 2011, but declined between 2006 and 2010.

Truck hours of delay has generally been trending upward since 2011. This is notable with respect to efficient goods movement where time does translate into money—additional cost to shippers, carriers, and consumers, or cost savings for each (see **Figure 14a**). Truck hours of delay on the SIS mirrored the SHS trends over the past decade but at a lesser rate.

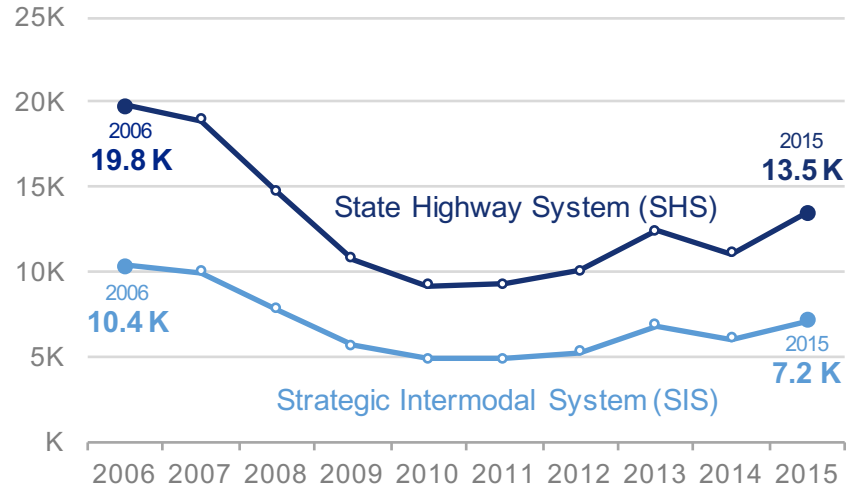
Figure 14a: Daily Combination Truck Hours of Delay — Statewide



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Truck hours of delay within the seven most populous urban metropolitan areas declined 53.5 percent on the SHS and 52.9 percent on the SIS between 2006 and 2010 (see **Figure 14b**). Since 2010 truck delay has been increasing, but still not to pre-recession levels.

Figure 14b: Daily Combination Truck Hours of Delay — 7 Most Populous MPOs



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Travel Time Reliability

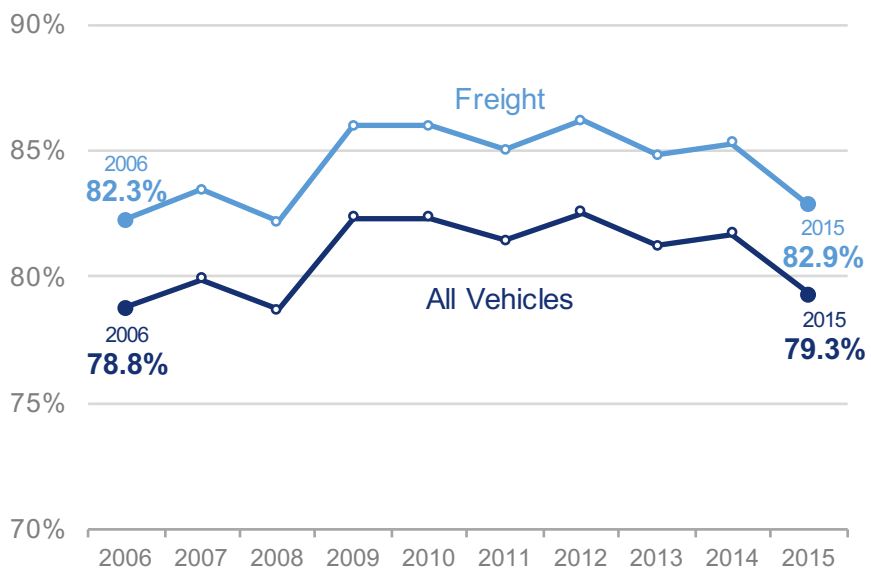
SUPPORTING MEASURE

Travel time reliability is the percentage of travel occurring near the posted speed limit on freeways during the peak period (greater than or equal to 5 mph below the posted speed limit statewide and at least 45 mph within the seven most populous MPOs). As shown in **Figure 15a**, statewide travel time reliability on freeways during the peak period of travel improved from 78.8 to 82.3 percent between 2006 and 2009 for all vehicles and from 82.3 to 86.0 percent for freight. From 2009 through 2012 travel time reliability was generally flat. From 2012 through 2015 travel time reliability has been trending downward (i.e., deteriorating). Overall, travel time reliability in 2015 is close to its 2006 level.

This measure is particularly important, translating to time and cost savings for shippers and carriers who rely on the timely movement of finished goods and raw materials/commodities as trucks move approximately 83 percent of all Florida manufactured tonnage.

Travel time reliability in 2015 for all vehicles and freight is close to 2006 levels.

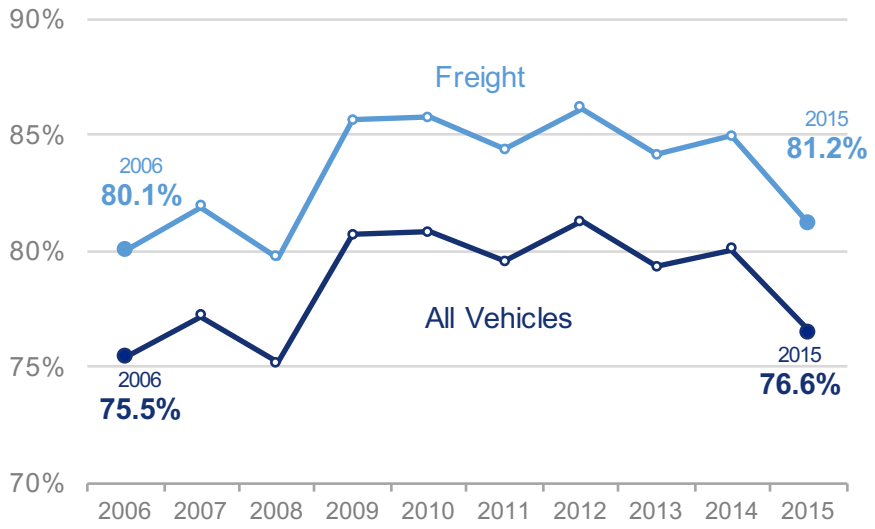
Figure 15a: Travel Time Reliability on Freeways During Daily Peak Period — Statewide



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Travel time reliability within the seven most populous urban metropolitan areas improved from 75.5 to 80.7 percent between 2006 and 2009 for all vehicles and from 80.1 to 85.6 percent for trucks—see **Figure 15b**. From 2009 through 2012 travel time reliability was generally flat, albeit with a dip in 2011. From 2012 through 2015 travel time reliability has been trending downward, coinciding with more travel in an expanding economy.

Figure 15b: Travel Time Reliability on Freeways During Daily Peak Period — 7 Most Populous MPOs



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Rail Departure Reliability

SUPPORTING MEASURE

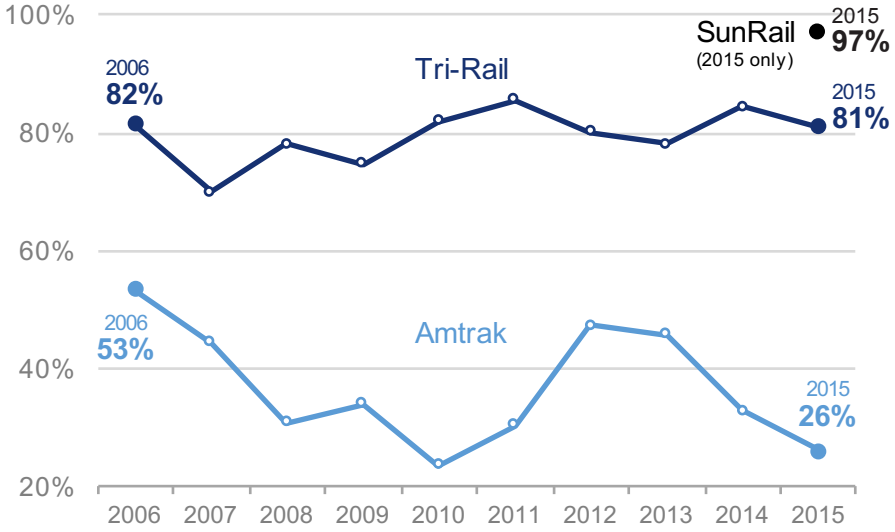
The SunRail system had an on-time performance of 97 percent in 2015.

Rail departure reliability captures the on-time performance of Tri-Rail, SunRail and Amtrak (SunRail data was only available for 2015 and Metrorail data was not available at all). **Figure 16** shows that on-time departure performance for Tri-Rail fluctuated slightly over the years, but is relatively similar to its 2006 performance level. The greatest change in performance occurred for Amtrak service, where on-time performance dropped significantly between 2006 and 2010. Performance rebounded through 2012, but dropped again to a low of 26 percent in 2015. A bright spot for on-time performance is the SunRail system in central Florida, which had an on-time performance of 97 percent in 2015.

On-time performance is defined as a train departing the station within an acceptable margin of the published schedule. The public expects reliable departure times, and the extent to which they will make this mode choice relies considerably on this measure.

On-time departure performance for passenger rail service has remained at about the same levels over the past decade despite annual fluctuations.

Figure 16: Annual On-Time Rail Departures



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Airport Departure Reliability

SUPPORTING MEASURE

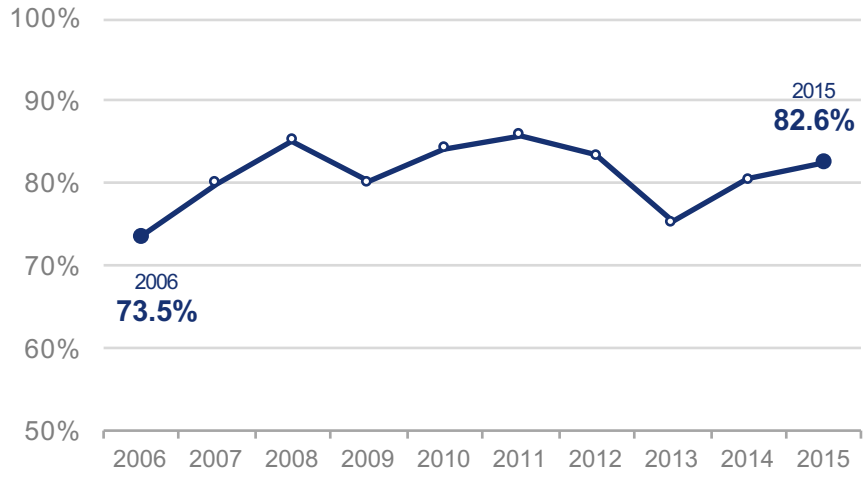
Departure reliability at Florida's commercial airports is defined as "on time" if a flight departs less than 15 minutes after the scheduled time in the airlines' Computerized Reservations Systems. As shown in **Figure 17**, this measure generally has been improving, although there has been considerable fluctuation over the past ten years.

By 2015 on-time departures increased to 82.6 percent. Continued federal and state investment in expanding and modernizing airport infrastructure and technology (e.g., air traffic control modernization) should support improvement in airport departure reliability.

Aviation is critical to Florida's economy. On-time aviation performance is important to the business community, residents and millions of visitors.

Airport on-time departures vary from year to year, but has generally improved since 2006 with marked improvement since 2013.

Figure 17: Annual On-Time Airport Departures



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

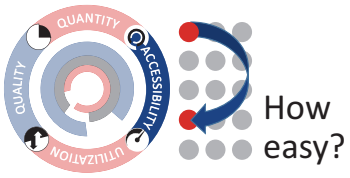
KEY STRATEGIES TO IMPROVE TRAVEL QUALITY

FDOT will help ensure continued progress to improve travel quality through strategies such as those listed below.

- Reduce delays associated with bottlenecks, crashes, work zones, special events, and other incidents through improved management of existing infrastructure; "Quick fix" improvements; and Strategic investments in additional system capacity.
- Use emerging technologies to reduce delay and improve reliability and customer service such as:
  - Intelligent transportation systems;
  - Automated, connected, or shared vehicles;
  - Origin to destination trip planning for all users; and
  - A universal, user friendly payment system that works across transportation modes and jurisdictional boundaries.
- Increase the efficiency of the supply chain and distribution network to, from, and through Florida, including:
  - Improving the balance of inbound and outbound freight flows by manufacturing more goods in Florida;
  - Expanding intermodal logistics centers and other freight terminals;
  - Enhancing real-time route planning, asset tracking, and load matching;
  - Facilitating off peak freight movement; and
  - Expanding use of new technologies such as automated and connected truck technologies and unmanned aerial vehicles.
- Implement FDOT's Freight Mobility and Trade Plan.
- Add capacity to existing SIS facilities to support growth and relieve congestion, consider new SIS facilities when needed to fill major gaps in connectivity, and/or increase efficiency through innovation and technology.
- Continue Transportation System Management and Operations (TSM&O) initiatives to ensure that operations improvements are implemented in all FDOT processes.
- Continue implementing FDOT's Complete Streets Policy to improve access and mobility for all road users, including transit riders, pedestrians, and bicyclists.

ACCESSIBILITY

CORE MEASURE



FDOT has identified a series of core measures and supporting measures related to transportation system mobility. Accessibility, as a core measure reflects the ease of engaging in activities from a transportation standpoint. The supporting measures for accessibility are:

- Commute Times Greater than 30 Minutes
- Average Weekday Hours of Transit Service
- Bicycle and Pedestrian Facilities
- Aviation, Rail, and Seaport Highway Adequacy

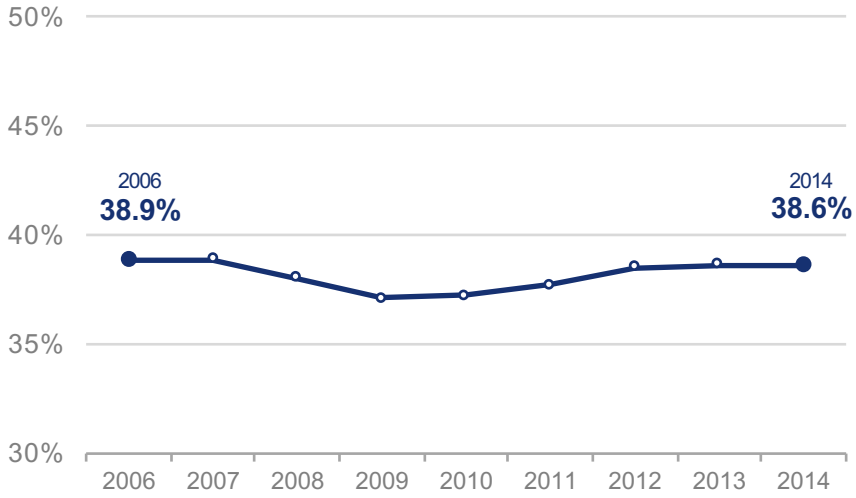
Commute Times Greater Than 30 Minutes

SUPPORTING MEASURE

The percentage of people with commute times greater than 30 minutes improved between 2006 and 2009, but slowly began to worsen thereafter. Commute times began rising in 2010.

Figure 18 shows that worker commute times have changed little over the past ten years. The percentage of people with commute times greater than 30 minutes decreased (i.e., improved) from 38.9 percent in 2006 to 37.1 percent in 2009 and increased (i.e., worsened) up to 38.6 percent in 2014. The decentralization of jobs and housing has led to increased travel commute times. As a result, when choosing a location, families and businesses must balance location against travel times to jobs, schools, shopping and recreational activities.

Figure 18: Daily Commute Times Greater Than 30 Minutes



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

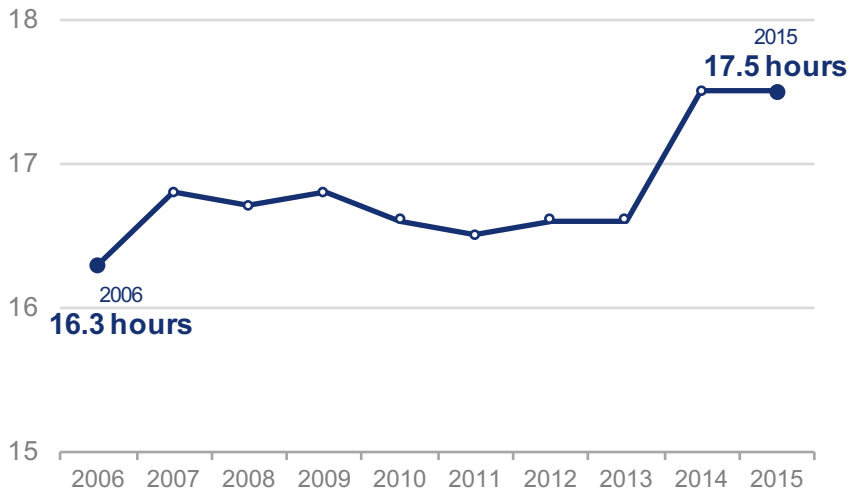
Average Weekday Hours of Transit Service

SUPPORTING MEASURE

Between 2006 and 2015 transit service availability increased by 7.4 percent, benefiting transit users and communities.

Figure 19 shows service availability, measured by the average number of weekday hours that transit service on Florida's 31 fixed-route transit systems is available to the public. It has increased over the past ten years. The average number of weekday service hours increased 7.4 percent between 2006 and 2015, benefiting transit users and communities. Access to transit service is essential to attracting and retaining passengers. Transit is only an attractive option if it is readily available to passengers. Service availability reflects the ease with which transit passengers can use the system.

