

## Technical Memorandum No. 1

# Florida's Intelligent Transportation Systems Strategic Plan Update

## Initial Actions Appraisal

**April 19, 2004**  
**Version 3**



Prepared for:

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## List of Acronyms

APTS.....	Advanced Public Transportation System
APL .....	Approved Products List
ATIS.....	Advanced Traveler Information System
CFP .....	<i>Ten-Year ITS Cost Feasible Plan</i>
CMB.....	Change Management Board
CVISN.....	Commercial Vehicle Information Systems and Networks
CVO .....	Commercial Vehicle Operations
FDOT .....	Florida Department of Transportation
FIHS.....	Florida Intrastate Highway System
FMS.....	Freeway Management System
FTA.....	Federal Transit Agency
FTP .....	<i>2020 Florida Transportation Plan</i>
GC.....	General Consultant
I-4.....	Interstate 4
I-95.....	Interstate 95
IMS .....	Incident Management System
ITN.....	Invitation to Negotiate
ITS.....	Intelligent Transportation Systems
LOS .....	Level of Service
MCCO.....	Motor Carrier Compliance Office
MPO.....	Metropolitan Planning Organization
NITSA .....	<i>National ITS Architecture</i>
O&M.....	Operations and Maintenance
PTO.....	Public Transportation Office

RAITS .....	Rural Area ITS
RTMC .....	Regional Transportation Management Center
RWIS .....	Road Weather Information System
<i>SEMP</i> .....	<i>Systems Engineering Management Plan</i>
SPO .....	Systems Planning Office
<i>SITSA</i> .....	<i>Statewide ITS Architecture</i>
TERL .....	Traffic Engineering Research Laboratory
TMC .....	Transportation Management Center
TPE .....	Turnpike Enterprise
UAV .....	Unmanned Aerial Vehicle
WIM .....	Weigh-in-Motion

## **1. Introduction**

### **1.1 Florida's ITS Strategic Plan Content**

*Florida's Intelligent Transportation System (ITS) Strategic Plan – Final Report*, hereinafter the *Plan*, completed in August 1999, was designed to guide the Florida Department of Transportation (FDOT), Florida's metropolitan planning organizations (MPO), and local governments in the planning, programming, and deployment of integrated, multimodal ITS services. The primary purpose of the *Plan* was to present a 20-year vision for ITS in Florida and to recommend strategies to achieve this vision.

The FDOT Traffic Operations Office and the Systems Planning Office (SPO) developed the *Plan* as part of a joint effort, with support from a statewide task team that included representatives from the Central Office, the Districts, the Motor Carrier Compliance Office (MCCO), and the MPOs. District representation included staff from the Planning, Design, Construction, and Maintenance Offices. During the creation of the *Plan*, a comprehensive public outreach program was conducted to ensure that stakeholder needs and requirements were also addressed.

*Florida's ITS Strategic Plan* is composed of six major sections:

- *Section 1: Purpose and Need* – This section identifies the purpose and application of the *Plan* from a statewide, multimodal perspective.
- *Section 2: The Challenge* – This section discusses the status of transportation in Florida, and presents the barriers and constraints that agencies may face in providing expanded transportation services. The document concludes that improved management and operation of the transportation system is necessary to improve mobility.
- *Section 3: What is ITS?* – This section presents an overview of ITS applications and the benefits associated with the implementation of ITS. It describes components of the *National ITS Architecture (NITSA)* and recommends the development of a statewide ITS architecture with regional and corridor architecture components.
- *Section 4: ITS Vision for Florida* – This section provides a 20-year vision for ITS in Florida as a guide in developing statewide ITS services that are consistent with FDOT transportation policy. The section presents the goals and objectives for the *Plan* as they relate to the *2020 Florida Transportation Plan (FTP)* goals.
- *Section 5: ITS Strategic Planning Guidelines* – This section identifies guiding principles to characterize the ITS Program and to describe how Florida's ITS vision will be realized over the next 20 years.

- *Section 6: ITS Business Plan* – This section serves as a short-term component of *Florida's ITS Strategic Plan* and identifies the resources, processes, and program elements necessary to implement Florida's ITS vision. It is recommended that this short-term business plan be accomplished through the implementation of several initial processes and ITS operational strategies presented in the form of "Initial Actions".

