



Performance Briefs

# SIS Performance

October 2010

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*This Performance Brief provides performance information used by the Florida Department of Transportation and others to guide the development and investment decisions for Florida's transportation systems. Additional Briefs and related information on transportation performance reporting in Florida are available at <http://www.dot.state.fl.us/planning/performance>.*

## Introduction

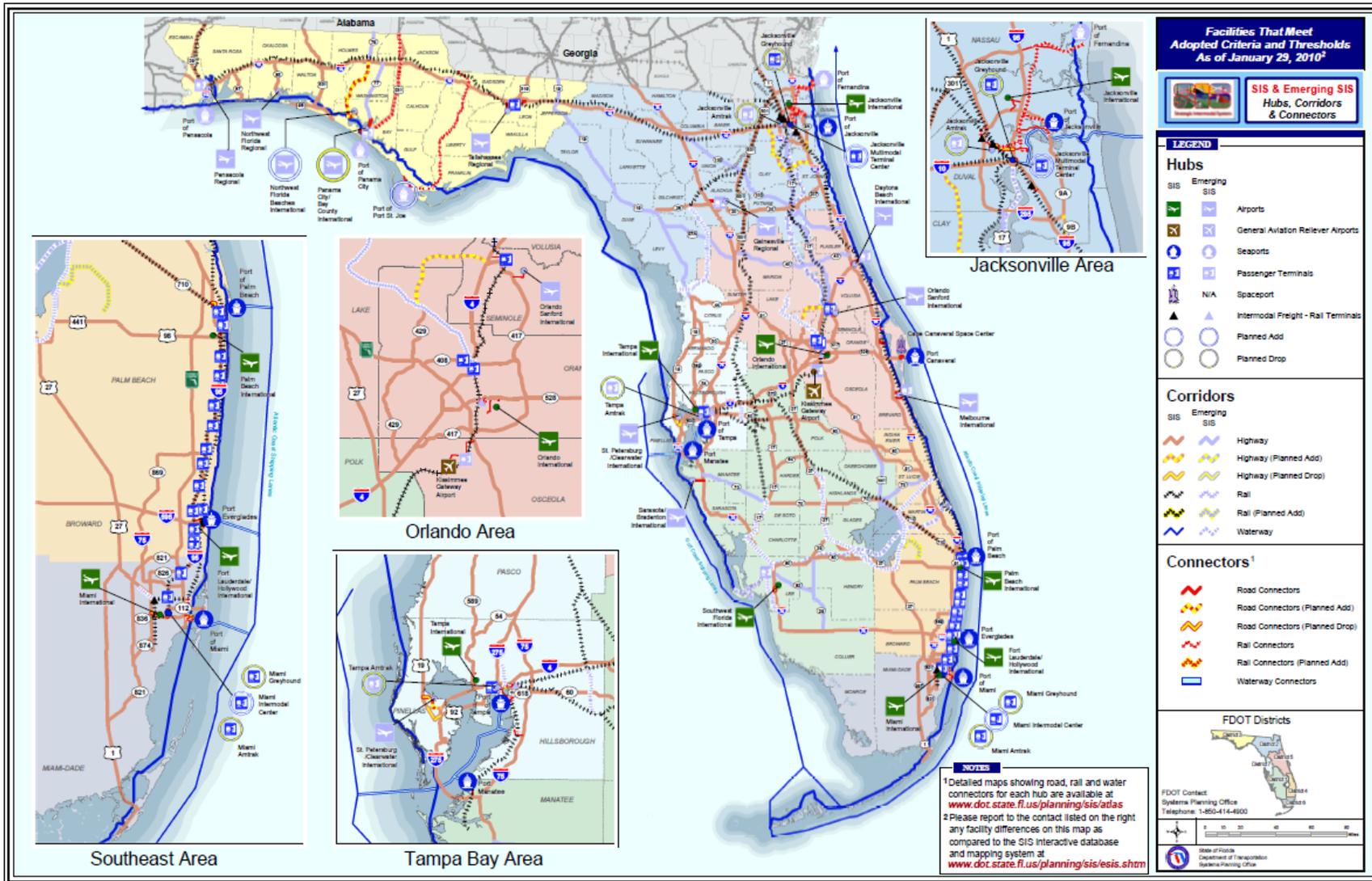
The Strategic Intermodal System (SIS) is a statewide network of high priority transportation facilities, including the state's largest and most significant commercial service airports, spaceport, deepwater seaports, freight rail terminals, passenger rail and intercity bus terminals, rail corridors, waterways, and highways. It was established in 2003 to enhance Florida's economic competitiveness by focusing state resources on the transportation facilities most critical for statewide and interregional travel. These facilities carry more than 99 percent of all commercial air passengers and cargo, virtually all waterborne freight and cruise passengers, almost all rail freight, 89 percent of all interregional rail and bus passengers, more than 70 percent of all truck traffic and 55 percent of total traffic on the State Highway System. Thus the SIS comprises the backbone of the transportation system.

A Strategic Plan for the SIS was adopted in 2005 outlining a fundamental shift in Florida's transportation policy toward proactive planning of future transportation investments. An updated SIS Strategic Plan was adopted on January 29, 2010. This first SIS Performance Brief is intended to assess the progress the department and its transportation partners have made in realizing the goals and objectives of the Strategic Intermodal System.

## SIS Facilities

Four types of facilities make up the SIS – Hubs such as airports, seaports and rail terminals; Corridors such as highways, rail lines and waterways; Intermodal Connectors between these hubs and corridors; and Military Access Facilities linking SIS corridors to the state's strategic military installations. These are grouped into two categories: "SIS facilities" and "Emerging SIS" facilities. "Emerging SIS" facilities and services of statewide or interregional significance generally carry lower volumes of people and freight, but are located in fast growing areas or rural areas and therefore may grow in importance in the future.

The share of statewide transportation activity handled by each type of SIS facility generally increased slightly during the past few years. The largest increase was in the share of interregional rail and bus trips handled by the SIS, which rose from 77 percent to 89 percent of such trips in the state.