Figure 19: Average Weekday Hours of Transit Service



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Bicycle and Pedestrian Facilities

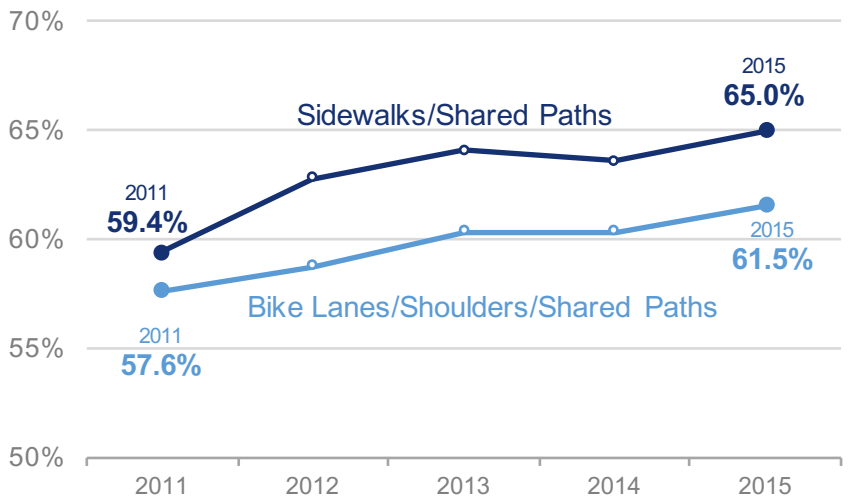
SUPPORTING MEASURE

The bicycle and pedestrian facilities measures demonstrate FDOT's commitment to non-motorized modes of transportation, including the role they play in providing access to transit and improving livability and public health. **Figure 20** highlights the percentage of the SHS in urban areas[3] with sidewalks, bike lanes, shoulders, or shared pathways on at least one side of the road[4] .

- In 2011 FDOT began measuring the percent of sidewalk, bicycle lane, and shared pathway coverage on SHS facilities in urban areas.
- Between 2011 and 2015 sidewalks facilities increased from 59.4 percent to 65.0 percent on SHS roads in urban areas.
- Over the same period the percentage of bike lane, shoulders, and shared path coverage increased from 57.6 percent to 61.5 percent.

Between 2011 and 2015, SHS sidewalk facility coverage increased from 59.4 to 65.0 percent, while SHS bicycle facility coverage increased from 57.6 to 61.5 percent on the SHS in urban areas. This is substantial and steady progress over a relatively short period of time.

Figure 20: Annual Bicycle and Pedestrian Facility Coverage on the State Highway System in Urban Areas



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

[3] This includes all urban areas in Florida.

[4] Shared pathways are included in both bicycle and pedestrian facility calculations.

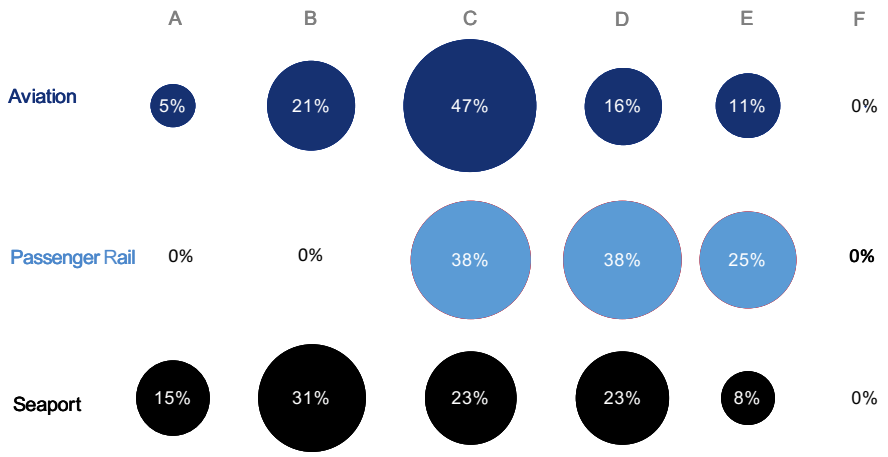
Aviation, Rail, and Seaport Highway Adequacy

SUPPORTING MEASURE

The majority of SIS intermodal connectors are performing at an acceptable level of service.

Intermodal connectivity is important to moving people and goods. This measure addresses the adequacy of highways that provide connections to SIS hubs including airports, rail terminals, and seaports for both passengers and freight. As shown in **Figure 21**, the majority of SIS intermodal connectors are performing at an acceptable level of service. **Figure 21** highlights that 73 percent of aviation roadway connections had a LOS of "C", 38 percent of passenger rail roadway connections had a LOS of "C" or better, while 69 percent of seaport roadway connections had a LOS of "C" or better.

Figure 21: Aviation/Passenger Rail/Seaport Highway LOS Adequacy



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

KEY STRATEGIES TO IMPROVE ACCESSIBILITY

FDOT will help ensure that continued progress is made to improve its core measure of accessibility through these actions:

- Improve last-mile connectivity to Florida's major airports, seaports, spaceports, and other freight and passenger terminals from other modes.
- Develop multimodal corridor plans that coordinate and leverage investments in the SIS, regional, and local transportation facilities.
- Plan and develop Florida's infrastructure to better accommodate customers with limited mobility.
- Increase the number of high-quality options for walking and bicycling, including buffered bike lanes, mixed use paths and off-road trails, and sidewalks and Americans with Disabilities Act (ADA)-compliant waiting areas for transit riders.
- Plan and develop transit, bicycle paths, and trails to deliver people within walking distance of trip destinations.
- Improve the efficiency and convenience of connections among local transit systems, between local and regional transit systems, and between transit and other modes.
- Expand interregional travel options for residents, visitors, and freight, including improved intrastate air, rail, transit, and water transportation services.
- Maximize the use of existing SIS facilities, including improving the efficiency of these facilities through the use of technology and operational improvements.
- Identify freight bottlenecks and connection gaps through FDOT's ongoing freight planning and outreach to freight stakeholders.

UTILIZATION

CORE MEASURE

How much is used?

FDOT has identified a set of core measures and supporting measures related to transportation system mobility. Utilization, as a core measure, describes how much of the transportation system is used and conversely what capacity or availability remains. This relates to user perceptions of the degree to which transportation facilities or services are congested. The supporting measures for utilization are:

- Transit Trips per Revenue Mile
- Miles Heavily Congested
- Travel Heavily Congested

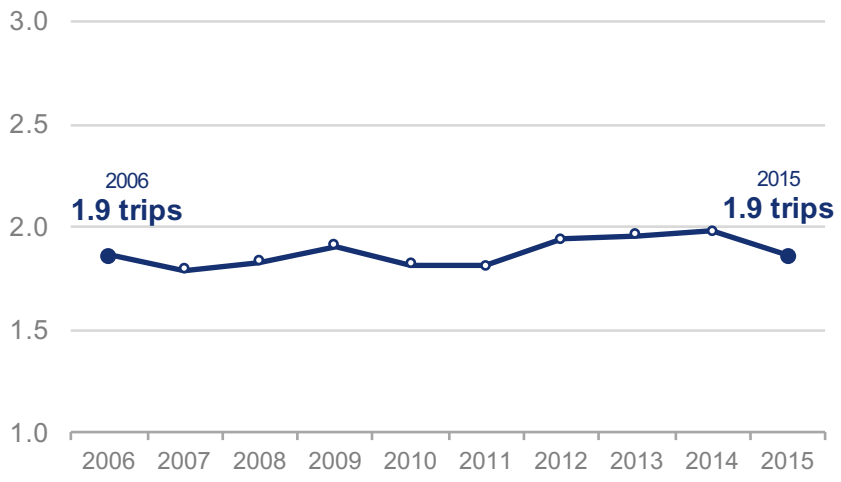
Transit Trips Per Revenue Mile

SUPPORTING MEASURE

The average number of transit trips per revenue mile have remained stable over the past ten years.

Figure 22 shows that the average number of transit trips per revenue mile have remained level over the past ten years at approximately 1.9 trips per mile. It is better to have more trips per revenue mile. This measure reflects the importance of productivity and efficiency for transit providers.

Figure 22: Annual Transit Trips Per Revenue Mile



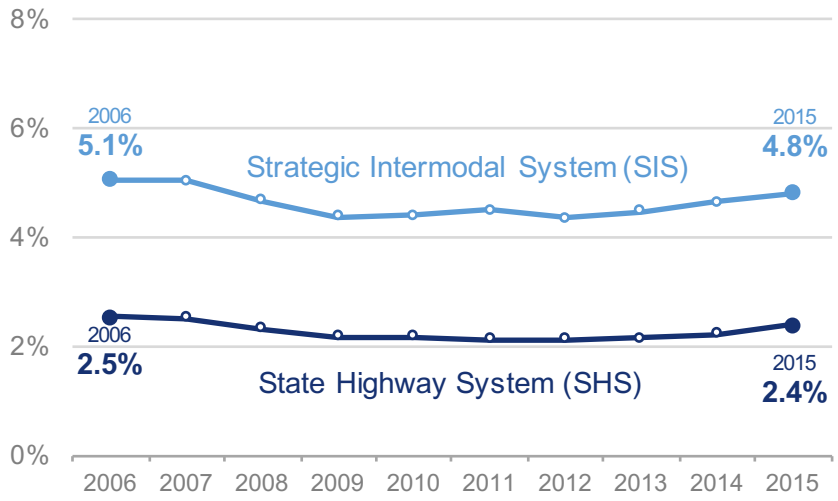
Miles Heavily Congested

SUPPORTING MEASURE

Florida's roadway mileage that is heavily congested on both the SHS and SIS during the peak travel period has improved over the past decade.

Florida has had a relatively stable percentage of roadway miles that are heavily congested[5] during the peak travel period on the SHS and on the SIS as shown in **Figure 23a**. In 2015 4.8 percent of SIS miles were heavily congested during the peak travel period. By comparison, 2.4 percent of SHS miles were heavily congested in 2015.

Figure 23a: Miles of Heavily Congested Roads During Daily Peak Period — Statewide

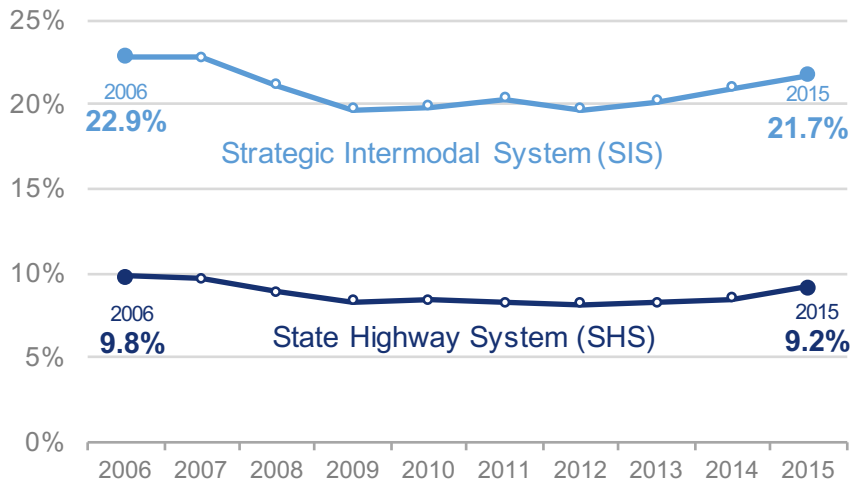


SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

[5] Heavy congestion is travel on roadways operating at a level-of-service (LOS) F.

For the seven most populous urban metropolitan areas the miles of heavily congested roadways are much higher than statewide. **Figure 23b** shows that in 2015 21.7 percent of SIS miles were heavily congested during the peak travel period—nearly 17 percent higher than statewide levels. By comparison, 9.2 percent of SHS miles were heavily congested in 2015—nearly 7 percent higher than statewide levels. Another way to look at the data is that in 2015 travelers were 4.5 times more likely to encounter heavy congestion in the seven most populated MPOs on the SIS and 3.8 times more likely on the SHS.

Figure 23b: Miles of Heavily Congested Roads During Daily Peak Period —7 Most Populous MPOs



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Managed Lanes and Express Lanes

Managed Lanes and Express Lanes consist of lanes that are managed by controlling access to adjust to actual travel demand. Express lanes improve travel time reliability for the traveling public in both toll and general use lanes.

The 95 Express lanes project in Broward and Miami-Dade counties combines tolling, transit, travel-demand management and technology to increase the people-moving capability of I-95. Combined with Bus-Rapid Transit (BRT) service, the 95 Express lanes project is reducing the number of cars during peak periods, while improving travel reliability.

Travel Heavily Congested

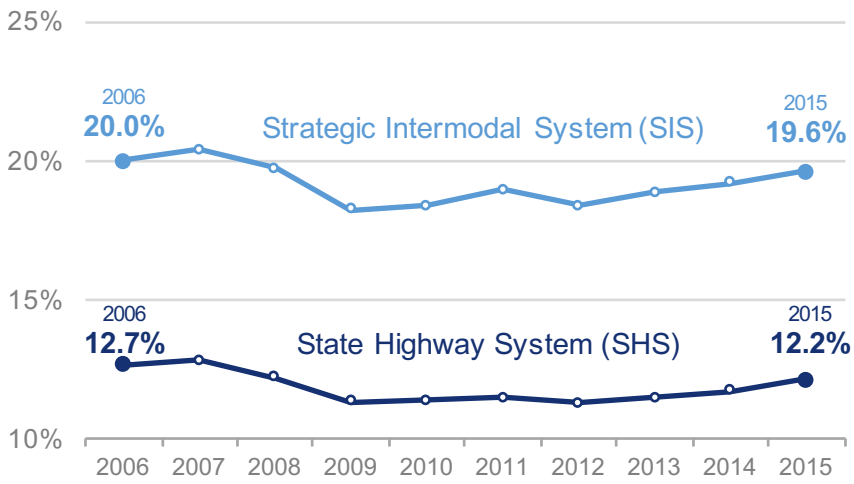
SUPPORTING MEASURE

Heavy congestion on Florida's SHS and SIS roadways during the peak travel period has increased slightly since 2010.

Congestion increased slightly from 2010 through 2015 (see **Figure 24a**). Whereas, the measure of miles heavily congested is based on roadway mileage, travel heavily congested is based on vehicle miles of travel (VMT).

- In 2015, 12.2 percent of the SHS was heavily congested during the peak period.
- By comparison, in 2015, 19.6 percent of SIS highway corridors were heavily congested.

Figure 24a: Travel on Heavily Congested Roads During Daily Peak Period — Statewide



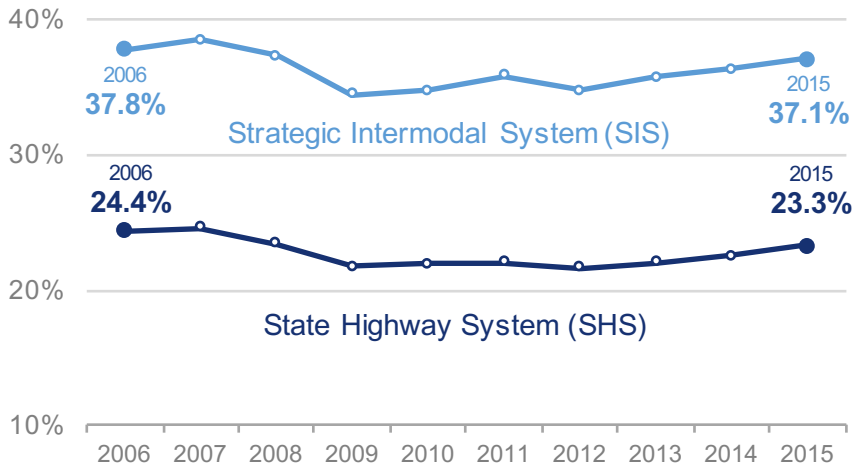
SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Similar to overall statewide travel congestion, heavy congestion in the most urbanized areas of Florida worsened slightly from 2010 through 2015 (see **Figure 24b**).

- In 2015, 23.3 percent of the SHS was heavily congested during the peak period.
- By comparison, in 2015, 37.1 percent of SIS highway corridors were heavily congested.

Figures 24a and 24b highlight that congestion is experienced more extensively in Florida's urban areas.

Figure 24b: Travel on Heavily Congested Roads During Daily Peak Period — 7 Most Populous MPOs



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

KEY STRATEGIES TO IMPROVE UTILIZATION

FDOT will help ensure that continued progress is made to improve its core measure of utilization through these actions:

- Accommodate options to support shorter distance trips, such as circulators and on-demand transit that reflect regional and community visions.
- Accommodate mobility options to support telework, telepresence, distance learning, distance medicine, and similar communication options as a substitute for travel.
- Improve public transportation services within rural areas and between rural and urban areas.
- Implement managed lanes to manage congestion.
- Continue to advance intelligent transportation systems (ITS) and access management investments that improve system performance.
- Focus on new and emerging technologies that have potential for improving transportation operating efficiency.
- Promote and/or support efforts of MPOs and others that encourage ride sharing, expanded transit use, flexible work times, and telecommuting.

