The *SunGuide[SM] Disseminator*
is a publication of:

November 2002 Edition

Florida Department of Transportation (FDOT)
ITS Office
605 Suwannee Street, MS 90
Tallahassee, Florida 32399-0450
(850) 410-5600
www11.myflorida.com

Link to Florida's Statewide ITS General Consultant
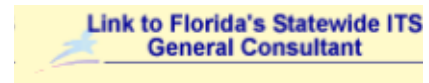
The Turnpike Enterprise Asset Management System (TEAMS)

TEAMS is being developed as part of a comprehensive financial planning effort to estimate the infrastructure needs over the next 20 years for Florida's Turnpike. The project has been championed by Florida's Turnpike Enterprise Chief Financial Officer, William (Bill) F. Thorp, who recognizes the advantages of a system that allows engineers and budget managers to generate more accurate renewal and replacement forecasts, identifies optimal asset maintenance funding levels, and reaps both short- and long-term savings.

Florida's Turnpike Enterprise is a 41-year old, integrated network of toll roads spanning much of South

and Central Florida. Its $3.6 billion in capital assets includes 449 centerline miles of pavement and nearly 1,200 structures-bridges, toll plazas, buildings, overhead signs, high-mast light towers, guardrails, impact attenuators, barrier walls and culverts, in addition to landscaped areas, communications equipment, and utilities. In size and diversity, the Turnpike's inventory rivals that of a small municipality. Motorists put nearly 14 million miles a day on the Turnpike, which generates $411 million in total revenue annually.

The Turnpike presented a number of challenges to TEAMS, including:

- integrating and expanding upon existing data stored on paper and in a variety of databases;
- interfacing with nine legacy (existing) systems;
- creating uniform asset evaluation criteria;
- gathering precise geopositioning data, digital imagery, and condition information for each asset;
- obtaining buy-in from the 300+ Turnpike employees who would use the system and, in some cases, would have to share access to data they had traditionally considered their exclusive responsibility; and
- obtaining support from management for developing a system whose success would depend heavily on employee buy-in.


TEAMS Mission Statement:
To assist ALL Turnpike personnel in efficiently and proactively managing the Assets of the Turnpike by providing Inventory, Condition and Forecasting, ensuring the safety of our customers and the protection of our Investors.

TEAMS Development

TEAMS design criteria called for creating a comprehensive, detailed, and accurate Turnpike inventory to which objective evaluation standards could be applied. The design team first went to the marketplace to research existing asset management applications. Most applications were industry specific, but none were specific enough to highway transportation to include all of the major elements that characterize the Turnpike. In addition, the majority of applications were designed for organizations building an inventory and data collection system from scratch, so their databases did not lend themselves to interfacing with existing applications.

The design team recommended building a new asset management system from the ground up. They began with a concept study that included a series of questionnaires and employee interviews which outlined the legacy systems and how they were being used. Questions were then customized for each asset's current condition, installation date, cost to repair, current maintenance schedule, and budget.

