

Technical Memorandum 4.3

Interstate 4 Corridor Implementation Plan for Florida's Principal FHHS Limited-Access Corridors

Prepared for:

Florida Department of Transportation
ITS Office
605 Suwannee Street, MS 90
Tallahassee, Florida 32399-0450
(850) 410-5600

June 19, 2002

Document Control Panel	
File Name:	Technical Memorandum No. 4.3 – I-4 Corridor Implementation Plan
Created By:	Travis Justice David Chang
Date Created:	February 21, 2002
Version Number:	2
Reviewed By:	Terrel Shaw
Reviewed By:	Travis Justice
Modified By:	Pamela Hoke
Date Modified:	June 19, 2002

Table of Contents

1.	Introduction	1
1.1	Purpose	1
1.2	Corridor Description.....	1
1.3	Document Organization	1
2.	Legacy Systems.....	4
2.1	Current ITS Plans and Programs.....	11
2.2	Existing Communications Infrastructure.....	15
2.3	Proposed Capacity Improvement Projects.....	15
3.	Need for ITS and Proposed Deployment Concepts	21
3.1	Needs, Issues, Problems, and Objectives	21
3.1.1	Safe Transportation – Moving People and Goods Safely.....	21
3.1.2	System Management – Preservation and Management of Florida’s Transportation System	22
3.1.3	Economic Competitiveness – A Transportation System that Enhances Florida’s Economic Competitiveness	24
3.1.4	Quality of Life – Increasing Mobility Options for a More Livable Florida.....	25
3.2	Mission and Vision	26
3.2.1	Mission.....	26
3.2.2	Vision.....	26
3.3	Themes, Strategies, and Market Packages for Implementation	27
3.3.1	Coordinated Operations	27
3.3.2	Active Facilities Management	30
3.3.3	Information Sharing.....	31

4. Gap Analysis and Other Deployment Issues 33

4.1 Needs Gap Analysis by Segment and Market Packages..... 33

4.2 Deployment Issues 34

5. Summary 35

List of Tables

Table 3.1 – Recommended Market Packages for the <i>ITS Master Plans</i> from <i>NITSA</i>	28
Table 5.1 – I-4 Corridor Ten-Year ITS Cost-Feasible Plan.....	36

List of Figures

Figure 1.1 – I-4 Corridor Location	2
Figure 2.1 – I-4 Corridor Interchange Locations	5
Figure 2.2 – I-4 Corridor Area Types	6
Figure 2.3 – I-4 Corridor High Crash Frequency Locations.....	7
Figure 2.4 – I-4 Corridor – 2000 AADT.....	8
Figure 2.5 – I-4 Corridor – 2010 AADT.....	9
Figure 2.6 – I-4 Corridor – 2020 AADT.....	10
Figure 2.7 – I-4 Corridor Existing ITS Coverage.....	12
Figure 2.8 – I-4 Corridor Programmed ITS Coverage.....	13
Figure 2.9 – I-4 Corridor Planned ITS Coverage	14
Figure 2.10 – I-4 Corridor Microwave Tower Locations	16
Figure 2.11 – I-4 Corridor Existing Fiber Optic Cable.....	17
Figure 2.12 – I-4 Corridor Programmed Capacity Improvements.....	18
Figure 2.13 – I-4 Corridor Planned Capacity Improvements	19
Figure 2.14 – I-4 Corridor Cost-Feasible Capacity Improvements	20
Figure 5.1 – District 5 Ten-Year ITS Cost-Feasible Plan.....	46
Figure 5.2 – District 7 Ten-Year ITS Cost Feasible Plan.....	47

List of Acronyms

AADT	Average Annual Daily Traffic
AHS	Automated Highway System
APTS	Advanced Public Transportation System
ATIS	Advanced Traveler Information System
ATMS	Advanced Traffic Management System
AVSS	Advanced Vehicle Safety System
CVO	Commercial Vehicle Operations
DASH	Daytona Area Smart Highways
E-911	Enhanced 911
EPS	Electronic Payment System
ETC	Electronic Toll Collection
FDOT	Florida Department of Transportation
FFN	Florida Fiber Network
FHP	Florida Highway Patrol
FHWA	Federal Highway Administration
FIHS	Florida Intrastate Highway System
FMS	Freeway Management System
FON	Fiber Optic Network
HAZMAT	Hazardous Materials
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
ICC	Interstate Commerce Commission
IMS	Incident Management System
ITS	Intelligent Transportation System
MCO	Maintenance and Construction Operations
NITSA	<i>National Intelligent Transportation System Architecture</i>
ORT	Open Road Tolling
RR Service Patrols	Road Ranger (Service Patrols)
RWIS	Road Weather Information System
SIS	Strategic Intermodal System
SMIS	Surveillance Motorist Information System
SUL	Special-Use Lane
TMC	Traffic Management Center
VMT	Vehicle Miles Traveled
VPD	Vehicles Per Day
WIM	Weigh-in-Motion

1. Introduction

1.1 Purpose

This corridor implementation plan was prepared to outline a series of priorities, conceptual project descriptions, and an estimate of project costs to deploy intelligent transportation systems (ITS) along the Interstate 4 (I-4) corridor. This report draws extensively on previous technical memoranda developed for the principal Florida Intrastate Highway System (FIHS) limited-access corridors and the *I-4 Corridor Study* completed in 2001. This implementation plan was defined following a systems engineering approach that reflects the user needs, issues, problems, and objectives. These needs, issues, problems, and objectives were organized into a vision statement, mission statement, goals, objectives, and performance measures, and documented in a series of user services from the *National ITS Architecture (NITSA)* that includes consideration of the Evacuation Coordination and Maintenance and Construction Operation (MCO) User Services outlined in *Technical Memorandum No. 2 – ITS Needs Model*. Market packages were identified that satisfy the user services. The market packages were then mapped to projects recommended for advancement along the corridor. This approach provides traceability of the recommended projects to the vision, goals, and objectives developed in concert with the stakeholders for the corridor.

1.2 Corridor Description

The limits of the I-4 corridor are from Interstate 275 (I-275) in Hillsborough County to Interstate 95 (I-95) in Volusia County. I-4 begins in Hillsborough County from I-275 traversing through Polk, Osceola, Orange, and Seminole counties and terminating at I-95 in Volusia County. District 7 will be responsible for command and control of I-4 from I-275 to U.S. 27 (Polk County). District 5 will control I-4 from U.S. 27 (Polk County) to I-95 in Volusia County. District 1 will provide maintenance for I-4 in Polk County. Figure 1.1 shows the corridor location.

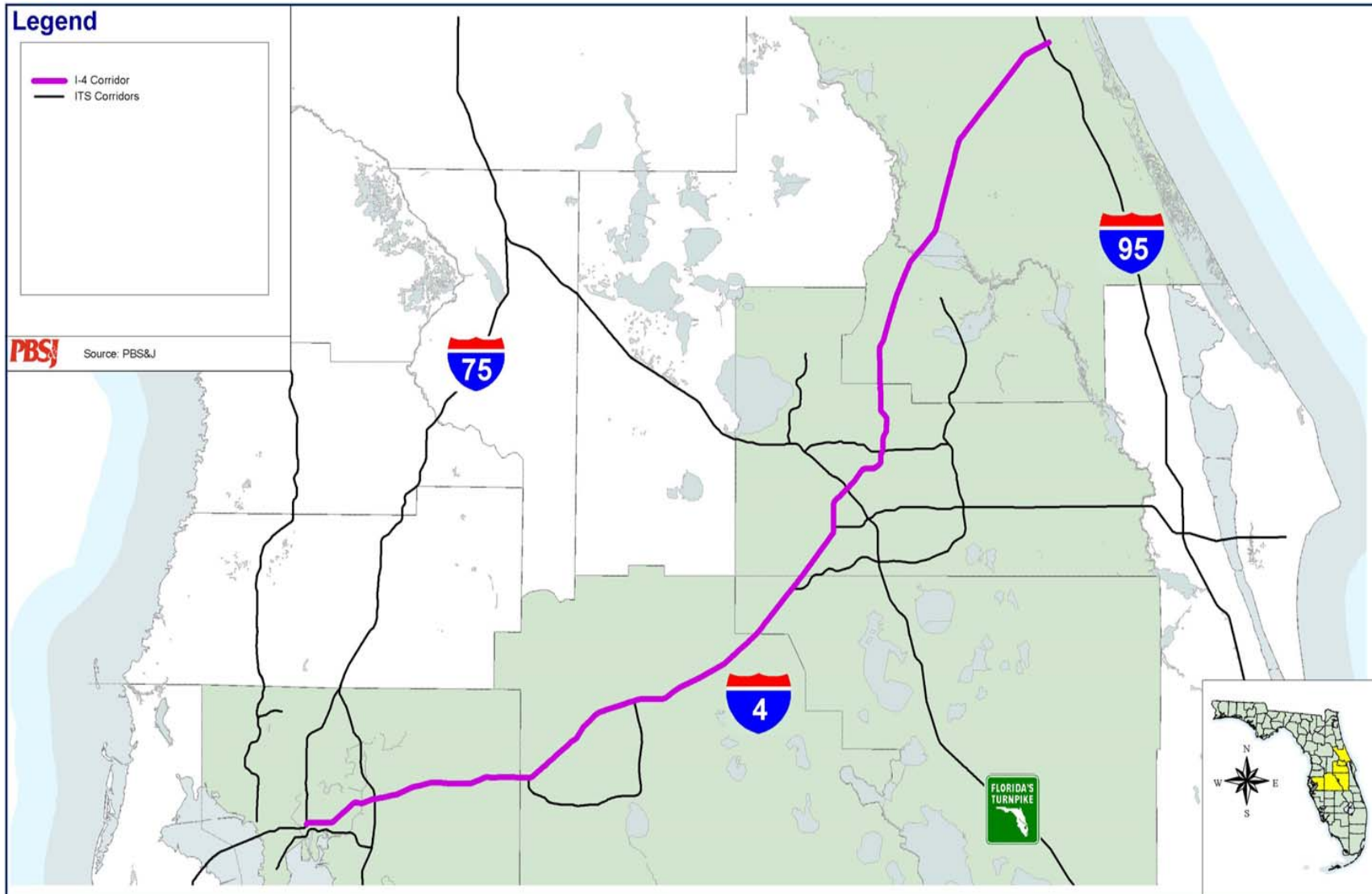
1.3 Document Organization

This document is organized to be a stand-alone summary of the corridor-level analysis provided in support of the *ITS Program Plan* and to document the *ITS Corridor Master Plans* for the I-4 corridor.

Section 2 of this document details the current physical and operational characteristics along the I-4 corridor.

Section 3 presents the needs, issues, problems, and objectives defined along the FIHS limited-access facilities, and details the mission statement, vision, and market packages selected for implementation along the corridor.

Figure 1.1 – I-4 Corridor Location



Section 4 details the identification of gaps in existing, programmed, and planned ITS services along the corridor as defined by the market package selection.

Section 5 discusses the proposed agency roles and responsibilities in the deployment, operations, and maintenance of the ITS.

Section 6 identifies the recommended conceptual ITS projects for the corridor and details the costs, benefits, and impacts associated with the deployment of the proposed projects.

Section 7 presents the report summary.

2. Legacy Systems

The following text identifies existing physical and operational conditions along the I-4 corridor as presented in *Technical Memorandum No. 1 – ITS Legacy Catalog* prepared for the FHHS *ITS Corridor Master Plans*:

- I-4 consists mainly of four general-use lanes except for small sections in Hillsborough and Orange counties that are comprised of six to eight lanes.
- I-4 also has a somewhat high interchange density of 2.2 miles per interchange. Its highest interchange densities are located within the urban areas of Hillsborough and Orange counties. The interchange locations for I-4 are shown on Figure 2.1 and the corridor area types are illustrated in Figure 2.2.
- Several high accident locations are scattered throughout the I-4 corridor. The area exhibiting the highest concentration of accidents is the interchange of I-275 and I-4 located in the downtown Tampa area. Typically, large interstate-to-interstate interchanges experience high accident volumes due to the complex nature of the weaving and merging patterns at these interchanges. The high crash frequency locations for I-4 are shown in Figure 2.3.
- The I-4 corridor has an average of 91,013 vehicles per day (vpd) average annual daily traffic (AADT) for the year 2000. The traffic volume is estimated to increase 31 percent from 2000 to 2010 with 132,045 vpd and 32 percent from 2010 to 2020 with 195,003 vpd. The largest projected area of growth for the corridor is the Orlando/Orange County area. Travel demand in Orange County is expected to more than double to 310,284 vpd by the year 2020. Seminole County is also forecasted to have the same increase in travel demand. The existing six to eight lane interstate facilities will not be able to accommodate the forecasted demand at adequate levels of service. Volusia County has the lowest projected traffic volume of the corridor. It is expected to increase to 102,600 vpd by 2020. This indicates that I-4 is and will continue to be a highly traveled roadway in an area of increasing population throughout Central Florida. Figures 2.4, 2.5, and 2.6 illustrate the AADT for years 2000, 2010, and 2020, respectively.
- Tourism is Florida's largest industry. Due to the high volume of annual tourists, the state transportation system must be designed to accommodate the social and recreational travel generated by the major tourist attractions and activity centers in addition to supporting the daily commuter and freight travel. Therefore, by locating the state's major activity centers, special generators, and tourist attractions, ITS solutions such as real-time traveler information systems and incident management techniques can be implemented in coordination with multi-modal improvements to improve mobility to and around these major activity centers.