<b>Strategic Intermodal System Facilities</b>		
<b>Facility Type</b>	<b>SIS</b>	<b>Emerging SIS</b>
<b>Commercial service airports</b> <i>Percent of all Florida enplanements</i> <i>Percent of all Florida air cargo tonnage</i>	7 93% 98%	10 6% 1%
<b>General aviation reliever airports</b>	1	0
<b>Spaceports</b> <i>Percent of all launch activity</i>	1 100%	0 0%
<b>Deepwater seaports</b> <i>Percent of all waterborne freight tonnage</i> <i>Percent of all home-port cruise passengers</i>	7 97% >99%	4 2% <1%
<b>Rail freight terminals</b> <i>Percent of all intermodal rail freight tonnage</i>	5 85%	2 15%
<b>Interregional passenger terminals</b> <i>Percent of all interregional passengers</i>	26 82%	9 7%
<b>Rail corridors</b> <i>Percent of all interregional rail passengers</i> <i>Percent of all freight rail tonnage</i>	1,701 mi 100% >90%	370 mi 0% <10%
<b>Waterway corridors</b> <i>Percent of all waterborne freight on coastal and international shipping routes</i> <i>Percent of all waterborne freight on inland interregional waterways</i>	1,999 mi 100% 55%	294 mi 0% 11%
<b>Highway corridors</b> <i>Percent of vehicle miles traveled on SIS</i> <i>Percent of truck miles traveled on SIS</i>	3,528 mi 54% 70%	761 mi
<b>Intermodal Connectors</b> Highway (centerline miles) Rail (mainline miles) Waterway (miles)	572 192 258 179	
<p><b>Note:</b> Data as of October 2010. Includes Planned Add SIS and Planned Add Emerging SIS in the totals.</p> <p>Source: Florida Department of Transportation</p>		

## Florida Transportation Plan

The large share of passenger and freight trips in Florida on the SIS, and the magnitude of impacts of the SIS result in SIS planning and investment decisions needing to address the goals established for the state transportation system as adopted in the Florida Transportation Plan (FTP):

- A safer and more secure transportation system for residents, businesses and visitors.
- Enriched quality of life and responsible environmental stewardship.
- Adequate and cost-efficient maintenance and preservation of transportation assets.
- A stronger economy through enhanced mobility for people and freight.
- Sustainable transportation investments for Florida's future.

The SIS addresses these goals in many ways:

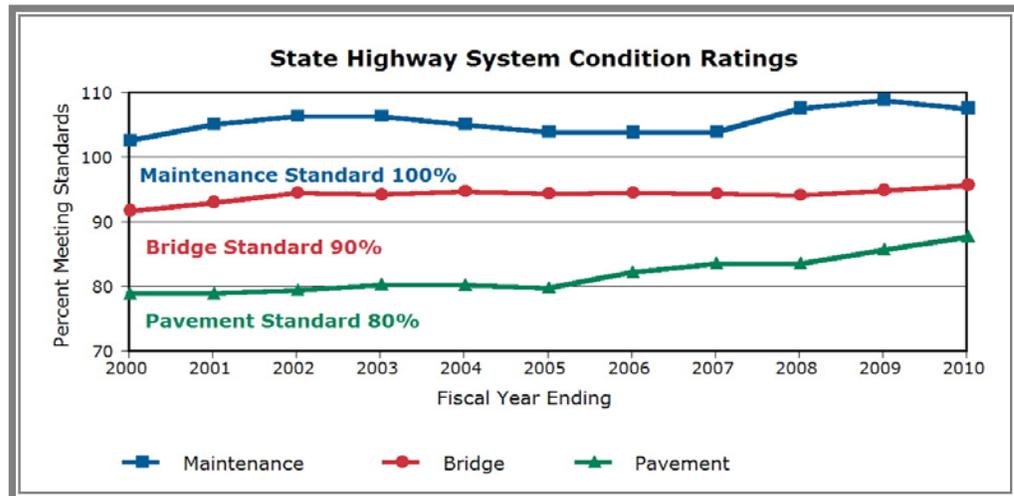
- **Safety and security.** Safety remains the state's highest priority transportation goal. Reducing fatalities and serious injuries continues as a priority consideration as FDOT and its partners make SIS planning and investment decisions for all transportation modes. FDOT and partners also continue to support educational, enforcement, and emergency response activities to enhance safety and enhance the security of SIS facilities, while ensuring mobility for all users.
- **Quality of life and environmental stewardship.** SIS investments are planned and designed to be compatible and consistent with regional and community plans and visions for future growth and development to the maximum extent feasible. FDOT and partners also coordinate SIS investments with decisions about land use, water, natural, cultural, and historic resources, including statewide goals for improving air quality and reducing energy consumption and greenhouse gas emissions.
- **Preservation and maintenance.** FDOT and other owners of SIS facilities strive to maintain each SIS facility to protect the public's investment. FDOT continues to place a high priority on preserving and maintaining the physical condition of the SIS highways and facilities under state ownership, and encourages other SIS owners, as appropriate, to maintain their systems. Keeping the other SIS facilities in acceptable physical condition is the responsibility of the owners and operators of these facilities, which includes local governments, authorities and private sector companies.
- **Mobility and economic competitiveness.** The SIS by its very nature places its greatest emphasis on the goal of mobility and economic competitiveness by focusing on strategically significant transportation infrastructure. Over the next five years, SIS decisions will work toward seven long range objectives supporting this goal, as listed below.

- **Sustainable Investments.** Investments in the SIS are targeted to preserving the economic sustainability of Florida while striving to support efforts to enhance the environmental sustainability of the transportation system. State transportation investment priorities will continue to recognize the SIS as a strategic and essential statewide interest, while also supporting environmentally sustainable transportation and land use decisions.

The FTP also defines long range objectives for each goal, which apply to the SIS as well as the rest of Florida's transportation system. Objectives specific to the SIS adopted in the 2010 SIS Strategic Plan are each discussed in the remainder of this report and will be the basis for reporting on the performance of the SIS.

### **SIS Objective: Enhance connectivity between Florida's economic regions and between Florida and other states and nations for both people and freight**

Connectivity is critical to Florida's economic competitiveness. The SIS focuses on long distance, interregional corridors. Part of this focus involves keeping the existing facilities in a state of good repair.