Given the number of assets and the physical size of the Turnpike, system designers decided to create a map-driven interface - **a "virtual turnpike"** - that would allow employees to locate an individual asset, such as a sign structure, building, or section of pavement, on an interactive desktop map. By clicking on an *asset icon* and using *pull-down menus*, users will be able to view still- and video-images and retrieve in-depth information for analyzing an asset's
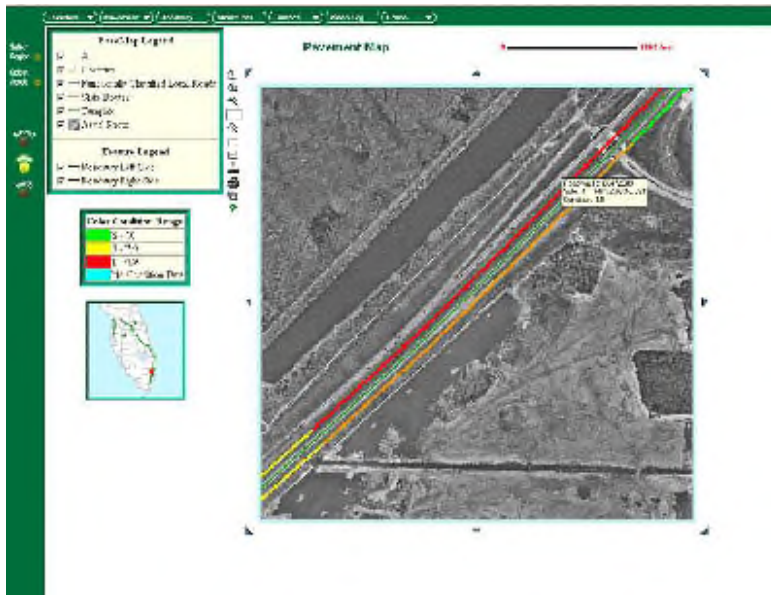
condition. For example, for pavement sections, TEAMS displays age, crack rate, ride rating, rut rating, and several other parameters. These parameters generate an overall condition rating, which is displayed on the map using a color code for quick reference: red (replace now), yellow (replace soon), and green (good condition).

Follow-up interviews pinpointed users' desires for specific functions and screen views. For example, users were asked to define what information they needed to accurately project the remaining life for each asset type. Algorithms were then developed to display all the relevant data, such as purchase date, maintenance history, warranty information, inspection reports, and known failure rates.

Users also requested that they be allowed to query by time frame so they could determine which assets in a given group might need replacing within a set period of time, say within the next six months. This information helps reduce costs by allowing the Turnpike to purchase equipment in bulk or schedule maintenance outages more efficiently. In addition, as TEAMS' historical database grows, users will be able to review year-by-year projections of an asset's condition, then retrieve the asset's actual replacement condition and replacement cost on the fly. Comparing projections to actual data will help make future projections more accurate. Based on this array of evaluation parameters, TEAMS will forecast maintenance schedules and replacement priorities, allowing the Turnpike to optimize capital spending.

In-depth information along with TEAMS' dynamic desktop allows engineers to bring much of their work indoors, reducing field visits and time spent poring over paper maps and records. Digital video images from FDOT's Transportation Statistics Office were combined to allow users to "drive" the Turnpike without leaving the office. As the video plays, users can adjust speed, change direction, jump to a specific milepost location, or jump from asset to asset (sign to sign, bridge to bridge).

These innovative features require a robust and sophisticated system that can quickly display high-resolution photographs, calculate precise geopositioning data, and allow users to drill-down quickly to detailed information. In addition, the web-based application must be able to interface with nine legacy systems and eight existing databases.

Integrating existing data presented one of the toughest challenges because information is stored in a wide variety of formats, ranging from Oracle, DB2, Access, and SQL databases to spreadsheets, shop drawings, CADD files, and work-order processing applications. In some cases, data is converted directly to TEAMS' format; in others, TEAMS acts as a viewer, linking the user to the existing software. In cases of severe incompatibility, the system's designers worked with the third-party developers of existing applications to redesign their programs' underlying databases to meet TEAMS' specifications.
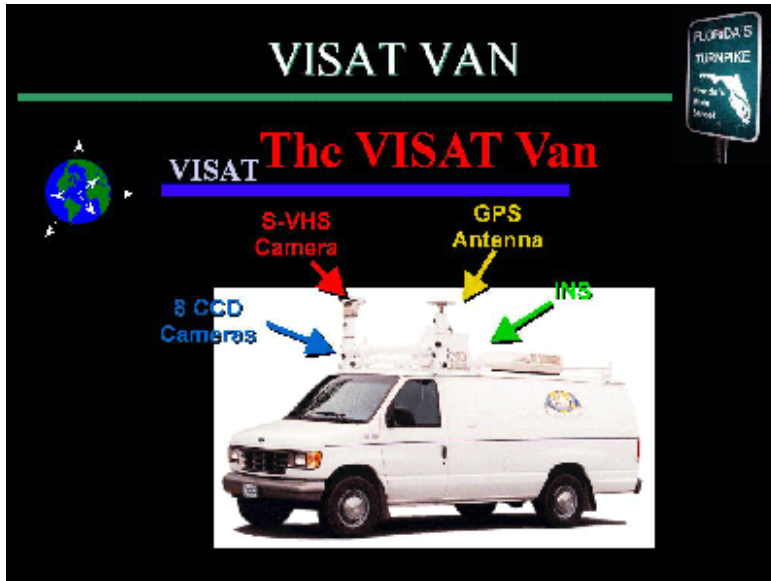
Data Collection