Figure 2.1 – I-4 Corridor Interchange Locations

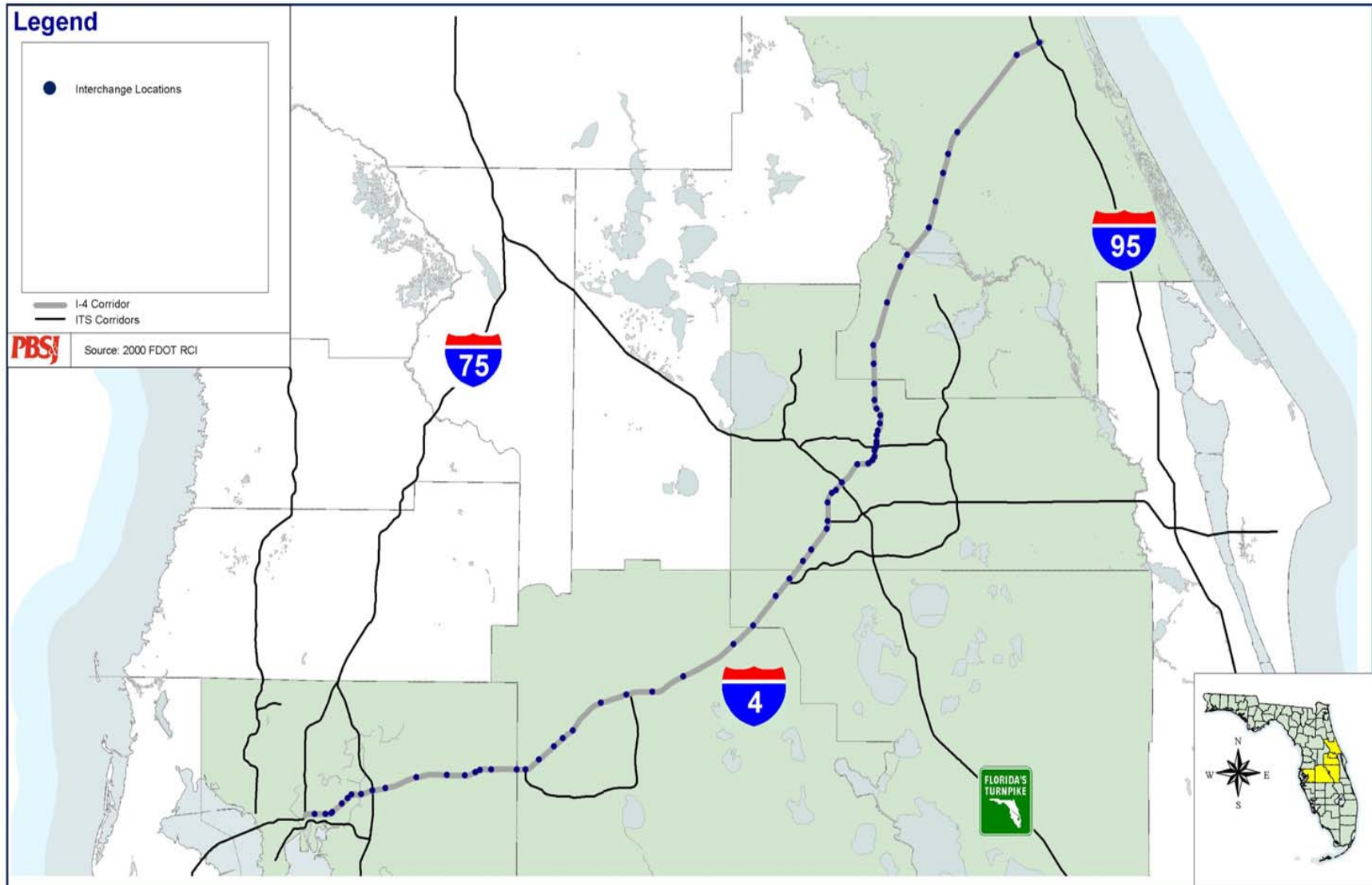


Figure 2.2 – I-4 Corridor Area Types

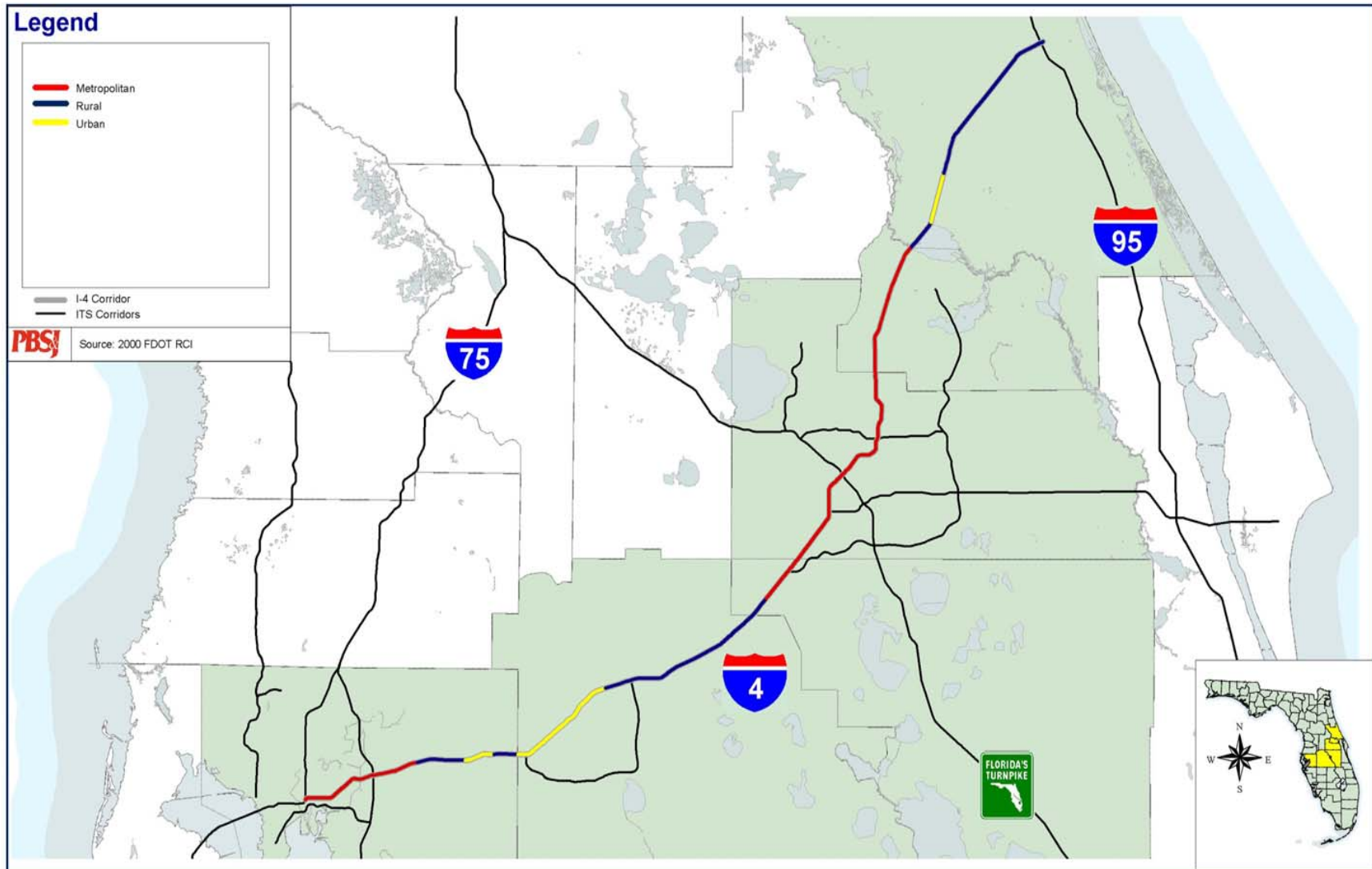


Figure 2.3 – I-4 Corridor High Crash Frequency Locations

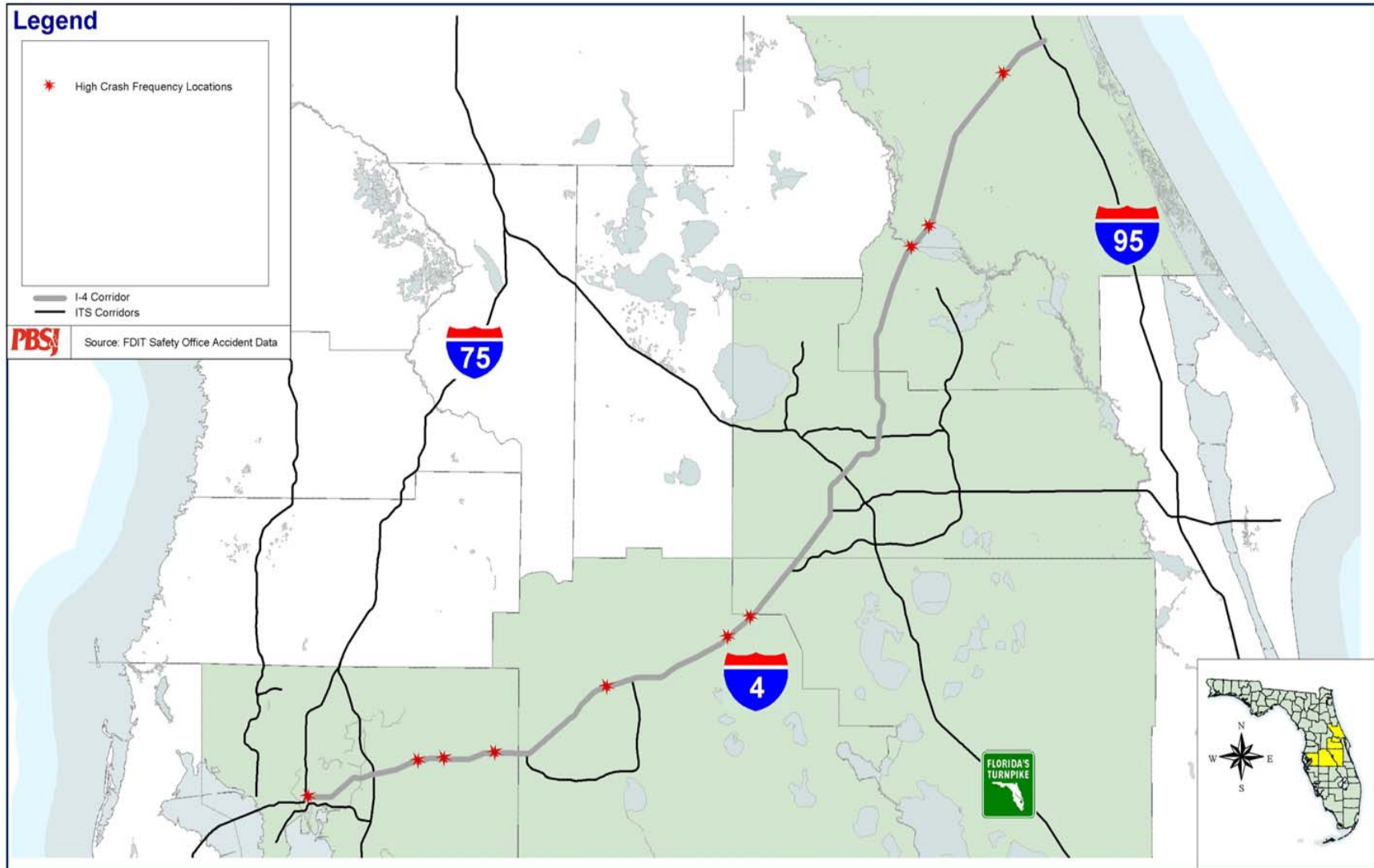


Figure 2.4 – I-4 Corridor – 2000 AADT

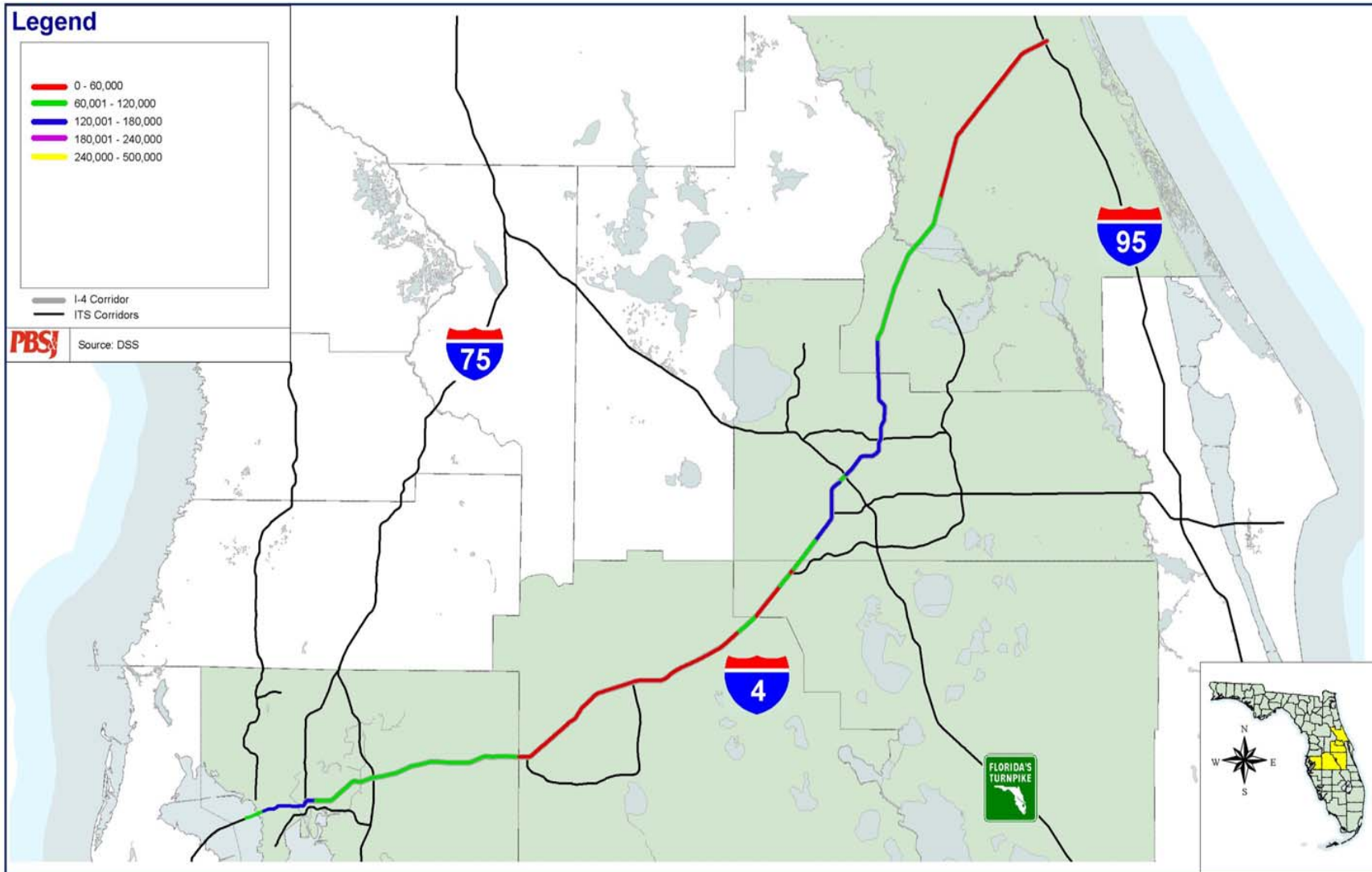


Figure 2.5 – I-4 Corridor – 2010 AADT

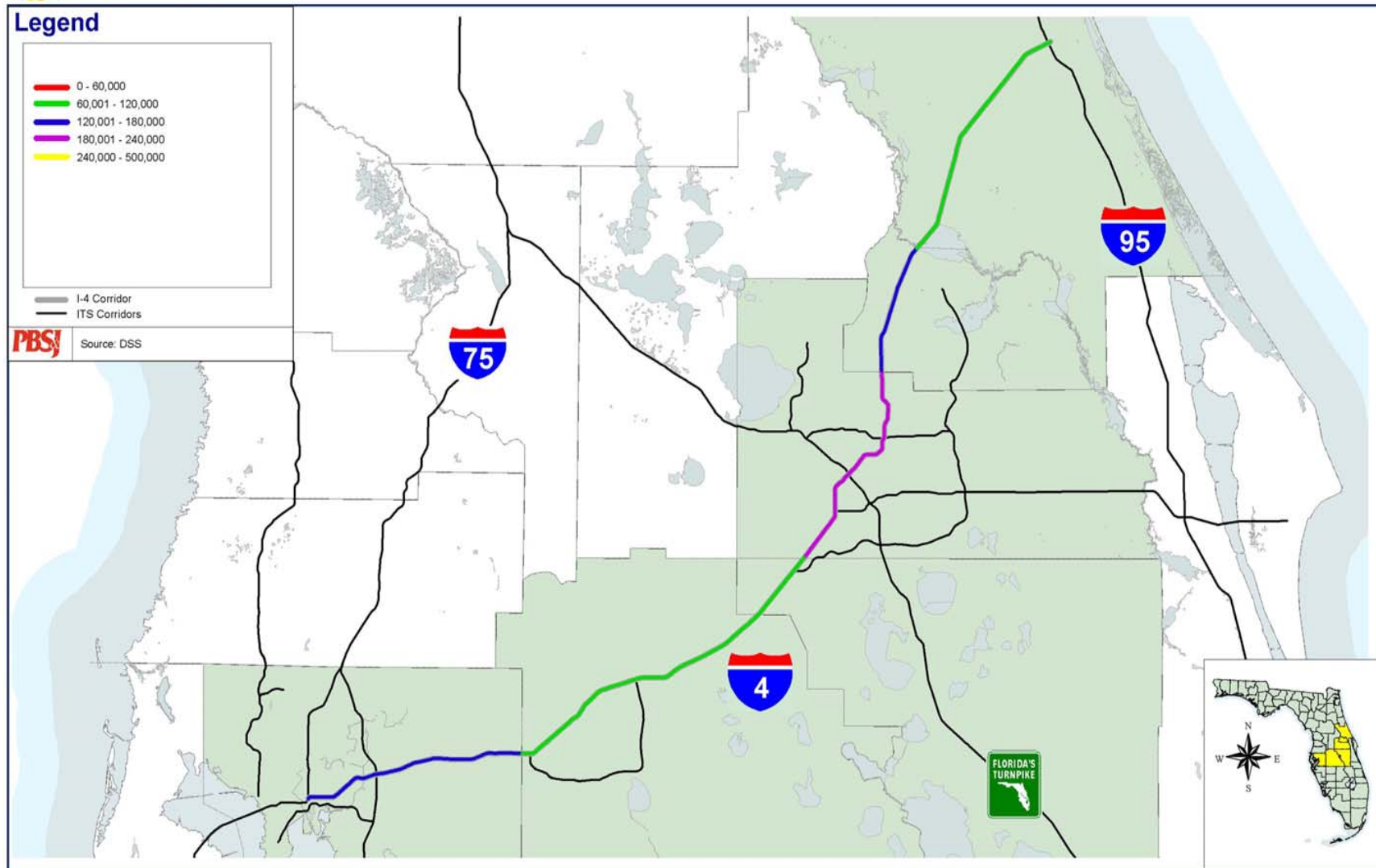
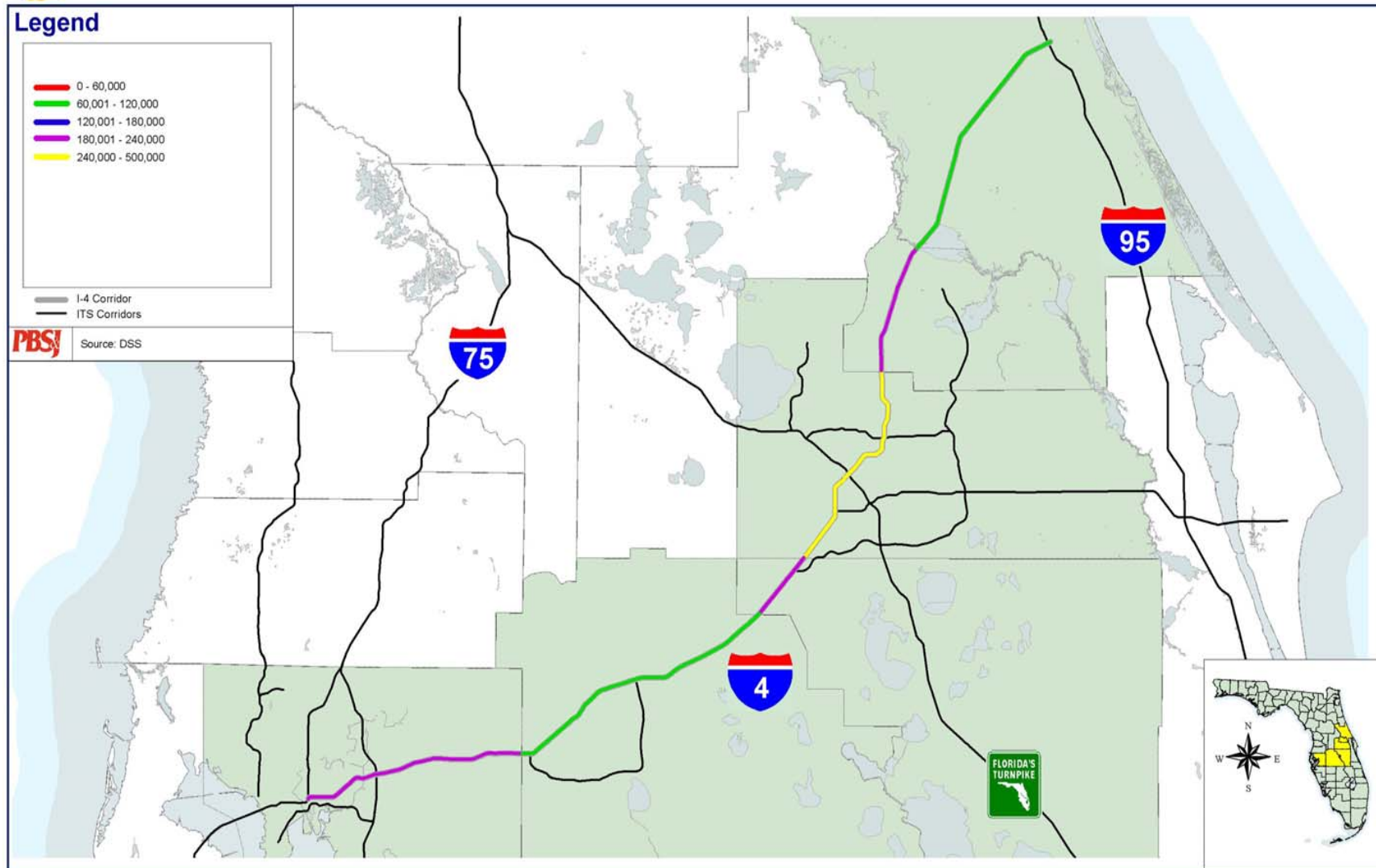


Figure 2.6 – I-4 Corridor – 2020 AADT



- Most of the major theme parks in the state are located along the I-4 corridor in the central portion of the state. These theme parks draw millions of visitors each year. Attendance for some of these theme parks can range from 4,200,000 visitors at Busch Gardens in 1998 to 15,600,000 visitors at Disney World during the same year. Other major activity centers in the central portion of the state include the MGM and Universal theme parks, Disney’s Animal Kingdom, and Epcot Center.

2.1 Current ITS Plans and Programs

This section identifies existing and planned ITS along the I-4 corridor. These services will be mapped in Section 4 of this report to determine gaps in existing and planned services.

- **Motorist Aid Call Boxes** – A statewide motorist aid system using roadside call boxes have been deployed along the entire length of I-4 at one-mile intervals. The call boxes are a partnership between the Florida Department of Transportation (FDOT) and the Florida Highway Patrol (FHP). Each FDOT district maintains the call boxes, acknowledges calls for assistance, and redirects calls to the FHP. The FHP dispatches service vehicles to aid the motorists. The system utilizes a microwave communications backbone operated and maintained by FDOT.
- **Road Ranger (RR) Service Patrols** – This ITS program, operated by the FDOT districts through private contractors, includes roadside assistance and incident clearance. RR Service Patrols are currently being operated along the entire length of the I-4 corridor by Districts 7, 1, and 5.
- **Commercial Vehicle Operations (CVO)** – A virtual weigh station concept is being developed through a research grant from the Federal Highway Administration (FHWA) for implementation in close proximity to the Port of Tampa to screen vehicle movements on and off of I-275, I-4, and I-75. There is currently a weigh station in Hillsborough County where there are geometric restrictions on acceleration and storage.
- **Advanced Traveler Information Systems (ATIS)** – A 511 implementation plan is currently being developed to deploy a 511 service along the entire length of the I-4 corridor.
- **District 5** is planning a district-wide expansion of the existing I-4 Surveillance Motorist Information System (SMIS) (U.S. 192 to Lake Mary Blvd.) and the Daytona Area Smart Highway (DASH) system (I-95 and I-4 Interchange). These incident management systems (IMS) will eventually cover the entire length of I-4 in District 5. FDOT is also working with Volusia County and the local transit agency, VOTRAN, to integrate ITS for the purpose of sharing incident data, traveler information, and transportation data.
- **District 7** has programmed the deployment of a freeway management system (FMS) for the entire length of I-4 in Hillsborough and Polk counties.

Figures 2.7, 2.8, and 2.9 show the existing, programmed, and planned ITS coverage for I-4.