Figure 25: Multimodal Mobility Performance Measures Matrix

Mode		QUANTITY	QUALITY	ACCESSIBILITY	UTILIZATION
PEOPLE	Auto/ Truck	Vehicle Miles Traveled	% Travel Meeting LOS Criteria	Time Spent Commuting	% Travel Heavily Congested
			% Miles Meeting LOS Criteria		
			Travel Time Reliability		
			Travel Time Variability		
			Vehicle Hours of Delay		
			Person Hours of Delay		
		Person Miles Traveled	Average Travel Speed	Number of Jobs Accessible by Auto	Hours Heavily Congested
			Vehicle Fatalities and Serious Injuries		
			Vehicle Crash Rates		
	Transit	Revenue Miles	Revenue Miles between Failures	Weekday Span of Service	Passenger Trips Per Revenue Mile
		Passenger Trips		Population within ½ mile of Fixed-Route Service	
				Number of Jobs Accessible by Transit	
	Pedestrian		Level of Service (LOS)	% Sidewalk Coverage	
			Pedestrian Fatalities and Serious Injuries		
	Bicycle		Level of Service (LOS)	% Bike Lane/Shoulder Coverage	
			Bicyclist Fatalities and Serious Injuries		
	Aviation	Passengers	Departure Reliability		Demand to Capacity Ratios
	Rail	Passengers	Departure Reliability		
	Seaports	Passengers			
PEOPLE & FREIGHT	Auto/ Truck				% Miles Heavily Congested
					Vehicles Per Lane Mile
	Aviation			Highway Adequacy (LOS)	
	Rail			Highway Adequacy (LOS)	
	Seaports			Highway Adequacy (LOS)	
FREIGHT	Truck	Combination Truck Miles Traveled	Travel Time Reliability		Combination Truck Backhaul Tonnage
		Truck Miles Traveled	Travel Time Variability		
		Combination Truck Tonnage	Combination Truck Hours of Delay		
		Combination Truck Ton Miles Traveled	Combination Truck Average Travel Speed		
		Value of Freight	Combination Truck Cost of Delay		
	Aviation	Tonnage			
		Value of Freight			
	Rail	Tonnage		Active Rail Access	
		Value of Freight			
	Seaports	Tonnage		Active Rail Access	
		Twenty-foot Equivalent Units			
		Value of Freight			

SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Multimodal Mobility Performance Measures

The Multimodal Mobility Performance Measures (MMPM) Program measures and reports on transportation system performance to enable a better understanding of how to improve mobility. The 2016 Florida Multimodal Mobility Performance Measures Source Book is a compendium of current and historical data and analysis describing the performance of Florida's transportation system. It is intended to be the primary source of mobility performance measure results for the State of Florida.

More information can be found at floridampms.com.

Partner Connections

Partner Connections highlights FDOT's recent collaborations with various partner and stakeholder organizations to consider ways to improve our transportation system performance together.

> "There has been a trend toward driving less, walking and cycling more, and taking public transportation. Not because people have to — but because they want to."
>
> Thomas Deardorff
> Polk Transportation Planning Organization

> "Florida's aviation facilities are a gateway to the world for business, students, and myriad other purposes."
>
> Michael Stewart
> Jacksonville Airport Authority

Strategic Mobility Partners

- Enterprise Florida
- Florida Airports Council
- Florida Defense Alliance
- Florida Ports Council
- Florida Public Transportation Association
- Florida Railroad Association
- Florida Transportation Commission
- Florida Trucking Association
- Metropolitan Planning Organization Advisory Council
- Space Florida
- Transportation and Expressway Authority Membership of Florida

Innovation

PERFORMANCE SUMMIT 2016 FOR TRANSPORTATION PARTNERS

Mobility

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Use emerging technologies to reduce delay and improve reliability and customer service, such as:
  - » Intelligent transportation systems
  - » Automated, connected, or shared vehicles
  - » Origin to destination trip planning for all customers
  - » A universal, customer friendly payment system that works across transportation modes and jurisdictional boundaries
- Seamless connectivity of infrastructure and information across different modes of transportation
- Use emerging technologies to provide multimodal and alternative route choices
- Adapt infrastructure design and performance standards to emphasize person and freight mobility rather than vehicle throughput
- More efficient supply chain for movement of goods that includes real-time load matching

Collaboration

Potential Measures

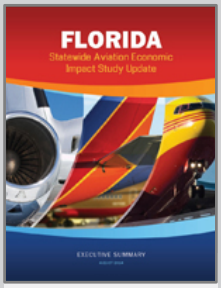
These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Provide quality transportation choices to meet mobility expectations from a more diverse population of residents and visitors
- Share both statewide and local performance data to support new private sector business models
- Establish a framework for data sharing; for agencies and to share and compare performance, utilizing social media as a platform for performance information
- Engage in conversations that assess performance by balancing speed, mobility, and safety
- Plan and develop investments in terminal and corridor capacity that are consistent with regional and local visions that provide economic benefits
- Develop multimodal corridor plans that coordinate and leverage investments in the SIS, regional, and local transportation facilities
- Visualize data using maps to better understand the challenges, problems, and opportunities before us
- Use technology to measure the impact of bicycle and pedestrian programs
- Measure changes in customer satisfaction and usage of bike/ped networks
- ITS coverage of system
- Estimated use of automated vehicle technology
- Modal performance comparisons
- Average Transit Load Factors
- Transit Access
- Extent of telecommuting over time
- Benefits of complete streets and the importance of context sensitive implementation

Partner Connection Reports

FTP Vision Element containing trends, uncertainties, and themes that will shape the future of transportation in Florida (50 years).

The *Strategic Intermodal System Policy Plan* helps guide decisions about future SIS investments and how priorities are established given limited funding.



The *Statewide Aviation Economic Impact Study* provides the economic impact associated with aviation facilities.

The Florida *Seaport System Plan* presents a vision that Florida is a Global Gateway.

The *Freight Mobility and Trade Plan* is designed to improve the efficiency of freight movement in domestic and global markets.

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Florida Department of Transportation 2016 Performance Report

Economy

Economic Competitiveness and Growth

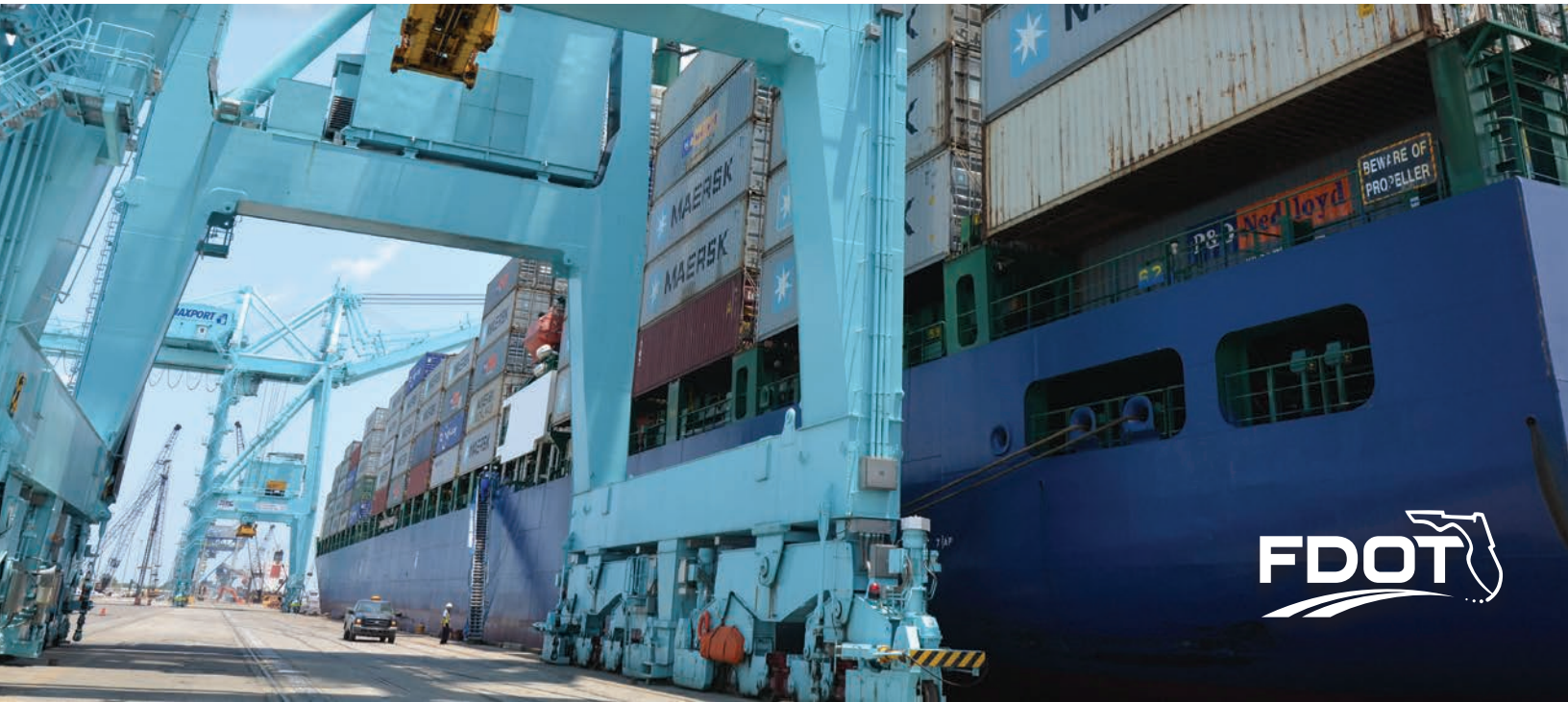


TABLE OF CONTENTS

ECONOMY

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

INTRODUCTION

Because transportation is key in supporting economic competitiveness, the Florida Department of Transportation (FDOT) strives to meet the dynamic mobility and access needs of businesses, residents, and visitors. Investments in Florida's transportation assets are investments in the backbone of the state's economy. As travel demand increases and changes, Florida continues to improve the management and operation of our multimodal transportation system.

Investments in Florida's transportation assets are investments in the backbone of the state's economy.

Vibrant economies, like Florida's, rely on responsive transportation systems that satisfy user needs. Our road and bridge network is key to moving people and goods every day. Public transportation provides essential mobility for many, and is a transportation choice that strengthens communities. Our aviation facilities are a part of an economy that functions in real time to rapidly move both people and goods—domestically and across the globe. And our seaports and spaceports are a strategic cornerstone to Florida's place in a global economy. Freight movement—all modes—has become an increasingly important component of a fiercely competitive logistics driven economy. Providing facilities for walking and bicycling also bolsters community mobility, vibrancy, and public health—strengthening local economies.

Diversity is another strength of Florida's transportation system. The Strategic Intermodal System (SIS) provides connectivity across modes and facilitates efficient long distance travel for people and goods. Conversely, non-SIS transportation facilities serve many vital transportation functions while meshing with community mobility needs.

FDOT's core measures of economic competitiveness include the return on investment (ROI) of transportation improvements and the percentage of construction projects completed on-time and on-budget.

2016 PERFORMANCE HIGHLIGHTS

Supporting Florida's economic competitiveness is an FDOT priority. Key performance highlights include:

- The impact of FDOT's work program investments is a robust $4.40 in user and economic benefits for every dollar spent—in addition to direct construction employment, transportation improvements support thousands of long-term jobs.
- Florida's exports declined 8 percent over the prior year, while U.S. exports declined slightly less by 7.2 percent. Exporting relies heavily on our multimodal transportation system.
- Florida's trade declined 4 percent over the prior year, while U.S. trade declined by 5.7 percent. This impacts Florida's economy since trade helps to fuel growth, support jobs, and diversify the state's economy. Transportation underpins trade.
- Florida's total value of freight shipments increased over 11 percent from $929.9 billion in 2014 to more than $1 trillion in 2015.
- The number of annual visitors to Florida has steadily increased to nearly 110 million—a 35.6 percent increase over the past six years. Tourism relies heavily on a convenient and reliable transportation system. Economists estimate tourism accounts for 10% of Florida's GDP.
- Over 85 percent of FDOT's construction projects were completed on-time, minimizing any delay of the associated economic benefits.
- Ninety-two (92) percent of FDOT's construction projects were completed within budget, allowing more project investments to be made along with the associated economic benefits.

Florida Freight Mobility and Trade Plan

The Florida Freight Mobility and Trade Plan's goals are aimed at supporting economic growth and economic competitiveness. Strategies include:

- Collaboration of economic development and logistics programs
- Improving transportation operational efficiency
- Aligning public and private efforts
- Developing a balanced multimodal transportation planning and investment model
- Encouraging FDOT's consideration of the supply chain and freight movement issues

FLORIDA TRANSPORTATION PLAN

The Florida Transportation Plan (FTP) is Florida's long range transportation plan for meeting the dynamic mobility needs of residents, businesses, and visitors. FDOT's Economy Performance Report aligns with the FTP goal:

- *Transportation Solutions that Support Florida's Global Economic Competitiveness*

This report highlights the core and supporting performance measures related to this FTP goal, and other transportation plans and programs.

FTP Goal: *Transportation Solutions that Support Florida's Global Economic Competitiveness*

FTP Objectives

- *Provide transportation infrastructure and services to support job growth in transportation-dependent industries and clusters*
- *Increase transportation connectivity between Florida's economic centers and regions*
- *Increase transportation connectivity between Florida and global and national trading partners and visitor origin markets*
- *Increase the number of skilled workers in Florida's transportation-related industries*

Related Performance Report Measures

CORE MEASURE Return On Investment

CORE MEASURE Construction Projects Completed On-Time

CORE MEASURE Construction Projects Completed Within Budget

SUPPORTING MEASURES

- *Capacity Funds for the SIS*
- *Florida-Originating Exports*
- *Florida Share of US Trade*
- *Florida Value of Freight*
- *Florida Jobs by Transportation-Intensive Sectors*
- *Florida Visitors*

ECONOMY

FDOT has a set of core and supporting measures related to how Florida's transportation system contributes to the state's economic competitiveness. Economy, as a broad measure, encompasses several non-transportation measures that impact transportation and are impacted by transportation, such as Florida's share of U.S. trade. FDOT also uses several transportation specific measures that demonstrate its contribution to economic prosperity. FDOT and other transportation system operators primarily support economic competitiveness by providing access, mobility, and travel options. Below are the core measures and supporting measures related to Florida's economic competitiveness:

CORE MEASURES

- Return on Investment (ROI)
- Construction Projects Completed On-Time
- Construction Projects Completed Within Budget

SUPPORTING MEASURES

- Capacity Funds for the SIS
- Florida-Originating Exports
- Florida Share of U.S. Trade
- Florida Value of Freight
- Florida Jobs by Transportation-Intensive Sector
- Florida Visitors

The Eller Drive Overpass Project

The Eller Drive Overpass Project in Fort Lauderdale received an America's Transportation Award for projects that improve travel safety, reduce roadway congestion, and provide more travel options. This competition was sponsored by the American Association of State Highway and Transportation Officials (AASHTO), AAA Motor Club, and the U.S. Chamber of Commerce.

FDOT's $42.5 million investment improved traffic flow, safety and inter-modal connectivity. The new bridge provides a grade separation for rail freight at the main access roadway into Port Everglades, reducing traffic congestion. It also allows uninterrupted travel to and from the port's cruise and container terminals, and is an integral connector for cruise passenger traffic between Ft. Lauderdale/Hollywood International Airport and Port Everglades.

RETURN ON INVESTMENT

CORE MEASURE

FDOT analyzes Return On Investment (ROI) for its Transportation Work Program and for some individual projects. Transportation benefits are compared to project costs. Benefits are most often expressed in terms of cost and time savings for Florida's businesses, workers and consumers. The intent of ROI is to help identify projects with benefits well in excess of their costs.

For every $1 invested through FDOT's Work Program, an estimated $4.40 in economic benefits is generated **(Figure 1)**.

Every $1 invested through FDOT's Work Program generates approximately $4.40 in economic benefits.

Figure 1: Benefit-Cost Summary of FDOT Work Program
(in present value per dollar invested)

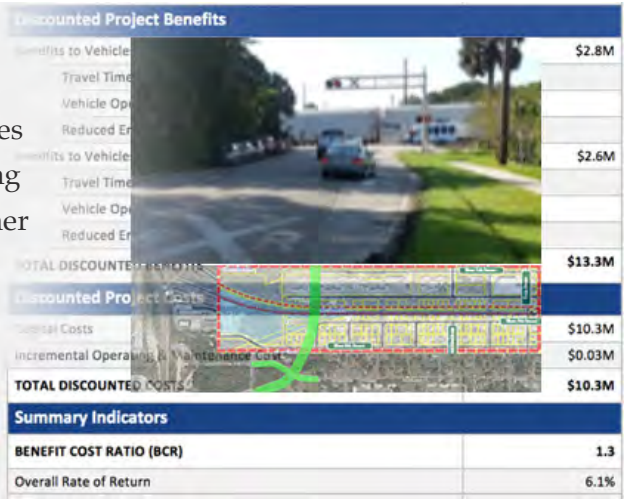
BENEFITS	
Personal Income Benefits	$76.00
Non-Business User Benefits	$65.70
Total Benefits	$141.70
COSTS	
Total Costs	$32.10
Benefit-Cost Ratio	**$4.40**

SOURCE: Florida Department of Transportation; Macroeconomic Analysis of Florida's Transportation Investments (January 2015)

Project Level Return on Investment (ROI) Analysis

A proposed project in Sanford, Florida to construct a multimodal bridge allowing faster and safer passage of vehicles over the rail lines used by Amtrak and CSX was analyzed using ROI. The analysis estimated a Benefit Cost Ratio of 1.3. In other words, the proposed project would generate benefits greater than the investment cost.

- The benefits were primarily associated with eliminating at-grade vehicle delays at the rail crossings.
- Other benefits include improved emergency response times and accident prevention.