A wealth of new information must also be collected to populate TEAMS' Oracle database and provide the comprehensive analysis that the Turnpike seeks. Where some of the Turnpike's existing systems evaluate assets by groups (e.g., number of light fixtures per mile, linear feet of guardrail per mile), TEAMS tracks each asset individually - whether a light tower, an air conditioning unit, or a bridge. Asset characteristics and precise geographic coordinates must be input for those facilities or pieces of equipment that have never been inventoried.

The design team researched data collection methods throughout the country and devised a three-phase, state-of-the-art approach that includes photogrammetric, video, and manual data collection.

Photogrammetric Data Collection

The photogrammetric data comprises digital aerial photographs and highly accurate positional information for the visible assets. The Turnpike already had aerial photos of the entire system that had been translated into high-resolution digital (orthophoto) images. The photographs, showing individual guardrails, buildings, barrier walls, and other facilities, were used to determine each asset's initial footprint.

Video Data Collection

A video-inertial-satellite (VISAT) van was then used to collect video images of the Turnpike. As the van drove some 2,000 lane-miles of the Turnpike mainline and ramps, its array of charge-coupled device cameras captured photographic details that were merged into a panoramic image. The images, combined with the van's global positioning system (GPS) and inertial navigation system (INS) data, produced a geographic reference point for each asset, accurate to within 12 inches.

The photogrammetric data, combined with the VISAT images, acted as a quality control check. Additional asset information was then collected from the VISAT images, resulting in a digital file for a toll plaza, for example, that contains high-resolution images of the facility, location coordinates for the toll booth and toll lanes, the number of lanes, lane width, booth island width, and other physical attributes.

In addition to allowing users to visually identify and differentiate each asset on screen, the VISAT images will be used as a future data source for determining how far sign structures are offset from travel

lanes, identifying all assets located within a specified area, or gathering other location-dependent information.

Manual Data Collection
Finally, the photogrammetric data and the VISAT images were loaded into high-powered voice-activated computers linked to backpack GPS units and digital cameras. The data was then verified in the field where, again, additional detailed information was collected. As crews drove the Turnpike, they obtained or verified the wording and placement of signage, air conditioner serial numbers, generator capacities, guardrail end types, and a host of other asset attributes. The VoCarta voice-activated software allowed the crews to obtain information quickly and without the safety risks involved in making frequent stops and starts on highway shoulders. In previous projects, the system has delivered 98 percent accurate results and reduced labor costs by 70 percent over using manual surveys and paper maps.

Process Re-engineering
TEAMS is a robust, complex system that will require changes in work processes and management procedures. Recognizing the importance of employee buy-in, the design team sought to include users, from maintenance workers to engineers, in the development process to the greatest degree possible. They took an open approach, exemplified by the questionnaires and employee interviews that were used to establish software parameters.

At periodic intervals, the team tested their progress with employees to make sure the design met their needs. In addition, the project sponsor, Bill Thorp, met with each employee group to personally assess their satisfaction with TEAMS' design and obtain employees' individual commitments to use the system if it delivered as promised.

