

facilities and equipment. The SunNav TMC will be the information clearing house for the Turnpike. Data has been input into the Pompano workstations in order to become more familiar with SunNav and for testing and feature checks. One workstation has been reconfigured with Windows 2000 and loaded with SunNav to test for compatibility. Dual PCI cards will be installed to work with the dual monitor configuration. Development of a TMC Inventory/Maintenance Plan document was started to include maintenance procedures, licensing/maintenance agreements, warranty tracking, and inventory details/procedures.

SunNavSM Software has been developed for Florida's Turnpike from NaviGator, currently used in Georgia, Utah, and Oregon. The Turnpike has chosen to create a Microsoft Windows graphic user interface to access the software server application while maintaining an object-oriented approach. Software has been installed on the production system in Pompano Beach and on-site operations staff have been trained. There is continuing work on the serial communications driver for the SunNav VMS protocol and integrating a small VMS into the system for testing purposes.

The Variable Message Sign System involves the installation of 20 new VMS on the mainline Turnpike. Primary control of the signs will be through a microcomputer system located in the TMC within the Turnpike Operations Center at the Pompano Beach Service Plaza. Currently, the construction phase for VMS 19 has been stopped. A traffic study is being done to determine an alternate location for VMS 19 until the construction activity in the original intended area has been completed.

SunGuide ATIS

This project is a public-private partnership in Miami-Dade, Broward and Palm Beach Counties. The intention of the partnership is to implement and operate an ATIS which will provide the public with real-time, route specific, multimodal traveler information. The Turnpike District will continue to work with SmartRoute Systems in order to provide current traveler information for the patrons on the Turnpike. Once the TMC is operational, there will be more information available to exchange.

Microwave Tower Grounding System Upgrade

The Turnpike District has begun a project to upgrade the existing grounding and lighting protection facilities at the microwave tower sites. The upgrade of the tower grounding systems will provide enhanced protection to tower equipment from lightning strikes. Currently, the project is in the design phase.

Turkey Lake Communication System

In order to support a portion of the communication requirements resulting from the relocation of the Turnpike District Headquarters to Orlando, a fiber optic communication link was required that would connect the Turnpike District Headquarters facility to the existing microwave backbone via the Orlando West microwave tower site. The contract has been executed and a notice to proceed issued. The fiber is scheduled to be operational by the end of August 2001.

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FloridaITS.com

In order to provide a resource on the activities being performed by ITS General Consultant, PBS&J, the consultant is developing an interactive website. The site is intended to complement the Department's ITS web site but provide more opportunities for interaction and dynamic feedback on evolving subject matter. This site will assist the Districts and our many transportation partners to remain up to date on the progress of projects of statewide significance and interest. The web site will provide html and portable document format (pdf) newsletters, such as this one, and other documents of statewide interest. Discussion groups will be provided for interactive information on important topics that are emerging, such as the Rule 940 implementation. For collaboration on individual projects, draft materials will be posted using secure pages and discussion groups will be provided to allow for posting of comments and questions if desired. A list-serve email notification system is also planned to provide updates on breaking news. The web site will be available starting the week of July 16 and will be demonstrated at the ITS Working Group meeting on July 18.

For additional information and to provide any comments, please contact Karen England at (850) 576-2788 or karenengland@pbsj.com.

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ITS Office Open House

The ITS Office plans to host an Open House in early 2002. An exact date and location have yet to be determined. The Open House will provide an opportunity for the ITS industry to come together to learn more about the ITS Office. We will keep you informed and look forward to seeing you there.

For additional information contact Pamela Hayes at (850) 414-4980 or pamela.hayes@dot.state.fl.us.

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Florida's ITS Evolution

ITS America 2001 - A Florida Showcase

Florida hosted the Intelligent Transportation Society of America's Eleventh Annual Meeting June 4-7 at the Miami Beach Convention Center. The Florida Department of Transportation (FDOT) and our many transportation partners were well represented at this important showcase for ITS deployments in Florida.

The Annual Meeting began with Florida's ITS Showcase. Hal Worrall of the Orlando Orange County Expressway Authority presented a video prepared specially for the showcase entitled "Florida's ITS Future Shines Bright" and provided comments on the future of ITS in Florida. This video provided an overview of the State of Florida and many of the successful ITS deployments in Florida together with future plans for ITS deployments with our many partners.

FDOT co-sponsored a booth with the Miami-Dade Expressway as part of the exhibition. Our booth was hosted by the "Florida Flamingo" who welcomed visitors to the Exhibition Hall. More than 300 people took home a photo with the Florida Flamingo to remember their visit to Miami Beach (sponsored by PBS&J).

The booth included demonstrations by District Six of video surveillance along I-95. Real-time internet protocol (IP) addressable video was demonstrated with PB Farradyne. Consultech Systems demonstrated the Statewide ITS Architecture and Standards website and databases. Miami-Dade Expressway Authority and District Six provided a Road Rangers vehicle to demonstrate incident management services.



The Institute of Electrical and Electronics Engineers (IEEE) Incident Management Working Group 1512 demonstrated standardized traveler information message sets. Meggitt Defense Systems demonstrated their unmanned aerial vehicle which was a major display in the booth. The Florida booth was one of the most popular booths in the Exhibition Hall thanks to the many people who contributed to its success.

Several successful tours and demonstrations were hosted in conjunction with the meeting including the Unmanned Aerial Vehicle Demonstration with Meggitt Defense Systems, the District Six SunGuide Traffic Management Center, Miami-Dade Public Works Traffic Control Center, Port of Miami, MetroRail, SmartRoute Systems Traveler Information Center, and the Miami-Dade County Emergency Operations Center.



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ITS Florida hosted their Annual Meeting and Awards Banquet. At this banquet, remarks on the future of ITS in Florida were made by Chester Chandler, the ITS Office Manager. Pat McCue of the Tampa Hillsborough County Expressway Authority presented a video on the future of the Crosstown Expressway in Tampa. A number of door prizes were provided by the consulting community in Florida. Hal Worrall of the Orlando Orange County Expressway Authority was named ITS Engineer of the Year.

Florida was also recognized by ITS America at their 2001 Best of ITS Awards Banquet. The Florida ITS Planning Guidelines prepared by Bob Krzeminski of the FDOT Systems Planning Office and the Center for Urban Transportation Research was nominated for an award in the planning category.

Florida was also well represented through 25 paper presentations or panel discussions during the course of the meeting.

Thanks go out to the many people who contributed to the arrangements of conference, volunteered with ITS America, volunteered at the FDOT booth, contributed to the program through technical presentations or papers, and participated in the many committee meetings as part of the Annual Meeting. Your participation and representation made this a successful meeting for all who were involved.

The 2002 Meeting is scheduled for April 29 - May 2 in Long Beach, California – we look forward to seeing you there. For more information, see <http://www.itsa.org>.

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ITS Corridor Concept Plans And ITS Program Plan

The ITS Office, each of the seven District Offices, and the Turnpike Enterprise are cooperatively developing ITS Corridor Concept Plans for Florida's five principal corridors on the Florida Intrastate Highway System (FIHS): Interstate 95, Interstate 75, Interstate 4, Interstate 10 and Florida's Turnpike.

The ITS Corridor Plans will define the needs, alternatives, and recommended implementation of ITS along each of the corridors and, as appropriate, the associated diversion or bypass routes. The results of these ITS Corridor Plans will be combined into a statewide ITS Program Plan for the deployment of a coordinated, integrated, and interoperable system. This ITS Program Plan will identify the anticipated ITS needs, funding, and recommended sequence of projects for programming on a statewide basis along these key corridors.

The ITS Office's General Consultant, PBS&J, is currently developing these plans. A draft inventory, needs statement, and straw architecture have been developed. The consultant is currently working towards completion of ITS architectures for each corridor, a concept of operations, and deployment plan for



each corridor. The deployments outlined in these plans will be based on existing ITS plans along the corridor. Additional needs will be identified for system integration, continuity, and rural applications to support incident management and evacuation coordination.

The Corridor Concept Plans are scheduled to be complete in September 2001 and the ITS Program Plan will be complete by November 2001.

Please contact Mr. Gene Glotzbach at (850) 414-4987 or gene.glotzbach@dot.state.fl.us for additional information.

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corridor to optimize traffic flow. The components of the project include 2070N signal controllers, additional vehicle detectors, video surveillance, dynamic message signs, fiber optic trunk line, and a new Pasco County Traffic Management Center.