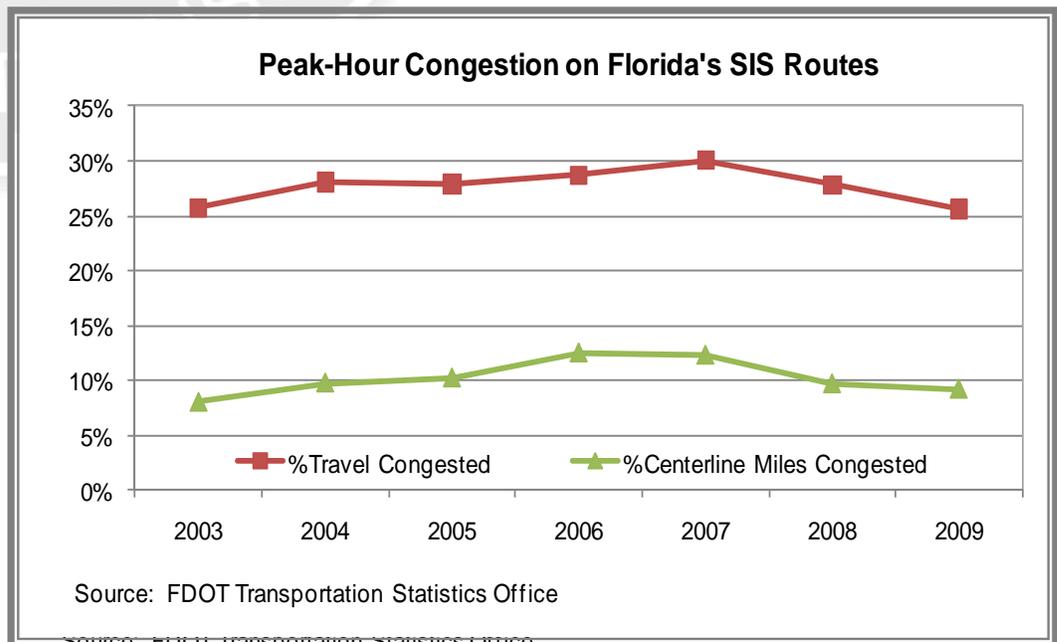
Pavement on SIS highways is in good condition. Almost 88 percent of lane-miles met FDOT standards in fiscal year 2010, up from 82 percent in 2003. While the condition of SIS bridges is not separately reported, almost 96 percent of all FDOT-maintained bridges met structural standards for fiscal year 2010. All bridges open to the public are safe. FDOT also exceeded its targets for roadway condition, traffic services, roadside, drainage and aesthetics.

The high level of performance of these measures reflects FDOT's longstanding commitment to maintaining the condition of existing assets before adding new

capacity. It also ensures interregional connectivity for Florida's businesses, residents and tourists.

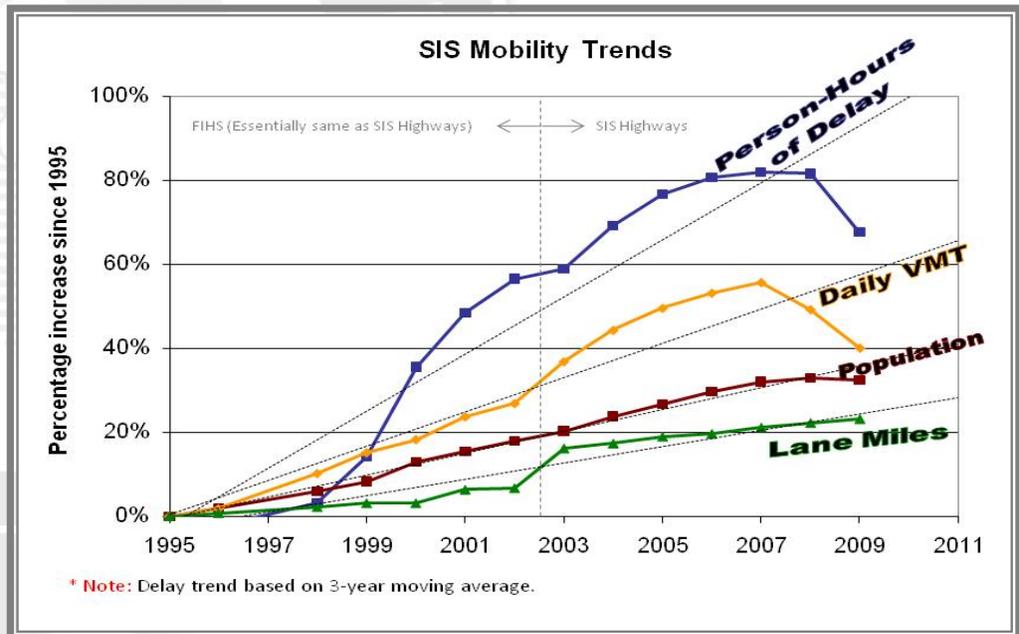
### **SIS Objective: Reduce delay on and improve the reliability of travel and transport using SIS facilities**

Speed to market for goods and services is a critical factor in determining Florida's global competitiveness. Congestion and delay add to the cost of doing business and reduce the quality of life in Florida – all of which reduce the appeal of Florida to residents, visitors, and businesses. Delay is the difference between the anticipated travel time (free flow speed) and the estimated travel time (actual average speed). The level of delay signals the need for additional capacity or operating improvements to accommodate demand.