Capacity Funds for the SIS

SUPPORTING MEASURE

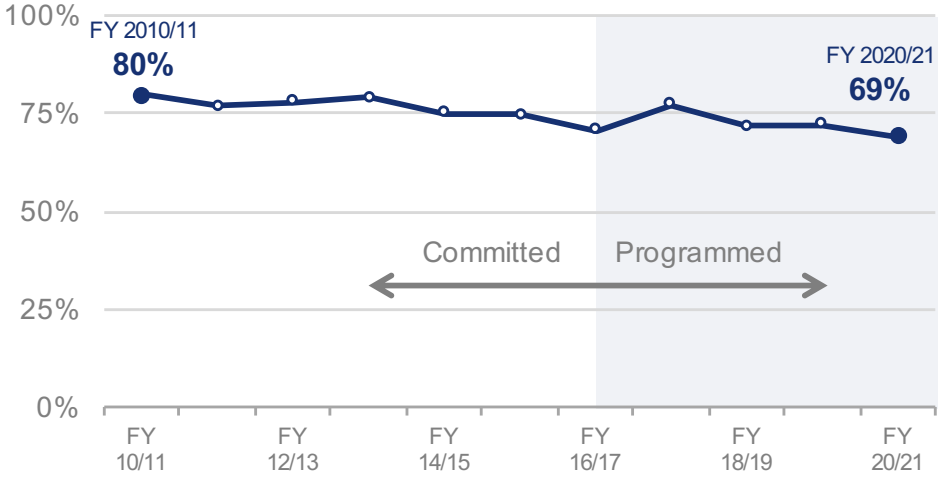
The Strategic Intermodal System (SIS) is Florida's primary network for ensuring a strong link between transportation and economic competitiveness. The SIS is a network of high priority transportation facilities, including the largest and most significant commercial service airports, spaceports, public seaports, freight rail terminals, interregional passenger rail and intercity bus terminals, rail corridors, urban-fixed guideway transit corridors, waterways, and highways.

SIS facilities carry more than 99 percent of Florida's commercial air passengers and cargo, virtually all of the state's waterborne freight and cruise passengers, all rail freight, and 89 percent of all interregional passengers. The SIS also carries more than 73 percent of Florida truck traffic and 56 percent of the traffic on the State Highway System. SIS improvements also leverage extensive private and local investment—indicative of the importance of these facilities to communities and business.

State law (Section 339.135, F.S.) directs FDOT to allocate at least 50 percent of new discretionary highway capacity funds to the SIS. FDOT has set a target to allocate up to 75 percent of new discretionary capacity funds to the SIS. Figure 2 shows FDOT's performance, consistently exceeding the statutory target of 50 percent.

Of the $15.1 billion of SIS capacity funding in FDOT's 2016/17 to 2020/21 Work Program, $14.1 billion has been programmed for highway improvements, $360.9 million for aviation and spaceports, $327.9 million for seaports, $283.3 million for rail, $8.6 million for multimodal projects, and $45.1 million for transit capacity projects.

Figure 2: Capacity Funds for the SIS (% of Total Capacity Funds)



SOURCE: Florida Department of Transportation, Office of Policy Planning

Florida-Originating Exports

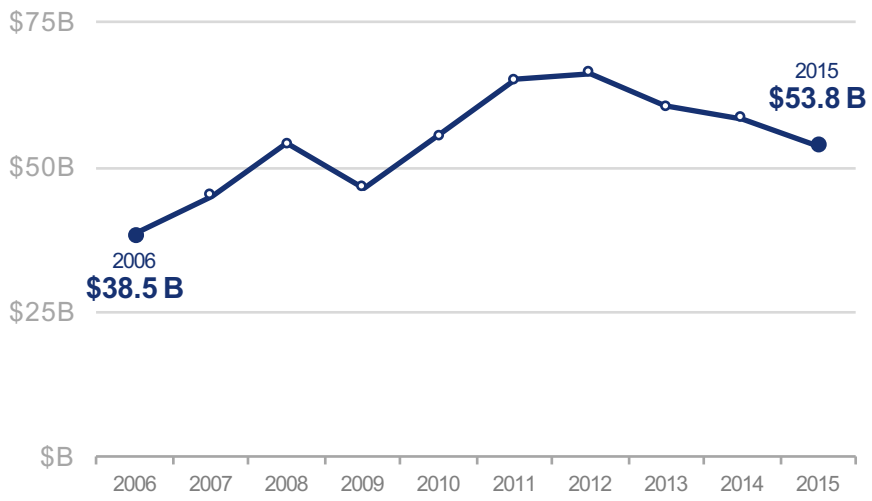
SUPPORTING MEASURE

Florida-originating exports measure the value of merchandise grown, mined, manufactured, assembled or otherwise had value added in Florida. Exporting and transportation are inextricably linked, which is why FDOT pays attention to this measure. **Figure 3** shows that Florida exports increased between 2006 and 2012 from $38.5 to $66.2 billion. However, exports began to decline thereafter, down to $53.8 billion in 2015. While Florida exports decreased 8 percent over the prior year, nationally exports declined 7.2 percent.

Even with these recent declines in exports, Florida's overall economic growth underscores the importance of the state's surface transportation system connecting goods with seaports, airports, rail terminals, and other hubs. Exports, interstate and intrastate shipments and the jobs associated with each, rely on a high quality, reliable transportation system.

Florida's exports declined 8 percent over the prior year, while U.S. exports declined slightly less by 7.2 percent.

Figure 3: Florida-Originating Exports (billions)



SOURCE: Florida International Business Highlights: Merchandise Trade, Florida-Origin Exports, Foreign Investments

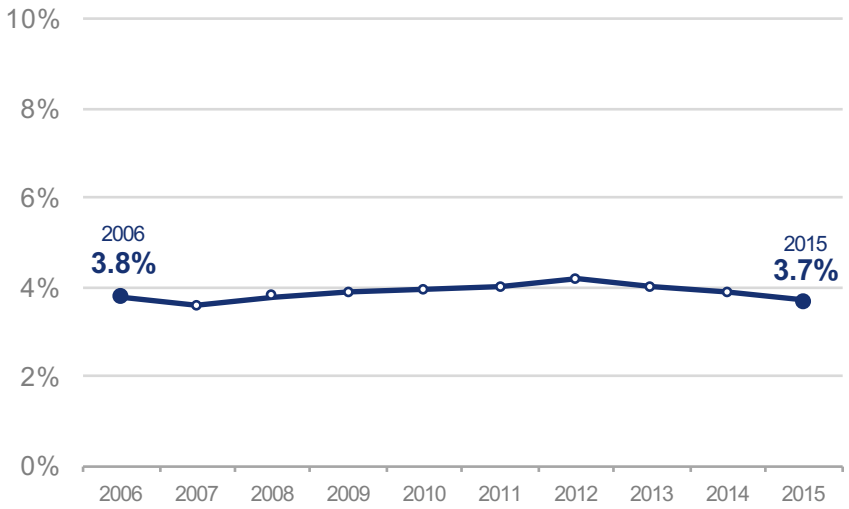
Florida Share of U.S. Trade

SUPPORTING MEASURE

Trade plays a fundamental role in Florida's economy by fueling growth, supporting jobs, and diversifying the economic infrastructure. **Figure 4** shows that Florida's overall share of U.S. trade grew every year between 2007 and 2012, but has returned to its 2008 level. Despite the three year decline, Florida has a notable share of U.S. trade, which is significant given the size of the U.S. economy. While Florida's trade declined 4 percent over the prior year, U.S. trade declined by 5.7 percent.

Florida's trade declined 4 percent over the prior year, while U.S. trade declined by 5.7 percent.

Figure 4: Florida Share of U.S. Trade



SOURCE: Florida International Business Highlights: Merchandise Trade, Florida-Origin Exports, Foreign Investments

Florida Trade and Logistics Study 2.0

The Florida Chamber is working with its partners to position Florida as a global hub to:

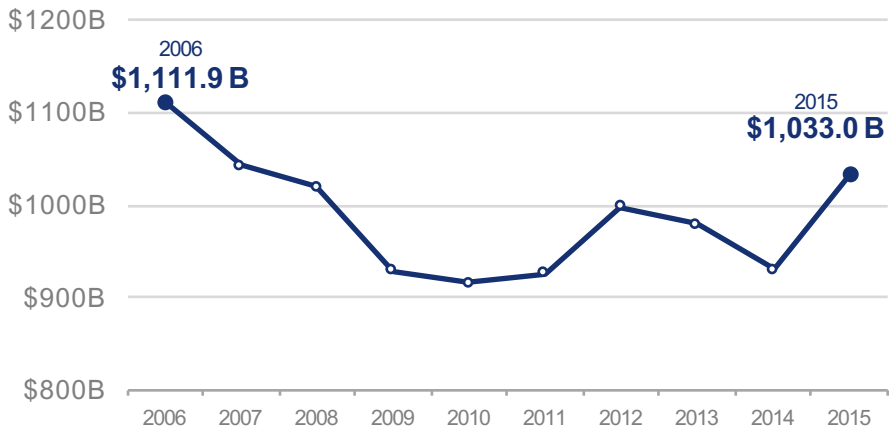
- Move more trade through Florida's sea and air gateways.
- Make, grow, and refine more products for export from Florida.
- Multiply the impacts of global trade, by providing value-added services to trading businesses in Florida and trading partners around the world, and by expanding Florida's role as a global hub for visitors, investment, and talent.

Florida Value of Freight

SUPPORTING MEASURE

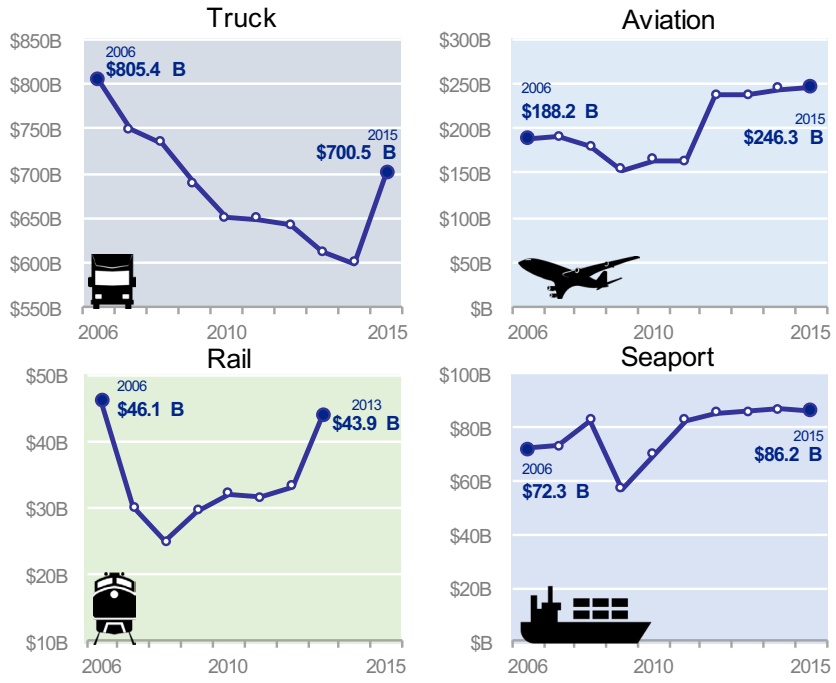
Figure 5a shows the enormous economic value of Florida freight, which is why goods movement is a strategic FDOT priority. Figure 5b breaks the freight economic value out by mode with most of the economic value associated with truck movement over Florida's highways. The increase in the value of goods that flow through seaports and airports over the period is notable and affirms Florida's investments in these international gateways.

Figure 5a: Florida Value of Freight (billions)



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

Figure 5b: Florida Value of Freight by Mode (billions)



SOURCE: FDOT Multimodal Mobility Performance Measures Source Book

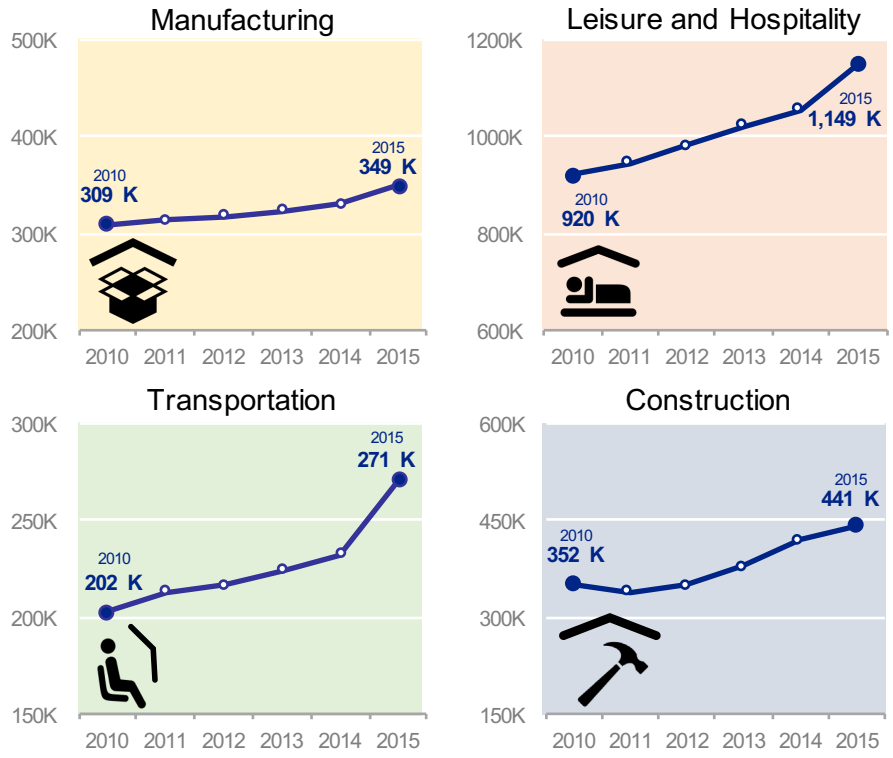
Florida Jobs by Transportation-Intensive Sectors

SUPPORTING MEASURE

Figure 6 shows job growth in four sectors that rely heavily on access and mobility to support Florida's long-term population and economic growth.

All four sectors are experiencing healthy growth and provide jobs for many Floridians. Florida's steady growth in manufacturing employment is both notable and encouraging. Construction has also seen a substantial jobs increase (25 percent) since 2010. The growth in transportation employment is particularly noteworthy and is a key focus area of the Florida Transportation Plan.

Figure 6: Florida Jobs by Transportation-Intensive Sector (thousands)



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics Program. PREPARED BY: Florida Department of Economic Opportunity, Bureau of Labor Market Statistics.

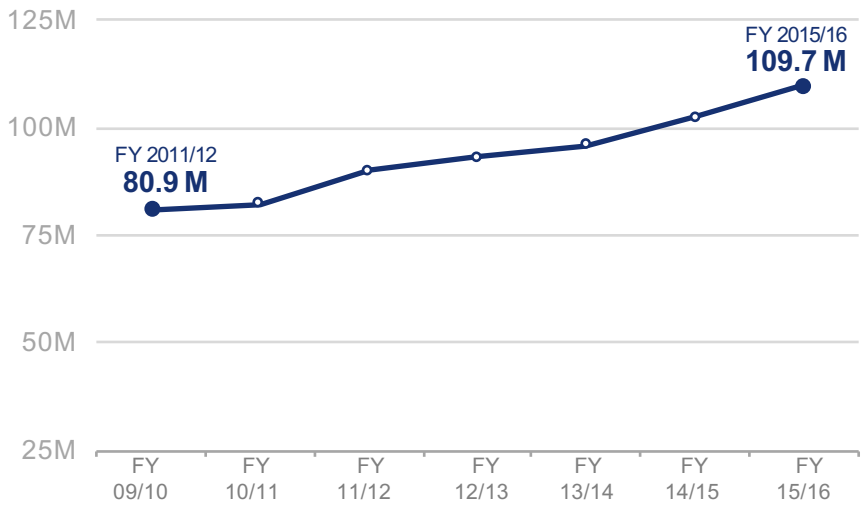
Florida Visitors

SUPPORTING MEASURE

As the Sunshine State, Florida is a prime destination for millions of visitors. One in five international visitors to the United States comes to Florida, with visitors arriving from 190 countries. **Figure 7** shows that approximately 110 million people visited Florida in fiscal year 2015/16—that's a 35.6 percent increase in just six years and is more than 5.5 times the population of the state. In fiscal year 2015/16, visitors poured over $89 billion into Florida's economy—10 percent of the state's gross domestic/state product.

Approximately 110 million people visited Florida in fiscal year 2015/16, which is a 35.6 percent increase in just six years.

Figure 7: Florida Visitors (millions)



SOURCE: Visit Florida Annual Reports

SunRail

SunRail connects many employers with thousands of employees and customers. SunRail is a commuter rail system serving Central Florida that commenced operations in 2014 and had one million passenger trips in 2015. When completed, SunRail will have 17 stations on a 61-mile corridor. Currently, 12 stations are operational. Many SunRail stations are located along bus routes and on Orlando's downtown bus rapid transit system, LYMMO, with connections to sidewalks, bike lanes, and recreational trails. The rail corridor that SunRail operates on is part of the Strategic Intermodal System (SIS), as are five stations that have been designated as SIS hubs. Rail service is scheduled to connect to the Orlando International Airport by 2020.

CONSTRUCTION PROJECTS COMPLETED ON-TIME

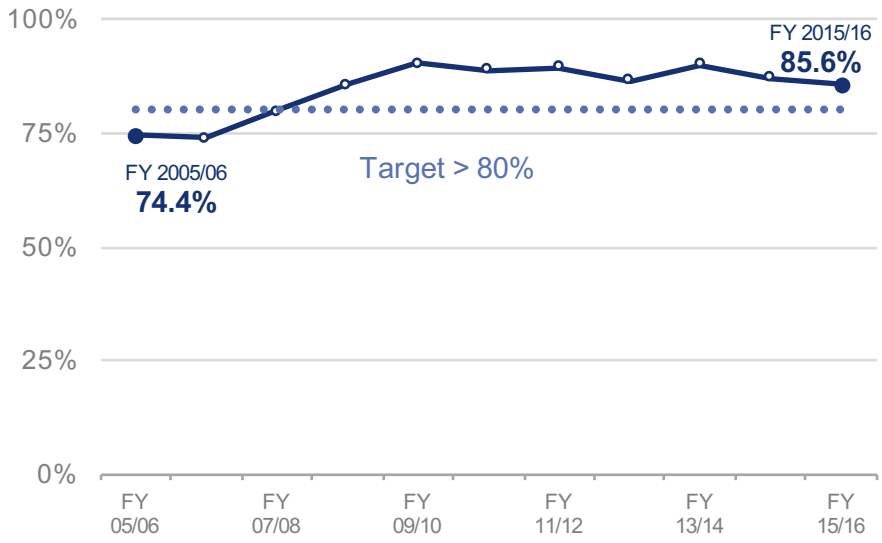
CORE MEASURE

This core measure is the percent of FDOT highway and bridge construction contracts completed within 20 percent of the original schedule. **Figure 8** shows that of the 362 construction contracts completed in fiscal year 2015/16, 85.6 percent were completed within 20 percent of the original schedule estimate, which surpassed FDOT's 80 percent target.