Clearwater/Countywide ATMS Signal System Project (FIN 408419 / 406255): Clearwater feasibility study completed October 2000. Design started July 2001 as a single design project for Parts A and B. Includes a feasibility study of corridor in Part B to establish the ATMS.

Part A develops an integrated ATMS in the City of Clearwater, with SR 60 (Gulf to Bay Blvd) and an adjacent section of US 19 as the focal points.

Part B deals with the development of a countywide ATMS focusing on three more corridors identified by the MPO's Signal Committee. The three corridors for potential development include the full length of US 19 in Pinellas County, McCullen Booth Road and Ulmerton Road. In addition, Part B will work toward integrated operation of currently separated highway management activities of the three jurisdictional Traffic Control Centers in the county. An adaptive signal system will be implemented on the four corridors using one or more of the suite of algorithms developed under the RT-TRACS program by FHWA.

Hernando County Computerized Traffic Signal System (FIN 254835): This project develops a closed loop signal system for all the signals in the county to be controlled from a single Traffic Management Center in Brooksville.

District Seven Regional ITS Architecture (WPI 7590015): This project was completed January 2000 and developed an integrated ITS architecture for District 7, as a regional entity, consistent with the National ITS Architecture, to meet federal interim guidelines as of October 1998.

A task for update has begun and will account for the current version of the National Architecture; revisions caused by current project developments; the potential to place the Regional Architecture into a Turbo Architecture format; and a possible expansion of future ITS expectations for local APTS applications. Additionally, the

task will develop a market package for Pedestrian and Bicycle Access and Safety. This market package, once partially developed, will be sent to the national committees for possible inclusion in the next version of the National Architecture.

Skyway Video Monitoring System Modifications (FM 408671): Project adds video cameras to the center span of the bridge, improve the existing video monitoring system, and establishes video links from the bridge to FHP Troop C Dispatch, District 7 Headquarters, and the Crisis Center for Tampa Bay. Images will also be made available to the news media and for the FDOT Internet web page for general use by travelers and for evacuation coordination.

Urban Area Traveler Information and Traffic Management System for I-275 in Tampa

Project is a demonstration by Mobility Technologies (Traffic.com) of its Traffic Pulse ATIS in the Tampa Bay region with the focus on I-275 from south of Howard Frankland Bridge in St. Petersburg to Bearss Avenue in north Tampa. The public portion of the project is the provision of access to the interstate right-of-way for the placement of speed-volume detectors by Mobility Technologies. Also, FDOT will receive web-based data management application tools to access and analyze the field data. Mobility Technologies, through its Traffic.com affiliate, will provide better traveler information on this segment of I-275 for en-route drivers by wireless means and for pre-trip drivers by a free website for Tampa. Currently, the project has a nine-month demonstration time period; however, it may be extended based on the outcome of an application by FDOT and Mobility Technologies to the FHWA under the Intelligent Transportation Infrastructure Program (ITIP). The application proposes a more extensive ATIS for the Tampa Bay region for two years as a public-private partnership with a \$2.0M grant from the FHWA to be matched with \$0.5M from the state of Florida.

ITS Infrastructure for Freeway Management System in the Downtown Interchange of I-4 and I-275 in Tampa Design work is underway to include the infrastructure to support the installation of ITS devices needed for the Freeway Management System proposed under

Tampa Bay SunGuide. The ITS devices are dynamic message signs, CCTV cameras, video image detectors, and the communication system. The infrastructure will be included as part of the roadway / bridge construction project along with interim traffic management to be performed by the CEI for managing the work zone using ITS applications. The final ITS devices will be installed as separate contract to become operational as the roadway construction work is nearing completion. This will aid in assuring that the latest electronic advances will be incorporated into the devices and the control software will be compatible with the Tampa Bay SunGuide Center which will become operation in April 2006.

Turnpike

Electronic Toll Collection System (Sunpass) Interoperability: This project involves the recent interoperability of the Sunpass electronic toll collection system, operated by the Turnpike and E-pass electronic toll collection system, operated by the Orlando Orange County Expressway Authority (OOCEA). This project allows the Turnpike and OOCEA to share data and communication networks, to read each other's transponders, and process electronic payment information for both systems.

Turnpike ATIS (Prime Co) (FM 1907171): This design-build project is divided into three components.

The Highway Advisory Radio (HAR) project involves the installation of six new HAR's in addition to the existing three HARs located along the mainline Turnpike. Each station will typically provide radio coverage for three to five miles from the radio's transmitter location. Primary control of the HARs will be through a computer system located at the TMC within the Turnpike Operations Center at the Pompano Beach Service Plaza. A supplemental agreement to conduct a frequency changeover on the three existing sites has been issued. Fabrication of HAR roadway signs to notify motorists of the AM frequency has been completed. Sign foundations were prepared and sign installations have begun.

The Pompano and Turkey Lake Traffic Management Centers include the TMC

completed in the summer of 2000. Preparation of a final evaluation report also began during this period and included a write-up on the DMS Subsystem. Work on this project has been suspended and the remaining funding will be used to integrate the GGI field components to the I-95 ICS SunGuide Project and the conversion of the SunGuide Operating Workstation (OW) to a Windows NT platform. The Consultant will write a final report on the DMS Evaluation and submit it to the Department as a stand-alone product.

SunGuide Total Integration Phase

This project will use the remaining funds from the GGI Post Construction Evaluation Project to achieve the following:

- OWs will be fully compatible and run the latest version of MS Windows 2000 to become a full Windows NT family platform based system
- Existing American Dynamics CCTV controllers will be replaced with Javelin controllers in order to be 100% compatible with the SunGuide protocol

A final Scope of Services is being developed with the Consultant.

SunGuide Software System Technical Support, Enhancement, Upgrades and Training

Funds for this project need to be allocated. It is a future project and the Department is discussing the project and waiting on the Consultant's comments to the drafted Scope of Services.

ITS Management, Technical Operations, Maintenance & Public Involvement

David Fierro and Associates (FM 250114-1-62 Contract BB-478)

This contract has been extended until 12/15/2003. FDOT D6 prepared the America ITS booth through this contract.

Vanasse Hangen Brustlin, Inc (FM 2501151-32 Contract C7287)

This 2-year contract provides engineering, technical, management, and administrative service in support of the SunGuide ITS. The program falls under the Traffic Operations Division and the Consultant's services are on an as-needed basis. The Consultant is providing support of Traffic Operations' bi-monthly meetings with local representatives to provide for the coordination of incident related issues in Miami-Dade and Monroe Counties.

District VI is working to create regional involvement of various agencies in the management of traffic in South Florida. Efforts include workshops on the benefits ITS to improve urban area transportation problems, as well as orientation on how ramp metering signals work and deployment in Miami-Dade County. This work effort is part of the SunGuide Public Outreach Program (POP).

Transcore (FM 250102-2-52-01 Contract BC-879)

This contract will be used to maintain existing and future ITS components (hardware and software). The contract was signed January 2001.

Service Patrol (Road Ranger) Contracts
Tow trucks continuously rove the expressway in the service area looking for stranded motorists, debris on the road, traffic accidents, etc. The service patrols assist in these situations in order to keep traffic moving. This is a free service provided through contracted towing companies as follows:

- Anchor - covers all of SR 826
- Sunshine - covers all of SR 112, SR 874, SR 878, and SR 924
- Rainbow - covers all of SR 836 and I-95

Five new trucks will be added for fiscal year 2001-2002. Two out of the five will be equipped with portable DMS.

SmarTraveler - ATIS

First round of Metro Traffic Sponsorship, promoting the SmarTraveler phone service and web site, are scheduled for the week of July 9, August 6, September 10, and September 24. A minimum of 185 spots will run during driving times. This promotion of the IVR number should boost call counts which are at a low 350 per week at this point. Plans and schedules have been established for work of camera locations and travel times; data integration between SunGuide and SRS'S WINGS, Regional Working Group and the Public Relations effort. Outstanding issues include finalization of funding and joint agreement issues for RTO Consumer Information Network Supplemental Agreement; and SRS would like to finalize plans to have static signs placed to announce the Traveler Information phone number as well as placing the number on DMSs on I-95.