Figure 2.7 – I-4 Corridor Existing ITS Coverage

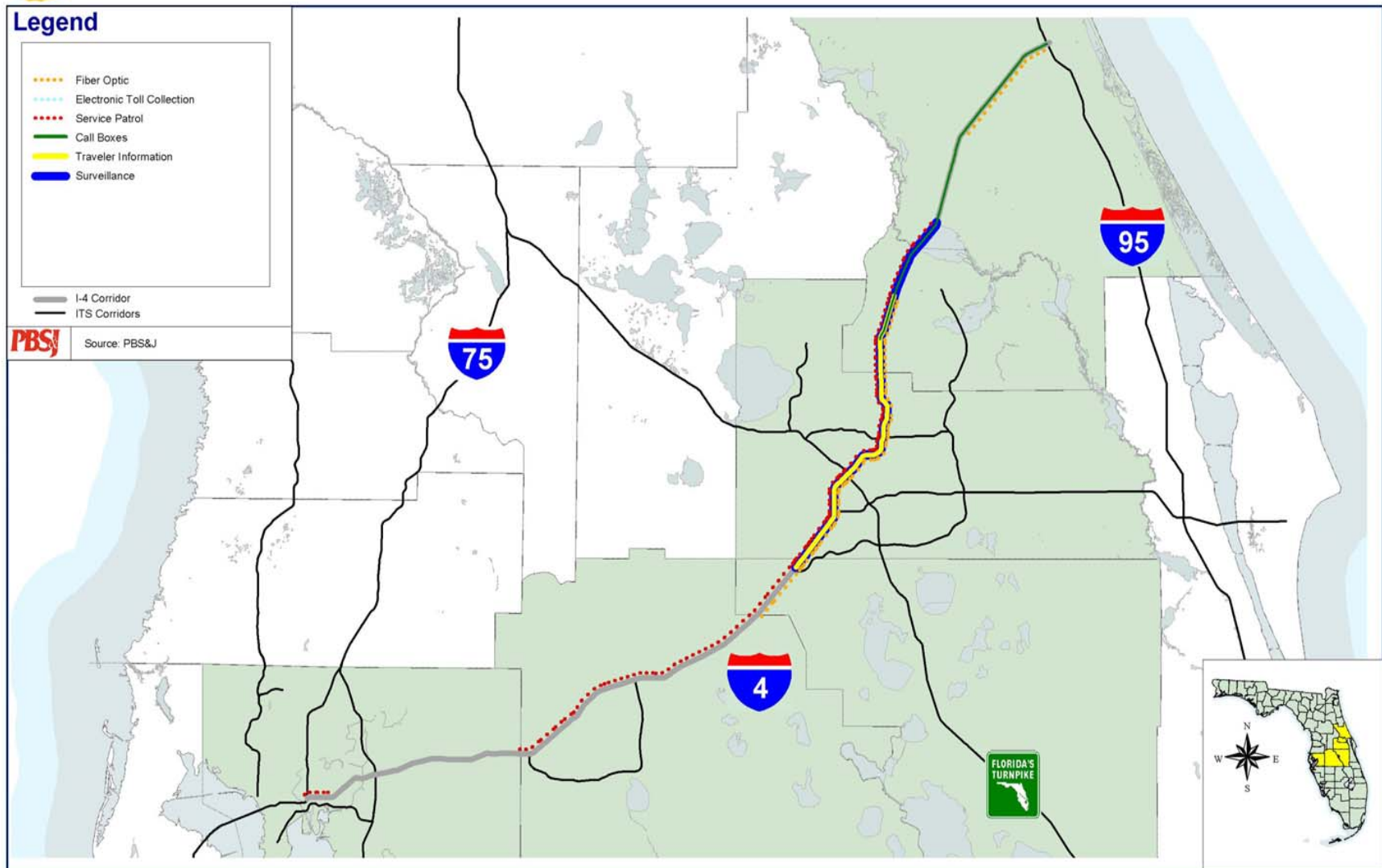


Figure 2.8 – I-4 Corridor Programmed ITS Coverage

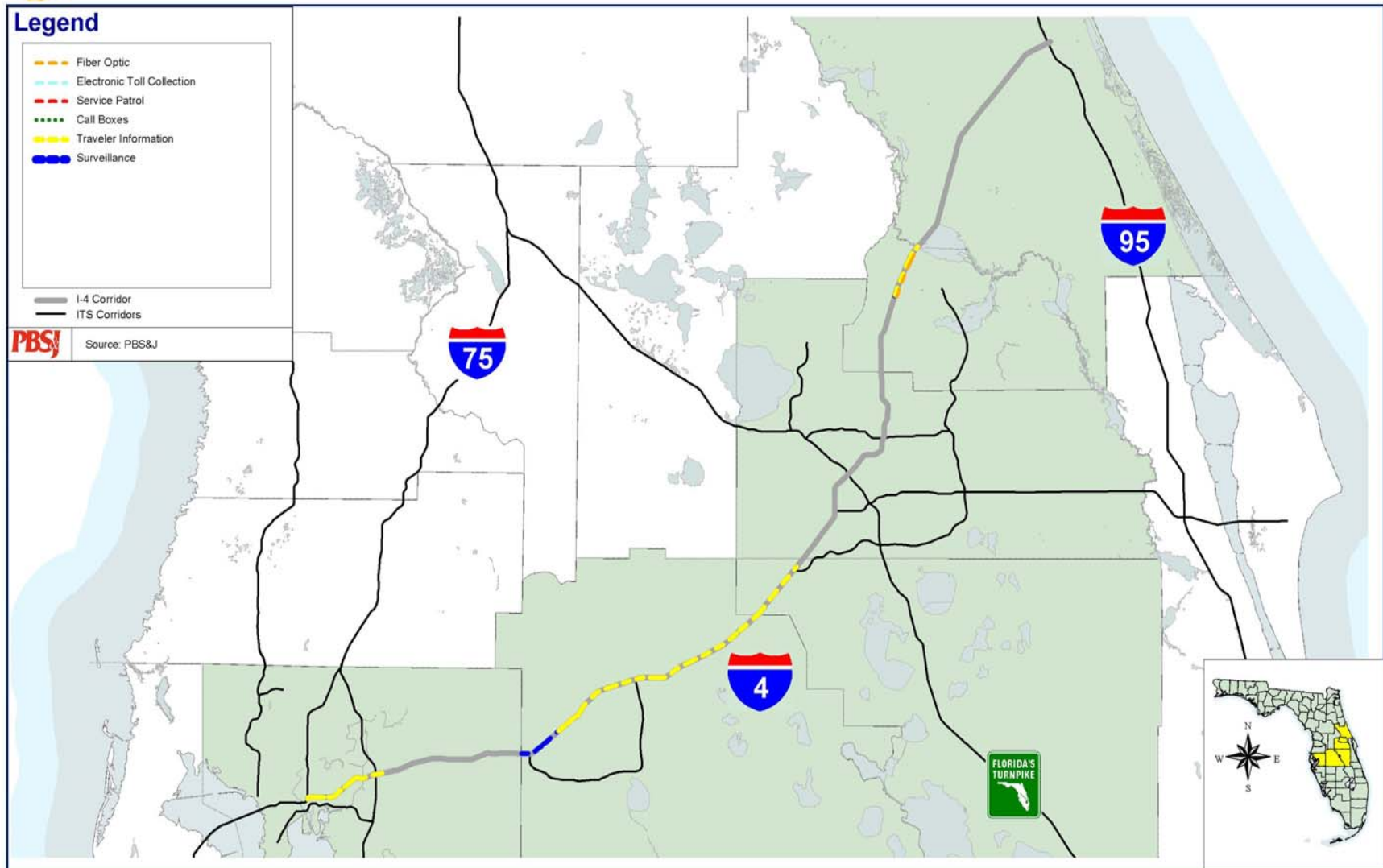
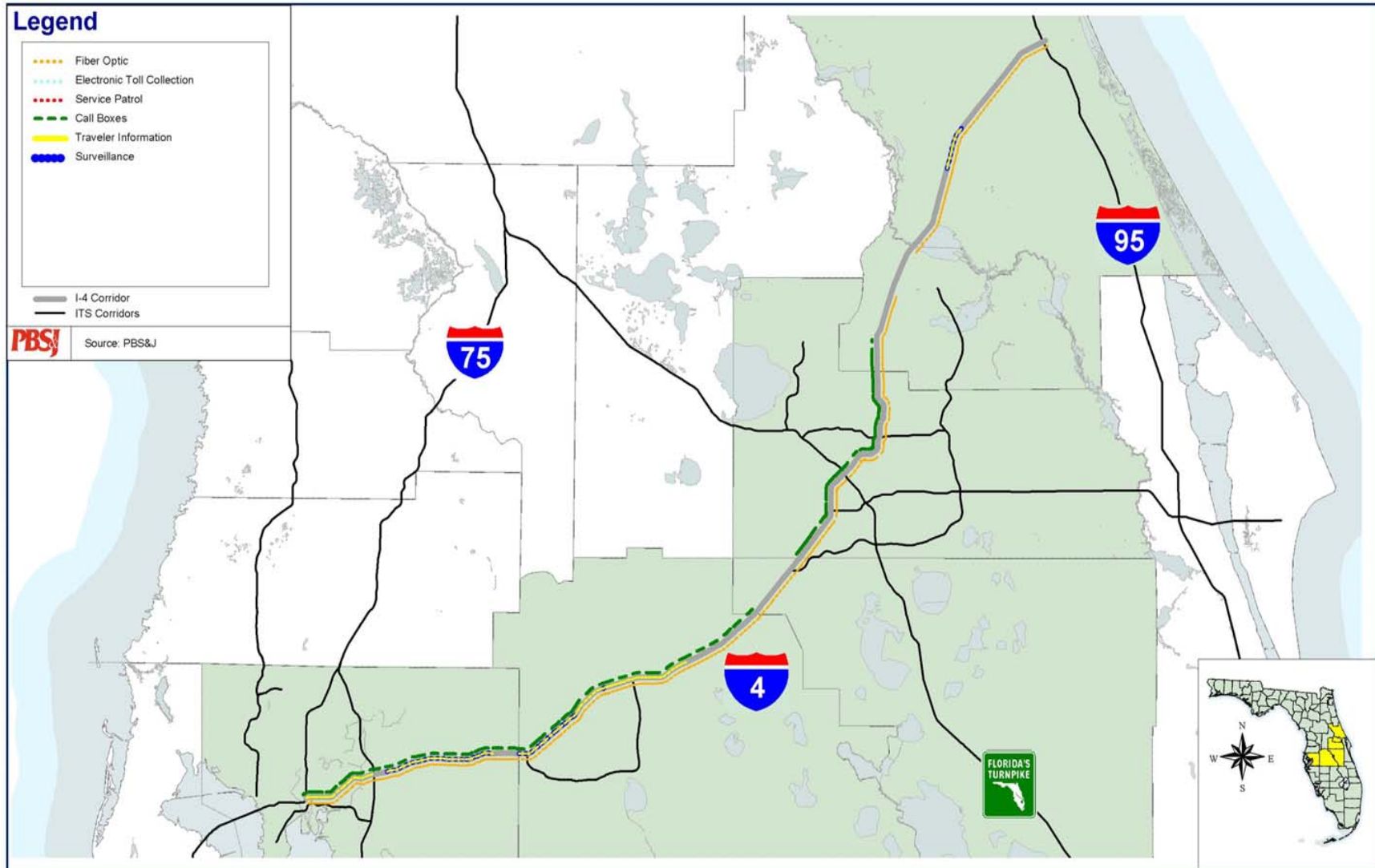


Figure 2.9 – I-4 Corridor Planned ITS Coverage



2.2 Existing Communications Infrastructure

Currently, the data communications systems available along the I-4 corridor consist of both a fiber and microwave backbone. Due to the complexity and volume of the data required to support proposed ITS deployments along the FIHS corridors, the existing communications system will require an upgrade. District 5 will be deploying fiber in their system from U.S. 27 to I-95. District 7 has plans to complete the fiber optic network (FON) along the I-4 corridor by deploying fiber from I-275 to U.S. 27 in Polk County. The fiber optic communications network would be optimal for the communications needs of the statewide ITS deployments due to its capacity to accommodate a large volume of data.

Figure 2.10 illustrates the existing microwave tower locations along I-4 and Figure 2.11 illustrates existing fiber locations.

2.3 Proposed Capacity Improvement Projects

It is important to identify the programmed improvements and cost-feasible plan improvements (construction only) as funding for potential ITS deployments can be leveraged with the funding of the capacity improvements and consideration of the roadway modifications can be included in the design of the ITS improvements. Figures 2.12, 2.13, and 2.14 illustrate the programmed, planned, and 2025 cost-feasible improvements for the I-4 corridor in FDOT Districts 7, 1, and 5. As identified in Figure 2.12, the I-4 corridor has seven interchange modification projects identified as programmed along with the addition of two lanes to the existing facility to build six. One planned capacity improvement project in Volusia County is programmed to add two lanes to the existing facility to build six. Roadway widening projects along I-4 that are identified in the *FIHS Cost-Feasible Plan* will add two lanes to build six in Volusia County to I-95. Several ITS projects are also identified in Orange and Polk Counties. Also identified in Figure 2.14 is the planned addition of two special-use lanes (SULs), from central Orlando to the Orange/Volusia County Line.