By completing projects on time, FDOT and its contractors save time and money for freight shippers and the industries that depend on them, as well as for other road users. Completing projects on time also helps reduce the extent of time delays and cost associated with travel through construction work zones. This reflects FDOT's emphasis on responding to customer needs and priorities.

In fiscal year 2015/16 FDOT continued to surpass its 80 percent target for construction projects completed on-time.

Figure 8: Construction Projects Completed On-Time



SOURCE: Florida Department of Transportation, Office of Work Program and Budget

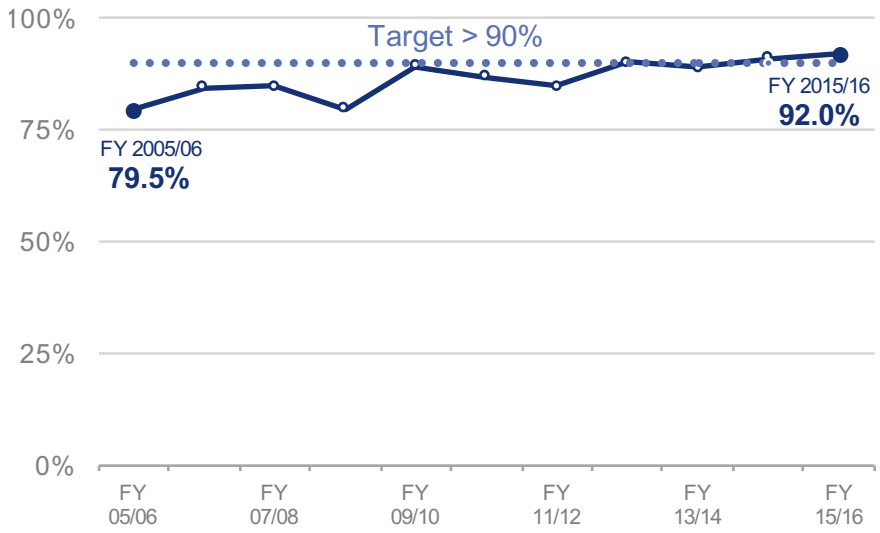
CONSTRUCTION PROJECTS COMPLETED WITHIN BUDGET

CORE MEASURE

This core measure is the percent of construction contracts completed by FDOT at a cost within 10 percent of the original contract amount. **Figure 9** shows that of the 362 construction contracts completed in fiscal year 2015/16, 92.0 percent were completed within the 10 percent standard, exceeding FDOT's 90 percent target. The ability to complete projects within budget helps to ensure that FDOT can deliver more transportation projects with its limited resources, getting a greater "bang" out of every transportation dollar expended.

Ninety-two (92) percent of FDOT's construction projects in fiscal year 2015/16 were completed within budget, surpassing the department's 90 percent target.

Figure 9: Construction Projects Completed within Budget



SOURCE: Florida Department of Transportation, Office of Work Program and Budget

KEY STRATEGIES TO IMPROVE FLORIDA'S ECONOMY

FDOT will continue improving its performance supporting economic competitiveness through strategies such as those listed below.

- Improve the efficiency of connections between transportation hubs and existing and emerging employment centers and visitor destinations.
- Improve terminal infrastructure and expand connectivity to other modes to make Florida's airports and seaports more attractive for investment, including opportunities for more direct international and domestic flights, ferry service and coastal shipping, home port and port-of-call cruise activity, and first-call import and last-call export ocean carrier service.
- Invest in high-capacity public transportation systems that connect Florida's urban centers.
- Coordinate long-term, strategic transportation investments to support development of statewide and regional logistics, manufacturing, and innovation clusters.
- Include economic development opportunities in setting priorities for transportation investment on the SIS and regionally significant transportation facilities.
- Enhance and refine methods to generate better estimates of return on investment (ROI) for major projects. Provide technical assistance to transportation partners seeking to use economic analysis to improve their own decision making processes.
- Promote funding flexibility to respond quickly to economic opportunities—particularly for transportation dependent industries.
- Identify transportation needs, revenues, and shortfalls across all modes—update this information regularly and communicate it broadly to foster a greater understanding of transportation's importance and the ongoing investment needs.
- Maximize the return of federal transportation funds to Florida and the flexibility to use those funds consistent with state, regional, and local priorities.
- Improve the efficiency and connectivity of the supply chain serving Florida's businesses.

Partner Connections

Partner Connections highlights FDOT's recent collaborations with various partner and stakeholder organizations to consider ways to improve our transportation system performance together.

> "Florida seaports generate more than 680,000 direct and indirect jobs and contribute $96 billion in economic value to the state through cargo and cruise activities."
>
> Christopher Emmanuel
> Florida Ports Council

> "Florida's multi-modal infrastructure supports more than 20 million residents and nearly 110 million tourists each year. From road to rail, to airports, seaports and spaceports, Florida will get your people, products and ideas to the world - fast."
>
> Mike Grissom
> Enterprise Florida

Strategic Economy Partners

- Enterprise Florida
- Florida Chamber of Commerce
- Florida Department of Economic Opportunity
- Florida Ports Council
- Florida Transportation Builder's Association
- Florida Transportation Commission
- Florida Trucking Association
- Metropolitan Planning Organization Advisory Council
- Space Florida
- Visit Florida

Note: Many others also assisted

Innovation

PERFORMANCE SUMMIT 2016 FOR TRANSPORTATION PARTNERS

Economy

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- More direct service at Florida's seaports and airports
- Targeted efforts to develop and retain transportation workforce
- Invest in high-capacity public transportation systems that connect Florida's urban centers
- Position Florida for enhanced public and private investment in the commercial space industry by improving infrastructure assets
- Encourage private-sector companies involved in research, development, manufacturing, and service activities for transportation equipment and technology to locate and expand in Florida
- Build transportation workforce skills to encourage innovation and support new technologies that improve safety and mobility, increase efficiency and reduce cost of project delivery

Collaboration

Potential Measures

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Coordinate short-term transportation system maintenance, operations, and capacity decisions with capital investment and job creation activities involving Florida's statewide targeted industries
- Coordinate long-term, strategic transportation investments to support development of statewide and regional logistics, manufacturing, and innovation clusters
- Formalize institutional partnerships and communication protocols among transportation, economic development, tourism, and education/training organizations
- Explore opportunities to combine and pool performance data among organizations

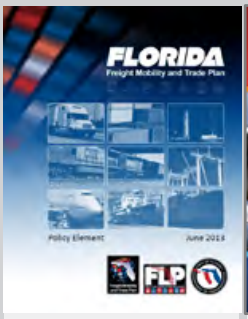
- Number of transportation technology companies located in Florida and doing business worldwide
- Travel time by mode
- Delivery time trends
- Shipping cost trends
- Transportation sector job growth
- DEO and Florida Chamber Economic measures
- Connectivity measures including cost and time savings
- Expanded and improved SIS investments
- Freight bottlenecks reduction

Partner Connection Reports

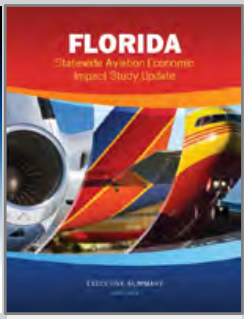
The 2016 *Seaport Mission Plan* highlights cutting-edge investments in Florida ports, that will improve our infrastructure, create new jobs, and attract new businesses.

The *Florida Transportation Plan Vision Element* containing trends, uncertainties, and themes that will shape the future of Florida transportation (50 years).

The *Strategic Intermodal System Cost Feasible Plan* helps guide decisions about future SIS investments and how priorities are established in light of limited funding.



The *Freight Mobility and Trade Plan* will improve the efficiency of freight movement in domestic and global markets.



The Florida *Statewide Aviation Economic Impact Study* provides the economic impact associated with aviation facilities.

Florida Department of Transportation 2016 Performance Report

Environment

Stewardship, Energy and Quality Places

TABLE OF CONTENTS

ENVIRONMENT

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

INTRODUCTION

Transportation decisions occur with attention to enriching quality of life and ensuring responsible care for the natural, physical, and human environment. Stewardship, energy and quality places are important components of this environment performance report and the Florida Transportation Plan (FTP).

The Florida Department of Transportation's (FDOT) environmental professionals use various data and analytical tools to evaluate the environmental effects of transportation project alternatives. FDOT's environmental review process considers the physical, social, cultural, natural, and human issues associated with each transportation project. This results in avoided or mitigated impacts, public input, and ultimately project advancement with environmental permits.

2016 PERFORMANCE HIGHLIGHTS

FDOT delivers transportation capital investments through its Work Program as a steward of Florida's mobility, environmental and community assets. Key performance highlights include:

- Between 2002 and 2015, Florida's air quality continued to improve. Maximum concentrations of carbon monoxide (CO), measured by the statewide air monitoring network, decreased by 45 percent, nitrogen oxides (NO and NO_2) by 42 percent, volatile organic compounds (VOC) by 49 percent, and fine particulate matter (PM_{10} and $PM_{2.5}$) by 40 percent each. Cleaner and more efficient vehicles contribute to improvements in air quality.
- Cumulatively through fiscal year 2015/16, 696 transportation projects were screened using the Efficient Transportation Decision Making (ETDM) process to identify and evaluate potential environmental impacts.
- Up through the 2016 model year, FDOT had 1,076 alternative fuel vehicles in its light passenger vehicle fleet—a three-fold increase in just over a decade.
- Florida's use of renewable energy sources increased 60.4 percent between 2006 and 2014.
- Through 2016, FDOT installed 576 noise barriers with an equivalent mileage of 189.9 miles. This is a significant financial investment in noise mitigation and community quality of life.

- Five of Florida's 26 Scenic Highways (1,589 miles) have been designated National Scenic Byways and another (the Florida Keys Scenic Highway) has been awarded the special All-American Road designation. In 2004, Florida had 485 miles of designated Scenic Highways—the three-fold increase by 2016 underscores the state's exceptional natural beauty and transportation as a gateway for millions to enjoy the surrounding treasures.
- Cumulatively, Florida has implemented 2,317 transportation alternative / transportation enhancement (TA/TE) projects such as trails and bicycle and pedestrian facilities.
- Ninety-six (96) percent of Florida visitors are satisfied with the state's transportation system—21 percent higher than Florida residents. The large difference in perception between residents and visitors suggests that Florida's transportation system might be better than other states.
- In fiscal year 2015/16, 21.6 million trips were made by transportation disadvantaged people across Florida. These trips provide vital access to medical services, employment, and education. They also afford access to job training, day care facilities, and nutritional and other life sustaining activities.

Diverse Transportation Energy Sources - JAXPORT

JAXPORT, one of the nation's top 25 container ports, made a major investment in infrastructure and equipment to support container ships using liquefied natural gas (LNG) as fuel. These ships will reduce emissions significantly compared to container ships that use traditional fossil fuels. Florida's transportation partners are actively diversifying their energy sources. Emphasis is being placed on compressed natural gas (CNG), LNG, and propane, which are clean burning, domestically produced, alternatives to traditional fossil fuels.

FLORIDA TRANSPORTATION PLAN

The Florida Transportation Plan (FTP) is Florida's long range transportation plan for meeting the dynamic mobility needs of residents, businesses, and visitors. FDOT's Environment Performance Report aligns with two FTP goals:

- *Transportation Solutions that Support Quality Places to Live, Learn, Work, and Play*
- *Transportation Solutions that Support Florida's Environment and Conserve Energy*

This report highlights the core and supporting performance measures related to these FTP goals, and other transportation plans and programs.

FTP Goal: *Transportation Solutions that Support Quality Places to Live, Learn, Work, and Play*

FTP Objectives

- *Plan and develop transportation systems that reflect regional and community values, visions, and needs*
- *Increase customer satisfaction with Florida's transportation system*
- *Provide convenient, efficient accessibility to the transportation system for Florida's residents and visitors*
- *Provide transportation solutions that contribute to improved public health*

Related Performance Report Measures

CORE MEASURE

SUPPORTING MEASURES

Air Quality

- *Carbon Dioxide (CO_2)*
- *Recycled Pavement*
- *Alternative Fuel Vehicles*
- *Miles of Noise Walls*
- *Designated Scenic Highways*
- *Roadside Attractiveness*
- *Roadsides Kept Litter Free*
- *Transportation Alternatives/Transportation Enhancements*
- *Transportation Disadvantaged Trips*
- *Satisfaction with Florida Highways*
- *Roadside Attractiveness*

FTP Goal: *Transportation Solutions that Support Florida's Environment and Conserve Energy*

FTP Objectives

- *Plan and develop transportation systems and facilities in a manner that protects, and where feasible, restores the function and character of the natural environment and avoids or minimizes adverse environmental impacts*
- *Decrease transportation-related air quality pollutants and greenhouse gas emissions*
- *Increase the energy efficiency of transportation*
- *Increase the diversity of transportation-related energy sources, with emphasis on cleaner and more efficient fuels*

Related Performance Report Measures

SUPPORTING MEASURES

- *Water Quality – Wetland Mitigation*
- *Project Screenings*
- *Recycled Pavement*
- *Alternative Fuel Vehicles*
- *Wildlife Crossings*
- *Roadsides Kept Litter Free*
- *Transportation Alternatives/Transportation Enhancements*
- *Transportation Disadvantaged Trips*

NOTE: Related Performance Measures may appear in both FTP Goals

AIR QUALITY

CORE MEASURE

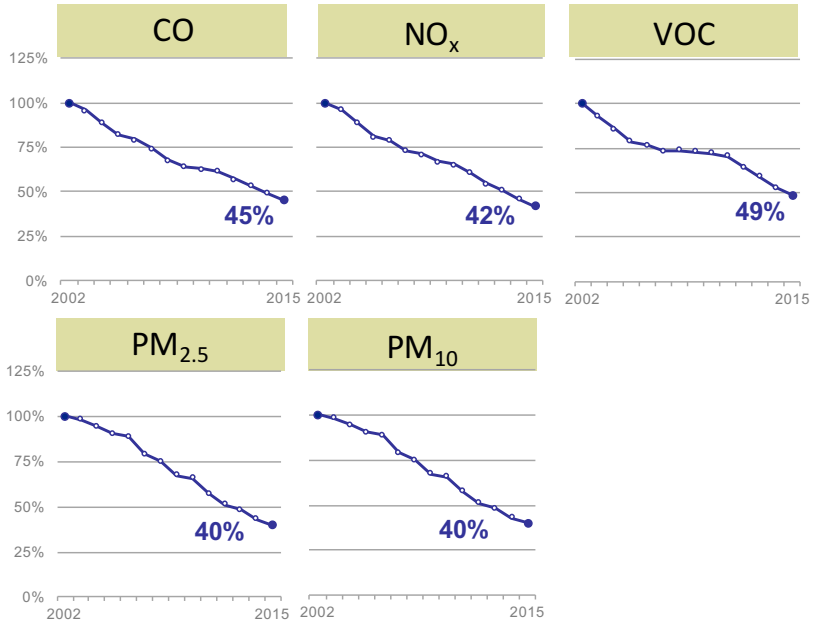
FDOT is committed to maintaining air quality attainment levels, a core measure related to promoting quality of life and environmental stewardship. How we move people and goods impacts air quality. Fortunately, vehicles are now far less polluting. Technology has also helped to reduce transportation-related air pollution. Public transit, bicycle and pedestrian transportation, intermodal freight movement, transportation demand management, and transportation system management and operations reduction also help to sustain air quality.

The primary air pollutants associated with motor vehicle use are carbon monoxide (CO), nitrogen oxides (NO_x), and volatile organic compounds (VOC), and to a lesser degree particulate matter (PM_{10} and $PM_{2.5}$). These pollutants are monitored to assess whether areas within the state are in attainment with the established National Ambient Air Quality Standards (NAAQS). Emissions of NO_x and VOC contribute to the formation of ground-level ozone, the primary component of smog. In October 2015 the U.S. Environmental Protection Agency lowered the NAAQS for ground-level ozone from 75 parts per billion (ppb) to 70 ppb. Even with the stricter standard, Florida expects to remain in attainment.

Figure 1 shows that relative to the 2002 baseline, vehicle emissions have continued to decrease (i.e., improve). Supporting these improvements will be further reductions with the implementation of the U.S. Environmental Protection Agency's Tier 3 Standards in 2017 for passenger cars and trucks, even as the number of motor vehicles increases.

Relative to the 2002 baseline, vehicle emissions in Florida continue to decrease.

Figure 1: Emissions Trends for Highway Vehicles (Relative to 2002)



SOURCE: Florida Department of Environmental Protection, Division of Air Resource Management

KEY STRATEGIES TO IMPROVE AIR QUALITY

FDOT will continue to uphold its core measure of air quality through strategies such as those listed below:

- Continue aligning transportation planning and environmental planning, including air quality (including greenhouse gas emissions), water quantity and quality, wildlife corridors, noise, and recreational space.
- Minimize energy used to build, maintain, and operate transportation infrastructure.
- Reduce the footprint of Florida's transportation system by optimizing the use of existing transportation infrastructure, incorporating new technologies, and using permeable, recycled, and other "green" materials.
- Support more diversity in transportation energy sources, including greater use of renewable or low-emission sources.
- Use non-highway transportation modes and new technologies for moving people and goods to reduce the need for road expansions and potential negative impacts on communities.
- Promote safe and comfortable walking, bicycling, and other forms of active transportation for all ages to improve public health.
- Expand practices for assessing the impacts of transportation decisions on public health and access to opportunity.