District Seven

Intelligent Transportation Systems Study and Implementation Plan for District Seven Interstates (FM 2583721):

The Phase 1 Report for this project was completed in August 2000. The Phase 1 study provided a foundation for the deployment of a Freeway Management System throughout the Tampa Bay region and West Central Florida. Phase 2 of the Report has recently been completed, and includes an Implementation Plan for the interstate Freeway Management System. Contact: Bill Wilshire at 813-975-6612

Update of the Tampa Bay Regional Architecture:

The District is currently updating the Tampa Bay ITS Regional Architecture to harmonize the regional architecture with recent project architectures, and to expand the stakeholder outreach program to include a larger portion of the transit community. Additionally, the update will be consistent with Version 3 of the National ITS Architecture and will evaluate the impacts associated with implementation of Rule 940. This update will feed into the regional element of the Statewide Architecture and is expected to be complete by October 2001.

St. Petersburg I-275 Dynamic Message Sign System (DMSS) (FM 4032661):

The implementation of this project was completed in December 2000. The system includes three dynamic message signs with CCTV monitoring and communication connection to the City of St. Petersburg Police Department Control Center. The system was initially designed to provide traveler information for events located at Tropicana Field and downtown St. Petersburg, however, it is anticipated that the system will be expanded in the future for incident management purposes.

US 19 Pasco County ATMS (FIN 4051651):

This project is the most southerly of three construction projects to be built on the full length of US 19 in Pasco County to install ATMS. It runs from the Pinellas/Pasco county line to Main St. The adaptive signal system SCATS will be installed to sense traffic flowing through each approach to an intersection so that the signal timing at that intersection may be adapted to the traffic flows not only at that intersection, but also to other intersections in the

Systems Engineering

As the Florida Department of Transportation (FDOT) embarks on one of the largest coordinated deployments of ITS and communication infrastructure programs in the US with the deployment of ITS on the five principal FIHS corridors and potentially a fiber optic network, a comprehensive systems engineering approach is needed to ensure that the maximum efficiency and cost-effectiveness of these deployments is achieved in alignment with FDOT's overall mission, goals, and objectives. The systems engineering approach also serves as FDOT's plan for implementing the requirements for systems engineering in FHWA Rule 940, *Intelligent Transportation Systems Architecture and Standards*.

Systems engineering is an interdisciplinary approach to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation

to ensure that the functional requirements identified early in the process are met. Systems engineering is not a new discipline and has its origins in transportation systems such as traffic control and high-speed rail systems, military applications, and aerospace programs. (Shiners: Systems Engineering Techniques, 1967) Systems engineering approaches have been used in deployments of ITS for several decades; however, no uniform or consistent processes have been adopted as an ITS industry standard.

The benefits of a consistent systems engineering process for ITS deployment include:

- Reduce the time required to move from concept to deployed systems
- Ensure that the systems deployed meet users' needs
- Reduce the costs of deploying systems
- Reduce the number of engineering changes and therefore, improve the time reliability and reduce the costs of deployment

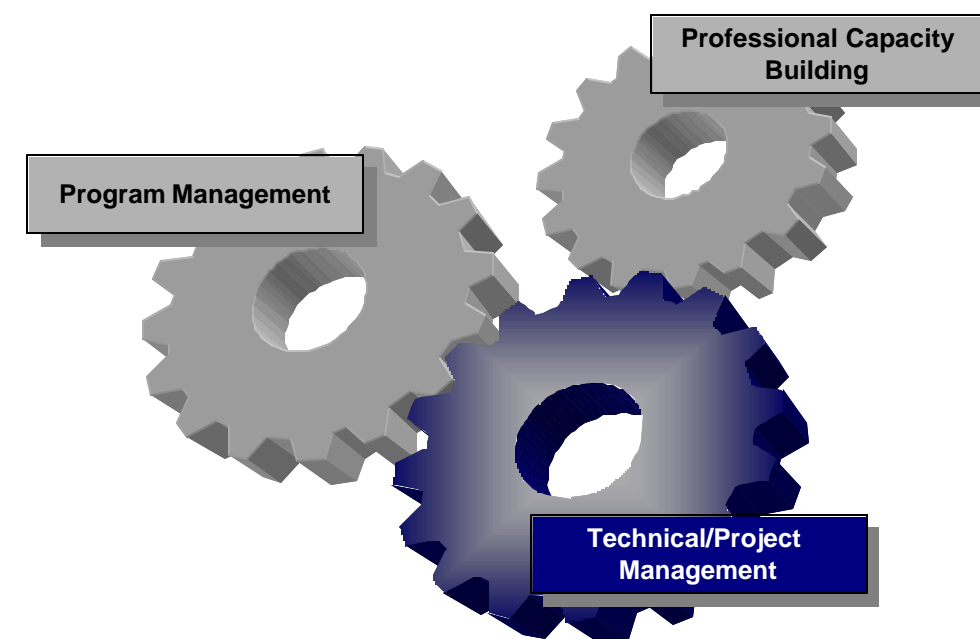
- Improve system quality, reliability and performance
- Improve communications during the engineering of the system
- Improve ability to sustain and upgrade system products after deployment, and
- Reduce development risks.

FDOT has initiated a process to identify and define a consistent systems engineering approach for ITS deployments in Florida. The first step was preparation of an issue paper that outlines the basic functions and steps for successful deployment. This approach reflects the requirements of the FHWA Rule 940; tailors professionally accepted system engineering approaches and standards of the Department of Defense, Institute of Electrical and Electronics Engineering (IEEE), and the International Council on Systems Engineering (INCOSE); and is consistent with professional, engineering, and procurement requirements of the Florida Statutes.

The next steps in the process include developing consensus on the approach outlined in the Issue Paper. A System Engineering Management Plan (SEMP) will be developed. The SEMP will outline the process requirements and roles and responsibilities for the implementation of the approach in greater detail. The intent is to apply the systems engineering approach for the deployment of ITS along the five principal FIHS corridors being evaluated in the ITS Program Plan.

Please contact Chester Chandler at (850) 414-4980 or chester.chandler@dot.state.fl.us for additional information on this process and to provide any comments.

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Rule 940 Implementation

On April 8, 2001, the FHWA issued Rule 940 entitled Intelligent Transportation System (ITS) Architecture and Standards and the concurrently FTA issued a policy entitled National ITS Architecture Policy on Transit Projects. The intent of the Rule and Policy is to require procedures for implementing sections of the Transportation Equity Act for the 21st Century (TEA-21) requiring ITS projects to conform to the National ITS Architecture (NITSA) and standards.

The Rule requires that agencies develop a regional architecture based on the NITSA that reflects the local needs, issues, problems, and objectives for implementation and is consistent with the transportation planning process for statewide and metropolitan planning practice. Each region has four years to adopt a regional architecture that includes: (1) a description of the region; (2) identification of participating agencies and other stakeholders; (3) An operational concept; (4) Any agreements required for implementation; (5) system functional requirements; (6) interface requirements; (7) identification of ITS standards; and (8) a sequence of projects required for implementation. In addition, any project that moves into design is required to follow a systems engineering analysis that is commensurate with the project scope. A project is defined as an ITS project or program that will receive federal-aid. If the project moves into design prior to the completion of a regional architecture, a project architecture is required to support the system engineering analysis. The system engineering approach shall include at a minimum: (1) identification of portions of the regional architecture being implemented; (2) identification of participating agencies roles and responsibilities; (3) requirements definition; (4) analysis of alternate system configurations and technology options to meet requirements; (5) procurement options; (6) identification of applicable standards and testing procedures; (7) procedures and resources necessary for operations and management of the system.

The Department has prepared an Issue Paper on the possible implementation of this Rule in Florida. The major policy recommendations of the paper are as follows:

- Adopt FDOT Districts as the regions for purposes of implementing the Rule.
- Adopt the Statewide ITS Architecture as the regional architecture for Florida.
- Each District Office would be responsible for coordination with MPOs and other local jurisdictions to ensure the District-level architectures are consistent with the metropolitan planning process.
- The ITS Office will provide technical assistance and support as requested by the Districts.
- The ITS Office will coordinate an implementation plan for this rule that includes the following actions:
 - Identify District ITS staff who will be responsible for maintaining each District ITS architecture and coordinating with ITS Office, District Planning Office staff, and MPO.
 - The District Planning Office and District ITS Offices will work with the MPOs to determine a priority of MPO ITS architecture reviews based on needs and the relation to other planning or architecture projects. Based on this priority, the ITS Office will provide technical assistance and training as appropriate.
 - The District and MPO staff will work together to update and refine the District and MPO ITS architectures as needed. The ITS Office will provide technical assistance as needed.
- The ITS Office will develop a training program for ITS Architecture/Planning customized for MPOs, local government planning and District planning staff and management.
- The ITS Office and the Systems Planning Office will develop a guidebook that includes an update to the *ITS Planning Guidelines* prepared by the Systems Planning Office, guidance on how to address the Rule

940 implementation, and the results of the *ITS Integration Guidelines* being developed by District Seven. The guidebook will be supplemented with a one-day training session.