A series of resource documents and issue papers also support the *Plan*. These documents provide the data, analysis, research, and documentation necessary to support the conclusions and recommendations contained in the *Plan*. Resource documents and issue papers include:

- **Resource Documents** –
  - *Florida's Statewide ITS Strategic Plan – Summary of Survey Results* – This document presents the findings from a survey of ITS activities and programs of other state agencies.
  - *Florida's Statewide ITS Strategic Plan – Vision, Guiding Principles, Goals and Objectives* – This document details the development of *Florida's ITS Strategic Plan* vision, guiding principles, goals, and objectives.
  - *Florida's Statewide ITS Strategic Plan – ITS Project Cost Comparison* – This document compares similar freeway management system (FMS) costs in the State of Florida.
  - *The Business Plan of the Florida Statewide ITS Strategic Plan, 1999: An Implementation Program for the Next Five Years* – This document identifies the resources, arrangements, and program elements necessary to implement *Florida's ITS Strategic Plan* over the initial five years. These elements are summarized in 31 Initial Actions and Strategies; and
  - *Florida Statewide ITS Strategic Plan – Department Organizational Structure Alternatives to Implement ITS* – This document recommends an organizational structure for the establishment of a statewide FDOT ITS Office and Program.
- **Issue Papers** – These documents present information regarding advanced technologies, policies, and applications designed to guide the focus and implementation of the ITS Initial Strategies. The recommendations contained in these issue papers are based on practical applications and research from various ITS programs across the nation. They include:
  - *Florida Statewide ITS Strategic Plan – ITS Cost Analysis Issue Paper*;
  - *Economic Impacts of Intelligent Transportation Systems in Florida – An Issue Paper – Final Report*;

- *Florida Statewide ITS Strategic Plan – Integration of ITS into the MPO Transportation Planning Process Issue Paper;*
- *Operations, Management and Maintenance Issues Paper;*
- *Florida Statewide ITS Strategic Plan – Procurement Issue Paper – Final;*
- *Rural / Inter-Urban ITS Applications Issue Paper;* and
- *Florida Statewide ITS Strategic Plan – Implementation Authority Review and Recommendations Issue Paper.*

These resource documents and issue papers explore the various components of a successful ITS program, and recommend the best strategies and actions for establishing Florida's ITS Program. These documents, in addition to the *Plan* documentation, comprise *Florida's ITS Strategic Plan*. Therefore, subsequent updates to the *Plan* must also consider updates to the appropriate supporting resource documents and issue papers.

## **1.2 Need for Update**

The primary purpose for the update of *Florida's ITS Strategic Plan* is to expand and redirect the efforts and responsibilities of the statewide ITS Program in a manner consistent with the evolution of national ITS goals and the FDOT organizational structure.

Since the *Plan's* completion in 1999, the FDOT has developed and implemented a statewide ITS Program to oversee and guide the development of ITS on Florida's highway system. This Program, initiated in July 2000, consists of a state ITS Office, District ITS programs, and other FDOT offices. Together, these offices and programs form a collaborative effort in funding, developing, and deploying an integrated statewide ITS. Recently, however, the Central ITS Office has merged with the Central Traffic Operations Office, thus requiring a consolidation of business plans and a revision of the organizational structure outlined in the original *Florida's ITS Strategic Plan*.

Additionally, the ITS Program was created based on the Initial Actions and Strategies recommended by the agencies involved in the *Plan's* development. These short-term strategies were designed to focus interagency resources in the development of the statewide ITS Program. Since the ITS Office's inception in July 2000, many of these Initial Actions and Strategies have been completed or addressed. The findings and recommendations identified in several of the *Plan's* resource documents and issue papers have been expanded in detail or developed into projects that have been or currently are being completed.

Additionally, recent national ITS documents, policies, and programs have been formulated that impact the findings and recommendations initially documented in the *Plan*. Many of the strategies and actions contained in the current *Plan* require updating based on new national policies, programs, and technologies. One example of this new documentation is the recently completed *National Intelligent Transportation Systems Program Plan*.<sup>1</sup> This document defines a new vision and goals for the national ITS program. The *National ITS Program Plan* includes a new goal for enhancing and encouraging the use of ITS in homeland security, which was not considered in the original *Florida's ITS Strategic Plan*.