Electric Vehicle Charging Station Pilot Project

FDOT implemented an electric vehicle charging station pilot project in 2015 to support electric car infrastructure development. The project's objective is to support innovation and collaboration by working with our partners to meet the increasing demand of electric vehicles. The charging station has approached 100% utilization, providing 4.4 megawatt hours of power, which has reduced emissions by 2 tons of greenhouses gases since its inception. The charging station allows people without access to use an electric charger for a fee. Fee revenues are used to maintain the charging station.

SUPPORTING MEASURES AND INFORMATION

In addition to its air quality core measure, FDOT has identified the following supporting measure:

- Carbon Dioxide – CO_2

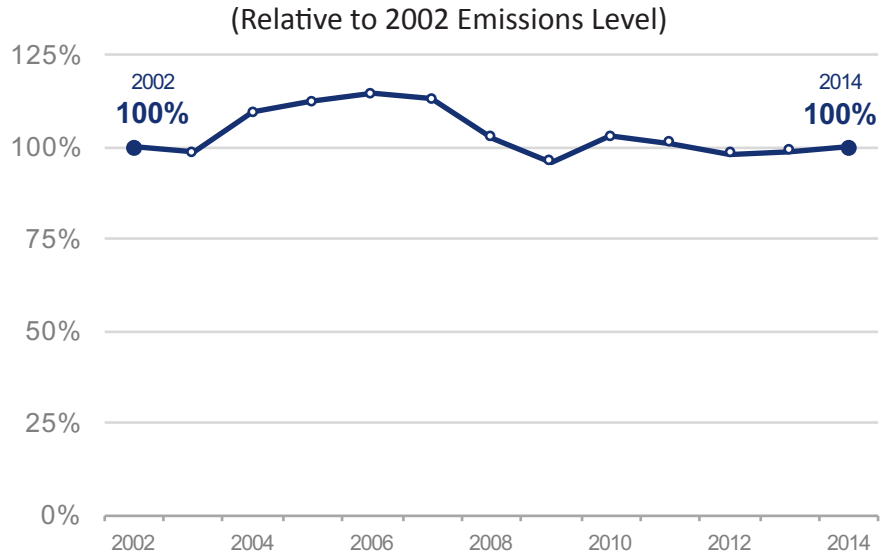
Carbon Dioxide (CO_2)

SUPPORTING MEASURE

Carbon dioxide (CO_2), a key greenhouse gas, enters the atmosphere through the burning of fossil fuels, solid waste, trees and wood products. Florida has 20.7 million registered vehicles and a significant portion of statewide CO_2 emissions comes from this source. **Figure 2** shows that relative to the 2002 baseline, transportation-related CO_2 emissions in Florida have fluctuated over the years, but have trended toward the 2002 levels. The drop in CO_2 emissions between 2006 and 2009 coincides with a drop in vehicle miles traveled (VMT) during the same period. Whereas the drop in VMT leveled-off in 2009, CO_2 emissions increased slightly beginning in 2010. CO_2 emissions from motor vehicles can be reduced through the improvement of vehicle fuel efficiencies, increased use of public transit, and traffic flow improvements.

Relative to the 2002 baseline, transportation-related CO_2 emissions in Florida have fluctuated, but have trended toward 2002 levels.

Figure 2: CO_2 Emissions from Florida Transportation Sector



SOURCE: Florida Department of Environmental Protection, Division of Air Resource Management

ENVIRONMENTAL INITIATIVES

FDOT has identified additional supporting measures that provide further detail and context about the performance of Florida's transportation system. For environmental initiatives, the supporting measures are:

- Water Quality – Wetland Mitigation
- Project Screenings
- Recycled Pavement
- Alternative Fuel Vehicles
- Energy Consumption

SUPPORTING MEASURES AND INFORMATION

As a prominent employer with statewide leadership and visibility, FDOT strives to be resource efficient with its finances, operations, and materials usage. The following sections highlight five varied initiatives that reflect FDOT environmental stewardship in the areas of water quality/wetland mitigation, transportation project delivery, resource recycling, fleet management, and energy use. While FDOT places priority on environmental stewardship, the associated data in relation to the overall effort is limited. Measures such as those listed above therefore take on greater importance.

Water Quality – Wetland Mitigation

SUPPORTING MEASURE

Wetland mitigation is a major focus area for FDOT project development.

More than eighteen percent (18.5) of Florida's total surface area is water, compared to 7 percent nationwide. Florida's water assets are a key element of the state's environmental, recreational, and life-sustaining eco-system. FDOT follows various processes to avoid adverse water quality impacts. Where avoidance is not possible, in whole or in part, FDOT takes steps to minimize such impacts, in addition to mitigating impacts as necessary.

For all capacity-adding construction projects, FDOT provides treatment of stormwater runoff to improve the quality of downstream waters. FDOT seeks opportunities to provide cooperative, regional stormwater treatment and beneficially reuse stormwater runoff to augment water supply.

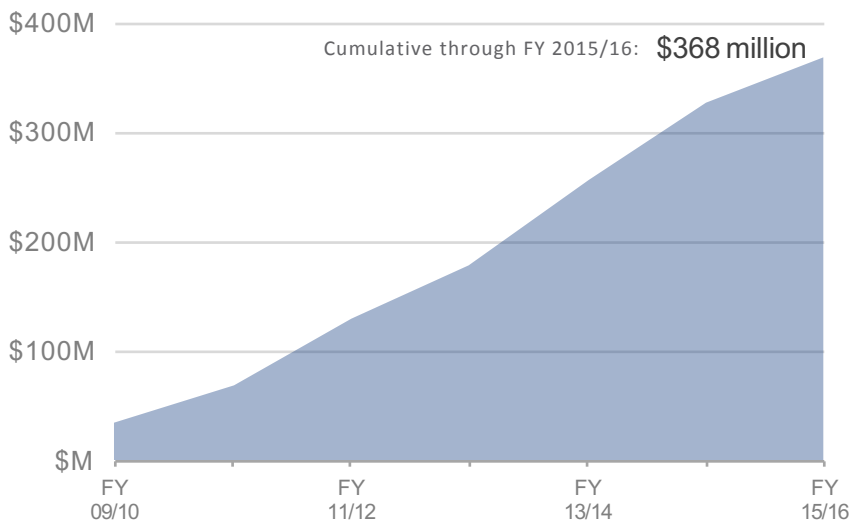
Figure 3 shows that FDOT's funding of wetland mitigation has been substantial over the past decade with $368 million in investments for wetland mitigation through FDOT's purchases of Mitigation Bank credits and funding of mitigation services through Florida's Water Management Districts.

It is important to note that investment in wetland mitigation is not a goal per se with annual targets. This would be neither feasible nor useful given that the mix of projects and the associated mitigation required cannot be forecasted. Rather, the level of expenditures reflect FDOT's strong commitment to water quality generally and wetland mitigation specifically.

Spending for wetland mitigation has resulted in many benefits including:

- Flood control
- Wildlife habitat
- Recreation
- Clean water (removing pollutants from water)
- Filtering of drinking water supplies
- Improving fisheries
- Various commercial benefits

Figure 3: Wetland Mitigation Investments



SOURCE: Florida Department of Transportation, Environmental Management Office

Project Screenings

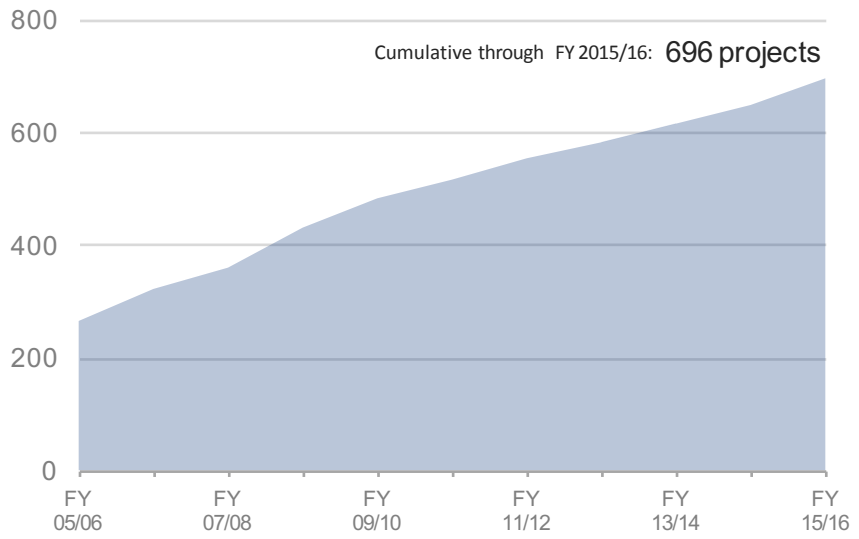
SUPPORTING MEASURE

FDOT integrates transportation improvements with surrounding environmental assets as effectively and efficiently as possible. FDOT has made significant progress using the Efficient Transportation Decision-Making (ETDM) project screening process. ETDM screenings occur in the planning and programming stages as an integral part of project delivery. They provide early coordination with environmental resource agencies through the Environmental Screening Tool.

FDOT collaborates with environmental resource agencies to link transportation, cultural, and environmental planning initiatives. Along with agency-specific data, input from agencies and the public is used to augment the identification of issues to help avoid or minimize potential impacts to natural and cultural resources. Figure 4 shows that cumulatively through fiscal year 2015/16, 696 projects have been screened using the ETDM planning process. Mobility that respects the environment enhances and protects Florida's unique quality of life for the long-term.

Cumulatively through fiscal year 2015/16, 696 projects have been screened using the ETDM project screening process, resulting in the early identification of potential environmental concerns. This helps to identify prevention and mitigation strategies.

Figure 4: Projects Screened Through ETDM



SOURCE: Florida Department of Transportation, Environmental Management Office

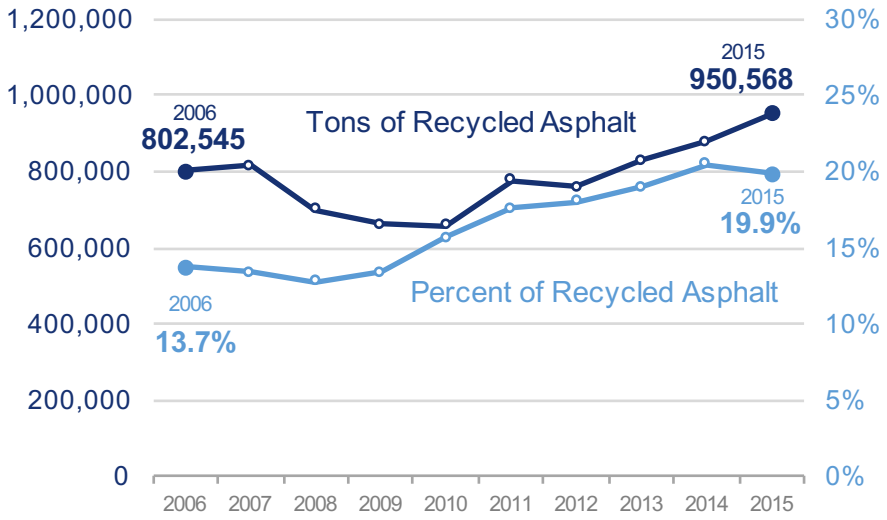
Recycled Pavement

SUPPORTING MEASURE

Roadway construction and reconstruction are increasingly using recycled materials for cost savings and environmental benefits. The estimated annual amount of recycled asphalt pavement has increased more than 65 percent over the past decade. **Figure 5** shows that 950,568 tons of recycled asphalt pavement were applied to Florida highways in 2015. This was an 8.2 percent increase over the prior year and the highest annual tonnage since FDOT started tracking this measure. The overall proportion of recycled asphalt pavement, relative to other materials, has increased to nearly 20 percent. In addition, steel, concrete, fill and other materials are occasionally recycled in construction projects.

Recycled asphalt pavement has increased more than 65 percent over the past decade.

Figure 5: Tons of FDOT Recycled Asphalt Pavement



SOURCE: Florida Department of Transportation, State Materials Office

Recycled Asphalt Pavement

Florida has been recycling pavement since the 1970s. Most Florida produced asphalt contains between 20-30 percent of recycled asphalt. Florida is a leader in managing its natural resources and providing reliable transportation for its residents and visitors.

Alternative Fuel Vehicles

SUPPORTING MEASURE

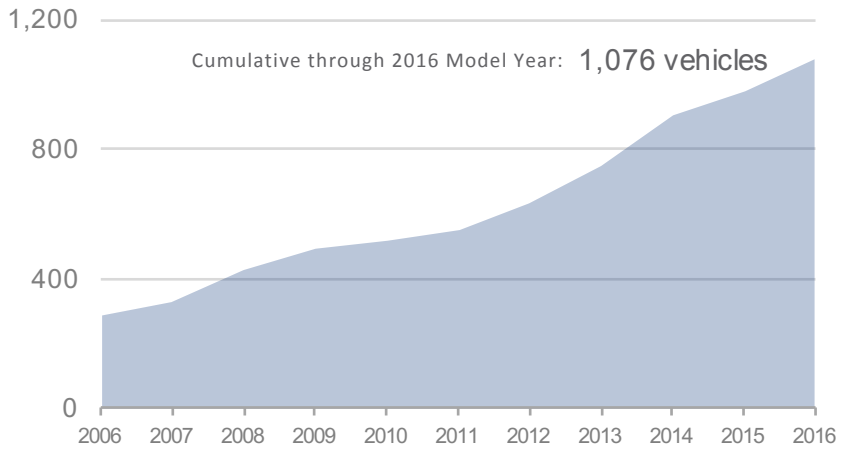
FDOT is environmentally responsible in its business practices and operations. Out of a fleet of 2,268 light passenger vehicles, Figure 6 shows that FDOT has 1,076 alternative fuel vehicles, which includes:

- 21 bi-fuel (gas/compressed natural gas) vehicles
- 12 bi-fuel (gas/liquid propane gas) vehicles
- 1,038 flex-fuel (gas/ethanol-E85) vehicles
- 5 hybrid (gas/electric) vehicles

This three-fold increase since 2006 translates into fuel savings and demonstrates FDOT's active leadership for improving air quality. The vast majority of FDOT's alternative fuel vehicles can be powered by either gasoline or ethanol.

There are currently 2,268 light passenger vehicles in FDOT's inventory, of which 1,076 (47 percent) can be powered by an alternative fuel source.

Figure 6: Light Passenger Alternative Fuel Vehicles in FDOT Fleet



SOURCE: Florida Department of Transportation, Environmental Management Office

Zero Emission Buses Making our Cities Healthier

Replacing conventional buses with all–electric, zero emission buses will help transit agencies, such as Tallahassee's StarMetro transit system, reduce fuel costs and improve air quality. Zero emission buses can operate continuously using a fast charging technology with a fuel economy as much as 6 times greater than a conventional diesel bus. "By replacing three of our diesel transit buses with zero emission all-electric buses, StarMetro will eliminate almost 260 tons of carbon dioxide CO2 annually," according to Executive Director Ron Garrison.

Energy Consumption

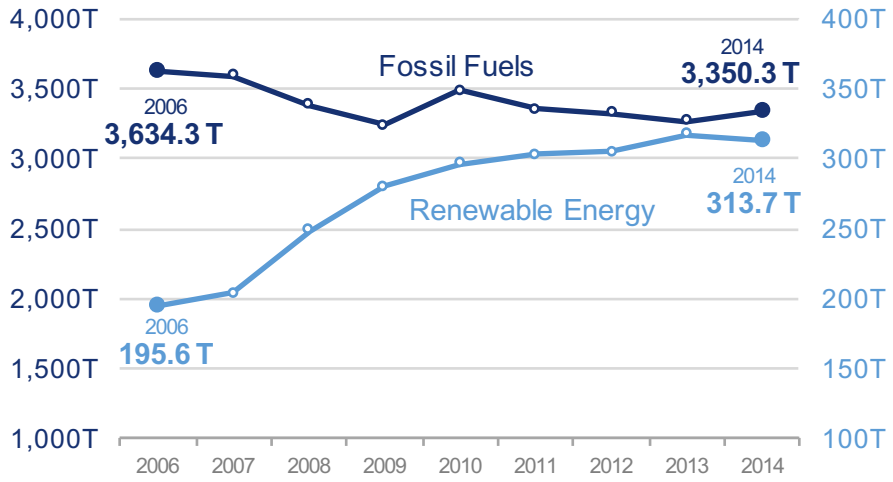
SUPPORTING MEASURE

The United States is a nation on the move, with about 28 percent of all energy consumption used for transporting people and goods. In Florida, the level is nearly 36 percent. The primary energy source for transportation has been fossil fuels. Nationally, fossil fuels have provided more than 80 percent of our total energy consumption for over 100 years. The burning of fossil fuels releases carbon dioxide (CO_2) and other greenhouse gases, which can be harmful to the environment. Vehicle improvement technologies have helped to lessen this impact.

In 2014 (the most recent state level data that are available), fossil fuels made up 81.3 percent of Florida's total energy consumption, while renewable energy was 7.6 percent, and nuclear energy was 7.1 percent.[1] While renewable energy use has been increasing, overall energy usage (fossil fuel and renewable energy) in Florida has been decreasing (**see Figure 7**). While renewable energy use is considerably less than our consumption of fossil fuels, Florida's use of renewable energy is increasing—60.4 percent between 2006 and 2014. The greatest growth in renewable energy use over the past decade has come from solar power (96.9 percent) and liquid biofuels (58.6 percent), contributing to the increase of renewable energy as a share of Florida's total energy consumption.