- The ITS Office will develop a summary of this Rule implementation that can be part of the stakeholder coordination process in the ITS Corridor Concept Plans.
- The ITS Office, in cooperation with the Districts and MPOAC, will establish a process to refine and disseminate any changes to this guidance. Updates to this guidance should be made after a suitable testing period in the field where strengths, weakness, and other requirements for guidance can be identified.

This Issue Paper and the proposed action plan is considered a draft and is being circulated among the Districts for review. Your review and comments on this information would be appreciated.

Please contact Liang Hsia at the ITS Office (850) 414-4989 or liang.hsia@dot.state.fl.us for additional information.

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Phase 2 is proposed to cover all Marion County, including the Ocala area. This project is unfunded.

Regional Traffic Management Center
An RTMC has been constructed in Orlando and is operational. All existing I-4 traffic information flows through this center. Currently, joint operation of the system is located within the RTMC between FDOT and FHP. The planned renovation/retrofit project will provide an overall system design that will provide scalability to allow future growth and expansion throughout the entire Central Florida region to include I-4, I-95, and I-75. Currently, there are existing and planned network interfaces with other regional agencies to interface requirements and specifications that will facilitate bringing them on-line with the RTMC communications upgrade. This project shall include the design, equipment and software procurement, installation, system integration of a state-of-the-art fully digital communications network backbone of the I-4 SMIS, as well as, the RTMC building modifications and upgrades to support future operations and FHP call/dispatch station expansion plans. This project will be advertised in July 2001.

City of Orlando Regional Computerized Signal System

A feasibility and implementation study has been completed for the RCSS. The project is being administered by the City of Orlando through a JPA with FDOT. Deployment of the system is funded and has begun. The fiber optic backbone is being installed as part of District 5's Pushbutton Program. A decision has been made to go with Gigabit Ethernet with Extreme Ethernet switches and to use Naztec NTCIP compatible controllers for the City's Regional Computerized Signal System.

Seminole County ATMS Project

Seminole County ATMS project is a subset of the RCSS. Administration of the project is by Seminole County through a JPA with FDOT. Seminole County used Orlando's RCSS project feasibility study and implementation study and therefore, adopted the approach of using Gigabit Ethernet with Extreme Ethernet switches and using Naztec NTCIP compatible controllers for the County's Signal System.

Deployment of the ATMS system has begun and the County has selected Comview Technologies for their video wall.

Orange County ATMS Project

Orange County ATMS project is also a subset of the RCSS. The project will begin with a consultant selection in February to complete the feasibility and implementation study. Deployment is anticipated shortly thereafter. Administration of the project is by Orange County through a LAP agreement with FDOT.

Fiber Optic Interconnection to District Maintenance Offices

Three projects (ITS Fiber Optic Orlando/Oviedo/Deland, ITS Fiber Optic Leesburg/Ocala, and ITS Fiber Optic Coca) will provide fiber optic interconnected to each of the six District 5 Maintenance offices for a seamless and fully integrated communications network for optimal maintenance operations and efficiency and will provide the capability for the maintenance offices to fully monitor the ITS systems currently deployed in District 5, as well as communicate with the RTMC District 5 office in Deland, and other maintenance offices and centers located on the communications network. These projects are currently unfunded.

District Six

I-95 SunGuide/Intelligent Corridor System (FM 6141828):

The Department is implementing a freeway Advanced Traffic Management System (ATMS) on and around I-95 in Miami-Dade County. The implementation will be accomplished in three phases. Phase A (FM 251596) is currently being constructed and includes a 17.5 –mile fiber optic trunk, 27 CCTVs, two field communication hubs, 15 detector stations and the SunGuide Incident Management Software. Phase B construction has begun and will include 9 additional freeway DMS, nine arterial DMS, 53 detector stations, 28 trailblazer signs on surface roads, 22 ramp metering sites along I-95, and Video-Wall.

Construction of Phase C, a regional TMC located at District 6 headquarters, is planned to begin. It comprises a 32,000 square foot central control center that will serve as a focal point for inter-agency coordination and developing integrated traveler advisories.

Advanced Traveler Information System (ATIS) for Miami-Dade, Broward and Palm Beach Counties (FM 405663, 404838, and 404817):

The ATIS system kicked-off in May of this year, providing traveler information and roadside assistance along I-95 in the tri-county area. The system provides real time traffic information via an Interactive Voice Response (IVR) telephone system, a Website, and DMSS. The system will be upgraded to include transit traveler information. Thirty additional surveillance cameras are expected to be installed along I-95 corridor.

ATIS Public Involvement (FM 250114):

The public involvement phase of the ATIS project has recently begun. Public information materials such as brochures, newsletters, fact sheets, videos and mailing lists have been developed for distribution. Radio announcements informing the public of the ATIS have recently been run in the tri-county area.

The partnering agencies have adopted the SUNGUIDE name and developed a logo. The logo has also been adopted by the Central Office for statewide ITS services.

SunGuide/District VI ITS Work Program
The following projects have been adopted, but not begun:

- SR 826 from NW 154 Street to Golden Glade Interchange
- SR 836 Expressway Integrated (ATMS)
- SR 112/I-95 ITS from NW 11 Avenue to Alton Road (SR 907)
- SR 93/I-75 ITS from SR 826 to County Line
- I-95 Phases A, B and C Post Construction Evaluation

ITS Deployment in the Florida Keys

This project is for the future deployment of 23 DMSs, 8 HAR stations, and 11 color CCTVs. This deployment will serve a variety of needs, including: emergency evacuation, seasonal peak period control of traffic along US 1, incident management along US 1 from Florida City to Key West, and traffic control support for major maintenance events.

I-95 Golden Glades Interchange Post Construction Evaluation

The contract consisted of evaluating the GGI subsystems. The data collection and analysis for DMS Subsystem was

surveillance. The project is currently in the design phase with implementation scheduled for January 2002. Contact: Valerie Tofexis

Palm Beach County Service Patrol (FIN 2319241):

The contract for specially equipped tow trucks to monitor the freeway system and aid stranded motorists on I-95 is in its last renewal and being re-submitted for bid. Contact: Francese Gaetano

Broward County ITS Operations Facility (FIN 2316541):

Design of this facility is underway. 90% Plans were submitted in July 2001. Design will be complete in October 2001 and construction will begin in February 2002. The anticipated completion data of the facility is May 2004. Contact: Valerie Tofexis

Palm Beach County Traffic Operations Facility Master Plan (FIN 2319301):

The site location for this facility has yet to be determined. Once a location is agreed upon the Master Plan will be completed. Construction is scheduled for 2004. Contact: Valerie Tofexis

Broward and Palm Beach Counties APTS Master Plans (FIN 4090471 & 4101151):

Contracts are under negotiation for master plans to guide development of transit projects to enhance transit systems. Contact: Tahira Faquir

District Five

I-4 Surveillance and Motorist Information System (SMIS) Phase 3:

This system is part of the St. Johns River Bridge reconstruction project. The limits of the project are from Lake Mary Boulevard in Seminole County to SR 472 in Volusia County. The ITS elements will be installed in phase 1 of the project to assist in the maintenance of traffic during construction and will also provide a fiber link to the District Office in DeLand. The project is currently in the design phase and the design consultants are P.B. Farradyne and TransCore.

Approx. Completion: Summer of 2002

I-4 Surveillance and Motorist Information System (SMIS) Phase 4:

This system is part of a six-lane reconstruction project in Osceola County. The project is funded for construction in

FY 2003. The ITS elements will extend from the existing system at World Drive to US 27 in Polk County. The project is currently in the design phase and the consultant is TEI, Engineers and Planners.

Volusia ITS Integration Project (FM 2409482):

The design and construction criteria RFP package has been developed and a consultant is currently being selected. The project entails the development of a Volusia County ITS Architecture, and design and construction of the integrated traffic information system.