Figure 2.10 – I-4 Corridor Microwave Tower Locations

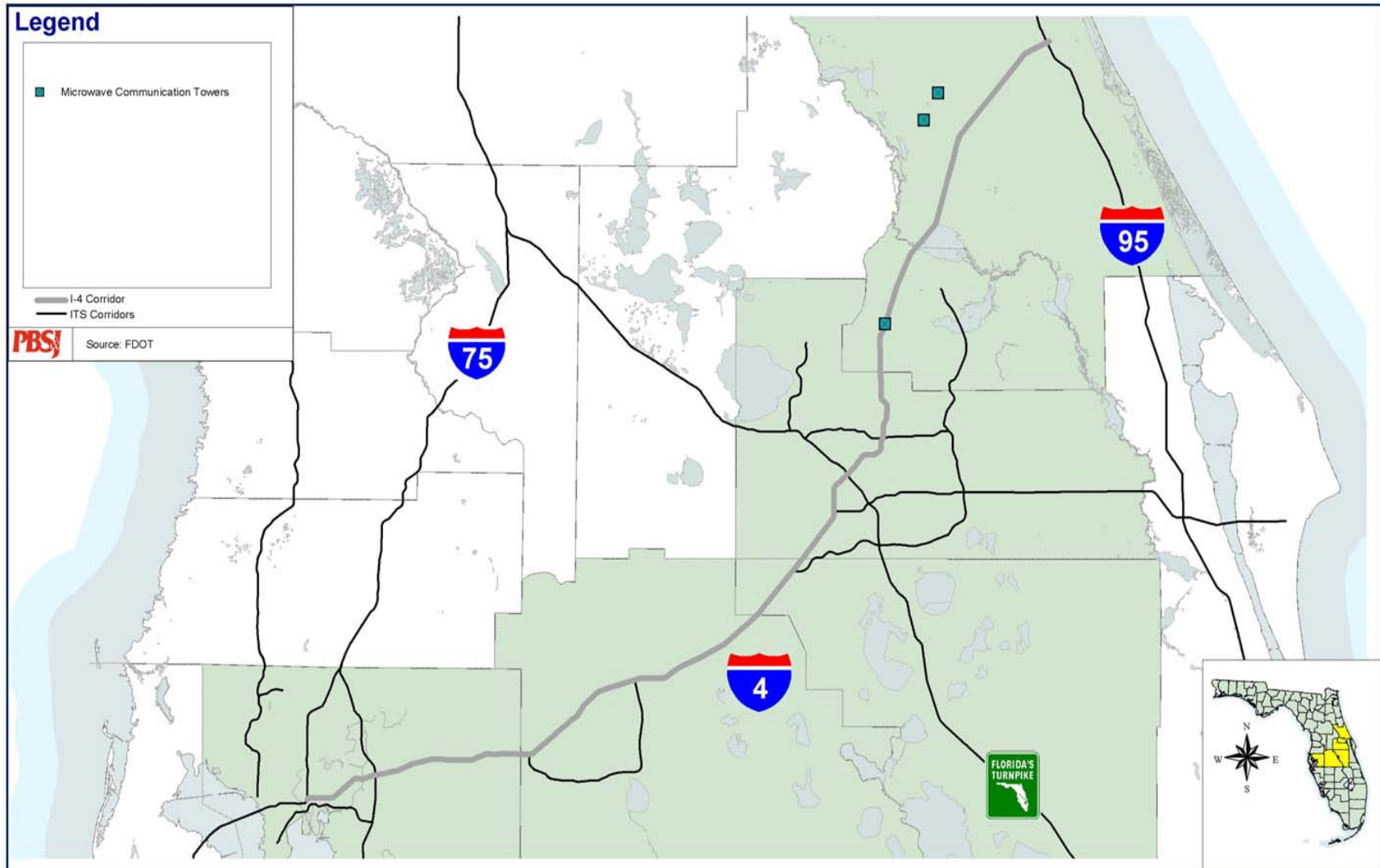


Figure 2.11 – I-4 Corridor Existing Fiber Optic Cable

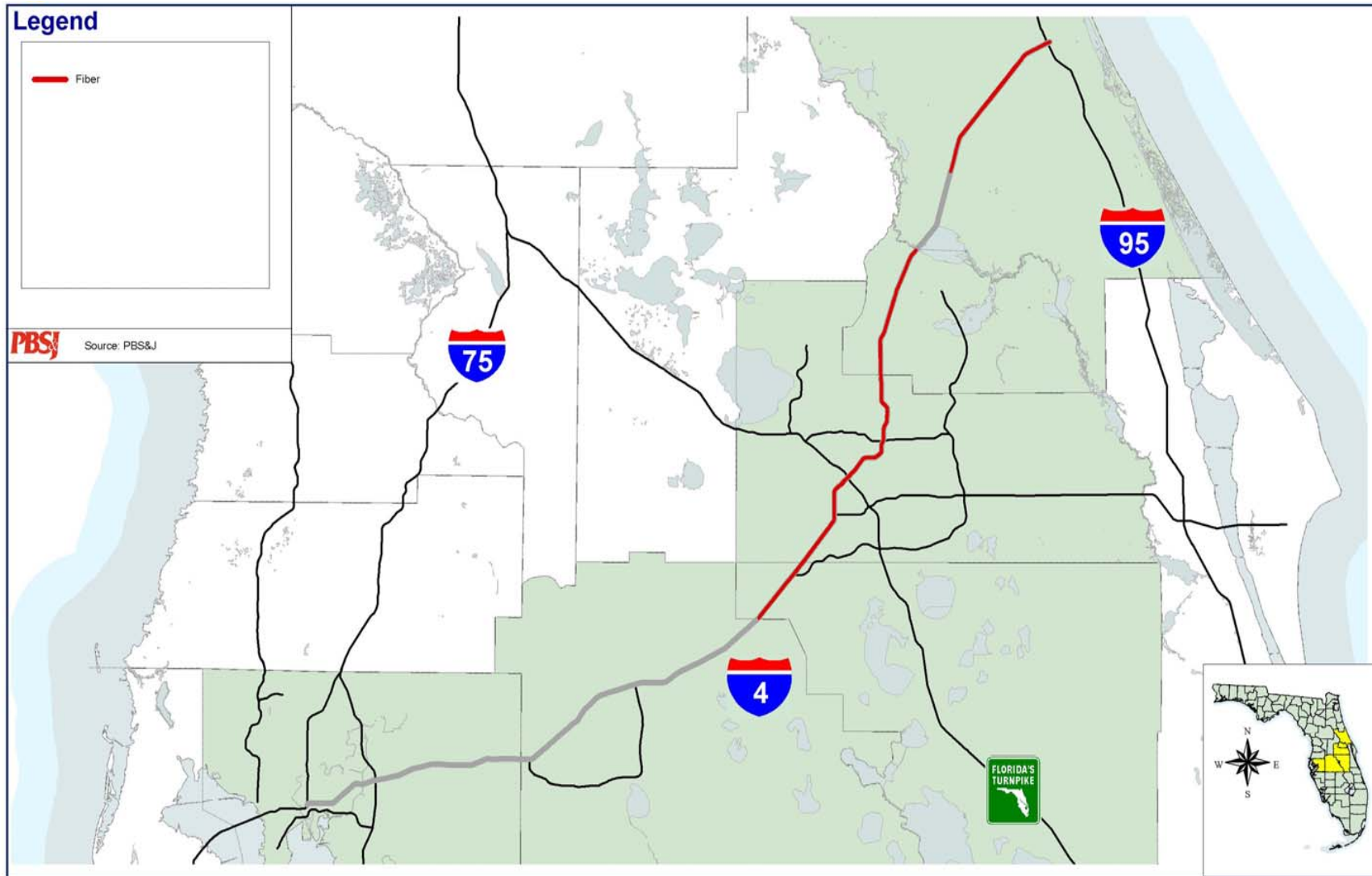


Figure 2.12 – I-4 Corridor Programmed Capacity Improvements

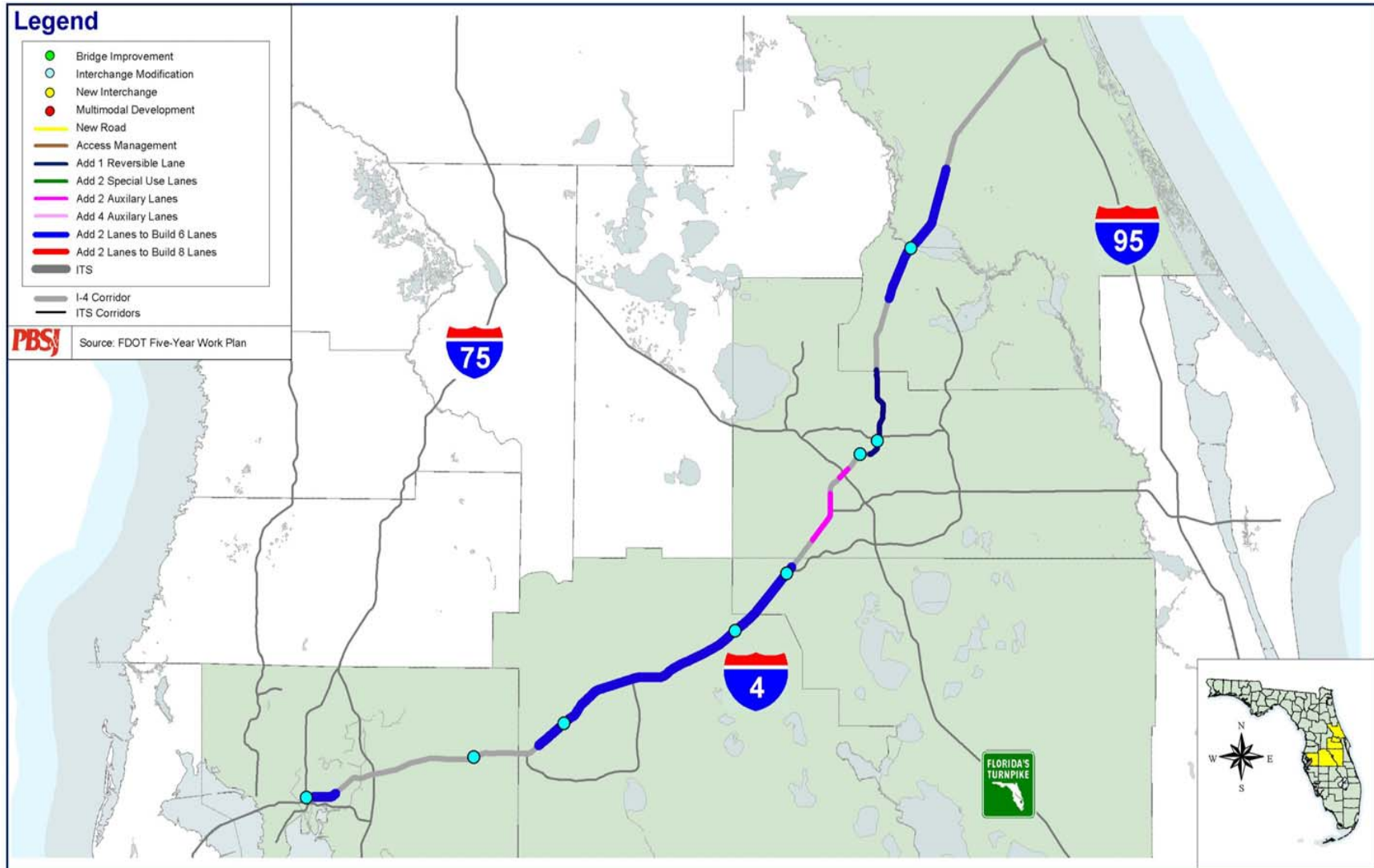


Figure 2.13 – I-4 Corridor Planned Capacity Improvements

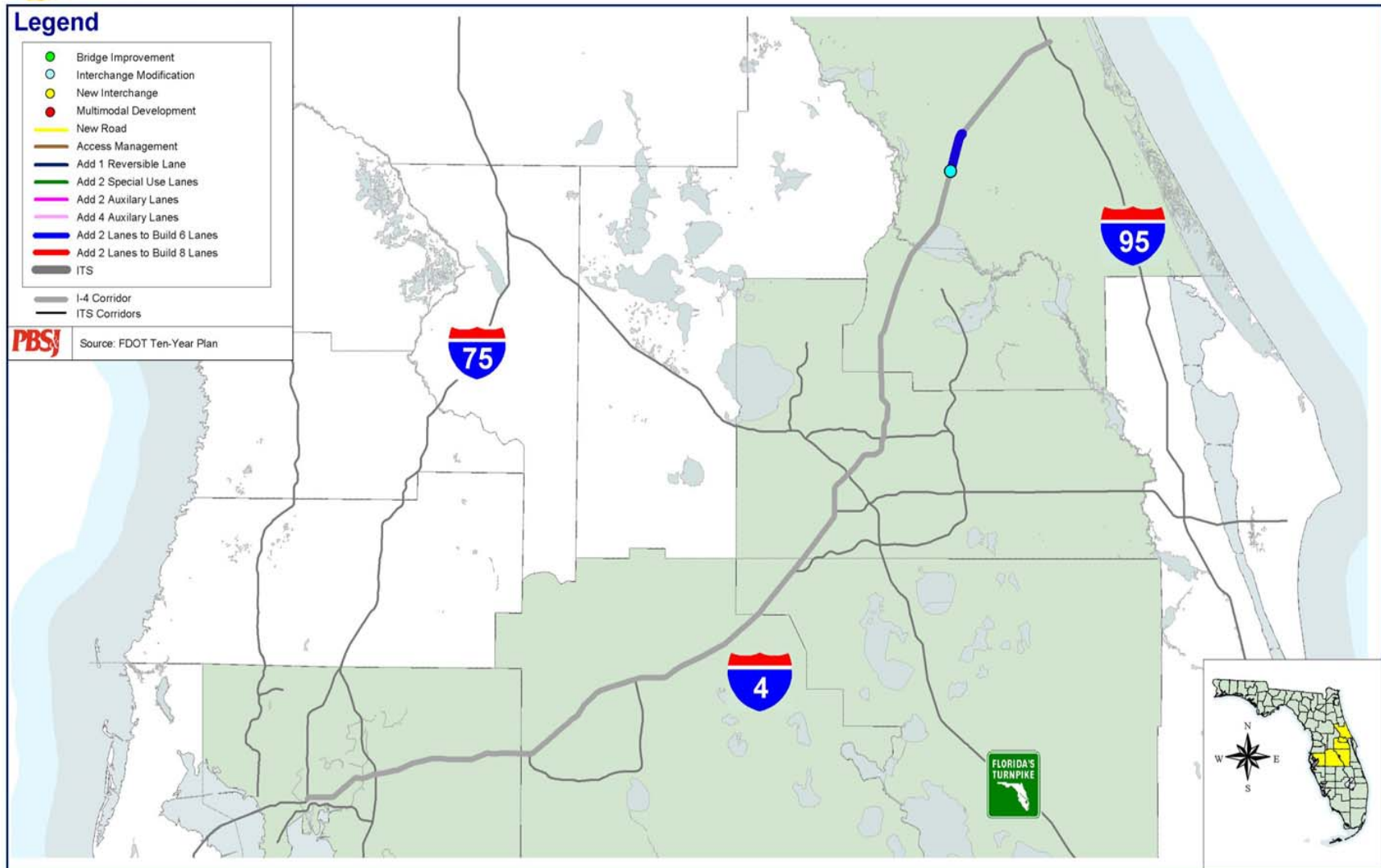
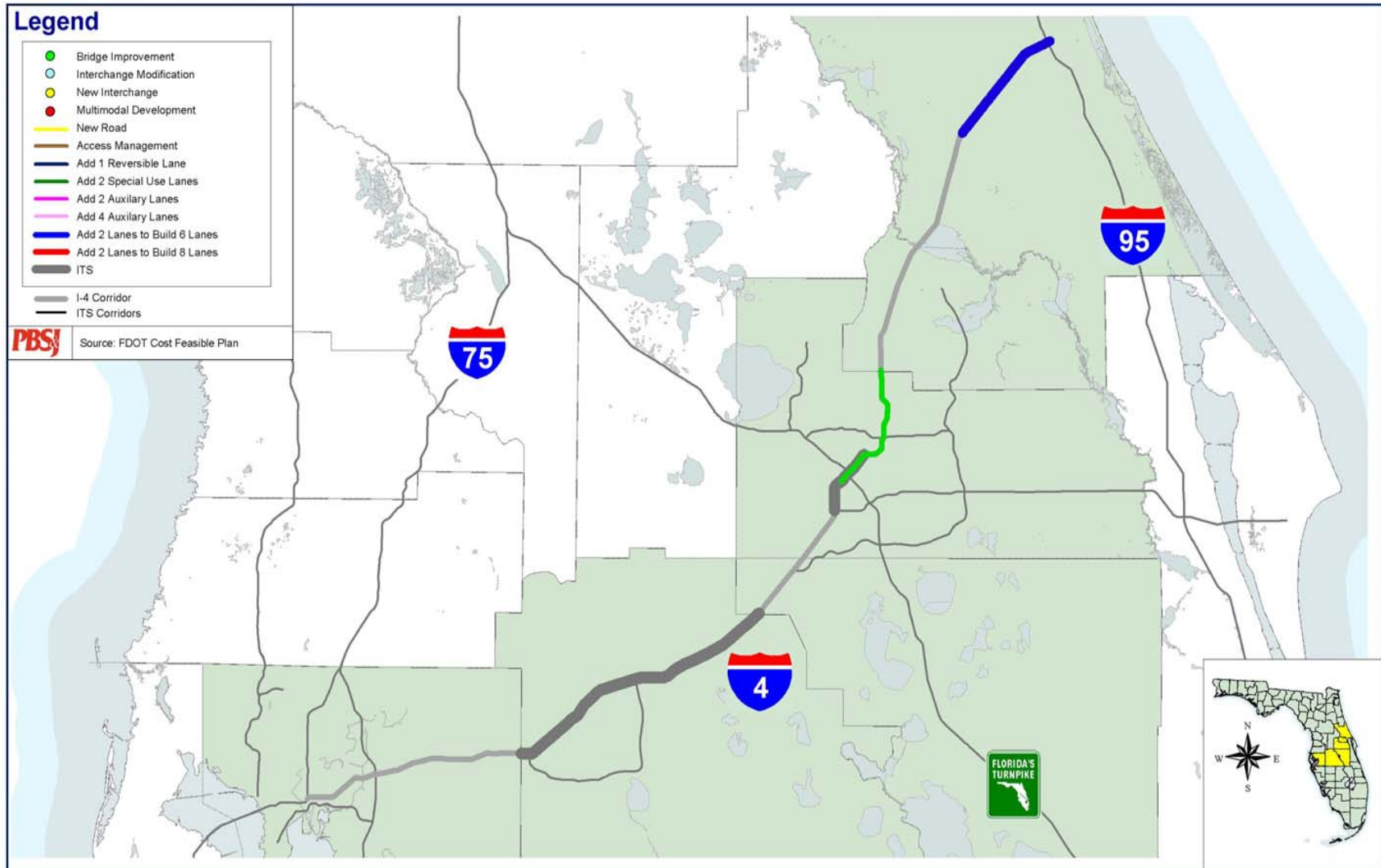


Figure 2.14 – I-4 Corridor Cost-Feasible Plan Improvements



3. Need for ITS and Proposed Deployment Concepts

3.1 Needs, Issues, Problems, and Objectives

The following needs, issues, problems, and objectives were identified for ITS deployments in Florida along the major FIHS corridors. The needs, issues, problems, and objectives were organized based on FDOT’s mission statement as follows:

Florida will provide and manage a safe transportation system that ensures the mobility of people and goods, while enhancing economic competitiveness and the quality of our environment and communities.
--

From this mission, FDOT derived four primary goals to carry out the mission. Associated with each goal are a number of objectives for implementation.

3.1.1 Safe Transportation – Moving People and Goods Safely

- In 1999, 2,290 people died on Florida’s highways resulting in a fatal accident rate (2.1 per million vehicle-miles) higher than the national average (1.5 per million vehicle-miles). Less than one percent of these crashes were due to road-related conditions. Strategies are needed to provide a safer driving environment and to improve vehicular safety to reduce the potential for driver errors and severe accidents.
- FDOT’s *FIHS Cost-Feasible Plan* will be implemented as proposed, resulting in significant capacity improvement projects, interchange modifications, and related programs on a statewide basis along each of the major corridors. These programs will result in a significant number of construction work zones along these major corridors.
- Providing safe work zones and maintaining traffic along these high-traffic volumes is a priority needed to support FDOT’s mission to provide “safe” transportation services.
- The safety of commercial vehicle operators is dependent on reliable and predictable traffic flows at interchanges, weigh and inspection stations, and gates for intermodal facilities, such as rail, port, and airport cargo facilities. The formation of queues on these corridors is a safety concern for the commercial vehicle operators and other vehicles.
- Commercial vehicle operators seek safe environments at our rest and weigh stations where vehicles can be parked overnight to satisfy rest requirements of the Interstate Commerce Commission (ICC).
- Innovative technologies are needed to enhance the coverage and accuracy of inspection and enforcement of commercial vehicle safety requirements.

- Florida has the greatest risk of landfall of hurricanes in the nation requiring residents and visitors to respond quickly to events requiring evacuation. Based on the average since 1900, a named storm is anticipated to land in Florida once per year and a storm that requires a major evacuation is likely once every three years. Services are needed that can:
 - o Support pre-planning for evacuations;
 - o Manage traffic during evacuation scenarios;
 - o Manage demand through communication with shelters and other safe harbors;
 - o Provide route guidance information and information on traffic/travel conditions and weather including winds, rainfalls, and storm surge;
 - o Support remote configuration management of highways during evacuation conditions or other emergencies;
 - o Provide accurate and timely traveler information regarding incidents on evacuation routes;
 - o Share emergency information among local and regional traffic management centers (TMCs) and emergency management facilities; and
 - o Detect, verify, respond to, and clear incidents, and manage traffic around accidents, emergencies, and other incidents.
- A number of other weather and natural events affect traffic and transportation including flooding, fog, tornados, wildfires, and heavy rainfalls where normal unsafe driving conditions may exist or diversions of major corridors are required. Surveillance and information of when these unsafe conditions exist are needed to improve driving conditions and manage traffic.
- Improve and expand our ability to identify motorists in need and verify and respond to their needs in an efficient and cost-effective manner.
- Reduce the risk of accidents and other incidents by warning drivers of approaching congestion, inclement weather, steep downgrades, sharp curves, and other hazardous conditions.

3.1.2 System Management – Preservation and Management of Florida's Transportation System

- Four of Florida's metropolitan areas are severely congested and rank among the nation's fifty most congested areas: Miami, Orlando, Tampa, and Jacksonville. (Source: 2000 Urban Mobility Study, Texas Transportation Institute.) In Florida's seven largest urbanized counties (those with 500,000 or more in population including Miami-Dade, Broward, Palm Beach, Pinellas, Hillsborough, Orange, and Duval), the amount of traffic that is congested along these corridors doubled from 1990 to 1999. (Source: Florida's Mobility Performance Measures Program.) In order to manage the efficiency of the transportation system, the following objectives are needed:

- o Improve travel times along the corridors;
 - o Improve predictability and reliability of travel times;
 - o Reduce accidents and other incidents during normal flows that result from congestion and delays that result from “rubber-necking” during incidents;
 - o Reduce congestion-related delays by reducing queues and spillbacks from other facilities;
 - o Reduce delays caused by congestion in construction work zones;
 - o Manage traffic accessing these major corridors at interchanges to improve throughput and traffic flow;
 - o Reduce unnecessary delays at tolls booths; and
 - o Reduce unnecessary delays at the gates of intermodal facilities.
- In addition to managing traffic flows, additional alternatives are needed to enable coordinated regional transportation operations by sharing information among regional traffic operations centers and agencies to maximize efficiency of the system and demand between modes. Information to support and promote transit and other multi-modal usage and manage transit vehicles or fleets has the potential to reduce congestion on highways and increase mobility.
 - Commercial vehicles present a considerable load on our roadway infrastructure and proper enforcement is needed to eliminate illegally over-weight vehicles that cause damage to pavement and bridges.
 - Improve our abilities to detect, verify, respond to, and clear incidents to minimize the impacts on traffic flow.
 - Improve traveler information to better manage traffic and inform travelers of delays and breakdowns in our largest metropolitan areas, even when no alternative can be offered to divert or re-route travelers to other modes or roadways exists. Traveler information services are valuable communications tools that can help us manage our system more efficiently by modifying driver behavior and increasing awareness of traffic conditions.
 - Technologies are needed to support the operations and management of alternate highway configurations such as SULs that serve high occupancy vehicles (HOVs), operate as express toll lanes, provide preferences to commercial vehicles or transit vehicles, open road tolling (ORT), and other alternative configurations and management plans to promote the efficiency and effectiveness of our infrastructure.
 - During the course of ITS corridor and program deployments nationally and in Florida, there is an increasing need for data and information sharing to better manage and operate the system by:
 - o Supporting system evaluation and the alternative analysis of future ITS deployments to ensure we are deploying resources efficiently and effectively;

- o Supporting and supplementing other data collection programs such as the 200-highest hour report, highway performance monitoring systems (HPMS), and design traffic factors for geometric and pavement design;
- o Supporting highway operational performance reporting, modeling simulation, and other techniques for the operations and management of the system; and
- o Providing before and after studies for ITS deployments. Many current programs are unable to assess their benefits or effectiveness because no data was collected on conditions and performance prior to the installation of ITS.

3.1.3 Economic Competitiveness – A Transportation System that Enhances Florida’s Economic Competitiveness

- Commercial vehicles form the backbone of the state’s freight transportation network. All aspects of the economy rely on commercial vehicles to meet their transportation needs. The trucking industry is an active participant in all of Florida’s economy. Motor carriers haul 77 percent of all shipments originating in Florida (by weight), have a combined value of \$154 billion, and provide the landside link to all of our intermodal facilities. The following objectives are needed to support Florida’s economic competitiveness:
 - o Ensure efficient landside access to intermodal, port, airport, and truck terminal facilities;
 - o Ensure efficient intermodal transfer of people and goods;
 - o Promote safe and efficient access of vehicles to markets; and
 - o Expedite permitting and clearance of commercial vehicles at weigh and agricultural inspection sites to keep commerce moving.
- Tourism is one of Florida’s top industries and providing a safe, efficient, and easily navigable transportation network to support more than 60 million visitors each year is essential to Florida’s long-term economic prosperity. The following objectives are needed to support Florida’s economic competitiveness:
 - o Ensure efficient access to major activity centers such as tourist attractions, state parks, and other areas of interest; and
 - o Provide safe and efficient tourist travel and reduce vehicle-miles traveled (VMT) through the provision of accurate and timely traveler information.
- FDOT, along with its partners, is currently considering the designation of the strategic intermodal system (SIS). Each of the five principal transportation corridors will likely be part of this SIS because of their roles in regional, statewide, and national transportation linkages.