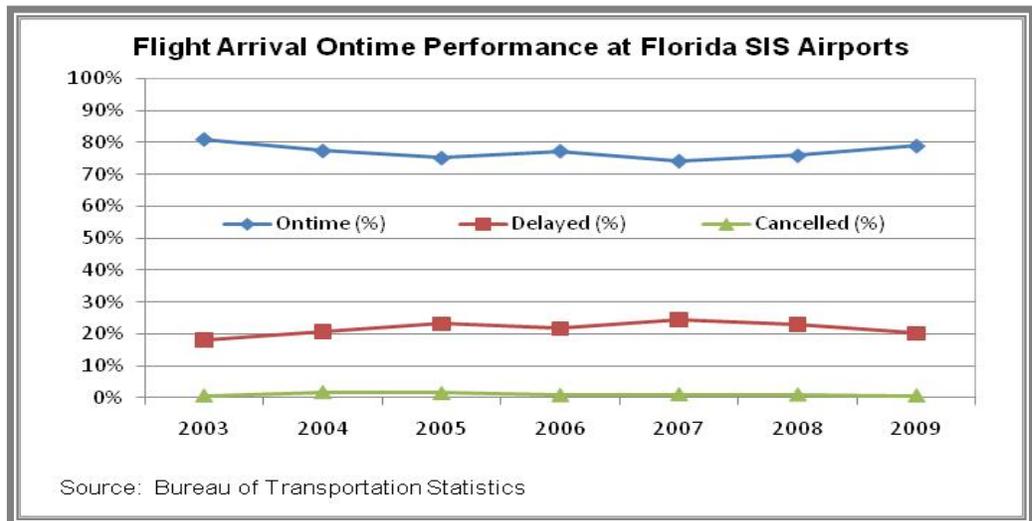


Peak-hour congestion on SIS highways had steadily been on the rise for both centerline miles and daily vehicle miles traveled (DVMT). In 2007, congested travel grew to as high as 30% of total travel on SIS. Over 12% of SIS centerline miles were congested. Due to the economic recession, congestion declined in 2008 and 2009. Continued monitoring of the situation is warranted.

Since 1995, the average annual increase in person-hours of delay has been 4.6 percent. In general, VMT on the SIS is growing at a faster rate than population and lane miles. In 2009, daily person-hours of delay on the SIS were 299,500 hours.



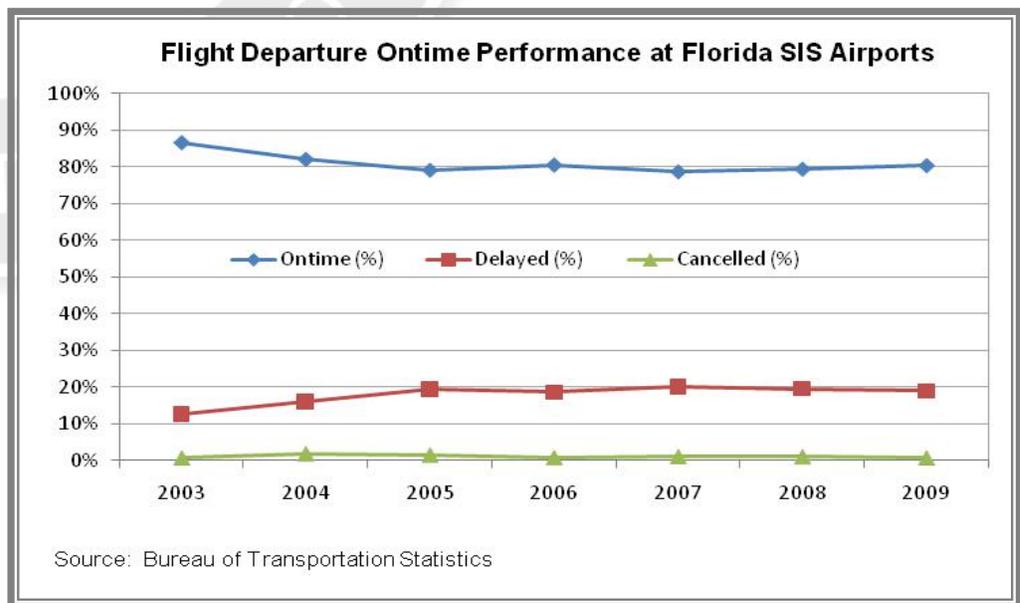
Although the recession has temporarily eased pressure, delay growth is expected to resume when economic activity and population growth pick up. Logistics costs are trending upward nationwide due to increases in fuel costs and congestion, and the impact of unexpected congestion on travel time reliability is a particular concern for businesses.



Congestion and delay also play a role in airport performance. Service availability and on-time performance are two major indicators affecting airport performance.

Service availability refers to the connectivity and frequency of service to major destinations. On-time performance is influenced by numerous factors, including weather and airport construction programs, but significantly by the willingness of the airlines to schedule services at times having adequate airport/airfield capacity.

The desire to accommodate passengers' preferred travel times often conflicts with available capacity. Airlines are tempted to plan service in the most preferred departure times and then have a higher probability of congested conditions causing a delay. Weather and delays in other locations also affect performance at Florida airports.



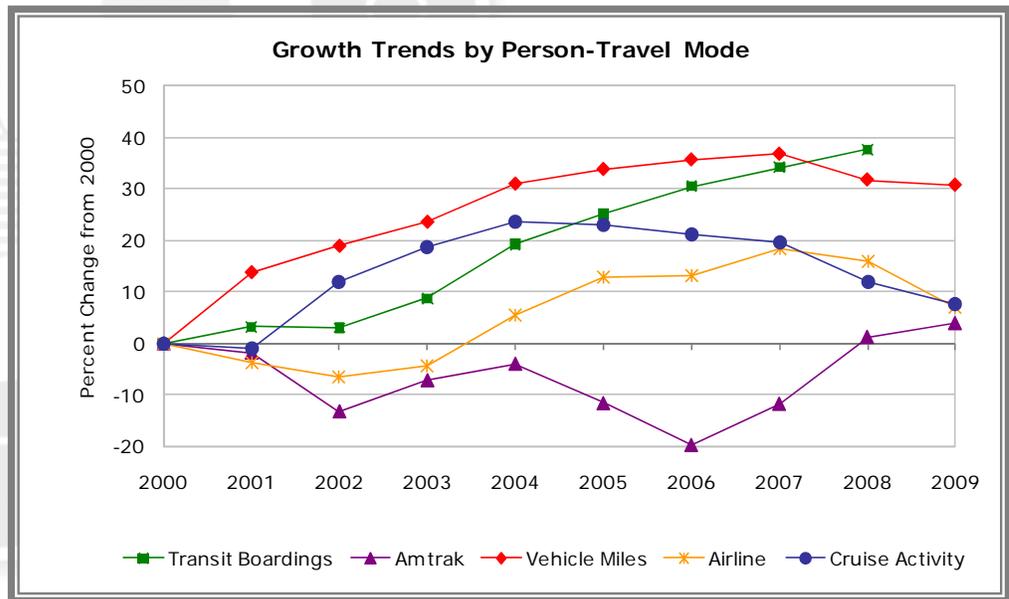
Over the years, Florida SIS airports have experienced similar patterns for on-time departures and arrivals. Generally, there has been a decline in the percent of flights departing and arriving at the airports on time. There was a slight improvement in 2006 and 2009, but flight on-time performance was still poorer than in 2003.