Approx. Completion: June 2001

I-4 SMIS Phase 5

Phase 5 will extend from SR 472 in Volusia County to US 92 in Daytona Beach, where it will join with the existing DASH system. This project will allow connectivity of the two systems and allow operation of the DASH system from the Regional Traffic Management Center (RTMC) in Orlando. This project will complete the I-4 Corridor in District 5 and provide a second point of connection to the east coast for use during special events, natural disasters and incident management. The ITS elements are currently under design as part of a roadway widening project through this section of I-4. This project is unfunded for the construction phase.

Upgrade of Existing I-4 SMIS Infrastructure

Relocations and/or replacement of all existing components of the existing I-4 SMIS that are located within the construction limits and impacted by the widening of I-4 from SR 536 to SR 528 (The existing fiber optic cable located on the eastbound side of I-4 will be maintained and used for system operation during the construction phase and the new 72-strand cable will be placed on the westbound side of I-4 creating a redundancy in the system along this section); SR 528 to SR 482 (The existing fiber optic cable within the construction limits will be maintained and the new 72-strand cable will be placed on the westbound side of I-4); SR 423 to SR 436; and SR 435 to Florida's Turnpike.

Expansion of I-95 SMIS

Phase 2 - I-95/SR 528 Hurricane Evacuation System

Phase 2 of the I-95 system is proposed at SR 528 in Brevard County. The primary purpose of this system is to aid in evacuation of east and south Florida. The system will be monitored from the RTMC and includes a total of 12 CCTV cameras, 13 detector stations, and 6 DMS. A contractor has been selected and the Design/Build project is scheduled for completion by October 2002.

Phase 3 - I-95

Phase 3 of the I-95 system is proposed as an expansion of the DASH system north to US 1 and south to SR 44 in Volusia County. This project will expand a successful ITS Surveillance System that is used during special events, natural disasters, and incident management. Expansion of the system both north and south allows more flexibility during the special events and the off-site parking now used for major events. In addition, routes such as SR 44 and SR 40 could also be used during incident management activities along the I-95 corridor in Daytona Beach and the I-4 corridor between Daytona Beach and Deland. This project is unfunded.

Phase 4 - I-95

Phase 4 of the I-95 system is proposed as an expansion of the DASH system in District 5. This expansion is proposed in two parts. The first part will extend the system from US 1 in St. Johns County and tie into the proposed I-95 Phase 3 project in Volusia County. The second part will complete the system through Brevard County. This project proposes to expand the system to tie into the south end of the Phase 3 project and extend the system south to the Brevard County/Indian River County line. This project will provide a redundant loop by connecting to the Hurricane Evacuation System being built on I-95 at SR 528 and allows an avenue for incident management over a corridor that has received significant attention recently due to crashes along I-95. This project is unfunded.

Expansion of I-75

Phase 1 of the I-75 system is proposed to cover all of Sumter County, including the I-75/Turnpike interchange. The project will cross into Hernando County to provide complete coverage south of the rest area. This project is unfunded.

ITIP Applications for Participation

On June 1, 2001, the US DOT advertised in the Federal Register a solicitation for applications to participate in the Intelligent Transportation Infrastructure Program (ITIP). This program is intended to provide federal support with an existing private sector partner to develop the ability to measure the operating performance of the roadway system at a regional and national level and promote sustainable commercialization of advanced traveler information systems (ATIS). In exchange for providing \$2 million of infrastructure and information services through the federal program with services from a consortium led by Mobility Technologies (formerly known as traffic.com), FDOT would be responsible for providing \$500,000 in matching support for the program and services to support the sustainability of the program. This program was originally envisioned in the Transportation Equity Act for the 21st Century (TEA-21). Current deployments of this program exist in Philadelphia and Pittsburgh.

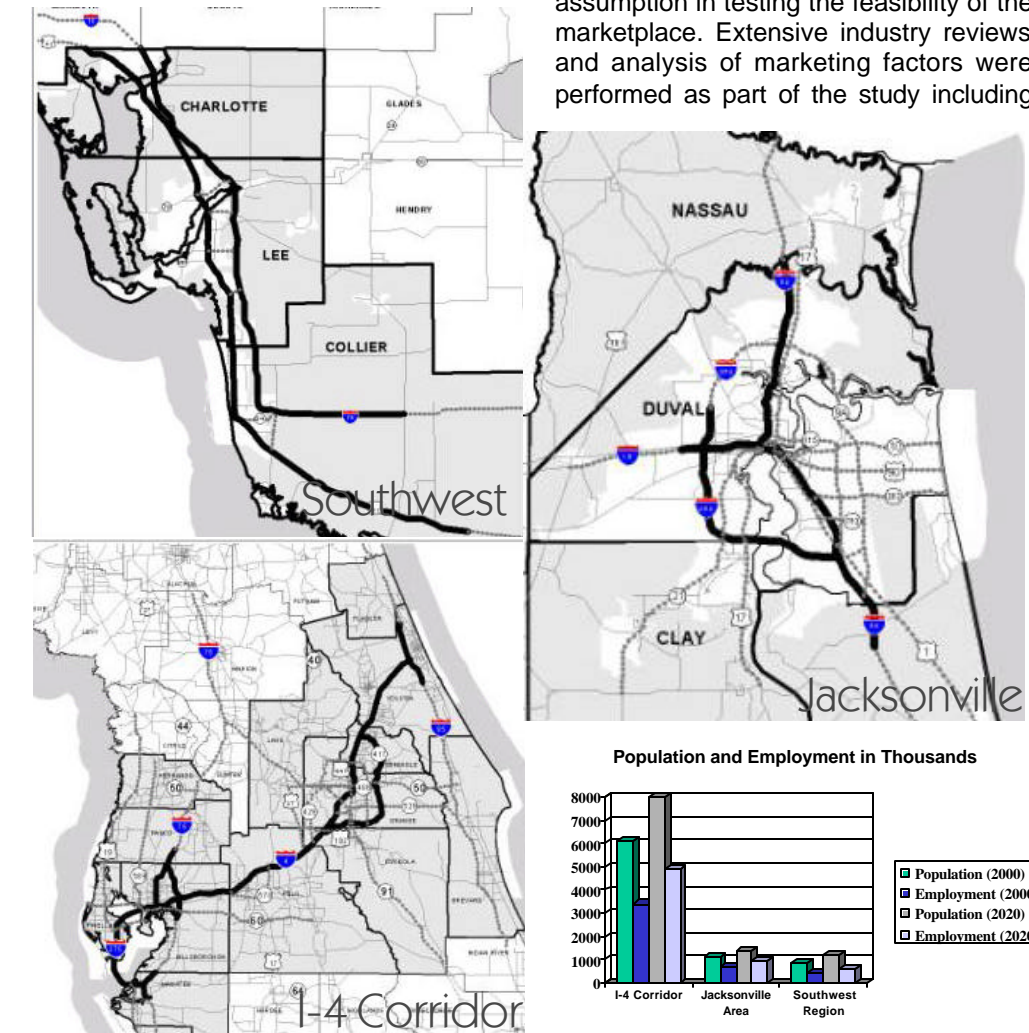
Both the District Five and Seven are currently preparing applications to participate in this program to provide services in the Tampa and Orlando marketplaces, respectively. Applications are due July 31st.

Please contact Jerry Karp in District Seven at (813) 975-6413 or jerry.karp@dot.state.fl.us; or Anne Brewer at (904) 943-5328 or anne.brewer@dot.state.fl.us for additional information on this process and to provide any comments,

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ATIS Feasibility Study

The ITS Office recently completed feasibility studies for deploying advanced traveler information systems (ATIS) in three regions in Florida: Southwest Florida, I-4 Corridor, and Jacksonville.



The feasibility determinations assumed that the public sector would provide much of the core infrastructure needed to support ATIS and an information service provider (ISP) would supplement the core infrastructure with additional data collection and value added services. The ISP would also disseminate information to radio, television, and internet media, operate an interactive voice response system using 511, and provide fee-based

personalized services. Under this business model, all public agency information would be made available to the ISP under a license agreement and the ISP would be required to provide any additional data collected to FDOT in kind. Revenue-sharing was not considered in the analysis as a conservative assumption in testing the feasibility of the marketplace. Extensive industry reviews and analysis of marketing factors were performed as part of the study including

the following: (1) scale of market, (2) consumer segmentation, (3) market segmentation, (4) state of the ATIS marketplace for ISPs, and (5) an estimate of costs to deploy, and operate ATIS.

These studies showed that the I-4 Corridor is the most attractive for ATIS and service is needed immediately. In the Jacksonville marketplace, additional ITS infrastructure is needed, but conditions are very favorable for ATIS. The Southwest Florida market is a longer-term prospect for ATIS.