Results to Date
A six-mile pilot program successfully tested TEAMS' data collection methods, system design, and user interface from August 1999 through July 2000. The pilot included all the major asset elements. Though it only tested TEAMS' basic functionality, the pilot received enthusiastic response from employees and management. It helped refine both data collection methods and certain algorithms, such as asset deterioration curves.

TEAMS will be released in versions, with each version adding new assets as they become available. The initial release of TEAMS version 1.1, which included a short list of assets, was April 2002. This release was followed by subsequent releases that included additional assets and functionality.

Raising the Bar
TEAMS demonstrates how recent advancements in technology can be used to create a more transparent and cost-effective system for rating asset conditions, forecasting lifespans, and projecting expenditures. Project sponsor Bill Thorp characterizes TEAMS as a shift from *"fix-it-when-it-breaks"* to *"fix it when it's most cost-effective."*

TEAMS optimizes maintenance forecasting and, thus, reduces costs in a variety of ways by:

- Bringing a greater variety and quantity of in-depth information to the desktop, it allows engineers to reduce records research and field visits and accelerate design cycle time;
- Keeping an up-to-date inventory of individual assets and classifying them by type, it allows equipment buyers to purchase in greater quantities and optimizes the timing of their purchases;
- Producing a comprehensive inventory, it allows better strategizing and prioritizing of projects (i.e., by monitoring the condition of individual sections of pavement, resurfacing projects can be prioritized by location and combined with other projects for maximum savings);
- Making information available sooner, planners can identify projects more easily for the correct fiscal year and reap cost-of-money savings;
- Supporting a variety of advanced technologies, TEAMS enables faster, more sophisticated asset evaluation (i.e., data from automated distress surveys made from fast-moving vehicles will reduce the time and safety concerns involved in manual shoulder surveys); and
- Centralizing permit information, TEAMS allows employees to track and monitor compliance more easily, and avoid fines.

TEAMS' sophisticated output, of course, requires sophisticated input. Digital imaging for assessing asset conditions will have to be performed regularly to keep the database current. TEAMS may also require new data studies or development procedures. Long-term prediction curves, for example, must be calculated to address inconsistencies in current evaluation methods and generate more accurate long-term forecasts.

Even with these ongoing investments, Florida's Turnpike Enterprise is confident that TEAMS will fulfill its promise by automating access to renewal and replacement information, integrating legacy systems with state-of-the-art technical data, and enabling asset managers to better predict the useful life of every component on the Turnpike system.

Current Status
TEAMS was delivered to Florida's Turnpike Enterprise personnel in September 2002 and was made available to a limited audience for their everyday use. The system will be made available publicly on Florida's Turnpike Enterprise web page as hardware limitations are corrected, which should be in the near future.

For more information, please contact James (Bo) Sanchez at Florida's Turnpike Enterprise in Ocoee, (407) 532-3999.

* * * *

Return to top

Incident Management Message Sets

Since the conception of what is known today as ITS, one of its fundamental needs has been for timely notification of, and response to, transportation-related incidents. A family of incident management standards being developed by the Institute of Electrical and Electronics Engineers' (IEEEs') Incident Management Working Group (IMWG) addresses this need.

The IMWG's primary sponsor is the IEEE under a cooperative agreement with the U.S. DOT. The IEEE produces nearly 30 percent of the world's literature in the electrical and electronics engineering, computing, and control technology fields.

The incident management standards detail messages, and the elements contained in them, that will be exchanged between Transportation Management Centers (TMCs) and Emergency Management Centers (EMCs). These messages are used for notification of incidents, requests for assistance and/or response, and to give a heads-up on conditions or an upcoming traffic event, such as a parade or workzone. EMCs include Public Safety Answering Points (PSAPs, better known as 9-1-1 call centers) and other public safety-dispatch centers, as well as towing dispatch. An important concept was identified early in the development of these standards - a TMC or an EMC can actually be an individual officer or service patrol worker with a laptop, who may be updating other centers and retrieving data, or even remotely controlling roadside equipment.