FDOT will continue to monitor delay and reliability trends on SIS facilities. FDOT will also work with modal partners to better evaluate the efficiency and reliability of other SIS modes where data is less available within the public sector.

### **SIS Objective: Expand modal alternatives to SIS highways for travel and transport between regions, states, and nations**

As Florida's population and economy become more diverse, businesses and residents need more transportation choices. Alternatives to highways for interregional

connections are limited in many parts of Florida, particularly transitioning and rural areas.



- Preliminary results reveal passenger enplanements at SIS airports increased over 14 percent between 2003 and 2009, to over 64 million.
- Total tonnage handled at SIS seaports increased 4.9 percent between fiscal years (FY) 2002 and 2007, reaching almost 121 million tons of cargo. In FY 2009, seaport freight saw another decrease from over 115 million short-tons in FY 2002 to below 105 million. The SIS seaports handled 2.7 million containers (measured in twenty-foot equivalent units), and 12.7 million home-port cruise passengers in FY 2009.
- Annual boarding at SIS interregional passenger terminals totaled nearly 6 million passengers in 2007, an increase of more than 27 percent since 2001. Amtrak ridership decreased due to the suspension of the east-west Gulf Coast service following Hurricane Katrina, and Greyhound intercity bus ridership in Florida increased only modestly. However, South Florida commuter rail ridership increased 35 percent.
- Total freight rail tonnage originating in Florida decreased modestly over the past few years. However, the number of intermodal container units originating in the state increased 44 percent between 2004 and 2006, to a total of 848,640 units.
- Annual vehicle miles traveled on SIS highways declined from 59.3 billion in 2004 to 57.4 billion in 2009. Daily truck travel on SIS highways saw a slight decrease from 19.9 million in 2004 to 18.5 million in 2009.

As part of the High Speed Intercity Passenger Rail Program, the Federal Railroad Administration (FRA) recently awarded Florida \$1.25 billion to build the High Speed Rail System along the I-4 Corridor between Orlando and Tampa. This 84-mile system would start at Orlando International Airport, run mostly along the median of Interstate 4 and end at the Tampa Intermodal Center. It will connect the cities in less than an hour at a maximum speed of 168 mph. The system will relieve congestion on Florida's road system and also help relieve congestion pressures at major airports in Florida.

Future SIS investments will also support expanded freight rail service and, potentially, short sea shipping. As air and space transportation evolve to accommodate new technologies for moving people and cargo, SIS investments will support changes in the necessary terminal and intermodal facilities.

**SIS Objective: Provide for safe and efficient transfers for both people and freight between all transportation modes.**

The transportation system needs to interface with residents and activity sites to collect and distribute people and products and the different facility types and modes need to have appropriate connections to operate as an effective system. Virtually all transportation in Florida starts and/or ends at a piece of property in Florida and many of the trips involve more than one mode. The transfer between modes can determine the efficiency of the entire trip.

**Efficient Transfer between Transportation Modes**

The department routinely constructs turn lanes, revises median openings and designs, improves traffic signalization and signal systems, and makes other improvements to the operation of state highways and affected local government roads. Many of these activities are carried out as part of the highway preservation program. These kinds of improvements improve the interface between land uses and the transportation system and improve the treatment and accommodation of walk, bike and transit operations as well as improving the functionality of the roadway system.

Comprehensive access management is an effective strategy to address traffic congestion, crashes, and loss of street capacity. Virtually all the department's new multi-lane highway projects are designed with restrictive medians, which greatly enhance the safety of the traveling public. Florida's access management standards and regulations help provide safer and more efficient travel and improve the interface of surface modes.

Effective utilization of the transportation infrastructure and services is supported by development and deployment of sophisticated, fully-integrated, statewide Intelligent Transportation Systems (ITS). These systems represent the application of real-time information systems and advanced technologies as transportation management tools to improve the movement of people, goods and services. FDOT has identified three ITS outcome performance measures: incident duration, travel-time reliability and customer satisfaction.

- ITS managed 1,157 centerline miles of limited access highways by the end of June 2010, representing 54 percent ITS coverage of the Florida SIS highways. The Miles Managed by ITS increased from 35 percent to 54 percent statewide.
- In June 2009, Florida's statewide 511 services integrated all the Florida regional 511 services into one statewide system creating the new Statewide Florida 511 Traveler Information System. So far, over 43 million 511 calls have been made in Florida. Approximately 2.9 million 511 calls were made from July 2009 through June 2010.

Modal integration is also supported by the SIS commitment to supporting the development of intermodal hubs and terminal facilities. The importance of these facilities is recognized by their inclusion and designation as elements of the SIS. SIS resources support the development of these critical facilities.

### **Safe Transfer between All Transportation Modes**

Safety is a consideration not only with the transfers between modes but also during travel on each mode.

- Crashes on SIS and Emerging SIS highway corridors decreased 2.4 percent between 2004 and 2008, 8.9% between 2007 and 2008 and 3.1% between 2008 and 2009. A total of 45,016 crashes occurred in 2009. The number of fatalities decreased 40 percent from 2005 to 2009.
- The total number of highway/rail incidents in Florida decreased almost 50 percent between 2003 and 2009, with fatalities hovering between 10 and 25 per year. Trespass fatalities range from 20 to 32 per year, with 19 in 2009.
- The absolute number of crashes and fatalities on SIS highway corridors remains high. A total of 592 lives were lost in crashes on SIS highway corridors in 2009, with more than one quarter involving pedestrians or motorcyclists.