The update of *Florida's ITS Strategic Plan* will redefine the goals and objective of Florida's ITS Program; reflect ITS Program accomplishments over the last several years; revise the organizational structure and business plan; and provide new direction for the next phases of ITS deployment in Florida.

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<sup>1</sup> *National Intelligent Transportation Systems Program Plan: A Ten-Year Vision*, Intelligent Transportation Society of America (January 2002).

## **2. Purpose**

The first step in identifying new directions for Florida's ITS Program is to determine where the ITS Program is today. By evaluating the accomplishments of the ITS Program with respect to the original *Plan*, the FDOT ITS Program's managers can decide if current courses of action should be maintained, abandoned, or redirected prior to identifying new strategies for the next several years. Additionally, justification for these modifications can be documented for posterity.

As part of *Section 6 of Florida's ITS Strategic Plan*, 31 Initial Actions were recommended for FDOT implementation to fulfill the vision and goals identified in the *Plan*. These 31 Initial Actions served as a "short-term" component of *Florida's ITS Strategic Plan*. They offered several "early winners" to guide the planning and deployment of ITS over the program's first five years, and assist the FDOT in focusing interdepartmental resources and skills in the development of a statewide ITS Program.

To measure the ITS Program's progress in accomplishing these objectives, an appraisal of the Initial Actions was conducted. This *Technical Memorandum* presents the results of the evaluation exercise and attempts to determine if incomplete Actions are still relevant to the progress of the ITS Program.

### **3. Document Organization**

This document is organized in the following sections:

- *Section 1: Introduction* – This section presents the background information regarding *Florida's ITS Strategic Plan*, and documents project goals and objectives;
- *Section 2: Purpose* – This section documents the purpose of this *Technical Memorandum*;
- *Section 3: Document Organization* – This section identifies the contents and organization of this *Technical Memorandum*;
- *Section 4: Review and Appraisal of Initial Actions* – This section evaluates the ITS Program with respect to the Initial Actions, identifies the disposition of the Actions, and provides justification for the determination; and
- *Section 5: Evaluation Summary and Recommendations* – This section presents a summary of the ITS Program's progress with respect to the Initial Actions and identifies those Initial Actions that should be carried forward into *Florida's ITS Strategic Plan* update process.

## **4. Review and Appraisal of Initial Actions**

As stated previously, *The Business Plan* contained in *Florida's ITS Strategic Plan* identified 31 Initial Actions for implementation by the FDOT to fulfill the vision and goals identified in the *Plan*. These 31 Initial Actions recommended core implementation strategies to guide the planning and deployment of the initial ITS statewide system, and to recommend a plan for the operational structure and processes of the ITS Program.

It should be noted that the ITS Program consists of several agencies, including the FDOT Traffic Operations Office, ITS Office, SPO, District ITS programs, and the MPOs. The status and appraisals of the Initial Actions represent the actions of the ITS Program as a whole. It does not assign agency responsibility for complete or incomplete Actions.

Table 4.1 presents a verbatim copy of the 31 Initial Actions contained in the *Plan* and identifies the disposition of the Actions to date. The status column indicates the current status of the Action, providing details on whether the Action is complete, ongoing, partially complete, or incomplete. The legend identifying the Initial Action's status is included with the Table. The justification column provides a more detailed explanation of each Initial Action's status. *Section 5* of this *Technical Memorandum* discusses the summary of the Initial Actions appraisal.