The IMWG used the National ITS Architecture as the primary scope of the standards. The IMWG itself is comprised of subject matter experts from across the country from multiple disciplines of public safety, transportation, and system integration. The requirements addressed by the standards were formulated by:

- looking at and questioning the way in which different agencies operate with no systems;
- looking at three systems which were in design; and
- looking closely at a very impressive system in the San Diego area which ties multiple Computer Aided Dispatches (CADs) together.

The base standard (IEEE Std 1512-2000) was published in 2000 under the leadership of Chester Chandler, who was the IMWG Chair. This standard covers center identification, where centers can go off-line or on-line, as well as ways to describe the incident, such as numbering, splitting, or merging them, etc. Most importantly, it contains an incident description that can continue to expand as more centers add to or update the information. It also includes messages relating to emergency response plans. This standard was demonstrated by operating a prototype messaging system between the Florida SunGuide^{SM} and Lockheed-Martin exhibit booths at ITS America's 11th Annual Meeting and Exposition in Miami in 2000. A revision to this standard is expected to be published in 2003. This revision will add sections for CORBA and eXtensible Markup Language (XML) implementation, as well as adding some minor new data elements.

IEEE-P1512.2 is a standard whose messages will be primarily populated from a TMC and is currently in the balloting process. This standard's messages include those relating to workzone information, network and other conditions, route advise, asset management, infrastructure repair, and traffic control plans. A TMC could potentially be pulling much of this information straight from the National Transportation Communications for ITS Protocol (NTCIP) data and exchanging with public safety under the IEEE-P1512.2 header for their system's understanding.

The IEEE-P1512.2 standard is of primary interest to public safety agencies, including law, fire, and emergency medical services (EMS), and is anticipated to be published in the Spring of 2003. It includes messages and data elements relating to situation awareness, warning information (including Amber Alerts), and command structure information, as well as others. Much of the information critical to crash reporting and investigation is exchanged for real-time response via these messages.

In October 2002, the volume for exchange data concerning Hazardous Materials (HazMat) was officially published (IEEE Std 1512.3TM-2002). This volume includes messages relating to material identifications, shipping information, placards, labels and signage, cargo and vehicle container information, concentration ranges, and spill areas, to name a few. This standard was developed under the leadership of Michael Ritchie of the Minnesota Department of Transportation (MinnDOT), the HazMat Sub-Committee Chair. The standard includes sections on CORBA and XML, as well as the required Abstract Syntax Notation One (ASN.1).

The IEEE 1512 standards are some of the first to have their data dictionary automatically uploaded directly into the ITS data registry, negating the need for a separately published data dictionary since it can be extracted on-line.

The standards can be deployed in the most basic method possible by merely "scraping" data of an existing CAD system and translating it into an appropriate message format for exchange. But, the first two deployments of the standard are much more than that. The first true IEEE 1512 system is the Integrated Incident Management Systems (IIMS), in New York City, and has been in operation and growing since mid-2001, with multiple partner agencies, centers, and fleets with mobile data terminals. Additionally, the recently awarded CapWIN project, in the Washington, D.C. area, is a massive undertaking, including multiple law enforcement agencies and two state DOTs. CapWIN's standards manager, will not only have a multitude of public safety and communications standards, but will also have the IEEE-1512s standards available.

Additional information on IEEE-P1512 can be found at http://grouper.ieee.org/.

For more information, please contact Ms. Ann Lorscheider, IEEE-IMWG Chair, at the North Carolina Department of Transportation, (919) 733-5506, or visit the IEEE website at http://www.ieee.org/portal/index.jsp.

* * * *

Return to top

Location Reference Markers Pilot

FDOT has initiated a study of Incident Management designed to improve clearance time when a roadway event blocks one or more lanes. FDOT's Detection, Verification, and Response Team researching and prioritizing this effort has proposed a pilot project to assist dispatchers in determining exactly where an incident is located. Accurate location information shortens the time for help to arrive, which can be critical in the case of injuries or hazardous material spills.