The FDOT led the effort in developing Florida's Strategic Highway Safety Plan. The five-year plan focuses efforts and resources on four emphasis areas: Aggressive Driving, Intersection Crashes, Vulnerable Road Users (pedestrians, bicyclists, and

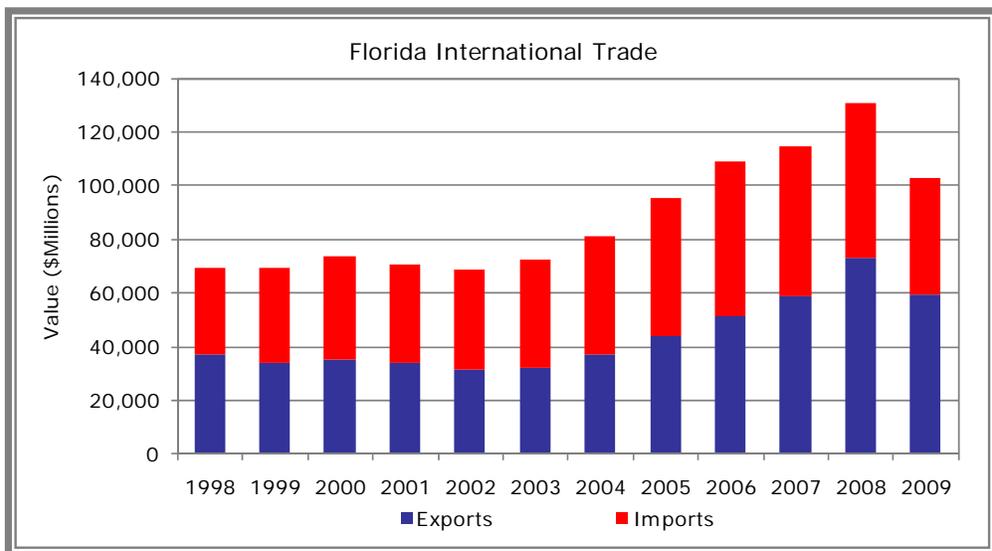
motorcyclists), and Lane Departures. Three continuing priority areas are occupant protection, impaired driving and traffic data and decision support.

FDOT works with modal partners to identify and address intermodal connectivity issues, including changes in connector designation or major investments in existing and new connectors. FDOT provides funding to accommodate pedestrians, bicycles, and local transit vehicles at SIS passenger terminals. SIS investments also are targeted at intermodal terminals and other transfer facilities for both people and freight.

**SIS Objective: Provide transportation systems to support statewide goals related to economic diversification and development.**

FDOT studies estimate every \$1 invested in Florida's transportation system generates \$4.92 of user and economic benefits statewide over a 30 year period. Transportation investments are helping lead Florida's economy out of the recession, and will be a key contributor to statewide growth over the next few decades.

The SIS was implemented during a period of strong growth in Florida's economy. Nearly all of the industries, targeted by Enterprise Florida and identified in the SIS Strategic Plan as dependent on transportation connectivity with other regions, states and nations, expanded between 2003 and 2008 with growth exceeding the national average in warehousing and distribution, high-technology, higher education and tourism.



Both international and domestic trade and tourism grew significantly in Florida during this period, with the additional transportation flows supported by the SIS. The value

of international trade moving to and from Florida – both exports and imports – increased by 48 percent over the past decade, reaching about \$103 billion in 2009. To maintain its competitiveness in international commerce, Florida must ensure the efficiency of both the trade gateways themselves and the highway and rail corridors and connectors serving them.

Florida hosted just over 80 million out-of-state tourists in 2009. Over 51% all tourists arrived in the state via air, with the rest arriving via car.

One driver of this growth has been the access from the SIS to much of Florida's population and economic centers. Approximately 97.5 percent of Florida residents – and over 98 percent of all jobs – are within 50 miles of at least one SIS hub. Nearly 88 percent of Florida's population and 90 percent of the state's employment are located within 5 miles of a SIS highway corridor.

Florida's economy is now in recession, but transportation investment can be a key strategy for helping stimulate future growth. In October 2008, the Governor announced "Accelerate Florida" initiative. FDOT took the challenge and accelerated more than \$1.4 billion in construction projects. The American Recovery and Reinvestment Act of 2009 (ARRA) is providing funding for over 700 transportation improvements in Florida while providing jobs and other economic benefits. FDOT is working in cooperation with federal and local agencies, contractors, consultants and others to deliver these projects as quickly as possible.

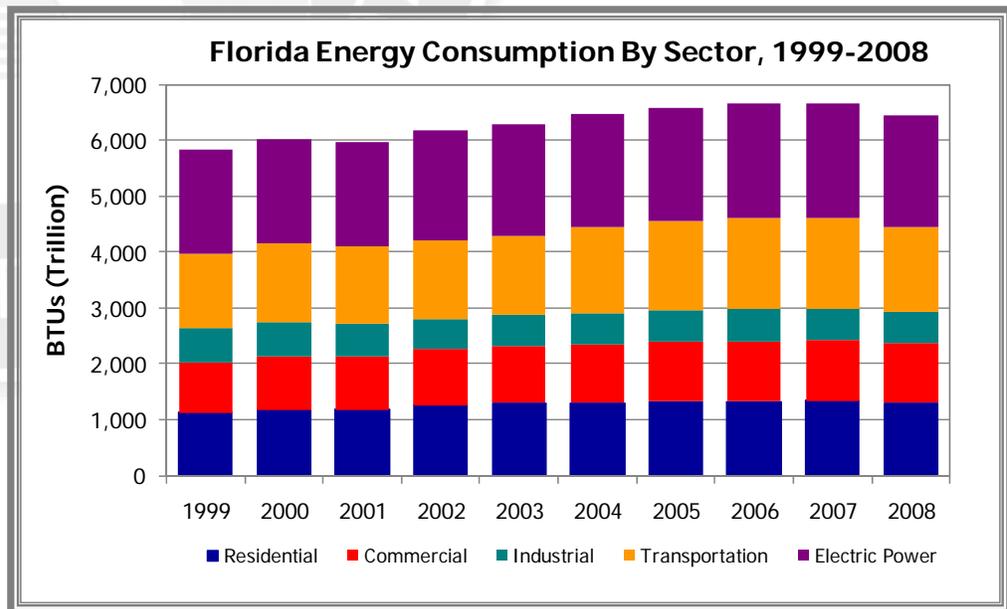
FDOT is strengthening coordination with Enterprise Florida and regional and local economic development organizations to help determine future SIS needs. SIS priorities will continue to include facilitating anticipated growth in domestic and international freight and passenger flows to and from Florida.