**Table 4.1 – Appraisal of the ITS Program's Initial Actions**

No.	Initial Action	Status	Comments
1.	The Department should add a goal or expand an existing goal in the <i>FTP</i> that addresses the management and operation of the state's transportation system in real time. This new (or enhanced) goal should be in third priority order after the Safety and Preservation goals.	●	The <i>2002 Short-Range Component of the FTP</i> identifies objectives for each of the <i>FTP</i> goals. For the strategic goal "Preserve and Manage a Safe, Efficient Transportation System," a short-range objective for ITS is included that states, "By 2011, improve system efficiency by deploying ITS technology on critical state corridors."
2.	The Department should establish an <i>Intelligent Transportation Systems Program</i> as a part of the Program Resource Plan process under the Assistant Secretary for Transportation Policy, to be responsible for all ITS activities of the Department and for the Department's role in incident management programs.	●	The ITS Office and Program was established in July 2000 under the Assistant Secretary for Transportation Policy. However, this organizational structure was modified on December 1, 2003. The ITS Office is currently the ITS Program and is part of the FDOT Traffic Operations Office. The ITS Program Manager now reports directly to the State Traffic Operations Engineer.
3.	The Department should establish a position of statewide ITS <i>Program Manager</i> with a responsibility to manage the ITS budget, staff, and resources and to ensure coordination of all ITS and incident management activities.	●	Chester Chandler, III, P.E., was selected to serve as the FDOT's ITS Program Manager. An ITS budget was established; however, it is scheduled to be merged with the Traffic Operations' budget in July 2004.
4.	The Department should develop ITS Program performance measures that conform to the State's performance-based budgeting requirements.	☀	Draft performance measures were identified as part of the <i>Ten-Year ITS Cost Feasible Plan (CFP)</i> , but were never adopted. Recently, at the direction of the Florida Transportation Commission, the ITS Program is coordinating with ITS Florida to establish ITS performance measures that include agency performance measures.

**Status Legend:**

- - Complete
- - Partially Complete
- ☀ - Ongoing
- - Incomplete

*Florida's ITS Strategic Plan Update – Initial Actions Appraisal*

No.	Initial Action	Status	Comments
5.	Each District should create a District ITS Program and designate a District ITS Program Manager who will be responsible for District ITS and incident management activities, and will ensure full integration with the urban regions in that District.	●	All Districts have established an ITS program and have designated ITS program managers or ITS engineers who are responsible for incident management and ITS activities within the Districts.
6.	Each District should develop an ITS infrastructure and initiate development or enhancement of a transportation management center focusing on the interstate highways. Consideration should be given to the center evolving to have multimodal management capabilities and to be operated in urban areas at Level-of-Service (LOS) 3 within five years (M-F 12 hours per day). The Districts will develop an implementation plan to achieve this goal and the Department's ITS Program will support this effort.	■	<p>The following has been planned or deployed the following regarding Initial Action No. 6:</p> <ul style="list-style-type: none"> <li>• District 1 has an incident management system (IMS) and a regional transportation management center (RTMC) programmed;</li> <li>• District 2 deployed an IMS and a RTMC that is operational at a LOS 3 (i.e., operated Monday through Friday for 12 hours per day);</li> <li>• District 3 has a FMS and RTMC programmed;</li> <li>• District 4 has a FMS and RTMC under construction;</li> <li>• District 5 has a FMS and RTMC operational at LOS 3;</li> <li>• District 6 has a FMS and RTMC operational at LOS 5;</li> <li>• District 7 has a FMS and RTMC programmed;</li> <li>• Florida's Turnpike Enterprise has one FMS and two RTMCs operational at LOS 5; and</li> <li>• All Districts have developed implementation plans to guide the long-term development and deployment of ITS.</li> </ul>

**Status Legend:**

- - Complete
- - Partially Complete
- ☀ - Ongoing
- - Incomplete

*Florida's ITS Strategic Plan Update – Initial Actions Appraisal*

No.	Initial Action	Status	Comments
7.	Each District should develop a maintenance plan and annual maintenance cost estimate in order to develop budget and staffing needs. The Department's ITS Program will coordinate and assist in this effort.	○	A few Districts have developed operational and maintenance plans for ITS deployments over the next several years. However, statewide guidance and consensus regarding the establishment of operational and maintenance plans in addition to operational and maintenance cost and funding has not been achieved.
8.	The Department should develop an ITS Operations Manual. Each District will adapt the manual's policies and procedures to their requirements.	○	A statewide operations manual has not been developed to date.
9.	Each District should develop ITS staff requirements and a training program that will enable them to meet the ITS services they plan to deliver over the next five years.	■	As part of the <i>CFP</i> , a staffing and operations plan was recommended for each District to operate and maintain the ITS Florida Intrastate Highway System (FIHS) improvements. A few Districts have met staffing needs as required, not only to support the <i>CFP</i> and other ITS deployments, but also requirements beyond the <i>CFP</i> .
10.	Each District should assess staff resources and capabilities to determine which, if any, operations and maintenance functions are appropriate for outsourcing.	○	Several Districts have determined the ITS functions best suited for outsourcing; however, a few Districts are still requesting guidance. The operations and maintenance (O&M) study should contain lessons learned and recommend functions for outsourcing.