Based on the recommendations of this study, the ITS Office plans to move forward with preparing a solicitation and criteria package for an invitation to negotiate with ISP for the I-4 Corridor later this year.

Please contact Gene Glotzbach at (850) 414-4987 or gene.glotzbach@dot.state.fl.us for additional information.

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TMC Software Study



In February, FDOT initiated a research project with Michigan DOT to assess divergent traffic management center softwares that are in use. Southwest Research Institute (SWRI) from San Antonio, Texas was selected as the research institution for this project. A successful kickoff meeting was held with representatives from each interested District, Michigan DOT, members of the consultant community and SWRI. At this meeting SWRI presented their proposed approach and a draft set of evaluation criteria for the software.

Over the last two months, the research team has conducted field interviews at each of FDOT's traffic management centers. The research team is currently in the process of analyzing the software, documentation and assessing the software. The next status meeting on the project is scheduled for August 7 in Tallahassee.

Please contact Liang Hsia at (850) 414-4989 or liang.hsia@dot.state.fl.us for additional information.

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FDOT Developing 511 Implementation Plan

On July 21, 2000, the Federal Communications Commission (FCC) assigned the 511 abbreviated dialing code for the provision of transportation information on a national basis. The FCC ruling has left it to state and local transportation agencies, telecommunications carriers and regulators to determine the appropriate courses of action to make these services available.

Interest in using 511 has been expressed by several local transportation agencies in Florida and is considered to be an integral part of the deployment of advanced traveler information services (ATIS). Statewide deployment of 511 would allow a uniform and consistent delivery system of all traveler information-related interactive voice response systems (IVR). In many industry opinions, this 511/IVR service will become "the face of intelligent transportation systems". Major challenges to successful 511 implementation include:

- Developing a consistent message for the use of traffic and transit traveler information systems for callers from any area.
- Coordination with the wireless industry. The wireless industry has petitioned the FCC to rescind the requirement based on cost and technical issues associated with the implementation.
- Provide reliable, timely and accurate traffic information to support the 511. For 511 to be successful, Florida will need additional ITS infrastructure to meet this need.

Approximately 300 traffic/traveler information phone numbers/systems are currently in use nationwide. Included in these programs are Florida's SunGuide ATIS in Southeast Florida that recently initiated an IVR system at (305) 914-3838. Several other agencies have been successful in establishing IVR service, such as the Kentucky Transportation

Cabinet that operates 800-KYROADS and Arizona Department of Transportation that operates 888-411-ROAD.

To properly plan and coordinate the implementation of these services on a statewide basis, FDOT is planning to develop an Implementation Plan to Guide the 511 deployments. The major activities planned as part of this activity include:

Review of 511 Implementations in Other States: document 511 implementations that have occurred in other regions of the country, identify lessons learned and identify methods and technologies that may be useful in Florida

Identify and Analyze Existing Transportation Information Answering Points (TIAP's): analysis of existing TIAP's, to include identifying technologies implemented and system ownership; identify lessons learned by agencies that have already implemented TIAP's

Analyze Existing Telecommunications Environment: detailed analysis of the existing telecommunications infrastructure including the Public Service Commission, wireline carriers, and wireless carriers

Partnership Development: work with Public Service Commission (PSC) to identify their planned involvement, identify and contact state telephone associations and understand the various carriers operating within Florida, coordinate with other agencies to obtain "approval" to lead effort within state, may utilize ITS Florida to facilitate; also support FDOT in securing 511 for the SunGuide ATIS in SE Florida and for FDOT's "ownership" of the number statewide

Statewide and Regional Business Models: establish a vision of what 511 will become in Florida, provide regional breakdown of 511 answering points and services to be provided, may utilize ITS Florida to facilitate

software was delayed until the switch to the Dell Cluster was definite, because of the need to convert Solaris software licenses to NT licenses. This should also be complete within the next few weeks.

Oracle 8.1.5 is currently running with the ITS data loaded (except for some minor changes to server configuration tables) on one of the two nodes of the Dell Cluster, and we are in the process now of bringing up the Oracle Parallel Server option, where an instance of Oracle will run concurrently on each node of the cluster.

District Three

I-10/I-110 ITS Architecture:

District Three is finalizing the I-10/I-110 ITS Architecture. Presentations regarding the Architecture have been made to the District and area MPOs. Copies of the Architecture can be obtained by contacting Elizabeth McCrary at 850-638-0250.

ITS Plan for the Interstate System:

This plan was completed in December of 2000 for the District Three interstates. The project includes the development of conceptual plans for the implementation of freeway management systems in the Pensacola area, Tallahassee area, and the rural area in between.

Okaloosa County ATMS System (FM 220239-1-52-01)

This is Phase I of a three phase project involving fiber optic backbone connection, approximately 50 2070-lite traffic signal controllers, 1 DMS, and 1 CCTV.

Bay County ITS Earmark

Communications network (fiber optic communications backbone) design, construction and system integration: 1) ATMS implementation in the Panama City area; 2) enable greater coordination of traffic signals; 3) real-time monitoring of signal equipment; 4) provide flexibility to respond to emergency evacuations, traffic incidents, and special events; 5) allow expansion of Hathaway Bridge IMS into regional program and integrate with ATMS; 6) integrate various Emergency Management Systems and other agencies within the county, including integration of the Bay County Scholl District with emergency management services for improved emergency management communication during emergency shelter operation.

District Four

Advanced Incident Information System (AIIS) (FIN 2316551):

This project will deploy flashing beacon signs along I-95 and HAR systems along arterials at I-95 interchanges in Broward County. The signs will be placed in advance of I-95 entrance ramps to warn drivers of incidents and delays on the interstate, and the HAR will identify incident locations and suggest alternative routes. A consultant was selected in June to begin the Feasibility Study and implementation is anticipated in 2003. Contact: Valerie Tofexis

Broward County ATMS (FIN 2280891):

Upgrade of signal system, installation of new controllers with new fiber optic cable, and expansion of deployment of controller and communications with new central system software is underway. Contact: Valerie Tofexis

Interim Traffic Management System (FIN 2303571):

Deployment of portable, small-scale changeable message signs at entrances to freeway to warn drivers of incidents prior to entering freeway is currently being developed by PB Farradyne. Contact: Tahira Faquir

Freeway Video Monitoring System for Broward and Palm Beach Counties (FIN 2316601 and 2318811, respectively):

This design-build project will include the deployment of CCTV cameras along I-95 in Broward and Palm Beach Counties with future expansion to selected interchange arterials for verification of traffic incidents and conditions. The design-build projects are currently in the design phase and are expected to be implemented in 2002 and 2004, respectively. An expansion of this monitoring system is underway in FIN 2317391. Contact: Valerie Tofexis

Broward County Regional ATIS (FIN 4048171):

Provides real-time traveler information for Dade, Broward and Palm Beach Counties via fax, phone, web page, radio, and TV. Basic services are expected to be provided in June 2001. Contact: Tahira Faquir

I-95/595 Dynamic Message Sign System (DMSS) (FIN 4048271):

The original contractor for this project claimed bankruptcy and a new contractor was selected to complete the construction.

The implementation is anticipated to be complete by October 2001, as originally scheduled.

Broward County ICWW CMSS (FIN 2281191 & 2281192):

Install CMSS on approached to ICWW crossings to warn motorists of bridge closings and traffic delays. Contact: Teresa Martin

I-595/I-95 CMSS (FIN 2316591 & 2317051):

Minor work is being performed on installation of changeable message signs on I-595 and I-95. Contact: Valerie Tofexis

Broward County ATIS Operations (FIN 4067951):

Provides funding for operation of CMSS. Cameras and signs to be operated by SmartRoutes. Contact: Tahira Faquir

Broward County Service Patrol (FIN 2316571 & 2317231):

Specially equipped tow trucks monitor the freeway system to aid stranded motorists and clear incidents on I-595, I-95, and I-75. Contact: Tahira Faquir

Palm Beach County ATMS Groups 1 & 2 (FIN 4048241 & 4048251):

Upgrade signal system, install new controllers with new fiber optic cable, and expand deployment of controller and communications with new central system software. Contact: Valerie Tofexis

Boca Raton ATMS Master Plan (FIN 4081981):

This project will generate a detailed master plan for an ATMS for the Boca Raton Signal System. Boca has confirmed that they will renovate existing space for signal operations. Contact: Valerie Tofexis

Palm Beach County Regional ATIS (FIN 4048381):

Provides real-time traveler information for the tri-county region via phone, fax, web page, and TV. Basic services are expected to be provided in June 2001. Contact: Tahira Faquir

Palm Beach County ATIS Operations (FIN 4081971):

Provides funding for operation of CMSS. Cameras and signs to be operated by SmartRoutes. Contact: Tahira Faquir

Palm Beach County I-95 Dynamic Message Sign System (FIN 4048271):

This project involves the deployment of DMS at I-95 interchanges with turnpike access. The system also includes CCTV

Approx. Completion: October 2001
Contact: Michael Tako Nicolaisen

Collier County / City of Naples Computerized Traffic Signal System, Phase I Construction (FPID: 195403 1 52 01)

A hybrid traffic control system utilizing fiber optic cable for communications to 77 intersections was let for construction. This is the first of two projects scheduled to construct the signal system. This project will build the control centers for the city and county and communicate with 77 intersections. Construction began in May 2001.