### **SIS Objective: Reduce growth rate in vehicle-miles traveled and associated energy consumption and emissions of air pollutants and greenhouse gases.**

Transportation is a major contributor to emissions of greenhouse gases and air pollutants in Florida. Most transportation vehicles rely on some type of fossil fuels as an energy source, and the burning of these fossil fuels produces greenhouse gases and air pollutants.

Florida's consumption of energy increased steadily since the mid-1990s with the exception of 2001. It increased 11 percent between 1999 and 2008 to over 6,449 trillion British Thermal Units (BTU). Energy consumption by transportation grew 15 percent over the same period. In 2008, this consumption accounted for 24 percent of

the total energy consumption. Petroleum is the main source for transportation related energy use. In 2008, transportation used over 90 percent of the petroleum consumed in Florida. The consumption increased from 1,319.1 trillion BTUs in 1999 to 1,516.7 trillion BTUs in 2008, but this consumption declined by 6 percent from the highest year of consumption in 2006. Petroleum consumption for other purposes also experienced a modest decline from 407 trillion BTUs in 1995 to 291 trillion BTUs in 2008.

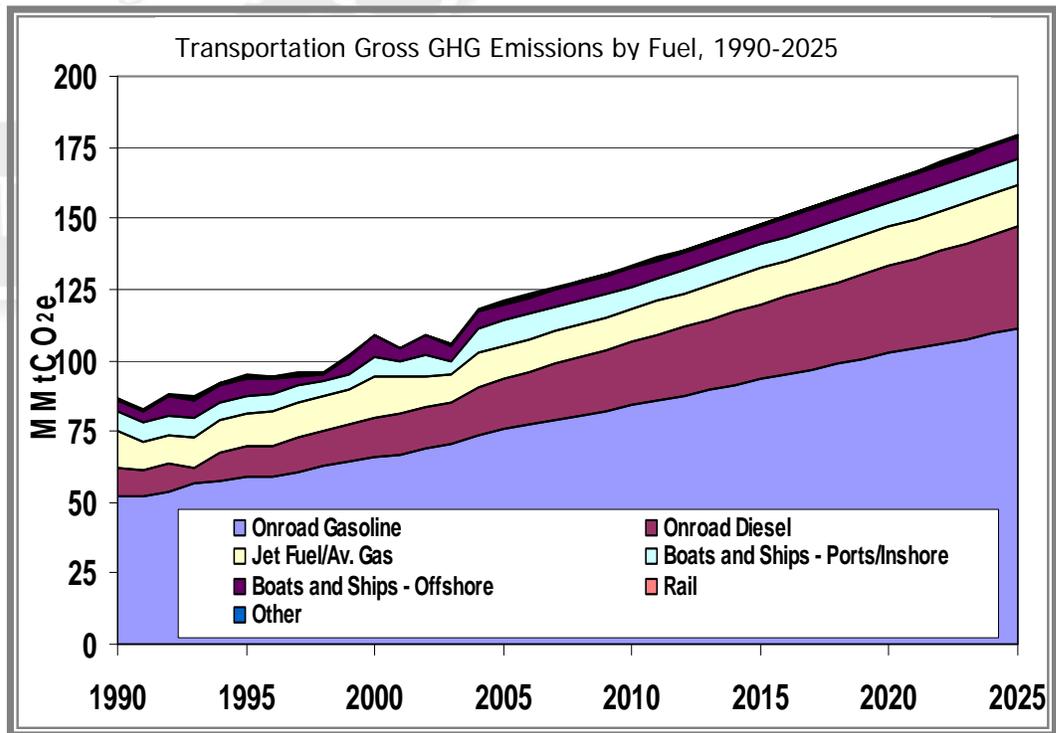


The energy consumption contributes to greenhouse gas (GHG) emissions. The GHG emissions affect the earth's weather and climate. Florida's utility and transportation sectors are major contributors to its gross GHG emissions. The utility sector accounts for 42 percent of GHGs and the transportation sector accounts for 36 percent of GHGs. Future GHG growth in Florida is anticipated to come from these same sectors.

In Florida, personal vehicle travel in cars and light trucks dominates the transportation sector's GHG emissions. They account for almost two-thirds of these emissions. Other trucks account for an additional 15 percent of CO<sub>2</sub> emissions. A breakdown of GHG emissions in the transportation sector by fuel source reveals:

- On-road gasoline consumption was the largest share of transportation GHG emissions, 63% in 2005. It increased 44% from 1990 to 2005. GHG emissions from on-road gasoline consumption are projected to increase as much as 47% between 2005 and 2025.

- On-road diesel fuel consumption accounted for 15% of all transportation GHG emissions in 2005. These emissions increased by 88% from 1990 to 2005. Emissions from on-road diesel consumption are forecasted to increase by 123% from 2005 to 2025.
- Boats and ships accounted for 12% of total transportation GHG emissions, and increased 35% from 1990 to 2005. Marine emissions are projected to increase by 7% from 2005 to 2025.
- Aviation accounted for 9% and decreased 13% from 1990 to 2005. Aviation emissions are projected to increase by 33% from 2005 to 2025.



Source: Florida Department of Environmental Protection

Increased travel in Florida is a major contributor to growth in transportation-related GHG emissions. Daily vehicle miles traveled (DVMTs) on SIS highways are increasing at an annual average of 3%. In 2008, they grew by over 49% from 1995. DVMTs on SIS highways grew from 112.3 million in 1995 to 167.7 million in 2008. Attributable to the economic recession, a reduction in DVMTs was observed from 2007's 174.9 million. Reducing transportation's contributions to climate change involves a four-part strategy: improve vehicle fuel efficiency, reduce carbon content of fuel, increase transportation system efficiency, and reduce growth in travel.

*Florida's Energy and Climate Change Action Plan*, completed in 2008, contains 50 policy recommendations to reduce greenhouse gas emissions and provide a

framework for climate change adaptation strategies. The Action Plan recommends a set of seven policies for the transportation and land use sector offering opportunities for major economic benefits and greenhouse gas emission reductions. Many of the Action Plan recommendations reinforce ongoing activities within the department to move the agency forward in addressing climate change:

- Increasing transportation system efficiency by reducing congestion and delay,
- Reducing growth in vehicle miles traveled by funding alternative modes,
- Piloting pricing strategies to reduce congestion and vehicle miles traveled,
- Working cooperatively with partners on regional visioning efforts to encourage sustainable development patterns reducing greenhouse gas emissions,
- Improving and making agency operations more efficient, and
- Supporting transit “new starts” projects and transit studies.