**Status Legend:**

- - Complete
- - Partially Complete
- ☀ - Ongoing
- - Incomplete


Florida's ITS Strategic Plan Update – Initial Actions Appraisal

No.	Initial Action	Status	Comments
11.	The Department should conduct an <u>in-depth</u> analysis of the Florida Public Records Law and existing Florida contracting procedures to assess their impact on ITS procurements and private sector response, and to provide recommendations for needed modifications.	○	This Initial Action is no longer applicable because many Districts are employing the design-build procurement method, and several Districts are employing a systems manager procurement method. All are consistent with the Florida <i>Public Records Law</i> . However, additional training is required for the systems manager approach and best methods for procuring ITS components.
12.	The Department should develop and maintain a statewide ITS architecture and supporting standards. This architecture should utilize the National ITS Architecture and be adapted as needed to meet Florida's needs.	●	The <i>Florida Statewide Intelligent Transportation Systems Architecture (SITSA) and Standards</i> project was completed in February 2001. The <i>SITSA</i> was customized based on the <i>NITSA</i> .
13.	Each District, in consultation with the appropriate local governments and MPOs, should develop an architecture or framework for short- and long-term comprehensive ITS deployment for each urban region.	☀	The <i>FDOT Draft Rule 940 Procedures in Florida</i> recommend the acknowledgement and use of the <i>SITSA</i> regional component as a regional ITS architecture to be used consistently with the <i>SITSA</i> . Several MPOs and Districts have acknowledged the appropriate regional component of the <i>SITSA</i> for their use, although not all MPOs or Districts have done so.
14.	The Department should develop ITS project implementation procedures. The procedures should cover both the planning and project design phases.	☀	This effort is being completed as part of the <i>Systems Engineering Management Plan (SEMP)</i> , which is scheduled for completion in the summer of 2004. The <i>Draft Rule 940 Procedures</i> define roles and responsibilities for the implementation of ITS in the planning agencies.


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- - Complete
- - Partially Complete
- ☀ - Ongoing
- - Incomplete

Florida's ITS Strategic Plan Update – Initial Actions Appraisal

No.	Initial Action	Status	Comments
15.	The Department should develop ITS project standards and specifications.		The ITS Office has developed draft statewide ITS device standards and specifications for application by the Districts and are currently awaiting final approval or adoption. This process will be a continuous effort, as the standards must reflect new and updated technologies.
16.	The Department should coordinate with and provide technical assistance, education, and training to the MPOs as they integrate ITS into their long-range transportation planning process.	●	The <i>Draft Rule 940 Procedures</i> identify a process for integrating ITS into the long-range transportation planning process. The strategy includes an outreach process for the MPOs and transit agencies.
17.	The Department, working in cooperation with the MPOs and local governments, should ensure the development of an ITS architecture for each urban area, consistent with National ITS Architecture guidelines. This should include development of an ITS task in the unified planning work program and an ITS element in the long-range transportation plan, as well as definition of the MPO and operating agencies' roles in ITS deployment.	●	The <i>Draft Rule 940 Procedures</i> identify a process for integrating ITS with the long-range transportation planning process and recommend the adoption of the <i>SITSA</i> regional components for MPO and District use.
18.	The Department should initiate the development and support of a rural/interurban ITS element.	●	The ITS Office cosponsored the Rural Area ITS (RAITS) Conference in Florida during the summer of 2003. Additionally, the <i>CFP</i> includes several rural ITS applications for designated reverse-lane evacuation corridors. Outside of the <i>CFP</i> , several Districts are deploying rural ITS applications.