Approx. Completion: September 2002
Contact: Chris Birosak

Punta Gorda/Charlotte County Computerized Traffic Signal System, Construction of Design Group I (FPID: 193821 1 52 01)

This project will build a control center and connect to fifty-three (53) intersections utilizing a Hybrid Closed Loop System. It will utilize user-owned fiber optic cable for communications. Completion of the system is on hold pending the resolution of several items by the contractor.

Approx. Completion: Pending
Contact: Chris Birosak

District Two

Jacksonville Interstate Surveillance and Control System, Phase 2 (FIN # @2133261 & 2133061)

The I-10/I-95 Interstate Surveillance System includes the Transportation Management Center (TMC), 11 Close Circuit Television Cameras (CCTV), 41 Video Imaging Detection System (VIDS), 2 Weather Sensors, a Classification / Count Station, Inductive Loop Count Station along the interstate, 8 Variable Message Signs (VMS), and 10 Slow Scan Cameras. Communications with each sign is via a dedicated analog telephone circuit. Cameras at seven signs are connected via dial-up analog leased lines. The other three cameras, located on the Buckman Bridge, are also through dial-up analog leased lines. Except for the Buckman Bridge, and cameras at VMS's, the TMC receives all video images through fiber optic lines. The TMC operates from 6:30AM to 6:30PM. After hours the Florida Highway Patrol (FHP) operates the system through an attendant station located within their headquarters.

Road Ranger Service Patrol

The Road Ranger Service Patrol (RR) will patrol parts of I-10, I-95, I-295, and J. Turner Butler Boulevard in Duval County beginning on August 6, 2001. The RR operators will provide free service to stranded motorists, remove roadway debris and assist the Florida Highway Patrol during the normal hours of operation, 5:30AM to 10:00AM and 3:00 PM to 7:30PM hours, Monday through Friday. Each RR vehicle will be equipped with a trained operator, cell phone, auto fluids, tire repair kits, etc. to assist in reducing delays and providing a safer highway for the traveling motorists.

Contact: Donna Shannahan

I-95 Surveillance

This project, on I-95 south from I-10 to I-295 South, will install master communication hub, fiber optic cable, communication equipment, CCTV cameras, VIDS units, loops, dynamic message signs, connect to Jacksonville Fiber Optic Network and include software enhancements. Preparation of a design criteria package for design-build contract is currently underway with Kimberly Horn and Associates. A possible advertisement date for the Design-build contract is May 2002 or earlier.

Closed Loop System

This is an expansion project. A potential application of a closed loop system in the Palatka area will include three closed loop subsystems and five isolated intersections. This represents a total of 19 signalized intersections operating within a Closed Loop System and covers three major roadways US 17, US19, and SR 100.

I-10 Reverse Lane Implementation Plan

The Reverse Lane Implementation Plan is to provide for the implementation of reversing lanes of the I-10 corridor from Jacksonville to Tallahassee. This will be utilized in the event of a catastrophic natural or manmade disaster to expediently evacuate citizens out of the northeast Florida area. Interstate 10 is a multi-lane, limited access roadway that begins at the Alabama/ Florida state line and traverses the state in an easterly direction for 364 miles, terminating at Interstate 95 in Jacksonville. This interstate falls in the areas of responsibility of the Florida Highway Patrol and Districts II and III. A two-lane crossover has been constructed on I-10 just east of the I-295

interchange in Jacksonville at milepost 358 to convert westbound traffic over to the eastbound lane. The order to implement the reversing of lanes will be given by the Governor or his representative. The FDOT and FHP will close all eastbound entrance ramps. No eastbound traffic will be allowed to enter I-10 eastbound from milepost 216.7 (SR 59) in Jefferson County to I-295 in Jacksonville. All westbound traffic will be allowed to exit at their desired exit. It is expected the bleed-out of eastbound traffic to be accomplished in approximately 3 hours.

ITS Maintenance

A maintenance contract for operational maintenance, repair, utility relocation, maintenance of traffic, and software function has been operational since April, 2001. The contract is for a 36-month period and provides maintenance 24 hours a day, seven days a week. The contract with Traffic Control Devices is managed by Mr. Randy Warden, Traffic Operations, ITS, Jacksonville.

SunGuide ITS System Database

The conversion of the District 2 SunGuide ITS system database from Sybase to Oracle is well under way. The ITS servers running on the Sun Solaris 2.6 platform were converted as of August 2000, and the NT-based GUI conversion was nearly complete prior to year-end. The remaining portion of the system to be converted is the configuration for the Spatial database engine used to manipulate GIS data, and the ESRI MapObjects software used for GIS data presentation under NT.

In March of 2001, a decision was made to move the server software from the Sun Solaris platform to a Dell PowerEdge 6450 NT Server Enterprise Cluster both for on-going cost savings, and to take advantage of existing NT Server expertise in FDOT.

The ITS servers are currently being converted from Solaris processes to Windows NT services, which will access Oracle Parallel Server 8.1.5 running on the Cluster. The server conversion is approximately two-thirds complete, and should be finished within the next few weeks. No conversion effort is required for the GUI in order to switch to the Dell Cluster.

The conversion of the Spatial database engine configuration and the MapObjects

Implementation Plan: contingent upon business models, develop a plan to implement 511 in Florida, requires close coordination with Districts and other agencies in addition to fitting within other ATIS projects and corridor design criteria packages

This implementation plan is anticipated to be complete by the end of 2001.

Gene Glotzbach of the ITS Office is serving on a national subcommittee of the American Association of State and Highway Transportation Officials (AASHTO) to address national deployment issues for 511/IVR. Rick Schuman of PBS&J serves as the professional staff for this national coordination effort. Together they are representing Florida's interest in providing a coordinated, effective 511 service.

Additionally, U.S. DOT issued a Request for Participation on August 1, 2000 for a \$5 million grant program to assist agencies converting existing telephone services to 511. This program is anticipated to provide a \$50,000 grant per application (with minimum 20% non-federal match) to support system design, conversion support (software and hardware) and system and acceptance testing. Once the implementation plan is complete, FDOT may possibly apply for participation in this program.

Please contact Gene Glotzbach at (850) 414-4987 or gene.glotzbach@dot.state.fl.us for additional information.

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Unmanned Aerial Vehicle Test Program

As part of the ITS America Annual Meeting in Miami in June, Meggitt Defense systems successfully demonstrated the use of an unmanned aerial vehicle to provide remote traffic and traveler information images. In a continuing effort to test the feasibility of this program for use in Florida to provide traffic monitoring in support of traffic management, incident management and evacuation coordination conditions, FDOT is currently preparing a research statement for this concept.



The research statement planned will evaluate a number of the technical and institutional considerations that are critical to the success of this program including:

- ability to transmit video, data, and control signals to and from both the aircraft and the TMCs in a failsafe manner.
- communication requirements and security
- integration with ground sensors and mobility monitoring capabilities
- potential real-time communication with motorists.
- mobility management (location update and handoff)
- FCC regulations
- FAA regulations

Please contact Liang Hsia at (850) 414-4989 or liang.hsia@dot.state.fl.us for additional information.

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Florida Fiber Network

The Florida DOT envisions the Florida Fiber Network (FFN) as a Public Private Partnership involving the leasing of the rights to install telecommunications facilities along the FDOT right-of-way to telecommunications service providers and telecommunications infrastructure companies. In return, FDOT would receive consideration in the form of telecommunications capacity, or bandwidth, on fiber optic cable facilities installed by these firms. This bandwidth would take the form of dark fibers, which FDOT would then light to accommodate future FDOT ITS projects. The FFN would create the infrastructure for a statewide fiber optic network supporting the FDOT ITS program.