Florida's use of renewable energy increased 60.4 percent between 2006 and 2014 as fossil fuel usage trended slightly downward over the same period.

Figure 7: Florida Energy Consumption (trillion BTUs)



Source: "State Energy Consumption Estimates 1960 Through 2014, " Primary Energy Consumption Estimates, Selected Years, 1960-2014, Florida), U.S. Energy Information Administration (published June 2016)

[1] The remaining 4 percent was energy loss due to the transmission and distribution of energy across state lines.

ENVIRONMENTAL AND WILDLIFE PROTECTION

FDOT has identified supporting measures that provide further detail and context about Florida's performance of the transportation system. For environmental and wildlife protection, they are:

- Miles of Noise Walls
- Wildlife Crossings

SUPPORTING MEASURES AND INFORMATION

FDOT continues to improve the transportation system in ways that demonstrate care for Florida's unique wildlife resources as well as the needs of people. This section highlights FDOT's noise wall investments to mitigate highway noise (typically associated with projects that expand capacity) and consideration of wildlife crossings, which has resulted in approaches to facilitate the safe movement of wildlife over, under or around transportation facilities.

Miles of Noise Walls

SUPPORTING MEASURE

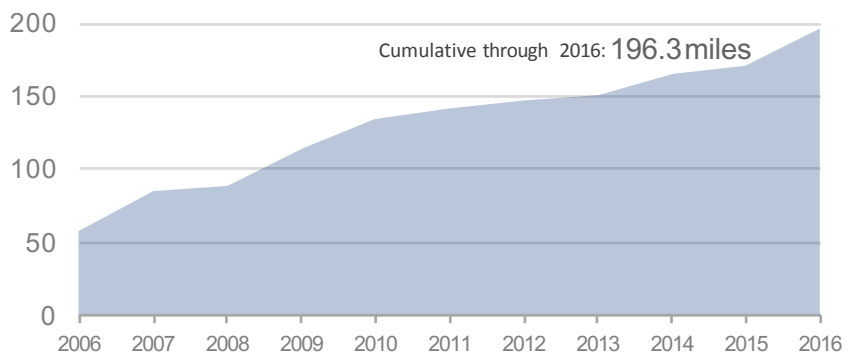
FDOT mitigates noise impacts where it is warranted, reasonable, and feasible to do so. All proposed highway capacity improvement projects are evaluated for potential noise impacts. Where noise impacts are expected to occur, mitigation, normally in the form of noise walls, is considered.

Figure 8 shows that cumulatively through 2016 FDOT has installed 576 noise barriers with an equivalent mileage length of 189.9 miles. Over the past decade, on average, FDOT installed 13 new additional miles of noise walls per year. This is a significant investment in noise mitigation and community quality of life with positive impacts for homeowners and neighborhoods. Miles of noise walls is an output measure for which data is available. It has an outcome that is more difficult to measure, but no less important, the number of homes, residents or properties that experience noise reduction.

Noise walls are not the only approach for addressing highway noise. The motor vehicle industry, for example, continues to make advances with noise containment and reduction. Trucking companies have successfully deployed technologies that reduce vehicle idling/fuel consumption and the associated noise and pollutant impacts.

FDOT has installed 576 noise barriers totaling 189.9 miles.

Figure 8: Miles of FDOT Constructed Noise Walls



SOURCE: Florida Department of Transportation, Environmental Management Office

Wildlife Crossings

SUPPORTING MEASURE

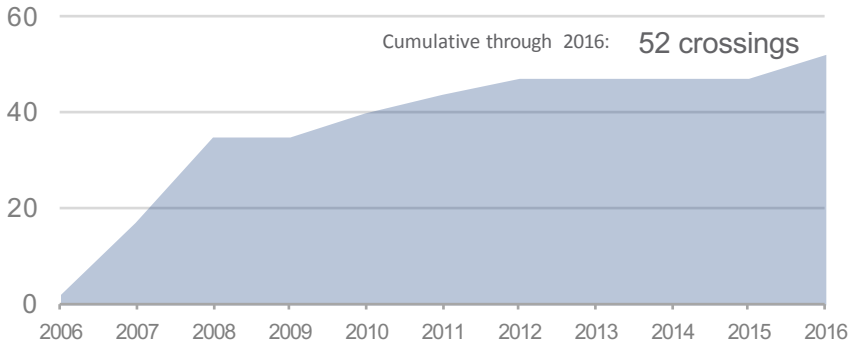
Florida's natural beauty and quality of life are seen in its vast diversity of wildlife. The state is a national leader in developing wildlife crossing structures and providing safe crossings for a wide range of indigenous Florida wildlife. Its innovative program provides for numerous types of crossings including:

- Pipe and culvert systems
- Modified box culverts with ledges for wildlife
- Modification of existing bridges to provide dry passage on wood or earthen shelves along edges
- Other methods to enhance motor vehicle/wildlife safety, such as the installation and ongoing evaluation of a Radio-Activated Detection System on a portion of U.S. 41 to warn motorists of the potential presence of the Florida Panther

FDOT routinely evaluates new approaches to wildlife species protection. FDOT recently revised its Wildlife Crossing Guidance in collaboration with wildlife resource agencies and other non-governmental stakeholders. **Figure 9** shows that through 2016 FDOT has installed 52 wildlife crossing structures, which includes five structures that are currently under construction. Two additional crossings are planned to be built in 2017.

FDOT provides safe crossings for a wide range of indigenous Florida wildlife.

Figure 9: Wildlife Crossings



SOURCE: Florida Department of Transportation, Environmental Management Office

Wildlife Crossings

Forty-two endangered Florida panthers were killed in 2015. Most were struck crossing roads in shrinking habitat areas in Southwest Florida. Wildlife crossings like this one on I-75 in Alligator Alley save animal lives. FDOT's efforts to provide safe wildlife crossings should result in a reduction of animal strikes over time.

VIBRANT AND ATTRACTIVE COMMUNITIES

FDOT has identified supporting measures that provide further detail and context about the performance of Florida's transportation system for vibrant and attractive communities. They are:

- Designated Scenic Highways
- Transportation Alternatives
- Transportation Disadvantaged Trips

SUPPORTING MEASURES AND INFORMATION

This section provides examples of the range of FDOT programs and activities that promote vibrant and attractive communities. This is also a major focus area of the Florida Transportation Plan (FTP). FDOT makes a consistent effort to keep roadsides litter free as well as pleasing to the eye through various landscaping and beautification efforts. Some of our roadways traverse scenic vistas and are designated as scenic highways. Further, FDOT invests in transportation alternative/enhancement projects that provide tremendous community benefits. Finally, support of transportation disadvantaged trips helps many people connect with their communities who otherwise would have limited or no mobility options. Having transportation is essential for maintaining quality of life for many of those who benefit from this service. Others benefit as well from the ability of those receiving the service to become active participants of the communities in which they live.

Envisioning Corrine Drive as a Complete Street

Complete streets practices, including the provision of bike lanes, has proven to not only increase safety, but to improve health/quality of life. The Corrine Drive project in Winter Park is intended to provide residents more choices to safely commute. Further, it is intended to ensure the corridor supports active/healthy lifestyles—resulting in greater physical activity, reduced reliance on single-occupancy vehicles, and decreased pollutant emissions.

Highway Beautification

It is FDOT's policy to conserve, protect, restore, and enhance Florida's natural resources and scenic beauty. The state strives to have the nation's most beautiful highways with safe roadsides that are durable, and ecologically and economically sustainable.

FDOT is implementing roadside beautification projects using large trees and shrubs. With thoughtful site-specific design, this approach will produce a visual impact with a distinctive sense of place at a low design, construction, and maintenance cost. Tall trees generously and safely placed at highly traveled interchanges and gateways into and through Florida communities create a welcoming and enjoyable experience, a first and lasting impression of the state and individual communities.

Roadside landscape projects, in addition to being aesthetically pleasing, can mimic natural processes that manage stormwater, filter air, shade pedestrians, conserve energy, and provide wildlife habitat.

FDOT's Project Development and Environmental (PD&E) Manual provides guidance for analysts to follow when considering aesthetic improvements associated with proposed transportation projects.

Designated Scenic Highways

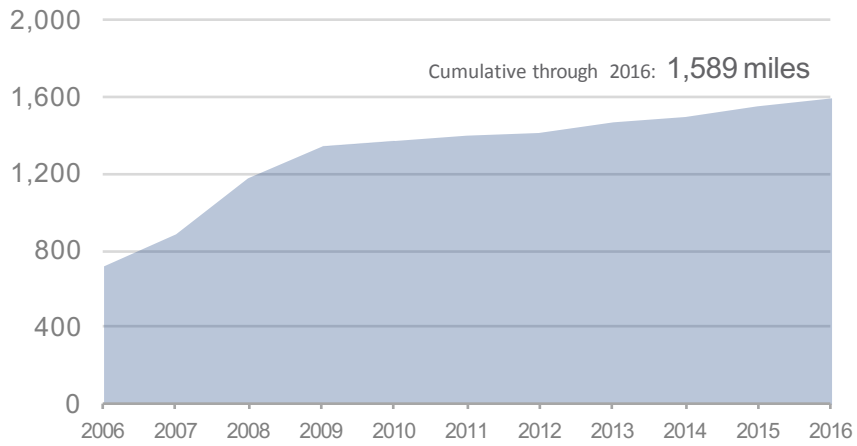
SUPPORTING MEASURE

FDOT's Scenic Highways Program promotes Florida as an attractive destination for travelers. **Figure 10** shows that Florida has 1,589 miles of designated scenic highways. Among Florida's 26 Scenic Highways, five have been designated National Scenic Byways and another (the Florida Keys Scenic Highway) was awarded the special All-American Road designation.

FDOT's Scenic Highways Program was established in 1996 to showcase outstanding cultural, historic, archaeological, recreational, natural and scenic resources along the state's highway system.

Of Florida's 26 Scenic Highways, five are designated National Scenic Byways, and another was awarded the special All-American Road designation.

Figure 10: Miles of Designated Scenic Highways



SOURCE: Florida Department of Transportation, Environmental Management Office

A1A Ocean Islands Trail Scenic Highway

The Florida Scenic Highway Program celebrates its 20th anniversary, with 26 scenic highways across the state. The newest addition, A1A Ocean Islands Trail near Jacksonville, showcases Florida's natural resources. Whether approached from the north or south, visitors soon find themselves island hopping by bridge and ferry, landing on some of the most scenic and historic coastal barrier islands in America. A trip along the A1A Ocean Islands Trail reveals the area's natural beauty as well as the rich heritage of the many cultures (including pre-European cultures) that have inhabited the barrier islands for thousands of years.

Transportation Alternatives

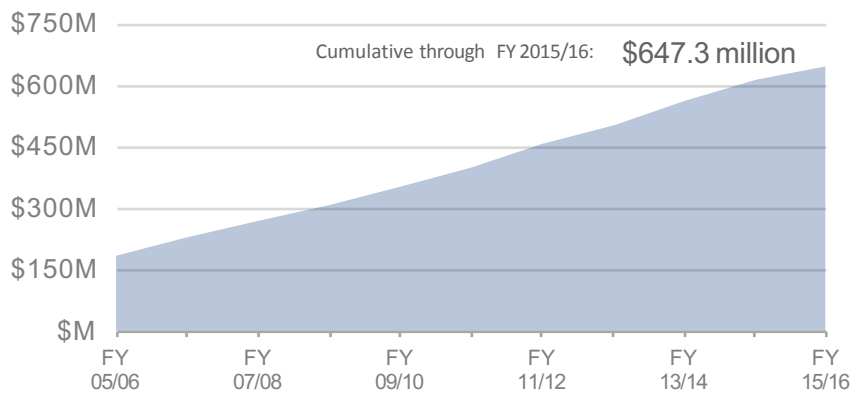
SUPPORTING MEASURE

Community visions and values are supported through implementation of projects under the federally funded Transportation Alternatives (TA) program. FDOT currently receives an average program allocation of federal funding of about $50 million per year. TA projects can be community-based projects that expand travel choices and enhance the transportation experience by improving the cultural, historic, aesthetic, and environmental aspects of the transportation system. On- and off-road pedestrian and bicycle facilities, improved access to public transit, community improvement activities, environmental mitigation, recreational trails, and safe routes to school projects are examples of TA projects.

FDOT has collaborated with numerous communities over the past two decades to provide opportunities to enhance community visions and interests through TA projects. **Figure 14** shows that these coordination efforts have resulted in the completion of 2,317 TA projects and investment totaling more than $647 million.

FDOT has programmed over $647 million for Transportation Alternatives and Transportation Enhancement projects that greatly support community quality of life.

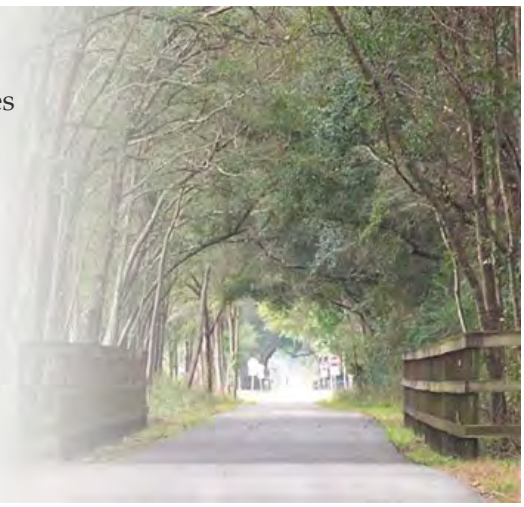
Figure 14: Transportation Alternatives & Transportation Enhancement Project Funding



SOURCE: Florida Department of Transportation, Environmental Management Office

Coast-to-Coast Connector

The Coast-to-Coast (C2C) Connector trail system will link communities across Florida from the Gulf of Mexico (St. Petersburg) to the Atlantic Ocean (Titusville), providing a "safe, scenic and sunsational" multi-use trail allowing residents and visitors to explore Central Florida by bicycle and/or foot. The C2C promotes human-powered, non-polluting, tourism-based outdoor recreation and transportation. By connecting residents and tourists to these lands and waters, they will experience first-hand the biodiversity, expanse and solitude of these conserved and managed resources.



Transportation Disadvantaged Trips

SUPPORTING MEASURE

Lack of transportation is one of the greatest barriers to community engagement for many. People who are transportation disadvantaged are unable to transport themselves or purchase transportation because of disability, income status, or age. The provision of trips through FDOT's Transportation Disadvantaged Program is their means for accessing employment, health care, education, and participation in community and other life-sustaining activities. These trips include both fixed route and demand response transportation, and are provided through a Coordinated Transportation System.

Transportation disadvantaged trips fall into five categories:

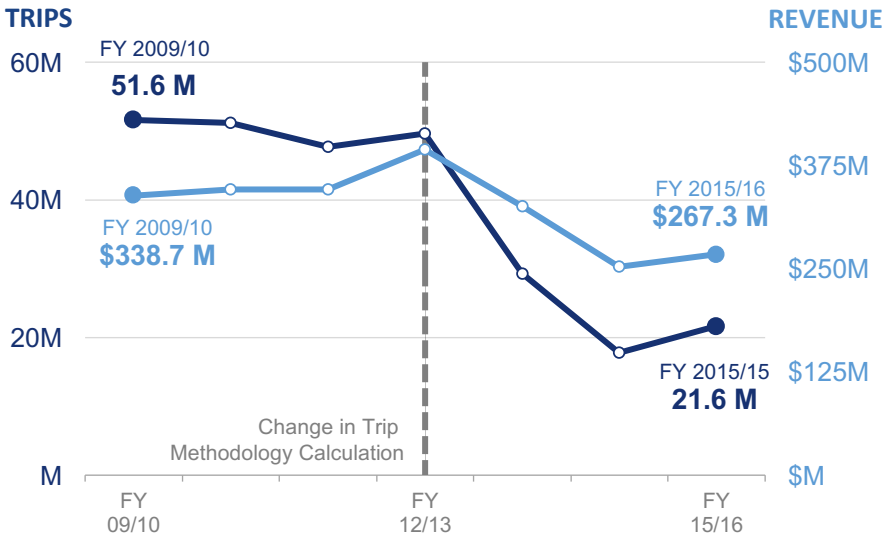
- Medical
- Employment
- Education / Training / Day Care
- Nutritional
- Life Sustaining / Other

Figure 15 shows that in fiscal year 2015/16 21.6 million transportation disadvantaged trips were provided across Florida, which is an increase over the previous year (more than 21 percent). The improvement is due primarily to the increased use of bus passes in Miami-Dade and Pinellas Counties. However, there has been a significant decline in the number of trips beginning in fiscal year 20012/13. The decline in the number of trips correlate directly with the change in the methodology used to calculate the number of trips, as well as the amount of revenue collected for the system.

According to the Florida Commission for the Transportation Disadvantaged (CTD), in fiscal year 2015/16 medical and life-sustaining trips were the top purposes for people riding the Coordinated Transportation System, which accounted for 58.7 percent of trips. Employment trips accounted for 16.1 percent followed by education trips at 15.9 percent, with nutritional trips at 9.4 percent.

The number of transportation disadvantaged trips increased over the prior year, but has decreased significantly since fiscal year 2012/13 when the methodology used to calculate the number of trips changed and a decrease in revenues occurred.