**Status Legend:**

- - Complete
- - Partially Complete
-  - Ongoing
- - Incomplete

*Florida's ITS Strategic Plan Update – Initial Actions Appraisal*

No.	Initial Action	Status	Comments
19.	The Department should establish a Commercial Vehicle Operations (CVO) element to coordinate all CVO activities in Florida and to achieve a goal of implementing a safety based pre-clearance system on I-4 and I-95 within five years. A CVO Business Plan to achieve this goal and to address other CVO issues should be developed.	●	The ITS Office developed the <i>Florida Commercial Vehicle Information Systems and Networks (CVISN) Business Plan</i> in March 2001 and is currently implementing a HELP/PREPASS preclearance system at all weigh-in-motion (WIM) stations.
20.	The Department should continue and enhance the coordination and funding of ITS product testing and applied research. The research program should be used in the development of statewide ITS standards and specifications.	☀	The ITS Office coordinates with the Traffic Engineering Research Laboratory (TERL) in the development of the ITS device standards and specifications, and the creation of an ITS Approved Products List (APL). The ITS Office is also conducting research projects on the application of unmanned aerial vehicles (UAV) and road weather information systems (RWIS) for use in forecasting surface weather conditions for state highways and centralized data warehousing. The ITS Office continues to support its research grant program, annually selecting ITS projects for funding.

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- ☀ - Ongoing
- - Incomplete

*Florida's ITS Strategic Plan Update – Initial Actions Appraisal*

No.	Initial Action	Status	Comments
21.	The Department should define a model and process for stakeholder involvement at three levels: <i>Statewide</i> for strategic planning and policy issues; <i>Regional</i> for integration and local issues and directions; and <i>Project</i> for specific projects, such as the I-4 ITS Corridor Study, or program elements, such as CVO. The Department should then take the initial steps to implement the process.	●	The ITS Working Group was assembled prior to 2001, and is composed of ITS engineers and planners from the private and public sectors. It encompasses all aspects and levels of ITS practice, and provides an opportunity for input and feedback on statewide strategic planning, policy, and deployment issues. As part of Florida's <i>SITSA</i> , regional stakeholder workshops were held in each District to guide architecture development to meet local requirements. Additionally, the ITS Office has established a Change Management Board (CMB) to manage and implement change for statewide ITS services.
22.	The Department, in cooperation with ITS Florida, should initiate the formation of a Statewide ITS Stakeholder Advisory Committee to provide input into statewide strategic planning and policy issues.	■	The ITS Working Group meets three times a year in conjunction with the ITS Florida Advisory Committee to provide input on statewide strategic planning, policy, and deployment issues. The Advisory Committee will provide feedback on the update of <i>Florida's ITS Strategic Plan</i> . The ITS Office is working towards providing more forums for open discussion among the Districts.
23.	The Department should develop a private sector outreach element within the ITS Program to actively encourage private sector participation in ITS and to solicit private sector proposals to the proper District(s) or program element.	☀	The ITS Office has issued several invitations to negotiate (ITNs) for private sector participation in telecommunications, TMC software, deployment, and 511 projects. More partnerships are continuing to be developed as part of the central and south Florida advanced traveler information system (ATIS) initiatives and with local expressway authorities in sharing of ITS data.