On July 14, 2000, FDOT issued a lease to FFN, Inc. for the FFN project. FFN, Inc. submitted the first-ranked proposal in response to an RFP issued by FDOT on March 17, 2000. This lease agreement was to cover all of the Interstate mileage and Turnpike mainline within the State, in excess of 2000 miles. During the last year FFN, Inc. tried diligently to obtain project financing and commitments from a variety of partners. However, this very favorable arrangement for FDOT was not ultimately realized. FDOT cancelled the lease agreement with FFN, Inc. on May 14, 2001.

During the past year the second ranked proposer to the FFN RFP, Universal Communication Networks, Inc., (UCN), has maintained contact with FDOT. During that time UCN stated that they were willing to stand by their proposal should the top ranked proposer prove unsuccessful. FDOT opened discussions

with UCN on June 29, 2001, to pursue negotiating a potential lease.

Please contact Bob Gottschalk at (850) 414-4987 or bob.gottschalk@dot.state.fl.us for additional information

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Lodestar Communications

The Florida Department of Transportation has executed a 30-year lease agreement with Lodestar Towers, Inc. on March 25, 1999, that allows Lodestar Towers, Inc. to lease access to the Department's limited access rights-of-way in return for compensation formulated as a percentage of the gross revenues received from renting antenna space to commercial wireless service providers.



The public private lease agreement was developed in accordance with the Department's Telecommunications Policy, Topic No. 000-625-025-c. The goal of the policy is to consolidate wireless tower use to the Department's limited access rights-of-way by providing equal access and opportunity to all wireless service providers. This strategy encourages wireless service providers to collocate on towers located on the Department's limited access rights-of-way instead of developing numerous new tower sites in local communities. The resulting reduction of the number of towers and the location of needed towers as far from residential areas as possible facilitates the intent of the lease to support the wireless service providers while minimizing wireless tower proliferation.

To date, Lodestar Towers, Inc. has constructed 26 towers on the Department's rights-of-way. Another 22 proposed towers are under siting and design review by the Department.

Please contact Bob Gottschalk at (850) 414-4987 or bob.gottschalk@dot.state.fl.us for additional information.

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CVISN

Commercial vehicles form the backbone of Florida'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 major industries. Motor carriers haul 77 percent (by weight) of all shipments originating in Florida. These shipments have a combined value of \$154 billion. Commercial vehicles also provide the integral landside link to the state's intermodal facilities.

The Florida CVISN program currently has automated bypass in place at 12 weigh station facilities on three interstates as well as providing its mobile enforcement officers with ASPEN-loaded laptop computers to conduct safety

inspections. In the future, the program will also include automated credentials application and issuance as well as the ability to apply for certain oversize/overweight permits electronically over the Internet.



Florida recently completed a CVISN Business Plan. This plan was recognized by the FHWA as a model plan at the recent multistate coordination meeting held in New Orleans.

Please contact Mike Akridge at (850) 414-5259 or mike.akridge@dot.state.fl.us for additional information.

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ITS Progress Report

This section provides an update on recently completed or on-going ITS projects along the major intrastate facilities in Florida.

District One

Incident Management Plan for the I-75 Corridor in Lee and Collier Counties (FPID 202062 1 12 01):

This involves preparation of an incident management project plan for the I-75 Corridor. An operational concept is developed, identifying the functions of an ITS, the roles and responsibilities of the agencies involved, and the location and jurisdiction issues. Infrastructure requirements are determined and an implementation strategy is prepared. Additionally, preliminary project costs are estimated. The overall goal of the project is to achieve improved incident management and establish supporting ITS projects in the five-year program. Approx. Completion: 2001 Contact: Michael Tako Nicolaisen

Approach for ITS Regional Architecture, Sarasota and Manatee Counties (FPID 202079 1 12 01)

This involves establishing an ITS program for the MPO and defining a process for the integration of an ITS program within the Long Range Transportation Plan (LRTP). Initially, a Sarasota/Manatee County ITS stakeholders group was identified and assembled, and a presentation was made to the stakeholders, which defined the National ITS Architecture and discussed statewide ITS planning guidelines. An overview of the District One Regional Architecture was also presented. The team worked directly with the group to identify existing (legacy) systems in addition to planned, programmed and potential ITS projects for integration into the LRTP. The role of the MPO in the ITS planning process was defined and the need to develop an ITS Element of the LRTP, which includes a Regional ITS Architecture for Sarasota and Manatee counties, was also identified. With the assistance of the stakeholders group, a project approach was developed for the Sarasota/Manatee County ITS Element to be initiated in FY 2001/2002. Approx. Completion: 2001 Contact: Michael Tako Nicolaisen

Incident Management Plan, I-75 Corridor, Sarasota, Manatee and Charlotte Counties (FPID 202062 1 12 01)

Identification of the incident management agency framework in order to determine methods of operation, resources, jurisdiction, communications systems, coordination methods and freeway incident management experience on the I-75 corridor. This includes developing candidate improvement opportunities and making improvement recommendations. Accomplished to date are introductory presentations to the Sarasota/Manatee MPO and TAC. A presentation was given to the incident management stakeholders in the region in December 2000, to introduce the project and get feedback on issues and concerns about Incident management on the I-75 Corridor. Jurisdiction and resource graphics have been prepared. Approx. Completion: 2001 Contact: Michael Tako Nicolaisen

Incident Management Project Plan, I-75 Corridor, Sarasota, Manatee and Charlotte Counties (FPID 202062 1 12 01)

This involves preparation of an incident management project plan for the I-75 Corridor. An operational concept is developed, identifying the functions of an ITS, the roles and responsibilities of the agencies involved, and the location and jurisdiction issues. Infrastructure requirements are determined and an implementation strategy is prepared. Additionally, preliminary project costs are estimated. The overall goal of the project is to achieve improved incident management and establish supporting ITS projects in the five-year program. Approx. Completion: 2001 Contact: Michael Tako Nicolaisen

Road Ranger Service Contract, Alligator Alley (FPID Unknown)

Service contract for I-75 along Alligator Alley that provides service from the US 27 tollbooth in Broward County through Collier County to Exit 18 in Lee County. Approx. Completion: 7-year term Contact: Rick Marino

Road Ranger Service Contract, Lee County (FPID 408998 1 72 01)

Service contract for I-75 in Lee County that provides service from Exit 18 to Exit 23. Approx. Completion: December 2002 Contact: Bill Mendell

Road Ranger Service Contract, Charlotte County/Sarasota County (FPID 409000 1 72 01)

Service contract for I-75 in Charlotte County and Sarasota County that provides service from Exit 31 to Exit 37. Approx. Completion: December 2002 Contact: Bill Mendell

Road Ranger Service Contract, Polk County (FPID 408999 1 72 01)

Service contract for I-4 in Polk County that provides service from the Hillsborough County Line to the Osceola County Line. Approx. Completion: February 2002 Contact: David Barthle

I-4 Portable ITS (PITS) Project:

This project is part of the multilane reconstruction and corridorwide CEI project for I-4 in Polk County. The ITS components will be installed in the first phase of the project to assist with maintenance of traffic during construction. The CEI consultant, Dyer, Riddle, Mills, and Precourt, Inc. is on-board and will be responsible for installation and operation of the ITS system.

Sarasota Retiming Project (FPID 197978 1 32 01):

Ongoing retiming of 99 intersections on the existing closed loop system for the City of Sarasota and Sarasota County. All timing has been implemented and fine-tuned. The Department is conducting the final review of the system timings. Approx. Completion: October 2001 Contact: Chris Birosak

Manatee Retiming Project (FPID 196122 1 32 01):

Ongoing retiming of 88 intersections on the existing closed loop system for the City of Bradenton and Manatee County. Approx. Completion: May 2001 Contact: Chris Birosak

Traffic Signal System Analysis (FPID 202079 1 12 01):

Traffic signal system analysis in Sarasota and Manatee Counties to provide cost-benefit information for the following alternatives:

- Maintain existing system at full operational capacity
- Upgrade existing systems to closed loop or centralized hybrid systems
- Upgrade to an advanced traffic management system with regional traffic management center, real-time traffic monitoring, and video surveillance