3.1.4 Quality of Life – Increasing Mobility Options for a More Livable Florida

- To ensure we provide more livable communities in Florida, the planning and design of transportation systems should support communities' visions and be compatible with corridors of statewide and regional significance. To support this objective:
 - Provide efficient statewide ITS services with autonomy for decision-making to support local needs and regional cooperation to promote efficiency and regional and statewide goals;
 - Improve interoperability of ITS services through the development of statewide uniform device standards and specifications;
 - Support integration of ITS into local planning processes, programs, and capacity projects;
 - Provide name recognition of key ITS-related services through branding that will instill trust and confidence in traveler information services, roadside assistance, electronic payment services, and other strategic services;
 - Provide easy access and central data warehousing capabilities for transportation planning and design for all partners to support decision-making; and
 - Provide accurate real-time data to technology, business, and operational users for effective and responsive transportation operations.
- Improve the quality of the environment by reducing air quality impacts of mobile source emissions through a more efficient and reliable transportation system.
- Reduce impacts of hazardous materials' (HAZMAT) incidents by providing response systems that provide first responders with access to information on the content of vehicles and vehicle locations so they can quickly respond and clear areas.
- Improve the availability of weather, traveler, and shelter information during natural and man-made disasters.
- Provide safe and efficient travel routes for freight carriers to reduce potential HAZMAT incidents in densely populated areas.

3.2 Mission and Vision

The ITS mission and vision statements were developed for the *ITS Corridor Master Plans* and *ITS Program Plan* to assist in defining the ultimate twenty-year ITS for the interstate corridors and to guide the selection of appropriate solutions to fulfill the ultimate ITS vision.

3.2.1 Mission

Provide effective ITS services for the principal FHHS limited-access corridors that enhance the safety and mobility of people and goods, economic competitiveness, and the quality of our environment and communities.

3.2.2 Vision

Two decades into the 21st century, travelers and shippers of goods along Florida's five principal transportation corridors are benefiting from infrastructure, and information and communications technologies that improve the safety, mobility, economic competitiveness, and livability of communities in Florida. Information is available that assists travelers and shippers in route planning, predicting travel times, and scheduling trips/shipments to reduce delays and arrive at scheduled times. When congestion is severe along specific facilities, alternate routes and modes of travel will be suggested that may be more reliable or cost-effective. During their trip, information of travel conditions is provided in real-time so that scheduling and diversions can be planned if needed as a result of an incident. If an incident occurs, automated information technologies are capable of verifying the location and assessing the appropriate response to incidents. If necessary, emergency personnel or roadside assistance is dispatched, arriving in a short period of time. Traffic flow is restored quickly and delays minimized.

During normal operations, traffic flow is managed within the corridor to keep traffic moving, information on weather conditions is provided to an in-vehicle information service that alerts the driver when visibilities are compromised, and advises a safe travel speed. If a natural disaster is impending, information is provided on appropriate local shelter locations, routes for travelers choosing to drive to another area, and other modes of travel that are available instead of driving.

The economy is thriving as a result of world-class access to international markets at ports, airports, and railheads from our agricultural, mining, and manufacturing industries and efficient deliveries of goods and services at the local level. Decisions on the operations, management, and future improvements to the corridors are made through a number of key partners. These decisions are based on measured benefits and a record of the performance of various technologies and elements are customized for communities to reflect their unique values and priorities. However, similar services are available statewide and on related arterial systems and are easily recognized by elderly drivers or visitors since strong name recognition exists for traveler information, roadside assistance, electronic tolls, and other essential services. FDOT is viewed as an ITS powerhouse and a model for how to cost-effectively deploy ITS services and partner with other public agencies and the private sector to create win-win agreements for the benefit of the citizens of Florida.

3.3 Themes, Strategies, and Market Packages for Implementation

Based on these goals and objectives, the following themes and strategies summarize the desired outcomes of the ITS deployments along the principal FIHS limited-access corridors. These themes and strategies are intended to describe the desired outcomes in non-technical terms that stakeholders can understand and may not follow strict technical definitions.

The market packages selected for the *ITS Corridor Master Plans* are identified in Table 3.1. These market packages were obtained from the *NITSA* in addition to new market packages created for evacuation coordination and MCO. Those ITS solutions determined not to be applicable are labeled as “N/A”.

3.3.1 Coordinated Operations

- Facilitate, support, and enhance the coordination and implementation of interagency efforts in response to the needs of intercity travel, major incidents or special events of regional significance along the corridor, and the security of the transportation infrastructure.
- Promote coordination and cooperation among all organizations involved in incident management including state, county, and local transportation departments, toll road authorities, law enforcement agencies, emergency service providers, and other operating agencies within the corridor.
- Foster and facilitate continued development and implementation of regional incident management initiatives and educate the public and responders to the benefits of incident management.
- Encourage technology and resource sharing by coordinating the development of training programs to support member agencies’ incident management programs and activities.
- Demonstrate and evaluate the application of innovative procedures and technologies to enhance incident management activities.
- Provide regional solutions for serving intercity travel by promoting the through movement of vehicles.
- Provide procedures and coordination during evacuation and other emergency situations to make the best use of system resources.
- Promote coordination among agencies in the notification and implementation of maintenance and construction.

Table 3.1 – Recommended Market Packages for the ITS Corridor Master Plans from the NITSA, Version 3.0

MP NO.	Market Package Name	Applicable
Advanced Public Transportation Systems (APTS)		
APTS1	Transit Vehicle Tracking	✓
APTS2	Transit Fixed-Route Operations	✓
APTS3	Demand Response Time Operations	N/A
APTS4	Transit Passenger and Fare Management	✓
APTS5	Transit Security	✓
APTS6	Transit Maintenance	N/A
APTS7	Multi-Modal Coordination	✓
APTS8	Transit Traveler Information	✓
Advanced Traveler Information Systems (ATIS)		
ATIS1	Broadcast Traveler Information	✓
ATIS2	Interactive Traveler Information	✓
ATIS3	Autonomous Route Guidance (ARG)	✓
ATIS4	Dynamic Route Guidance (DRG)	✓
ATIS5	ISP-Based Route Guidance	✓
ATIS6	Integrated Transportation Management/Route Guidance	✓
ATIS7	Yellow Pages and Reservations	✓
ATIS8	Dynamic Ridesharing	✓
ATIS9	In-Vehicle Signing	✓
Advanced Traffic Management Systems (ATMS)		
ATMS01	Network Surveillance	✓
ATMS02	Probe Surveillance	✓
ATMS03	Surface Street Control	N/A
ATMS04	Freeway Control	✓
ATMS05	HOV Lane Management	✓
ATMS06	Traffic Information Dissemination	✓
ATMS07	Regional Traffic Control	✓
ATMS08	Incident Management System (IMS)	✓
ATMS09	Traffic Forecast and Demand Management	✓
ATMS10	Electronic Fare Collection	✓
ATMS11	Emissions Monitoring and Management	N/A
ATMS12	Virtual TMC and Smart Probe Data	✓
ATMS13	Standard Railroad Grade Crossing	✓
ATMS14	Advanced Railroad Grade Crossing	✓
ATMS15	Railroad Operations Coordination	✓
ATMS16	Parking Facility Management	✓
ATMS17	Reversible Lane Management	✓
ATMS18	Road Weather Information System (RWIS)	✓
ATMS19	Regional Parking Management	N/A
FL ATMS20	Speed Management	✓

Table 3.1 (Continued)

MP NO.	Market Package Name	Applicable
Advanced Vehicle Safety Systems (AVSS)		
AVSS01	Vehicle Safety Monitoring	N/A
AVSS02	Driver Safety Monitoring	N/A
AVSS03	Longitudinal Safety Warning	N/A
AVSS04	Lateral Safety Warning	✓
AVSS05	Intersection Safety Warning	N/A
AVSS06	Pre-Crash Restrain Deployment	N/A
AVSS07	Driver Visibility Improvement	✓
AVSS08	Advanced Vehicle Longitudinal Control	N/A
AVSS09	Advanced Vehicle Lateral Control	✓
AVSS10	Intersection Collision Avoidance	N/A
AVSS11	Automated Highway System (AHS)	✓
Commercial Vehicle Operations (CVO)		
CVO01	Fleet Administration	✓
CVO02	Freight Administration	✓
CVO03	Electronic Clearance	✓
CVO04	Commercial Vehicle Administrative Process	✓
CVO05	International Border Electronic Clearance	✓
CVO06	Weigh-in-Motion (WIM)	✓
CVO07	Roadside CVO Safety	✓
CVO08	On-Board CVO Safety	✓
CVO09	CVO Fleet Maintenance	✓
CVO10	HAZMAT Management	✓
Emergency Management		
EM1	Emergency Response	✓
EM2	Emergency Routing	✓
EM3	Mayday Support	✓
FL EM4	Evacuation Management	✓
Archived Data and Management		
AD1	ITS Data Mart	✓
AD2	ITS Data Warehouse	✓
AD3	ITS Virtual Data Warehouse	✓
Maintenance and Construction Operations (MCO)		
FL MCO1	Maintenance and Construction Management	✓

3.3.2 Active Facilities Management

- Support traffic management along all facilities in a coordinated way.
- Support incident management for the detection of, response to, and clearance of accidents and other major incidents such as freeway service patrols and Mayday/E-911 support, development of incident response scenarios and traffic diversion plans, incident response centers or command posts, and traffic surveillance technologies.
- Provide transit management, including bus, commuter rail, and park-and-ride facilities, as well as other transit-related activities and manage SULs, such as high-occupancy toll or other value pricing, reversible lane control for high occupancy vehicle (HOV) facilities, and transit or emergency vehicle signal preemption systems.
- Improve the ability to monitor, schedule, and dispatch maintenance, construction, special services, or other public/community transportation fleets.
- Manage traffic flow and safety during evacuations related to hurricanes, fires, and other emergencies.
- Serve commercial vehicle operations (CVO), such as electronic screening systems, to verify the compliance of motor carriers with size, weight, safety and credentials regulations, and emergency response systems.
- Promote the use of electronic toll collection (ETC) and electronic payment systems (EPS) to improve traffic flow efficiencies and reduce infrastructure requirements.
- Implement procedures and systems that cost-effectively manage work zone activities.
- Manage lane closure prediction and scheduling.
- Collect/Maintain data on work zone locations and delay and alternate routing for mainlines and standard diversion or evacuation routes.
- Automate speed enforcement and variable speed limits in work zones.
- Support advanced traveler information systems (ATIS).
- Provide evacuation guidance that includes basic information to assist potential evacuees in determining whether evacuation is necessary. Once the decision is made to evacuate, the services will also assist evacuees in determining destination routes to shelters and other lodging options. This function will also provide guidance for returning to evacuated areas, information regarding clean up, and other pertinent information to be distributed from federal, state, and local agencies.

- Provide evacuation travel information that will benefit evacuees in planning their evacuation trip once that decision has been made. This function will also allow travelers to change course during the trip based on route and destination conditions.
- Provide evacuation traffic management to assist evacuation coordination personnel in the management of evacuation operations on the transportation network.
- Provide evacuation planning to support the evacuation process by providing information, current and historical, to emergency management planning personnel.
- Promote evacuation resource sharing to allow information and resource sharing between agencies involved in the evacuation including transportation, emergency management, law enforcement and other emergency service agencies.
- Improve the coordination of construction activity and other roadway activities with maintenance.
- Provide infrastructure security against terrorist attacks.

3.3.3 Information Sharing

- Coordinate data collection and information processing, management, and distribution.
- Coordinate data collection programs and sensor installation/operations.
- Inform and exchange data through coordinated operations.
- Centralize information processing, management, and storage.
- Open access to information delivery and use.
- Coordinate information report development.
- Coordinate transportation management strategy development.

A further review of the market packages was necessary to determine those that are feasible for deployment over the near-term (five to ten years). Additionally, the agencies responsible for deployment and the methodology of deployment were also considered prior to developing recommendations to ensure that all projects included in the corridor implementation plan were reasonable, production-ready projects.

The market packages feasible for near-term (ten years) deployment include:

- APTS – fixed-route transit operations, vehicle tracking, routing, and fare payment;
- ATIS – traveler information, RWIS, 511 implementation, and route guidance;

- CVO – electronic clearance and WIM;
- Emergency Management – evacuation management, Mayday support, and emergency response;
- Archived Data Management – ITS data mart and central data warehousing; and
- MCO.

In reviewing the potential deployment of these market packages, several of the proposed projects could not be recommended as corridor ITS projects because they are deployed on a statewide, systems level basis and not on a corridor-by-corridor basis. These market packages include ATIS, CVO, and Archived Data. The ITS Central Office will be developing and deploying these ITS as part of a statewide initiative. Additionally, the APTS, MCO, Emergency Management, and Evacuation Coordination Market Packages are deployed through other state or local agency programs.

The remaining market packages for consideration in the *I-4 Corridor Implementation Plan* include ATMS and Mayday services under Emergency Management. The I-4 corridor does not currently have HOV or reverse lane strategies, nor are these improvements planned in the near future. Mayday services include the existing RR Service Patrols and motorist aid call boxes, which are currently deployed and managed by the FDOT ITS and Traffic Engineering Offices. The current plans for the motorist aid call boxes do not identify future expansion of the system.

Therefore, only one market package was selected for implementation along the I-4 corridors: FMS.

4. Gap Analysis and Other Deployment Issues

4.1 Needs Gap Analysis by Segment and Market Packages

This section provides an analysis of existing, programmed, and planned ITS deployments along the I-4 corridor utilizing work program information and conceptual project information provided by the districts. This analysis evaluates areas of ITS coverage and identifies “gaps” in the system. These gaps represent segments of the facilities that will not be addressed by existing, programmed, or planned ITS projects

For the purpose of the analysis, the ITS deployments were categorized into two market package areas. These areas are as follows: FMS and RR Service Patrols. Motorist aid call boxes and evacuation coordination were included in the gap analysis for potential future deployments. The I-4 corridor gap analysis will focus only on the FMS market package area. RR Service Patrols, motorist aid call boxes, and evacuation coordination are included for future reference.

These market packages were selected for implementation to fulfill one of the most important goals identified for statewide ITS services: moving people and goods safely and effectively. FMS complimented by the RR Service Patrols and motorist aid call boxes will assist motorists by providing timely, accurate travel data that will reduce the number of incidents, thus saving time, money, and lives. Additionally, these deployments will assist agencies in better detection, verification, and clearance of incidents.

These deployments will also serve to develop a base infrastructure for statewide ITS deployments on which more complex, data intensive ITS services can be deployed. With the data collection, surveillance, and traveler information devices deployed through the implementation of FMS, future ITS deployments such as ATIS, APTS, and CVO will be more effective and more easily implemented.

The classification of these proposed ITS deployments into market package-related areas will assist in identifying appropriate ITS strategies to address the gaps. In order to locate gaps in the three primary services areas (FMS, RR Service Patrols, and motorist aid call boxes), programmed and planned project information and device locations were mapped in a straight-line format referencing roadway identification numbers and beginning and ending mileposts. By mapping the existing, planned, and programmed ITS, functional system gaps were easily identifiable. Based on existing, programmed, and planned ITS deployments for Districts 5 and 7, the I-4 corridor does not have any gaps in the FMS market package area.

4.2 Deployment Issues

Through the deployment of these existing ITS, a number of critical issues have emerged that should be addressed to achieve successful ITS deployments along the FIHS corridors. These issues are covered in greater detail in *Technical Memorandum 4.1 – Concept of Operations*; however a few of the major issues are identified below.

- Incorporating legacy and sunk investments;
- Partnering with local operational management to achieve synergy;
- Promoting efficient operations and management;
- Integrating software to promote statewide coordination and communications;
- Developing statewide standards, specifications, procurement guidelines, and performance measures;
- Balancing the need for local autonomy and control with centralized coordination and cost efficiency;
- Implementing services to provide coordinated operations, active facilities management, and information sharing;
- Supporting the needs of the full range of ITS users including commuters, tourists, commercial vehicles, and evacuees;
- Deploying ITS in a coherent, structured manner that provides a complete backbone of ITS services along the five major FIHS corridors at an early stage;
- Developing efficient and rapid deployments based on practical experience and lessons learned throughout Florida and nationally;
- Supporting the effective development and deployment of the communications infrastructure required to support ITS, including the Florida Fiber Network (FFN);
- Supporting continued professional capacity building and training;
- Using ITS to support public safety; and
- Utilizing life-cycle considerations.

5. Summary

The *I-4 ITS Corridor Study* provided a logical phased implementation of services along the entire length of the facility. Projects developed from the study were created and placed into the five-year work program for both Districts 5 and 7. These projects provide complete coverage for the facilities in each of the gap analysis' functional service areas. Therefore, no conceptual projects are being recommended for deployment along I-4. Table 5.1 and Figures 5.1 and 5.2 illustrate the ten-year ITS cost-feasible plan for the I-4 corridor.

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

Programmed Projects																				
FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
4100201	1	I-4	From Hillsborough Co. Line to Polk Co. Line	I-4 Corridor Consultant	MOT	CONST	\$5.47											\$5.47	District	
4100201	1	I-4	From Hillsborough Co. Line to Polk Co. Line	I-4 Corridor Consultant	MOT	CEI	\$1.40											\$1.40	Statewide	
102501	1	I-75	From Collier/Lee County Line to Lee/Charlotte County Line	Freeway and Incident Management System	FMS	PE				\$0.41								\$0.41	Statewide	
102502	1	I-75	From Collier/Lee County Line to Lee/Charlotte County Line	Freeway and Incident Management System	FMS	CONST				\$3.42								\$3.42	Statewide	
102503	1	I-75	From Collier/Lee County Line to Lee/Charlotte County Line	Freeway and Incident Management System	FMS	CEI				\$0.68								\$0.68	Statewide	
102701	1	I-75	From Sarasota/Manatee County Line to I-275 (Manatee)	Freeway Management System	FMS	PE										\$0.65		\$0.65	Statewide	
102702	1	I-75	From Sarasota/Manatee County Line to I-275 (Manatee)	Freeway Management System	FMS	CONST											\$4.47	\$4.47	Statewide	
102703	1	I-75	From Sarasota/Manatee County Line to I-275 (Manatee)	Freeway Management System	FMS	CEI											\$0.89	\$0.89	Statewide	
102801	1	I-75	From Charlotte/ Sarasota County Line to Sarasota /Manatee County Line	Freeway Incident Management System	FMS	PE								\$0.90				\$0.90	Statewide	
102802	1	I-75	From Charlotte/ Sarasota County Line to Sarasota/ /Manatee County Line	Freeway Incident Management System	FMS	CONST									\$5.03	\$2.80		\$7.83	Statewide	
102803	1	I-75	From Charlotte/ Sarasota County Line to Sarasota /Manatee County Line	Freeway Incident Management System	FMS	CEI									\$1.01	\$0.56		\$1.57	Statewide	
103602	1	I-75		Ft. Myers RTMC/Systems Integration	RTMC	CONST				\$2.22								\$2.22	Statewide	
104201	1	I-75	From Broward/Collier County Line to Collier/Lee County Line	Freeway Incident Management System	FMS	PE				\$0.68								\$0.68	Statewide	
104202	1	I-75	From Broward/Collier County Line to Collier/Lee County Line	Freeway Incident Management System	FMS	CONST				\$5.69								\$5.69	Statewide	
104203	1	I-75	From Broward/Collier County Line to Collier/Lee County Line	Freeway Incident Management System	FMS	CEI				\$1.14								\$1.14	Statewide	
111701	1	I-75		Sarasota TMC/Building	RTMC	PE				\$0.27								\$0.27	Statewide	
111702	1	I-75		Sarasota TMC/Building	RTMC	CONST				\$2.22								\$2.22	Statewide	
111703	1	I-75		Sarasota TMC/Building	RTMC	CEI				\$0.44								\$0.44	Statewide	
111802	1	I-75		Sarasota TMC/Systems	RTMC	CONST				\$0.68								\$0.68	Statewide	
137301	1	I-75	From Collier/Lee Co. Line to Lee/Charlotte Co. Line	Fiber Optic Network	FON	PE				\$0.53								\$0.53	Statewide	
137302	1	I-75	From Collier/Lee Co. Line to Lee/Charlotte Co. Line	Fiber Optic Network	FON	CONST				\$4.39								\$4.39	Statewide	
137303	1	I-75	From Collier/Lee Co. Line to Lee/Charlotte Co. Line	Fiber Optic Network	FON	CEI				\$0.35								\$0.35	Statewide	
137401	1	I-75	From Lee/ Charlotte Co. Line to Charlotte/Sarasota Co. Line	Fiber Optic Network	FON	PE								\$0.39				\$0.39	Statewide	
137402	1	I-75	From Lee/ Charlotte Co. Line to Charlotte/Sarasota Co. Line	Fiber Optic Network	FON	CONST								\$3.22				\$3.22	Statewide	
137403	1	I-75	From Lee/ Charlotte Co. Line to Charlotte/Sarasota Co. Line	Fiber Optic Network	FON	CEI								\$0.26				\$0.26	Statewide	
137501	1	I-75	From Sarasota/Manatee Co. Line to I-275 (Manatee County)	Fiber Optic Network	FON	PE										\$0.29		\$0.29	Statewide	
137502	1	I-75	From Sarasota/Manatee Co. Line to I-275 (Manatee County)	Fiber Optic Network	FON	CONST											\$2.48	\$2.48	Statewide	
137503	1	I-75	From Sarasota/Manatee Co. Line to I-275 (Manatee County)	Fiber Optic Network	FON	CEI											\$0.20	\$0.20	Statewide	
138201	1	I-75	From Charlotte/Sarasota Co. Line to Sarasota/Manatee Co. Line	Fiber Optic Network	FON	PE									\$0.77			\$0.77	Statewide	
138202	1	I-75	From Charlotte/Sarasota Co. Line to Sarasota/Manatee Co. Line	Fiber Optic Network	FON	CONST									\$6.44			\$6.44	Statewide	
138203	1	I-75	From Charlotte/Sarasota Co. Line to Sarasota/Manatee Co. Line	Fiber Optic Network	FON	CEI									\$0.52			\$0.52	Statewide	
138501	1	I-75	From Lee/Charlotte Co. Line to Charlotte/ Sarasota Co. Line	Freeway and Incident Management System	FMS	PE								\$1.30				\$1.30	Statewide	
138502	1	I-75	From Lee/Charlotte Co. Line to Charlotte/Sarasota Co. Line	Freeway and Incident Management System	FMS	CONST								\$6.51				\$6.51	Statewide	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

 Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments	
138503	1	I-75	From Lee/Charlotte Co. Line to Charlotte/Sarasota Co. Line	Freeway and Incident Management System	FMS	CEI												\$0.78	\$0.78	Statewide	
2020621	1	I-75	From Lee/ Charlotte County Line to Manatee/Hillsborough County Line	I-75 Incident Management Project Plan for Charlotte, Sarasota and Manatee Counties	FMS	Planning	\$0.50												\$0.50	District	Initially showing PE phase updated to planning in order to be consistent with Work Program
2133061	2		From Jacksonville TMC to Jacksonville TMC	Jax ITS/Phase-1 Traffic Center Building	FMS	CONST	\$0.11												\$0.11	District	
204401	2	I-295	From I-10 to I-95 N	Incident Management System, Traveler Information, Management Center and Fiber	FMS	PE										\$0.48			\$0.48	Statewide	
204402	2	I-295	From I-10 to I-95 N	Incident Management System, Traveler Information, Management Center and Fiber	FMS	CONST											\$4.17		\$4.17	Statewide	
204403	2	I-295	From I-10 to I-95 N	Incident Management System, Traveler Information, Management Center and Fiber	FMS	CEI											\$0.83		\$0.83	Statewide	
204501	2	I-295	From I-95 S to I-10	Incident Management System, Traveler Information, Management Center and Fiber	FMS	PE									\$0.73				\$0.73	Statewide	
204502	2	I-295	From I-95 S to I-10	Incident Management System, Traveler Information, Management Center and Fiber	FMS	CONST										\$5.01			\$5.01	Statewide	
204503	2	I-295	From I-95 S to I-10	Incident Management System, Traveler Information, Management Center and Fiber	FMS	CEI										\$1.00			\$1.00	Statewide	
237001	2	I-295	From I-10 to I-95N	Fiber Optic Network	FON	PE									\$0.26				\$0.26	Statewide	
237002	2	I-295	From I-10 to I-95N	Fiber Optic Network	FON	CONST										\$2.25			\$2.25	Statewide	
237003	2	I-295	From I-10 to I-95N	Fiber Optic Network	FON	CEI										\$0.17			\$0.17	Statewide	
237101	2	I-295	From I-95S to I-10	Fiber Optic Network	FON	PE									\$0.37				\$0.37	Statewide	
237102	2	I-295	From I-95S to I-10	Fiber Optic Network	FON	CONST										\$3.22			\$3.22	Statewide	
237103	2	I-295	From I-95S to I-10	Fiber Optic Network	FON	CEI										\$0.26			\$0.26	Statewide	
203901	2	I-95	From I-10 to Airport Road	Fiber Optic Network	FON	PE			\$0.17										\$0.17	Statewide	
203902	2	I-95	From I-10 to Airport Road	Fiber Optic Network	FON	CONST			\$1.45										\$1.45	Statewide	
203903	2	I-95	From I-10 to Airport Road	Fiber Optic Network	FON	CEI			\$0.12										\$0.12	Statewide	
204001	2	I-95	From I-10 to Trout River	I-95 North ITS Improvements - Incident Management - cctvs, vehicle detection units,	FMS	PE			\$0.15										\$0.15	Statewide	
204002	2	I-95	From I-10 to Trout River	I-95 North ITS Improvements - Incident Management - cctvs, vehicle detection units,	FMS	CONST			\$1.01										\$1.01	Statewide	
204003	2	I-95	From I-10 to Trout River	I-95 North ITS Improvements - Incident Management - cctvs, vehicle detection units,	FMS	CEI			\$0.20										\$0.20	Statewide	
204101	2	I-95	From Trout River to Airport/Duval Road	I-95 North ITS Improvements - Incident Management - cctvs, vehicle detection units,	FMS	PE			\$0.28										\$0.28	Statewide	
204102	2	I-95	From Trout River to Airport/Duval Road	I-95 North ITS Improvements - Incident Management - cctvs, vehicle detection units,	FMS	CONST			\$0.86	\$1.05									\$1.91	Statewide	
204103	2	I-95	From Trout River to Airport/Duval Road	I-95 North ITS Improvements - Incident Management - cctvs, vehicle detection units,	FMS	CEI			\$0.17	\$0.21									\$0.38	Statewide	
2132961	2	I-95	From I-295 S to I-10	Jacksonville Interstate Surveillance and Control System Phase 3	FMS	PE	\$0.08												\$0.08	District	
2132961	2	I-95	From I-295 S to I-10	Jacksonville Interstate Surveillance and Control System Phase 3	FMS	D/B		\$6.62											\$6.62	District	
308301	3	I-10		Pensacola Traffic Management Center Building	RTMC	PE						\$0.14							\$0.14	Statewide	
308302	3	I-10		Pensacola Traffic Management Center Building	RTMC	CONST						\$1.95							\$1.95	Statewide	
308303	3	I-10		Pensacola Traffic Management Center Building	RTMC	CEI						\$0.39							\$0.39	Statewide	
308402	3	I-10		Pensacola Traffic Management Center Systems	RTMC	CONST						\$0.68							\$0.68	Statewide	
313201	3	I-10		Tallahassee Regional Traffic Management Center Building	RTMC	PE							\$0.14						\$0.14	Statewide	
313202	3	I-10		Tallahassee Regional Traffic Management Center Building	RTMC	CONST							\$2.00						\$2.00	Statewide	
313203	3	I-10		Tallahassee Regional Traffic Management Center Building	RTMC	CEI							\$0.40						\$0.40	Statewide	
313302	3	I-10		Tallahassee Regional Traffic Management Center Systems	RTMC	CONST							\$0.70						\$0.70	Statewide	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

 Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
321501	3	I-10	From Welcome Center to East of SR 87	Pensacola Area Freeway Management System	FMS	PE							\$1.14					\$1.14	Statewide	
321502	3	I-10	From Welcome Center to East of SR 87	Pensacola Area Freeway Management System	FMS	CONST							\$7.58					\$7.58	Statewide	This project covers the entire urban area of Pensacola along I-10.
321503	3	I-10	From Welcome Center to East of SR 87	Pensacola Area Freeway Management System	FMS	CEI							\$1.52					\$1.52	Statewide	
321701	3	I-10	From West of US 90 (Gadsden County) to East of US 90 (Leon County)	Tallahassee Area Freeway Management System	FMS	PE							\$0.85					\$0.85	Statewide	
321702	3	I-10	From West of US 90 (Gadsden County) to East of US 90 (Leon County)	Tallahassee Area Freeway Management System	FMS	CONST								\$5.85				\$5.85	Statewide	
321703	3	I-10	From West of US 90 (Gadsden County) to East of US 90 (Leon County)	Tallahassee Area Freeway Management System	FMS	CEI								\$1.17				\$1.17	Statewide	
336701	3	I-10	From US 90 West to US 90 East	Fiber Optic Network	FON	PE							\$0.25					\$0.25	Statewide	
336702	3	I-10	From US 90 West to US 90 East	Fiber Optic Network	FON	CONST							\$2.12					\$2.12	Statewide	
336703	3	I-10	From US 90 West to US 90 East	Fiber Optic Network	FON	CEI							\$0.17					\$0.17	Statewide	
336801	3	I-10	From Alabama State Line/I-10 Welcome Center to SR 87	Fiber Optic Network	FON	PE							\$0.40					\$0.40	Statewide	
336802	3	I-10	From Alabama State Line/I-10 Welcome Center to SR 87	Fiber Optic Network	FON	CONST							\$3.32					\$3.32	Statewide	
336803	3	I-10	From Alabama State Line/I-10 Welcome Center to SR 87	Fiber Optic Network	FON	CEI							\$0.27					\$0.27	Statewide	
307901	3	I-110	From I-10 to Pensacola Bay Bridge	I-110 Pensacola Area Freeway Management System	FMS	PE							\$0.40					\$0.40	Statewide	
307902	3	I-110	From I-10 to Pensacola Bay Bridge	I-110 Pensacola Area Freeway Management System	FMS	CONST							\$2.67					\$2.67	Statewide	This project includes the entire length of I-110.
307903	3	I-110	From I-10 to Pensacola Bay Bridge	I-110 Pensacola Area Freeway Management System	FMS	CEI							\$0.53					\$0.53	Statewide	
336901	3	I-110	From Pensacola Bay Bridge to I-10	Fiber Optic Network	FON	PE							\$0.11					\$0.11	Statewide	
336902	3	I-110	From Pensacola Bay Bridge to I-10	Fiber Optic Network	FON	CONST							\$0.90					\$0.90	Statewide	Project includes the entire length of I-110.
336903	3	I-110	From Pensacola Bay Bridge to I-10	Fiber Optic Network	FON	CEI							\$0.07					\$0.07	Statewide	
407501	4	I-595	From I-75 to U.S. 1	OVCS Variable Speed Zone	FMS	PE									\$0.39			\$0.39	Statewide	
407502	4	I-595	From I-75 to U.S. 1	OVCS Variable Speed Zone	FMS	CONST									\$2.61			\$2.61	Statewide	
407503	4	I-595	From I-75 to U.S. 1	OVCS Variable Speed Zone	FMS	CEI									\$0.52			\$0.52	Statewide	
2317051	4	I-595	From Eastern Terminus to Sawgrass Expressway	I-595 Broward County Changeable Message Sign System	ATIS	CONST	\$1.45											\$1.45	District	
401401	4	I-75	From Sawgrass Expressway to Broward/Collier Co Line	DMSS, ATIS, ARTS, CCTV at Interchanges, OVCS	FMS	PE						\$0.85						\$0.85	Statewide	
401402	4	I-75	From Sawgrass Expressway to Broward/Collier Co Line	DMSS, ATIS, ARTS, CCTV at Interchanges, OVCS	FMS	CONST							\$5.87					\$5.87	Statewide	Funded in FIHS CFP
401403	4	I-75	From Sawgrass Expressway to Broward/Collier Co Line	DMSS, ATIS, ARTS, CCTV at Interchanges, OVCS	FMS	CEI							\$1.17					\$1.17	Statewide	
423301	4	I-75	From Southern Terminus to Sawgrass Expressway	DMSS, ATIS, ARTS, CCTV at Interchanges, OVCS	FMS	PE						\$1.68						\$1.68	Statewide	
423302	4	I-75	From Southern Terminus to Sawgrass Expressway	DMSS, ATIS, ARTS, CCTV at Interchanges, OVCS	FMS	CONST						\$5.60	\$5.79					\$11.39	Statewide	
423303	4	I-75	From Southern Terminus to Sawgrass Expressway	DMSS, ATIS, ARTS, CCTV at Interchanges, OVCS	FMS	CEI						\$1.12	\$1.16					\$2.28	Statewide	
438301	4	I-75	From Sawgrass Expressway to Broward/Collier Co. Line	Fiber Optic Network	FON	PE							\$0.55					\$0.55	Statewide	
438302	4	I-75	From Sawgrass Expressway to Broward/Collier Co. Line	Fiber Optic Network	FON	CONST							\$4.59					\$4.59	Statewide	
438303	4	I-75	From Sawgrass Expressway to Broward/Collier Co. Line	Fiber Optic Network	FON	CEI							\$0.37					\$0.37	Statewide	
438401	4	I-75	From Southern Terminus to Sawgrass Expressway	Fiber Optic Network	FON	PE							\$0.31					\$0.31	Statewide	
438402	4	I-75	From Southern Terminus to Sawgrass Expressway	Fiber Optic Network	FON	CONST							\$2.58					\$2.58	Statewide	
438403	4	I-75	From Southern Terminus to Sawgrass Expressway	Fiber Optic Network	FON	CEI							\$0.21					\$0.21	Statewide	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
4111961	4	I-75	From SR 826 to Broward/Collier Co. Line	I-75 ITS Corridor Plan	ATIS	PD& E	\$0.31											\$0.31	District	
407401	4	I-95	From Broward/Palm Beach Co. Line to Palm Beach/Martin Co. Line	OVCS Variable Speed Zone	FMS	PE									\$0.39			\$0.39	Statewide	
407402	4	I-95	From Broward/Palm Beach Co. Line to Palm Beach/Martin Co. Line	OVCS Variable Speed Zone	FMS	CONST										\$2.69		\$2.69	Statewide	FIHS CFP
407403	4	I-95	From Broward/Palm Beach Co. Line to Palm Beach/Martin Co. Line	OVCS Variable Speed Zone	FMS	CEI										\$0.54		\$0.54	Statewide	
2316541	4	I-95		Broward County I.T.S Operational Facility (TMC)	RTMC	PE	\$0.35											\$0.35	District	
2316541	4	I-95		Broward County I.T.S Operational Facility (TMC)	RTMC	CONST	\$13.55											\$13.55	District	
2316541	4	I-95		Broward County I.T.S Operational Facility (TMC)	RTMC	Utilities	\$0.10											\$0.10	District	
2316551	4	I-95	From Dade/Broward Co. Line to Broward/Palm Beach Co Line	Advance Incident Information System (AIIS)	ATIS	PE	\$1.31											\$1.31	District	
2316551	4	I-95	From Dade/Broward Co. Line to Broward/Palm Beach Co Line	Advance Incident Information System (AIIS)	ATIS	CONST			\$11.26									\$11.26	Statewide	
2316551	4	I-95	From Dade/Broward Co. Line to Broward/Palm Beach Co Line	Advance Incident Information System (AIIS)	ATIS	Utilities	\$0.10											\$0.10	District	
2316591	4	I-95	From Dade/Broward Co. Line to Broward/Palm Beach Co Line	I-95 Broward County Changeable Message Sign	ATIS	CONST	\$0.83											\$0.83	District	
2316601	4	I-95	From Broward/Palm Beach Co Line to SR 869 Sawgrass Expressway	Broward County Freeway Video Monitoring System	FMS	CONST	\$0.59											\$0.59	District	
2317391	4	I-95	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	I-95/I-595 Video Monitoring System Cameras Broward County	FMS	PE		\$1.05										\$1.05	District	
2317391	4	I-95	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	I-95/I-595 Video Monitoring System Cameras Broward County	FMS	CONST			\$10.67									\$10.67	District	
2318811	4	I-95	From Broward/Palm Beach Co Line to Palm Beach/Martin Co. Line	SR 9/I-95/Video Monitoring System	FMS	CONST			\$10.30									\$10.30	Statewide	
2319301	4	I-95		Palm Beach County ITS Operations Facility	RTMC	PE	\$1.05											\$1.05	District	
2319301	4	I-95		Palm Beach County ITS Operations Facility	RTMC	CONST			\$6.58									\$6.58	Statewide	
2319301	4	I-95		Palm Beach County ITS Operations Facility	RTMC	PD& E	\$1.05											\$1.05	District	
4048181	4	I-95	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	Arterial Incident Detour Route Sign System	FMS	PE		\$0.55										\$0.55	District	
4048181	4	I-95	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	Arterial Incident Detour Route Sign System	FMS	CONST			\$2.85									\$2.85	District	
4048271	4	I-95	From Broward/Palm Beach Co Line to Palm Beach/Martin Co. Line	Palm Beach County Dynamic Message Sign System (ATIS)	ATIS	PE	\$0.08											\$0.08	District	
4048271	4	I-95	From Broward/Palm Beach Co Line to Palm Beach/Martin Co. Line	Palm Beach County Dynamic Message Sign System (ATIS)	ATIS	CONST		\$4.98										\$4.98	District	
4090471	4	I-95	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	Broward Co. APTS Master Plan	APTS	PD& E	\$0.26											\$0.26	District	
4110671	4	I-95	From Broward/Palm Beach Co Line to Palm Beach/Martin Co. Line	Interim Traffic Management System (ITMS)	MOT	PE	\$7.50											\$7.50	Statewide	
4110671	4	I-95	From Broward/Palm Beach Co Line to Palm Beach/Martin Co. Line	Interim Traffic Management System (ITMS)	MOT	D/B		\$3.20	\$2.80	\$2.80	\$2.90	\$3.00	\$3.10	\$3.20				\$21.00	Statewide	
4124951	4	I-95	From Palm Beach/Martin Co. Line to Indian River/Brevard Co. Line	SR 9/I-95 Freeway Road Rangers Service Patrol	RR	MAINT			\$1.10									\$1.10	Statewide	
4125201	4	Various	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	I-95/I-595/I-75 Lane Condition Priority System	FMS	PE			\$0.40									\$0.40	Statewide	
4125201	4	Various	From Miami-Dade/Broward Co. Line to Broward/Palm Beach Co Line	I-95/I-595/I-75 Lane Condition Priority System	FMS	CONST			\$0.66									\$0.66	Statewide	
503802	5	I-4	From SR 44 to I-95	I-4 Surveillance Motorist Information System Phase 5	FMS	CONST			\$4.83									\$4.83	Statewide	Needed to complete I-4/I-95 SMIS FON provided by a previous project.
503803	5	I-4	From SR 44 to I-95	I-4 Surveillance Motorist Information System Phase 5	FMS	CEI			\$0.97									\$0.97	Statewide	
2409482	5	I-4	From SR 44 to I-95	Integrate ITS in Volusia County	FMS	D/B	\$0.15											\$0.15	District	
2424442	5	I-4	From SR 528 to SR 482	I-4 Auxiliary Lanes from SR 528 to SR 482	FMS	CONST	\$0.37											\$0.37	District	
2424842	5	I-4	From SR 408 Interchange to	I-4 Interchange @ E/W Expressway Interim Improvements (SR 408)	FMS	CONST			\$0.73									\$0.73	District	
2424961	5	I-4	From SR 435 to Turnpike	I-4 Auxiliary Lanes from SR 435 to Turnpike	FMS	CONST	\$0.22											\$0.22	District	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
2424991	5	I-4	From SR 423 to SR 436	I-4 Auxiliary Lanes from SR 423 to SR 436	FMS	CONST	\$5.50											\$5.50	District	
2425231	5	I-4	From World Drive to US 27	I-4 SMIS (7 Miles) Phase 4 / 6- Lane Reconstruction Project	FMS	CONST		\$2.00										\$2.00	District	
2425311	5	I-4	From US 192 Interchange to	I-4 Interchange Freeway Management System	FMS	CONST			\$1.29									\$1.29	District	
2427021	5	I-4	From Lake Mary Blvd to SR 472	I-4 SMIS (22 Miles) Phase 3 - St. Johns River Bridge Replacement / Reconstruction	FMS	CONST	\$3.00											\$3.00	District	
4055151	5	I-4	From SR 536 to SR 528	I-4 Auxiliary Lanes from SR 536 to SR 528	FMS	CONST	\$0.34											\$0.34	District	
4107242	5	I-4	From SR 44 to DASH (I-95)	I-4 SMIS Fiber Optic Connection to DASH	FON	CONST		\$0.56										\$0.56	Statewide	
4107251	5	I-4		Regional Traffic Management Center (RTMC) Upgrade/ Retrofit	RTMC	D/B	\$1.97											\$1.97	District	
512701	5	I-95	From US 1 (Volusia County) to US 1 at the Flagler County Line	Surveillance Motorist Information System/Daytona Area Smart Highways Phase IV	FMS	PE					\$1.03							\$1.03	Statewide	
512702	5	I-95	From US 1 (Volusia County) to US 1 at the Flagler County Line	Surveillance Motorist Information System/Daytona Area Smart Highways Phase IV	FMS	CONST					\$6.84							\$6.84	Statewide	
512703	5	I-95	From US 1 (Volusia County) to US 1 at the Flagler County Line	Surveillance Motorist Information System/Daytona Area Smart Highways Phase IV	FMS	CEI					\$1.36							\$1.36	Statewide	
512801	5	I-95	From SR 44 to US 1 (Volusia County)	Surveillance Motorist Information System/Daytona Area Smart Highways Phase III	FMS	PE					\$0.32							\$0.32	Statewide	
512802	5	I-95	From SR 44 to US 1 (Volusia County)	Surveillance Motorist Information System/Daytona Area Smart Highways Phase III	FMS	CONST					\$2.10							\$2.10	Statewide	
512803	5	I-95	From SR 44 to US 1 (Volusia County)	Surveillance Motorist Information System/Daytona Area Smart Highways Phase III	FMS	CEI					\$0.42							\$0.42	Statewide	
523901	5	I-95	From Indian River/Brevard Co. Line to SR44	Surveillance Motorist Information System/Daytona Area Smart Highway Phase IV	FMS	PE					\$2.13							\$2.13	Statewide	
523902	5	I-95	From Indian River/Brevard Co. Line to SR44	Surveillance Motorist Information System/Daytona Area Smart Highway Phase IV	FMS	CONST					\$3.99	\$7.00	\$3.68					\$14.67	Statewide	
523903	5	I-95	From Indian River/Brevard Co. Line to SR44	Surveillance Motorist Information System/Daytona Area Smart Highway Phase IV	FMS	CEI					\$0.80	\$1.25	\$0.74					\$2.79	Statewide	
540301	5	I-95	From US 1 (Volusia County) to US 1 at the Flagler/St. Johns Co. Line	Fiber Optic Network	FON	PE				\$0.06								\$0.06	Statewide	
540302	5	I-95	From US 1 (Volusia County) to US 1 at the Flagler/St. Johns Co. Line	Fiber Optic Network	FON	CONST				\$0.42								\$0.42	Statewide	
540303	5	I-95	From US 1 (Volusia County) to US 1 at the Flagler/St. Johns Co. Line	Fiber Optic Network	FON	CEI				\$0.03								\$0.03	Statewide	
540401	5	I-95	From Indian River/Brevard Co. Line to SR 44	Fiber Optic Network	FON	PE					\$0.97							\$0.97	Statewide	
540402	5	I-95	From Indian River/Brevard Co. Line to SR 44	Fiber Optic Network	FON	CONST					\$8.07							\$8.07	Statewide	
540403	5	I-95	From Indian River/Brevard Co. Line to SR 44	Fiber Optic Network	FON	CEI					\$0.65							\$0.65	Statewide	
540501	5	I-95	From SR 44 to US 1 (Volusia County)	Fiber Optic Network	FON	PE				\$0.26								\$0.26	Statewide	
540502	5	I-95	From SR 44 to US 1 (Volusia County)	Fiber Optic Network	FON	CONST				\$2.17								\$2.17	Statewide	
540503	5	I-95	From SR 44 to US 1 (Volusia County)	Fiber Optic Network	FON	CEI				\$0.17								\$0.17	Statewide	
2422501	5	I-95	From SR 528 & I-95 Interchange to	I-95 phase 2 I-95/SR 528 Hurricane Evacuation System	FMS	D/B	\$0.66											\$0.66	District	
2422501	5	I-95	From SR 528 & I-95 Interchange to	I-95 Phase 2 I-95/SR 528 Hurricane Evacuation System	FMS	D/B	\$3.00											\$3.00	Statewide	
4701	5	Various		ITS-01:OOCEA's SR 408 & SR 417	FMS	PE	\$0.24											\$0.24	Expwy Auth	Coms on OOCEA's FON
4702	5	Various	From Kirkman Road to SR 417 West	ITS-01:OOCEA's SR 408 & SR 417	FMS	CONST	\$2.42											\$2.42	Expwy Auth	Coms on OOCEA's FON
4901	5	Various		ITS-02: OOCEA's SR 408, SR 417, & SR 528	FMS	PE	\$0.16											\$0.16	Expwy Auth	Coms on OOCEA's FON: Costs in SR 408 section 1 entry for ITS-3
4902	5	Various		ITS-02: OOCEA's SR 408, SR 417, & SR 528	FMS	CONST		\$1.60										\$1.60	Expwy Auth	Coms on OOCEA's FON: Costs in SR 408 section 1 entry for ITS-3
5401	5	Various		ITS-03: OOCEA's SR 408, SR 417, & SR 528	FMS	PE	\$0.30											\$0.30	Expwy Auth	Coms on OOCEA's FON
5402	5	Various		ITS-03: OOCEA's SR 408, SR 417, & SR 528	FMS	CONST		\$3.03										\$3.03	Expwy Auth	Coms on OOCEA's FON: Costs in SR 408 entry for ITS-4
5601	5	Various		ITS-04: OOCEA's SR 408, SR 417, & SR 528	FMS	PE		\$0.33										\$0.33	Expwy Auth	Coms on OOCEA's FON