**Status Legend:**

- - Complete
- - Partially Complete
- ☀ - Ongoing
- - Incomplete

*Florida's ITS Strategic Plan Update – Initial Actions Appraisal*

No.	Initial Action	Status	Comments
24.	The Department should develop, operate, and maintain a statewide ITS Web page that will provide coordination of District ITS Web sites and public information.	●	The ITS Office has developed the ITS Office Web page as part of the www.myflorida.com site, in addition to an ITS General Consultant (GC) project Web site. These sites are maintained monthly.
25.	The Department should identify training needs, both internal and external to the Department, and in conjunction with ITS Florida, establish priorities, implement and maintain an ITS training program.	●	In conjunction with ITS Florida, the ITS Office has developed and implemented an ITS training program for all levels of ITS practitioners. The training program is coordinated through ITS Florida and is posted on their Web site.
26.	The Department should pro-actively support the development, coordination, and deployment of public transportation ITS technology.	○	The ITS Office currently coordinates with the FDOT Public Transportation Office (PTO) regarding a select few advanced public transportation system (APTS) projects, and several Districts have provided assistance and funding to the Federal Transit Agency (FTA) for ITS projects. This Initial Action will continue to be emphasized and recommended in the update of <i>Florida's ITS Strategic Plan</i> .
27.	The Department should develop a program-level budget to fund needed staff and to carry out ITS programs.	■	A program-level budget was developed to staff and implement ITS projects at the state level. However, this budget is scheduled to be merged with the Traffic Operation Office's budget in July 2004. Additionally, program-level funding for the District ITS programs has not been established.
28.	Each District should develop a budget to staff and implement the ITS Program for the District.	■	With the approval of the <i>CFP</i> , the FDOT management recommended that the Districts establish a budget to staff and implement the <i>CFP</i> projects. However, outside the <i>CFP</i> , no additional funding has been set aside for District ITS programs.

**Status Legend:**

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- - Incomplete

*Florida's ITS Strategic Plan Update – Initial Actions Appraisal*

No.	Initial Action	Status	Comments
29.	The Department should examine available funding sources for both capital projects and operations and maintenance, the role of public/private partnerships, and ITS project mainstreaming to determine the best method of funding the ITS Program over the next several years.	●	The <i>CFP</i> identifies ITS projects for deployment on the FIHS over a 10-year period, and provides estimated annual O&M costs for each project.
30.	Each District should estimate and budget recurring costs, such as response and preventative maintenance activities, staffing, spare parts inventory, and in-house equipment needed to operate and maintain systems.	●	Several Districts have inventoried their equipment and determined the maintenance requirements for the purpose of hiring contractors to serve as maintenance staff. However, statewide guidance for O&M has not been provided.
31.	Each District should produce and update annually an ITS Implementation Plan that defines policies, staff needs, training needs, budgets, and projects to be implemented over the next five years.	●	With the development of the <i>CFP</i> , the Districts will coordinate annually with the ITS Office in developing an ITS program for their District that implements the <i>CFP</i> projects, in addition to identifying local ITS projects and needs.

**Status Legend:**

- - Complete
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- ☀ - Ongoing
- - Incomplete

## 5. Summary and Recommendations

Table 4.1 indicates that 14 of the 31 Initial Actions recommended for the ITS Program have been completed. Another five Initial Actions have been partially addressed and six are ongoing. Only six Initial Actions have not been completed. These totals indicate that 81 percent of the Initial Actions have been completed or addressed by the ITS Program since its inception approximately three years ago.

The six Initial Actions not completed are:

1. Each District should develop a maintenance plan and annual maintenance cost estimates to be used in the development of budget and staffing needs. The FDOT's ITS Program will coordinate and assist in this effort;
2. The FDOT should develop an ITS operations manual. Each District will adapt the policies and procedures to its requirements;
3. Each District should assess staff resources and capabilities to determine which, if any, O&M functions are appropriate for outsourcing;
4. The FDOT should conduct an in-depth analysis of Florida's *Public Records Law* and existing Florida contracting procedures to assess their impact on ITS procurements and private sector response, and provide recommendations for needed modifications.
5. The FDOT should proactively support the development, coordination, and deployment of ITS technology for use by public transportation.
6. Each District should estimate and budget recurring costs, such as response and preventive maintenance activities, staffing, spare parts inventory, and in-house equipment needed to operate and maintain systems.

The five partially completed actions include:

1. Each District should develop an ITS infrastructure and initiate development or enhancement of a transportation management center (TMC) focusing on the interstate highways. Consideration should be given to the center evolving to have multimodal management capabilities and to operate Monday through Friday for 12 hours per day in urban areas at LOS 3 within five years. The Districts will develop an implementation plan to achieve this goal and the FDOT's ITS Program will support this effort.
2. Each District should develop ITS staff requirements and a training program that will enable them to meet the ITS services they plan to deliver over the next five years.

3. The FDOT, in cooperation with ITS Florida, should initiate the formation of a Statewide ITS Stakeholder Advisory Committee to provide input into statewide strategic planning and policy issues.
4. The FDOT should develop a program-level budget to fund needed staff and to support ITS programs.
5. Each District should develop a budget to staff and implement an ITS program for the District.