Figure 15: Transportation Disadvantaged Trips & Revenue (millions)



SOURCE: Florida Commission for the Transportation Disadvantaged - Annual Performance Reports

The decrease from fiscal year 2012/13 primarily reflects four factors:

1. Decrease in funding for the coordinated system (32.2 percent reduction from fiscal year 2012/13)
2. Loss of the majority of Medicaid non-emergency trips in the coordinated system
3. Continued implementation of the revised methodology for calculating the number of trips per bus pass that went into effect in fiscal year 2012/13
4. Correction resulting in a large reduction of bus pass trips for Miami-Dade County's seniors

Commission for the Transportation Disadvantaged (CTD)

Transportation plays a critical role in providing access to employment, health care, education, and other life-sustaining activities for many Floridians who are older adults, persons with disabilities, people with low incomes, or at-risk children. The Commission for the Transportation Disadvantaged (CTD) ensures the availability of efficient, cost-effective, and quality transportation services for transportation disadvantaged persons.

HEALTHY COMMUNITIES

In addition to its core and supporting measures, FDOT has identified several topics that provide context about the performance of Florida's transportation system for healthy communities. These topics include:

- Safe Mobility for Life
- Public Health and Transportation

Safe Mobility for Life Program

The Safe Mobility for Life Program promotes transportation safety for seniors. Recent progress is significant in light of Florida's growing senior population. Florida's Safe Mobility For Life Coalition was presented two awards in 2015:

- FHWA's National Roadway Safety Award in Program Planning, Development, and Evaluation. "This award recognizes the particular benefits of Florida's Safe Mobility for Life Coalition and the commitment to roadway safety by your organization. It places you and your entry in an elite status worthy of national recognition."
- Transportation Research Board's (TRB) Communicating Concepts with John and Jane Q Public Award.

Public Health and Transportation

The U.S. Department of Transportation and other agencies and stakeholder organizations are emphasizing the connection between public health and transportation, recognizing that community design and active transportation (e.g., walking and bicycling) can contribute to wellness and reduced costs associated with chronic disease (see transportation.gov/transportation-health-tool). FDOT has made significant investments in transit infrastructure; bicycle and pedestrian plans, coordinators, and facilities; Safe Routes to School programs; road safety; air quality improvements and congestion reduction; and the management and operations of regional transportation systems.

Health Impact Assessment (HIA)

Health impact assessment (HIA) is a process used to evaluate the potential health effects of transportation policies, plans, or projects on the community and to help integrate these considerations into the decision-making process. An HIA helps to develop recommendations for enhancing health outcomes and mitigating potential negative health impacts, while considering the equity of health outcomes in relation to vulnerable populations.

CUSTOMER SATISFACTION SURVEYS

Since 2000, FDOT has surveyed Florida residents, visitors, commercial drivers, and public officials. The survey results help FDOT track its progress in improving customer satisfaction and to identify areas that might require special attention.

FDOT conducted its most recent biennial customer satisfaction surveys in 2016 (June through October). Nearly six thousand (5,873) people responded, including Florida residents (1,969), visitors to Florida (400), public officials (659), and commercial drivers (2,845).

Nearly 6,000 people provided feedback through FDOT's 2016 customer satisfaction survey.

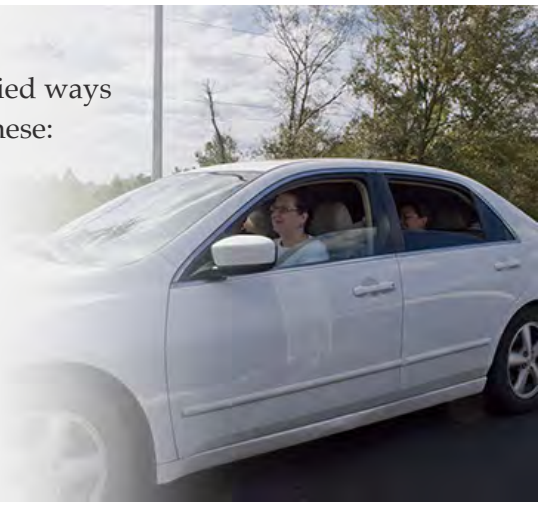
The following survey highlights provide resident and visitor impressions of the quality of Florida's roadsides. For a complete review of FDOT's customer survey results, please visit the Florida Customer Satisfaction Survey webpage at: www.fdot.gov/planning/customers. Three supporting measures are reported from the Florida Customer Satisfaction Survey:

- Satisfaction with the Florida Transportation System
- Roadside Attractiveness
- Roadside Kept Litter Free

Customer Satisfaction Improvements

FDOT cares about its customers and communicates with them in varied ways including surveys that show 2016 service improvement results like these:

- Access to businesses during construction (68% vs. 51% in 2000)
- Timeliness of completing construction (41% vs. 39% in 2000)
- Local input on roadway design (79% vs. 65% in 2000)
- Local input on statewide plans (82% vs. 71% in 2004)
- Local input on roadway priorities (78% vs. 67% in 2004)
- Feedback on how priorities were considered (71% vs. 62% in 2004)



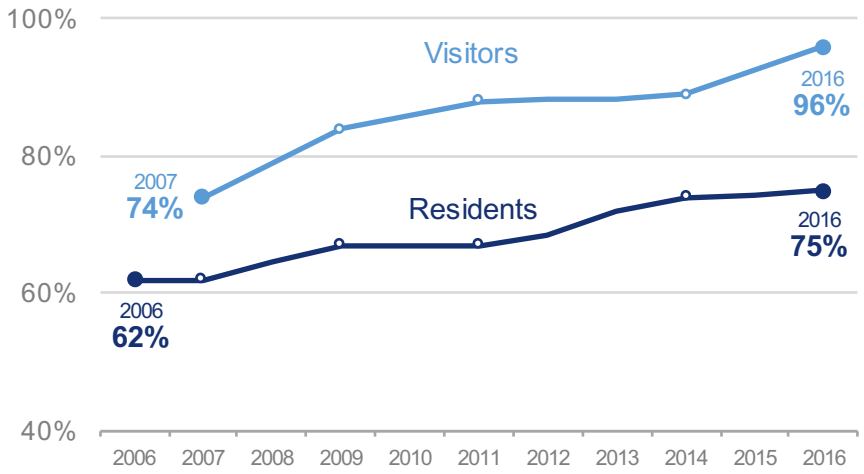
Satisfaction with the Florida Transportation System

SUPPORTING MEASURE

Ninety-six (96) percent of Florida visitors are satisfied with the state's transportation system. The large difference in perception between residents and visitors—21 percent—suggests that Florida's transportation system might be better than other states.

Figure 11 shows the perception of Florida visitors and residents on satisfaction with the state's transportation system, which has been increasing since 2006/2007—74 percent to 96 percent for visitors and 62 percent to 75 percent for residents. This is an impressive gain over the period with the vast majority of both visitors and residents being satisfied. This may be FDOT's most important metric for customer satisfaction. The large difference in perception between residents and visitors—21 percent—suggests that Florida's transportation system might be better than other states.

Figure 11: Percent of Residents and Visitors Satisfied with the Florida Transportation System



SOURCE: Florida Department of Transportation; Florida Resident and Visitor Customer Surveys, Statewide Detailed Results (2000-2016)

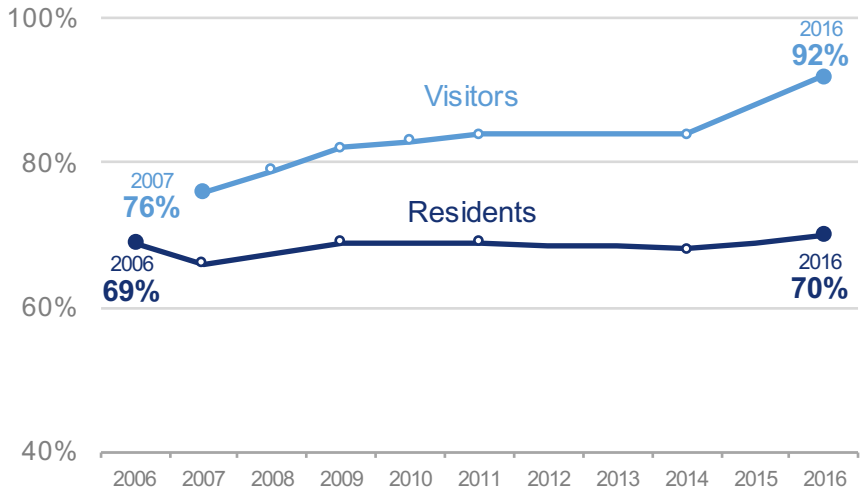
Roadside Attractiveness

SUPPORTING MEASURE

Ninety-two (92) percent of Florida visitors feel that State Highway System roadsides are attractive. The large difference in perception between residents and visitors—22 percent—suggests that Florida's roadside conditions might be better than other states.

Figure 12 shows that Florida residents' perception of roadside attractiveness for the State Highway System (SHS) decreased between 2006 and 2007 from 69 percent to 66 percent, but increased thereafter to 70 percent. Visitor perception of SHS roadside attractiveness has been steadily increasing from 76 percent in 2007 to 92 percent in 2016. The large difference in perception between residents and visitors—22 percent—suggests that Florida's roadside conditions might be better than other states.

Figure 12: Percent of Residents and Visitors who Feel Roadsides on the State Highway System are Attractive



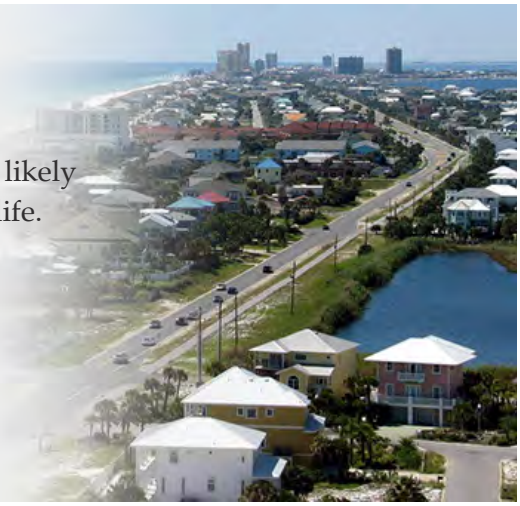
SOURCE: Florida Department of Transportation; Florida Resident and Visitor Customer Surveys, Statewide Detailed Results (2000-2016)

Adopt-A-Highway Program – Pensacola Shines

The Adopt-a-Highway litter prevention initiative gives residents the opportunity to safely reduce the amount of unsightly trash and illegal signage alongside county roadways. Unkempt communities are more likely to have more crime, less economic growth, and diminished quality of life.

In 2015 in Pensacola, 1,538 volunteers contributed 6,902 hours of community service. Together, they removed:

- 5,140 lbs. of roadside litter
- 326,117 lbs. of trash from local festivals, parks, and fishing piers to keep local events litter free
- 335 tires and recycled 58,420 lbs. of materials



Roadside Kept Litter Free

SUPPORTING MEASURE

FDOT manages the Adopt-A-Highway program and installs signs to discourage littering. In addition to the Adopt-A-Highway program and its volunteer resources, FDOT maintenance crews routinely remove highway litter. Various county-level efforts to discourage litter are also undertaken.

Volunteers agree to:

- "Adopt" a two-mile section of a state highway
- Dedicate two years to the program
- Follow specified FDOT safety regulations
- Remove litter a minimum of four times each year

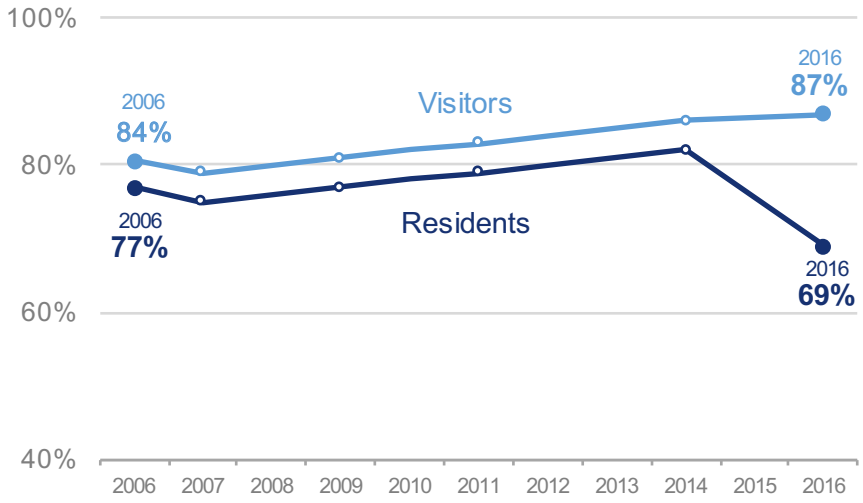
FDOT agrees to:

- Assist with safety meetings
- Provide safety vests and litter bags
- Pick up litter at specified locations
- Post Adopt-A-Highway signs commending organizations at both ends of their sections

A litter-free roadway is a highly ambitious goal since littering occurs daily. **Figure 13** shows that 87 percent of visitors to Florida perceive SHS roads to be litter free, while 69 percent of Florida residents have a similar perception. The comparatively lower perception among Florida residents that feel roadside are litter free (69 percent) is comparable to resident perception of roadside attractiveness (70 percent) shown in Figure 12. For visitors to Florida this is an extremely favorable rating when considered in light of the aspirational goal of being "litter-free."

Eighty-seven (87) percent of Florida's visitors perceive the State Highway System to be litter free.

Figure 13: Percent of Residents and Visitors who Feel Roadsides on the State Highway System Are Litter Free



SOURCE: Florida Department of Transportation; Florida Resident and Visitor Customer Surveys, Statewide Detailed Results (2000-2016)

Partner Connections

Partner Connections highlights FDOT's recent collaborations with various partner and stakeholder organizations to consider ways to improve our transportation system performance together.

> "1000 Friends believes that improving roads and providing transportation alternatives "where the people are" is the highest and best use of transportation dollars."
>
> Ryan Smart
> 1000 Friends of Florida

> "AARP is a strong advocate for Complete Streets."
>
> Melissa Stanton
> AARP

Strategic Environment Partners

1000 Friends of Florida

AARP – Florida Chapter

Federal Highway Administration

Florida Association of Counties

Florida Commission for the Transportation Disadvantaged

Florida Council of 100

Florida Department of Environmental Protection

Florida League of Cities

Florida Public Transportation Association

Florida Regional Councils Association

Florida Transportation Commission

Floridians for Better Transportation

Metropolitan Planning Organization Advisory Council

National Environmental Protection Agency

Native American Tribes

Rails to Trails Conservancy

The Nature Conservancy

Urban Land Institute

Innovation

PERFORMANCE SUMMIT 2016
FOR TRANSPORTATION PARTNERS

Environment

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Encourage community design and multimodal transportation investments that promote quality of life
- Use non-highway modes and new technologies for moving people and goods to reduce some need for road expansions and potential negative community impacts
- Reduce the footprint of Florida's transportation system by optimizing the use of existing transportation infrastructure, incorporating new technologies, and using permeable, recycled, and other "green" materials
- Support diversification of transportation energy sources, including renewable or low-emission sources, through research, collaboration, enhanced infrastructure, public-private partnerships, education, and incentives
- Promote public-private collaboration to generate energy from transportation facilities, infrastructure, and right of way, such as pavement charging systems, solar highways, solar rooftops, and solar panels

Collaboration

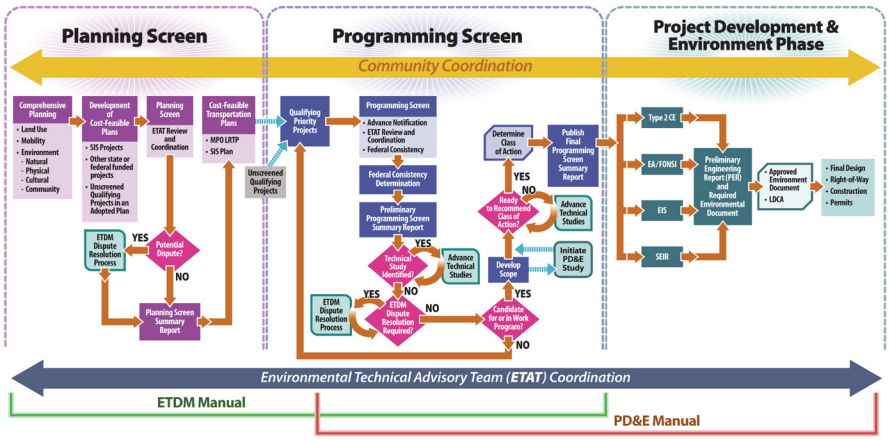
Potential Measures

These ideas on innovation, collaboration, and potential measures were identified by FDOT's partners through our first Summit for Transportation Partners held in May 2016 and through the Florida Transportation Plan.

- Widespread use of Complete Streets, transit oriented development, and active transportation
- Closer alignment of transportation and land use strategies
- Continue to support regional and community visioning processes
- Continue to coordinate with local governments to better align transportation plans with existing and proposed land use plans
- Coordinate with and provide technical assistance to local governments as they create or retrofit mobility solutions for their communities.
- Develop and implement context-sensitive transportation solutions that reflect community values, needs, and character
- Better align large-scale transportation and conservation planning to maintain, and where possible, restore and enhance the integrity and connectivity of regionally significant lands and waters and to avoid, to the extent feasible, negative impacts on these lands and waters

- Collect and monitor information on community values and transportation preferences.
- Develop a standard walkability index methodology
- Time and cost of commuting
- Percent of trips that are pedestrian and bicycle
- Percent of electric vehicles
- Percent autonomous vehicles
- Percent of people who drive alone
- Develop measure(s) for quality places from a transportation-specific standpoint

Partner Connection Reports



Project Development and Environment (PD&E) Manual

June 2016

ETDM Manual describes planning tools and how to link planning activities with PD&E/NEPA.

PD&E Manual provides project analysts and project managers with a framework for the consistent development of transportation projects to achieve compliance with federal and state laws, regulations, and requirements.