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
5602	5	Various		ITS-04: OOCEA's SR 408, SR 417, & SR 528	FMS	CONST		\$3.32										\$3.32	Expwy Auth	Coms on OOCEA's FON
5801	5	Various		ITS-05: OOCEA's SR 408, SR 417, SR 528, SR 520, & SR 50	FMS	CONST			\$2.82									\$2.82	Expwy Auth	Coms on OOCEA's FON
5802	5	Various		ITS-05: OOCEA's SR 408, SR 417, SR 528, SR 520, & SR 50	FMS	PE			\$0.28									\$0.28	Expwy Auth	Coms on OOCEA's FON
6301	5	Various		ITS-06: Traveler Information	ATIS	PE			\$0.13									\$0.13	Expwy Auth	
6302	5	Various		ITS-06: Traveler Information	ATIS	CONST			\$1.35									\$1.35	Expwy Auth	
6401	5	Various		ITS-07: Phase I System Automation	FMS	PE				\$0.32								\$0.32	Expwy Auth	Coms on OOCEA's FON
6402	5	Various		ITS-07: Phase I System Automation	FMS	CONST				\$0.75								\$0.75	Expwy Auth	Coms on OOCEA's FON
2502383	6			ITS Building/Comm. HUB Equipment Purchase (RTMC)	FMS	Capital			\$0.10									\$0.10	Statewide	
2516831	6	I-195	From NW 11 Avenue to SR 907/Alton Road	SR 112/I-195 ITS	FMS	PE			\$0.05									\$0.05	District	
2516831	6	I-195	From NW 11 Avenue to SR 907/Alton Road	SR 112/I-195 ITS	FMS	D/B				\$7.76								\$7.76	District	
2516861	6	I-395	From I-95 to West end of MacArthur Bridge	SR 836/I-395 ICS	FMS	PE					\$0.35							\$0.35	District	
2516851	6	I-75	From SR 826 to Miami-Dade/ Broward Co. Line	SR 93/I-75 ICS	FMS	PE	\$0.01	\$0.05										\$0.05	District	
2516851	6	I-75	From SR 826 to Miami-Dade/ Broward Co. Line	SR 93/I-75 ICS	FMS	D/B				\$10.23								\$10.23	District	
2502381	6	I-95	From Sunguide RTMC to Sunguide RTMC	I-95 ITS Sunguide Control-Package "C"	FMS	Contract Incentives	\$0.50											\$0.50	District	Included Contract IncentivesPhase in order to be consistent with Work Program
2502381	6	I-95	From Sunguide RTMC to Sunguide RTMC	I-95 ITS Sunguide Control-Package "C"	FMS	CONST	\$0.59											\$0.59	District	
2516711	6	I-95	From US 1 to Miami-Dade/Broward County Line	I-95 Post Construction, Operations and Evaluation for Golden Glades Integration Project	FMS	CONST	\$0.11											\$0.11	District	
2516821	6	I-95	From US 1 to Ives Dairy Road	I-95 Intelligent Corridor System Package B	FMS	Contract Incentives			\$1.50									\$1.50	Statewide	Included Contract Incentives Phase in order to be consistent with Work Program
2516821	6	I-95	From US 1 to Ives Dairy Road	I-95 Intelligent Corridor System Package B	FMS	PE	\$0.51											\$0.51	District	
2516821	6	I-95	From US 1 to Ives Dairy Road	I-95 Intelligent Corridor System Package B	FMS	CONST	\$3.90											\$3.90	Statewide	
2516821	6	I-95	From US 1 to Ives Dairy Road	I-95 Intelligent Corridor System Package B	FMS	CONST	\$17.04											\$17.04	District	
4040801	6	I-95	From US 1 to Miami-Dade/ Broward Co. Line	SR 9A/I-95 Post Construction Evaluation	FMS	CEI	\$0.51											\$0.51	District	
4056631	6	I-95	From Sunguide ATIS to Sunguide ATIS	Miami-Dade Countywide Regional Traveler Information	ATIS	PE	\$3.11											\$3.11	District	
2497192	6	SR 826	From NW 154th Street to Golden Glades Interchange	SR 826 (Palmetto Expwy) East/West ITS Deployment	FMS	PE	\$0.03											\$0.03	District	
2497192	6	SR 826	From NW 154th Street to Golden Glades Interchange	SR 826 (Palmetto Expwy) East/West ITS Deployment	FMS	D/B	\$3.02											\$3.02	District	
1001802	6	SR 836	From SR 821 to NW 27th Ave	ITS - 002	FMS	CONST	\$1.40											\$1.40	Expwy Auth	Shown on map as MDX-1.
2502382	6	Various	From Sunguide RTMC to Sunguide RTMC	Package C- ITS Video Wall and Consoles	FMS	CONST			\$3.38									\$3.38	Statewide	
140601	7	I-275	From I-75 South to Sunshine Skyway Bridge	Fiber Optic Network	FON	PE									\$0.10			\$0.10	Statewide	
140602	7	I-275	From I-75 South to Sunshine Skyway Bridge	Fiber Optic Network	FON	CONST										\$0.98		\$0.98	Statewide	
140603	7	I-275	From I-75 South to Sunshine Skyway Bridge	Fiber Optic Network	FON	CEI										\$0.08		\$0.08	Statewide	
702001	7	I-275	From Bearss Ave to I-75	Freeway and Incident Management System	FMS	PE					\$0.44							\$0.44	Statewide	
702002	7	I-275	From Bearss Ave to I-75	Freeway and Incident Management System	FMS	CONST					\$2.67							\$2.67	Statewide	
702003	7	I-275	From Bearss Ave to I-75	Freeway and Incident Management System	FMS	CEI					\$0.59							\$0.59	Statewide	
737802	7	I-275	From South of Sunshine Skyway Bridge to McKinley Drive	Communication Link for Sunshine Skyway Bridge to FHP	FON	CONST		\$5.73	\$2.65									\$8.38	Statewide	Cost revised to coincide with FHWA ITS Deployment plan.
737901	7	I-275	From Fowler Ave to Bearss Ave	Fiber Optic Network	FON	PE		\$0.03										\$0.03	Statewide	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

 Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
737902	7	I-275	From Fowler Ave to Bearss Ave	Fiber Optic Network	FON	CONST			\$0.29									\$0.29	Statewide	
737903	7	I-275	From Fowler Ave to Bearss Ave	Fiber Optic Network	FON	CEI			\$0.02									\$0.02	Statewide	
743301	7	I-275	From Howard Frankland Bridge to Hillsborough River	Links II/III	FMS	PE						\$0.24						\$0.24	Statewide	
743302	7	I-275	From Howard Frankland Bridge to Hillsborough River	Links II/III	FMS	CONST									\$2.74			\$2.74	Statewide	See Note 1.
743303	7	I-275	From Howard Frankland Bridge to Hillsborough River	Links II/III	FMS	CEI									\$0.39			\$0.39	Statewide	See Note 1.
743401	7	I-275	From Bearss Ave to I-75	Fiber Optic Network	FON	PE					\$0.11							\$0.11	Statewide	
743402	7	I-275	From Bearss Ave to I-75	Fiber Optic Network	FON	CONST					\$0.91							\$0.91	Statewide	
743403	7	I-275	From Bearss Ave to I-75	Fiber Optic Network	FON	CEI					\$0.07							\$0.07	Statewide	
2583981	7	I-275	From Howard Frankland Bridge to Himes Ave	Links Stage II	FON	CONST						\$1.30						\$1.30	Statewide	
2583991	7	I-275	From Himes Ave. to Hillsborough River	Links Stage III	FON	CONST						\$1.30						\$1.30	Statewide	
2586431	7	I-275	From I-275 and I-4 Interchange to	ITS at I-4/I-275 Interchange	FMS	MOT			\$1.10									\$1.10	District	
2586432	7	I-275	From Hillsborough River to I-4	I-275/I-4 Freeway Management System	FMS	PE		\$0.33										\$0.33	District	
2586432	7	I-275	From Hillsborough River to I-4	I-275/I-4 Freeway Management System	FMS	CONST				\$1.10								\$1.10	Statewide	
4072331	7	I-275	From MLK Blvd to Bearss Ave	I-275 Freeway Management System	FMS	PE		\$0.20										\$0.20	District	
4072331	7	I-275	From MLK Blvd to Bearss Ave	I-275 Freeway Management System	FMS	CONST				\$2.67								\$2.67	Statewide	
4072332	7	I-275	From 54th Ave N to Howard Frankland	I-275 Freeway Management System	FMS	PE		\$0.40										\$0.40	District	
4072332	7	I-275	From 54th Ave N to Howard Frankland	I-275 Freeway Management System	FMS	CONST				\$3.69								\$3.69	Statewide	
4072333	7	I-275	From Howard Frankland to Kennedy Blvd	I-275 Freeway Management System	FMS	CONST				\$0.32								\$0.32	Statewide	
4072334	7	I-275	From 54th Ave S to 54th Ave N	I-275/Freeway Management System	FMS	PE			\$0.30									\$0.30	Statewide	
4072334	7	I-275	From 54th Ave S to 54th Ave N	I-275 Freeway Management System	FMS	CONST						\$2.69						\$2.69	Statewide	
4072335	7	I-275	From Sunshine Skyway Bridge to 54th Ave S	I-275 Freeway Management System	FMS	PE			\$0.40									\$0.40	Statewide	
4072335	7	I-275	From Sunshine Skyway to 54th Ave. South	I-275 Freeway Management System	FMS	CONST								\$2.77				\$2.77	Statewide	See Note 1 and 2.
4072336	7	I-275	From I-75 South to Sunshine Skyway	I-275 Freeway Management System	FMS	CONST											\$2.02	\$2.02	Statewide	See Note 1 and 2.
4086711	7	I-275	From Sunshine Skyway Bridge North End to Sunshine Skyway Bridge South	Skyway Video Monitoring System Modifications	ATIS	D/B	\$1.64											\$1.64	District	
740201	7	I-4	From I-275 to US 27 (Polk County)	Fiber Optic Network	FON	PE			\$0.93									\$0.93	Statewide	Project added to provide FON backbone for programmed I-4 ITS projects.
740202	7	I-4	From I-275 to US 27 (Polk County)	Fiber Optic Network	FON	CONST			\$4.64									\$4.64	Statewide	Project added to provide FON backbone for programmed I-4 ITS projects.
740203	7	I-4	From I-275 to US 27 (Polk County)	Fiber Optic Network	FON	CEI			\$0.37									\$0.37	Statewide	Project added to provide FON backbone for programmed I-4 ITS projects.
2584012	7	I-4	From 14th St to 50th St	I-4 Freeway Management System	FMS	CONST				\$1.10								\$1.10	Statewide	
4093661	7	I-4	From 50th Street to CR 579	I-4 Freeway Management System	FMS	PE		\$0.20										\$0.20	District	
4093661	7	I-4	From 50th Street to CR 579	I-4 Freeway Management System	FMS	CONST				\$2.70								\$2.70	Statewide	
4093662	7	I-4	From CR 579 to Park Road	I-4 Freeway Management System	FMS	PE		\$0.40										\$0.40	Statewide	
4093662	7	I-4	From CR 579 to Park Road	I-4 Freeway Management System	FMS	CONST					\$4.10							\$4.10	Statewide	
4093663	7	I-4	From Park Road to Hillsborough/Polk Co. Line	I-4 Freeway Management System	FMS	PE			\$0.61									\$0.61	District	
4093663	7	I-4	From Park Road to Hillsborough/Polk Co. Line	I-4 Freeway Management System	FMS	CONST						\$1.28						\$1.28	District	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
4093664	7	I-4	From Hillsborough/Polk Co. Line to US 27	I-4 Freeway Management System	FMS	PE			\$0.10									\$0.10	District	
4093664	7	I-4	From Hillsborough/Polk Co. Line to US 27	I-4 Freeway Management System	FMS	CONST						\$5.10						\$5.10	Statewide	
743701	7	I-75	From US 301 (Brandon) to SR 54	Fiber Optic Network	FON	PE								\$0.68				\$0.68	Statewide	
743702	7	I-75	From US 301 (Brandon) to SR 54	Fiber Optic Network	FON	CONST								\$4.58				\$4.58	Statewide	
743703	7	I-75	From US 301 (Brandon) to SR 54	Fiber Optic Network	FON	CEI								\$0.29				\$0.29	Statewide	
4072321	7	I-75	From Tampa RTMC to Tampa RTMC	Tampa Bay Sunguide Freeway Management Center and System	FMS	PE	\$0.81											\$0.81	Statewide	
4072321	7	I-75	From Tampa RTMC to Tampa RTMC	Tampa Bay Sunguide Freeway Management Center and System	FMS	CONST			\$4.79	\$1.09								\$5.87	Statewide	
4109091	7	I-75	From US 301 to Fowler Ave	I-75 Freeway Management System	FMS	PE			\$0.30									\$0.30	District	
4109091	7	I-75	From US 301 to Fowler Ave	I-75 Freeway Management System	FMS	CONST					\$4.90							\$4.90	Statewide	
4109092	7	I-75	From Fowler Ave to Bruce B Downs Blvd	I-75 Freeway Management System	FMS	PE						\$0.10						\$0.10	Statewide	
4109092	7	I-75	From Fowler Ave. to Bruce B. Downs Blvd.	I-75 Freeway Management System	FMS	CONST								\$1.89				\$1.89	Statewide	See Note 1.
4109093	7	I-75	From Bruce B Downs Blvd to I-275(Pasco County)	I-75 Freeway Management System	FMS	PE						\$0.32						\$0.32	Statewide	
4109093	7	I-75	From Bruce B. Downs Blvd. to I-275 (Pasco Co.)	I-75 Freeway Management System	FMS	CONST								\$1.56				\$1.56	Statewide	See Note 1.
4109094	7	I-75	From I-275 to Hernando Co. Line	I-75 Freeway Management System	FMS	PE						\$0.14						\$0.14	Statewide	
4109094	7	I-75	From I-275 to Hernando Co. Line	I-75 Freeway Management System	FMS	CONST								\$3.28				\$3.28	Statewide	See Note 1.
4109095	7	I-75	From Pasco Co. Line to SR 50	I-75 Freeway Management System	FMS	PE						\$0.10						\$0.10	Statewide	
4109095	7	I-75	From Pasco Co. Line to SR 50	I-75 Freeway Management System	FMS	CONST										\$0.67		\$0.67	Statewide	See Note 1.
4109096	7	I-75	From Manatee Co. Line to US 301	I-75 Freeway Management System	FMS	PE						\$0.21						\$0.21	Statewide	
4109096	7	I-75	From Manatee Co. Line to US 301	I-75 Freeway Management System	FMS	CONST								\$2.65				\$2.65	Statewide	See Note 1.
4109097	7	I-75	From I-275 to Hillsborough Co. Line	I-75 (Freeway Management System	FMS	PE						\$0.10						\$0.10	Statewide	
4109097	7	I-75	From I-275 to Hillsborough Co. Line	I-75 Freeway Management System	FMS	CONST								\$0.57				\$0.57	Statewide	See Note 1.
2558441	7	SR 589	From I-275 to Hillsborough River	Links Stage I	FMS	CONST			\$1.59									\$1.59	Statewide	
2558442	7	SR 589	From I-275 to Hillsborough River	Links Stage I	FMS	PE			\$0.20									\$0.20	Statewide	
2558442	7	SR 589	From I-275 to Hillsborough River	Links Stage I	FMS	CONST					\$1.70							\$1.70	Statewide	
4122861	8	Sawgrass	From Sawgrass Expressway Limits to Sawgrass Expressway Limits	Sunpass Challenge Sawgrass Expressway	FMS	PE	\$0.07											\$0.07	District	
4122861	8	Sawgrass	From Sawgrass Expressway Limits to Sawgrass Expressway Limits	Sunpass Challenge Sawgrass Expressway	FMS	CONST		\$9.24										\$9.24	District	See Note 5
4122861	8	Sawgrass	From Sawgrass Expressway Limits to Sawgrass Expressway Limits	Sunpass Challenge Sawgrass Expressway	FMS	Utilities		\$0.21										\$0.21	District	
4122861	8	Sawgrass	From Sawgrass Expressway Limits to Sawgrass Expressway Limits	Sunpass Challenge Sawgrass Expressway	FMS	Capital		\$0.95										\$0.95	District	
4122871	8	Sawgrass	From Sawgrass Expressway Limits to Sawgrass Expressway Limits	Sunpass Challenge Sawgrass Ramps II	FMS	PE	\$0.01											\$0.01	District	
4122881	8	SR 570	From Polk Parkway Limits to Polk Parkway Limits	Sunpass Challenge Polk Parkway	FMS	PE	\$0.00											\$0.00	District	
4122881	8	SR 570	From Polk Parkway Limits to Polk Parkway Limits	Sunpass Challenge Polk Parkway	FMS	CONST		\$2.33										\$2.33	District	See Note 5
4122881	8	SR 570	From Polk Parkway Limits to Polk Parkway Limits	Sunpass Challenge Polk Parkway	FMS	Capital		\$0.68										\$0.68	District	
843802	8	SR 91	From MP 263 to MP 267	Ocoee Video System and Fiber Optics	FMS	CONST	\$0.25											\$0.25		Bidding proposed to occur in FY'03.
1907501	8	SR 91	From MP4 to MP 75	SunNav Phase 1 Fiber Project	FMS	CONST	\$8.00	\$3.70										\$11.70	District	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

 Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
1907661	8	SR 91		SunNav sm Software Development and Integration	FMS	PE	\$3.07	\$5.08	\$5.75	\$6.07	\$6.42	\$6.72						\$33.10	District	See Note 4
4061221	8	SR 91	From I-95 to I-75	Mainline Communication HUBS & Fiber Distribution Cable	COM	PE	\$1.66											\$1.66	District	
4061221	8	SR 91	From I-95 to I-75	Mainline Communication HUBS & Fiber Distribution Cable	COM	CONST			\$12.46									\$12.46	District	
4061221	8	SR 91	From I-95 to I-75	Mainline Communication HUBS & Fiber Distribution Cable	COM	Utilities			\$0.50									\$0.50	District	
4061231	8	SR 91	From Turnpike Mainline to	Intelligent Transportation System (ITS) Incident Detection	FMS	PE				\$0.81								\$0.81	District	
4061231	8	SR 91	From Turnpike Mainline to	Intelligent Transportation System (ITS) Incident Detection	FMS	CONST						\$10.66						\$10.66	District	
4090601	8	SR 91	From I-95 to I-75	Sunpass System Monitoring Expansion and CCTV equipment	FMS	Capital	\$1.60	\$1.40	\$1.50	\$1.50	\$1.50	\$2.00						\$9.50	Statewide	
1907171	8	Various	From I-95 to I-75	Advanced Traveler Information System DMS, HAR , TMC's	FMS	Right Of Way	\$0.00											\$0.00	District	Included Right Of Way Phase in order to be consistent with Work Program
1907171	8	Various	From I-95 to I-75	Advanced Traveler Information System DMS, HAR , TMC's	FMS	PE	\$0.53											\$0.53	District	
1907171	8	Various	From I-95 to I-75	Advanced Traveler Information System DMS, HAR , TMC's	FMS	CONST	\$0.84											\$0.84	District	
1907171	8	Various	From I-95 to I-75	Advanced Traveler Information System DMS, HAR , TMC's	FMS	Utilities	\$1.07											\$1.07	District	
	9	Central Office		ITS Central Office Consultants and Contingencies	FMS	PE		\$7.90	\$9.20	\$8.40	\$10.50	\$8.63	\$8.63	\$7.32	\$2.32	\$3.31	\$3.31	\$69.51	Statewide	
915701	9	Central Office	Statewide	CVISN Phase I (Electronic Credentialing System & Automated Routing Software, Items 1-3)	CVISN	PE		\$2.56										\$2.56	Statewide	
915801	9	Central Office	Statewide	CVISN Phase II (Electronic Payment System and IFTA Clearing House, Items 4-10)	CVISN	PE			\$1.08									\$1.08	Statewide	
916601	9	Central Office	Statewide	Jacksonville Area SunGuide ATIS	ATIS	PE					\$3.18							\$3.18	Statewide	Public sector subsidy, private sector participation anticipated
918801	9	Central Office	Statewide	Southwest Florida ATIS	ATIS	PE					\$3.00							\$3.00	Statewide	Public sector subsidy, private sector participation anticipated
918901	9	Central Office	Statewide	Statewide 511 Services	ATIS	PE			\$1.94									\$1.94	Statewide	Public sector subsidy, private sector participation anticipated. Advanced 1 yr. To coincide with the 511 Implementation Plan.
924401	9	Central Office	Statewide	Statewide Highway Advisory Radio System Phase 1	ATIS	PE											\$0.75	\$0.75	Statewide	
924402	9	Central Office	Statewide	Statewide Highway Advisory Radio System Phase 1	ATIS	CONST											\$4.98	\$4.98	Statewide	
924403	9	Central Office	Statewide	Statewide Highway Advisory Radio System Phase 1	ATIS	CEI											\$1.00	\$1.00	Statewide	
930701	9	Central Office	Statewide	Statewide Road Weather Information System	ATIS	PE										\$0.94		\$0.94	Statewide	
930702	9	Central Office	Statewide	Statewide Road Weather Information System	ATIS	CONST										\$3.14	\$3.24	\$6.38	Statewide	
930703	9	Central Office	Statewide	Statewide Road Weather Information System	ATIS	CEI										\$0.63	\$0.65	\$1.28	Statewide	
939001	9	Central Office	Statewide	RTMC Software Library and Configuration Management	RTMC	PE		\$1.40	\$0.80	\$0.60	\$0.60	\$0.17	\$0.17	\$0.18	\$0.18	\$0.19	\$0.19	\$4.48	Statewide	
4125431	9	I-4	Statewide	Tampa Bay SunGuide™ ATIS	ATIS	PE		\$5.00										\$5.00	Statewide	

Table 5.1 - Ten-Year ITS Cost-Feasible Plan

 Programmed Projects

FIN / MapID	District	Facility	Project Limits	Description	Type	Phase	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Total	Fund Source	Comments
				<i>Total Statewide Managed Funds (TSWMF)</i>			\$24.80	\$21.40	\$70.30	\$65.60	\$67.50	\$55.30	\$56.30	\$50.00	\$25.00	\$30.00	\$30.00	\$496.20		
				<i>Statewide Funds Programmed (S)</i>			\$18.21	\$10.16	\$38.12	\$26.08	\$15.10	\$16.36	\$3.10	\$3.20	\$0.00	\$0.00	\$0.00	\$130.34		
				<i>District Funds Programmed (D)</i>			\$81.69	\$38.57	\$21.55	\$39.74	\$6.77	\$18.66	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$206.98		
				<i>Other Programmed -Private (P)</i>			\$4.77	\$8.28	\$4.58	\$1.07	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.69		
				<i>Total Programmed (S+D+P)</i>			\$104.67	\$57.01	\$64.25	\$66.89	\$21.87	\$35.03	\$3.10	\$3.20	\$0.00	\$0.00	\$0.00	\$356.02		
				<i>Funds Available for CFP (TSWMF -S)</i>			\$6.59	\$11.24	\$32.18	\$39.52	\$52.40	\$38.94	\$53.20	\$46.80	\$25.00	\$30.00	\$30.00	\$365.86		
				<i>Cost-Feasible Projects (CFP)</i>			\$0.00	\$17.61	\$30.19	\$38.40	\$50.75	\$38.31	\$52.74	\$46.14	\$24.77	\$29.87	\$29.17	\$357.95		
				<i>Contingency as a % of TSWFA</i>			27%	-30%	3%	2%	2%	1%	1%	1%	1%	0%	3%	2%		

** All projects costs shown are escalated or "as-programmed" millions of*

Note 1: District cost estimates are low compared to estimates performed by the Central Office. Central Office estimates are based on the FHWA device unit costs.

Note 2: Unable to advance project utilizing statewide managed funds. Project can be advanced utilizing district allocated funds.

Note 3: Project limits, costs, and the implementation year for fiber project subject to change based on phasing and implementation of FMS projects for the same facility and limits.

Note 4: Also includes non-ITS work such as burdened costs for traffic operations and administrative staff, traffic engineering, telecommunications, and administrative work; office expenses; and travel expenses.

Note 5: SunPass Challenge projects include toll booth construction, ramp widening and other non-ITS projects.

Figure 5.1 – District 5 Ten-Year ITS Cost-Feasible Plan

Legend

Outline color indicates funding year for earliest phase.
 Box fill color indicates construction year. When there is no construction phase the box will be white.

Map ID Number:	Funding Source
Facility Name	
Limits - From	
Limits - To	
Project Description	Funding Source:
PE - \$ (Year) (FS)	(S) Statewide
Const - \$ (Year) (FS)	(D) District
CEI - \$ (Year) (FS)	(Only indicated for projects that receive funding from multiple sources.)

Dollars indicated in millions

Color Coding By Year

	2002 is LIGHT RED
	2003 is LIGHT GREEN
	2004 is GREEN
	2005 is DARK GREEN
	2006 is BLUE
	2007 is DARK BLUE
	2008 is LIGHT YELLOW
	2009 is DARK YELLOW
	2010 is ORANGE
	2011 is RED
	2012 is BROWN

ITS Corridors

PBS&J Source: PBS&J

DRAFT

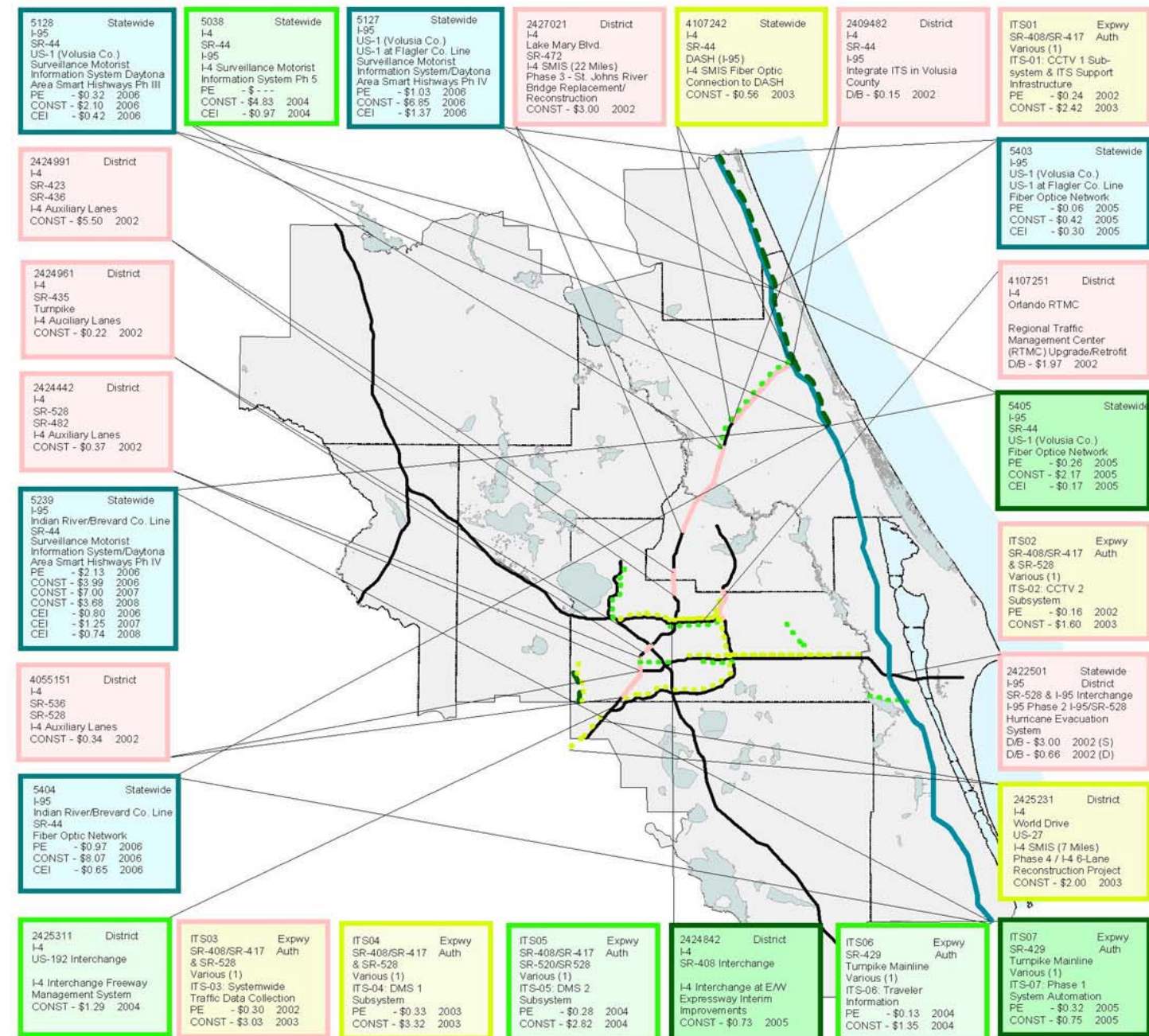
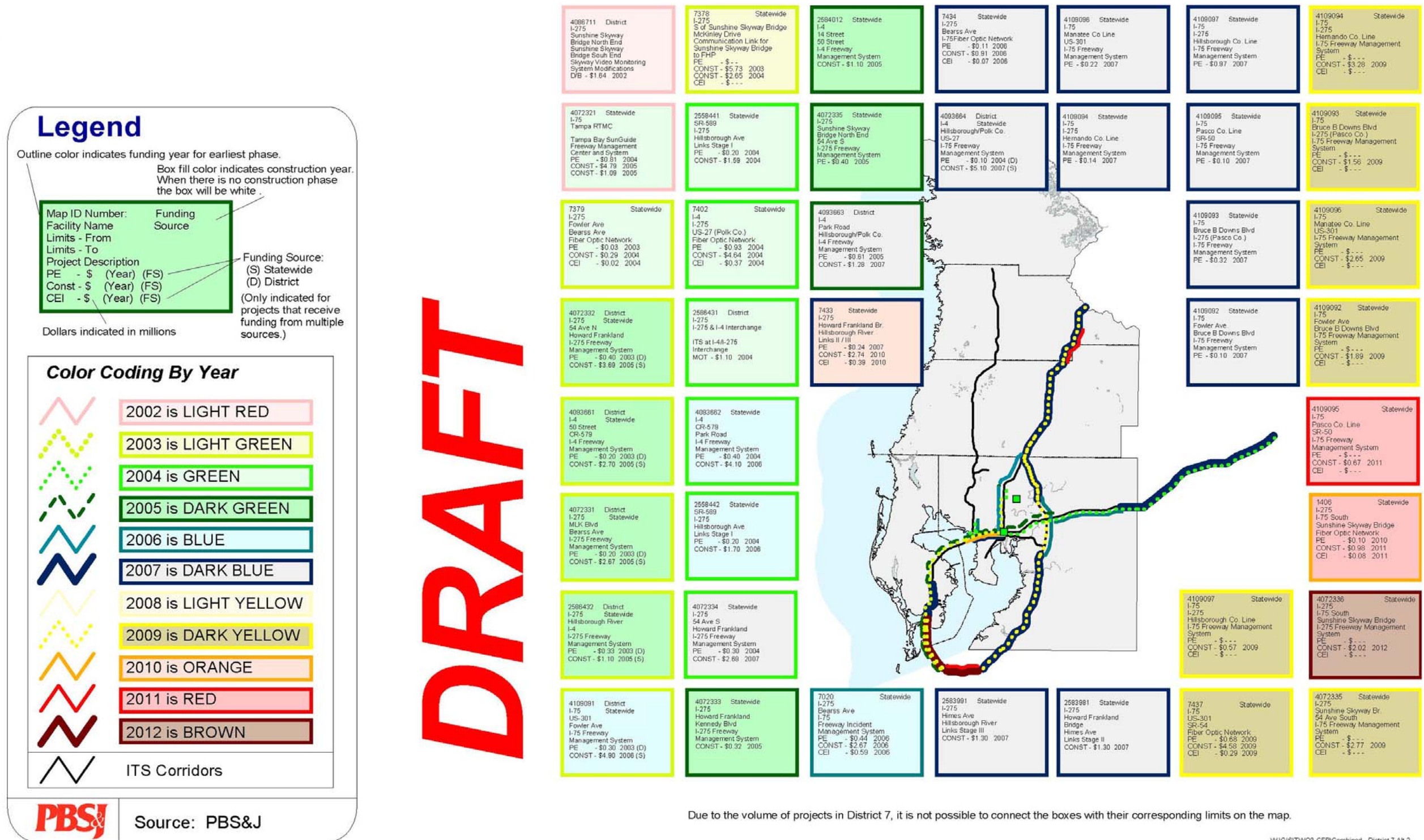


Figure 5.2 – District 7 Ten-Year ITS Cost-Feasible Plan



Due to the volume of projects in District 7, it is not possible to connect the boxes with their corresponding limits on the map.

W:\GIS\TW03-CFP\Combined - District 7 Alt 2
 Map Date: 05/01/2002