The partially completed items reflect the Districts' status in developing and implementing a RTMC, and the staffing and training needs associated with the operation of the RTMCs and regional ITS services. Districts 2, 5, and 6, and Florida's Turnpike have operational RTMCs that are staffed by trained personnel. The remaining Districts are developing plans for their RTMCs, as funded in the *CFP*, and are currently addressing the issue of staffing the RTMCs.

Additionally, dedicated funding sources for the District ITS programs, beyond the *CFP*, have not been identified. Additional revenue would assist in the hiring and training of staff for the RTMCs. The lack of adequate funding and resources to implement and maintain ITS services at the District level has been an ongoing concern for the ITS Program. Based on requests from the Districts, the ITS and Traffic Operations Offices are currently working with the Districts and appropriate Central Office representatives to identify and increase dedicated funding for both the O&M of ITS deployments.

In reviewing the incomplete Initial Actions, the ITS Program has been deficient in addressing three areas:

- Operations and Maintenance (O&M) – The majority of the incomplete Initial Actions refer to the development of a statewide ITS O&M manual and District ITS O&M plans with statewide assistance. The FDOT was charged with two primary responsibilities:
  - Developing the O&M manual for use by the Districts, and
  - Assisting the Districts in development of their O&M plans.

To date, neither the ITS Office nor the Traffic Operations Office has prepared an O&M manual for the Districts. Additionally, they have provided minimal assistance to the Districts regarding O&M plans. The Districts are collaboratively developing a statewide O&M study. This study includes a survey of existing ITS O&M costs for comparison with the maintenance costs the FDOT Maintenance Office utilizes in calculating ITS maintenance funding. The study will also evaluate the O&M functions of the Districts to determine the most feasible activities for privatization. The ITS Office is providing assistance to the Districts in preparing the study.

Additionally, a survey of District ITS deployments revealed that several Districts have aggressively dealt with O&M issues, and continue to document and project ITS O&M needs over a two- to three-year period, based on increasing inventory. The remaining Districts tend to review ITS O&M costs on an annual basis.

Although the Districts have shown initiative in addressing statewide O&M needs and requirements, *Florida's ITS Strategic Plan* should continue to promote the development of a statewide O&M manual. The *Plan* should encourage the Districts to coordinate with the ITS Office in developing District O&M plans that address the increasing O&M costs and funding needs associated with the expansion and deployment of statewide, integrated ITS services. The O&M manual should incorporate and expand on the information being developed by the Districts to:

- Provide a framework for the Districts to use in developing O&M plans;
  - Detail statewide O&M policies and procedures;
  - Project O&M costs and resources over a two- to three-year period;
  - Identify and project potential O&M funding sources;
  - Recommend strategies for streamlining O&M activities; and
  - Identify appropriate activities for privatization.
- ITS Technology for Public Transportation – Although the ITS Office continues to coordinate and collaborate with the FDOT PTO, it does not actively promote ITS technology for public transportation. More effort is required to incorporate and mainstream public transportation into ITS Office activities. Several of the District ITS programs have an excellent working relationship with their District PTOs and have been successful in integrating public transportation projects into the District ITS programs. The Central Office can learn from these Districts' experiences. *Florida's ITS Strategic Plan* should continue to promote the mainstreaming of APTS and other public transportation ITS technologies and programs into ITS activities. This Strategy should be reflected in new core strategies developed as part of the *Plan* update.

- Procurement Assessment and Impacts – This Initial Action will not be carried forward into the *Plan* update, as the Districts are currently utilizing various procurement methods such as design-build and systems integrator/manager, with minimal impediments. Several issue papers and reports have been prepared by the ITS Office that compare the various procurement options for ITS projects and identify the advantages and disadvantages of each method in terms of cost, convenience, schedule, efficiency, and system performance and quality. However, several districts have expressed a need for additional training and information regarding the initiation and implementation of the systems manager approach for procuring ITS hardware and services. A workshop that highlights the necessary steps and processes to implement the systems manager approach and details lessons learned from other District experiences would be beneficial to the district ITS engineers. The Districts would also benefit from the development of statewide ITS procurement contracts and the development of an APL for the procurement of ITS devices.