**SIS Objective: Help ensure Florida’s transportation system can meet national defense and emergency response and evacuation needs.**

Florida is vulnerable to a variety of hazards which threaten our communities, businesses, and the environment. Potential hazards include hurricanes, floods, wildfires, and acts of terrorism. The SIS serves a critical role in supporting the unique mobility needs of the military and emergency responses. During the 2010 SIS Strategic Plan update process, criteria was developed for designating transportation facilities linking SIS corridors to the state’s strategic military installations. The criteria consider the number of military and civilian personnel at each installation, as well as the access facilities designated as part of the federal Strategic Highway Network and/or the Strategic Rail Corridor Network. The criteria also consider the unique functions served by particular installations, such as the Governor’s Continuity of Government site at Camp Blanding as a base for statewide emergency response.

### **Transportation Security**

Transportation security involves entities outside of the transportation field and requires close coordination and effective working relationships with adequate support at all levels:

- The military has a large and growing presence in Florida, with the U.S. Department of Defense operating 20 military installations and 3 unified commands in Florida. The military needs sufficient transportation infrastructure to support regular trips of personnel and equipment to and

from Florida’s installations, to link installations and services, and to enable rapid deployment during emergencies.

- Florida Division of Emergency Management at the state level and local governments at the local level are responsible for emergency management including preparedness planning, response and recovery activities. These government agencies work as a team with emergency responders and other agencies at federal, state and local levels as well as private sector and volunteer organizations.
- U.S. Department of Homeland Security, Transportation Security Administration, other designated federal agencies, the Florida Department of Law Enforcement, the Florida Department of Transportation Motor Carrier Compliance Office (MCCO) and other transportation partners have a shared role in improving security of the transportation system.

Activities of the MCCO personnel directly related to domestic security include inspection of vehicles transporting, or suspected of

<b>Measures of Effectiveness</b>	<b>Baseline FY2000/01</b>	<b>FY2008/09 Data</b>
Number of commercial motor vehicle safety inspections performed	62,813	107,085

transporting, hazardous materials. Such enforcement activities include inspection of shipping papers, placards, markings, packaging, and proper loading of hazardous materials containers. Domestic security visits to motor carriers and shippers of hazardous materials are conducted to ensure compliance with the regulations and to provide education and training to carriers on how to secure their trucks and terminals. This domestic security awareness program is designed to reduce the likelihood such materials and vehicles are used as a weapon.

The MCCO maintains part of the responsibility for ensuring the state’s critical transportation infrastructure such as roads, bridges, etc., is protected from any attempt to disrupt the flow of commerce or otherwise deny the use of such structures. Its office personnel also serve on all seven Regional Domestic Security Task Forces throughout Florida as well as Florida’s Domestic Security Oversight Board’s Executive Committee.

### **Emergency Response and Evacuation Plans**

The department enforces Florida’s weight, size and safety laws to make the roads a safe place to operate for trucks and other vehicles. It plays a key role in working with local Incident Response Teams when highway crashes involve large trucks. The department and Florida Highway Patrol adopted the Open Road policy to clear

damaged vehicles, spilled cargo and debris as soon as it is safe to do so. The department also provides the Road Rangers services along major state roads to assist in the clearance of traffic crashes and to help stranded motorists ultimately to keep the traffic moving.

Florida 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. Florida's SIS facilities contributed to emergency management and operations during six hurricanes in 2004 and 2005 without a major system failure other than those related to storm damage such as destruction of the Pensacola Bay Bridge on Interstate 10.

After Hurricane Floyd in 1999, Florida developed a contraflow evacuation plan in order to better respond to future hurricanes and other natural disasters. In 2005, FDOT revisited the plan to re-examine the department's hurricane response policies and procedures to improve safety and efficiency during times of natural disasters. The study resulted in a number of recommendations key to a successful contraflow operation:

- Plan beginning and ending
- Limit choices for motorists
- Keep communications with evacuees open
- Provide media outreach
- Develop comprehensive plans
- Develop shoulder-use plans

In 2007, Florida changed the term "contraflow" to "reverse lanes".

## Major Challenges and Next Steps

The FDOT will propose to the Legislature the removal of the Florida Intrastate Highway System (FIHS) from Florida Statutes. The removal of the FIHS will present some challenges in implementing the 2010 SIS Strategic Plan such as determining new stand-alone criteria and thresholds for designating SIS highways without the use of FIHS, and project prioritization of non-highway projects vs. highway projects, etc.

The 2010 SIS Strategic Plan has also identified the major challenges the state is facing:

- Growth in travel by residents, visitors, and freight will increase pressure on Florida's highways. Without additional investments beyond those currently scheduled, congestion is anticipated to become a problem during peak

periods along many of Florida's major highway corridors, including segments in urban, emerging and rural areas by 2025.

- The state's rail system's capacity may not be sufficient to support anticipated growth in demand for moving both people and freight.
- By 2022, over half of all SIS airports will operate at more than 80 percent of airside capacity, the point at which capacity improvements are needed.
- Most seaports face or will soon face constraints including navigation channel, turning basin and berth capacity; terminal space; compatibility with adjacent land uses; truck and rail access; and connectivity with key inland markets.
- Draft (channel depth) constraints, width restrictions, bridge clearances and recreational boating traffic can impede freight flows on SIS waterways.
- Projected transportation funding from all sources – federal, state, local and private – will not be sufficient to pay for all needed improvements to the SIS. Recent estimates have identified in excess of \$53 billion in unfunded investment needs on SIS facilities, an amount likely to rise as the Multimodal Needs and Multimodal Cost-Feasible Plans are updated.

The 2010 SIS Strategic Plan calls for actions in the following areas: interregional connectivity, efficiency, choices, intermodal connectivity, economic competitiveness, energy and climate, and emergency management. Through public involvement and continuous partnership with various transportation entities, FDOT will coordinate investments, build consensus around priorities, identify and fund specific investments, and ensure the success of the SIS.