Motorists using mobile phones report most incidents in areas where service is available. Typically, the speed and quantity of the calls are excellent, but the quality of the information provided is lacking. Motorists, especially on limited-access facilities, generally have only a vague idea of their location. Inaccurate location reporting slows response time to incidents. One technique that has recently been developed and has been shown to be effective in improving the accuracy of motorist information is Location Reference Markers.

Location Reference Markers are in use in several areas of the country, including Ohio, Kentucky, Wisconsin, and Indiana. Location Reference Markers received the 2001 ITS America award for *"Deployment Shown to Save Lives."* The Miami-Dade Expressway Authority (MDX) is preparing plans to deploy Location Reference Markers on all of their facilities.

These markers are used in place of the standard milepost marker system and are typically placed at 0.1 or 0.2 mile intervals. The marker panels have white letters on a blue background, a nominal size of 18"x48", and provide the following information in a vertical format:

- Cardinal direction (N, S, E or W);
- Shield with route or road number;
- Mile number; and
- Tenths mile number

Where direction of travel is separated by a median barrier, Location Reference Markers are median mounted back-to-back. They may be installed on lighting poles where spacing permits, or they may be post-mounted on either the median or right side.

Reported installation costs range from $140 to $200 per assembly. If maintenance is estimated at 15 percent for knockdowns, mowing, etc., the annual maintenance cost will be approximately $30 per assembly. Maintenance is assumed to be less for Location Reference Markers mounted on barrier walls, lighting poles, or behind guardrails. The Committee plans to identify a location for the pilot project during upcoming meetings in Orlando on November 6-7, 2002.

For more information, please contact Mr. Nick Adams at the FDOT ITS Office in Tallahassee, (850) 410-5608.

* * * *

Return to top

Statewide Networks, Wireless Initiatives, and NTCIP Migration Highlight Range of FDOT Telecommunications Initiatives

The ability to transmit and receive data is literally the lifeblood of any ITS. Accordingly, the communications backbone that underlies an ITS is a key factor in determining the speed, robustness, and effectiveness of the system. Maintaining and enhancing communications ability is essential for the successful function of existing ITS, and for geographic and functional expansion. With this in mind, FDOT's goal is to develop a comprehensive communications network to support ITS initiatives over the long term.

FDOT's ITS Office is undertaking a broad range of telecommunications initiatives to make the State's ITS communications backbone the most advanced and far-reaching of any state. PB Farradyne, in association with RCC Consultants, Clifton Weiss & Associates, and others, serves as FDOT's Telecommunications General Consultant (TGC), providing a host of technical and program management support activities.

The first step toward achieving FDOT's goal of a comprehensive communications network is development of a statewide fiber optic communications backbone that will enhance data transmission capabilities and provide increased bandwidth for a multitude of transportation related uses. The next activity in the development of this network is a Telecommunications Roundtable Discussion. This will be held in conjunction with TRANSPO 2002, on December 12, 2002. This Roundtable Discussion will include a Request For Proposal (RFP) Workshop for a possible network solicitation in the Spring of 2003.

A second step toward FDOT's goal is the current wireless initiative in support of ITS device deployment. The TGC developed a Wireless Communications Solutions for ITS Request For Information (RFI) to the wireless industry to determine the range of solutions available to achieve reliable, robust, and cost effective center-to-field communications. The TGC is evaluating 31 responses, recommending worthy pilot projects, and supporting those pilot projects.

A third step in achieving FDOT's goal is implementation of the NTCIP interoperability standards for use with ITS field devices. The TGC is supporting a statewide *Migration Plan* to bring FDOT into compliance with NTCIP. This is important, not only because it streamlines ITS operations, but also because compliance is a requirement for obtaining federal funds to support future State ITS projects.

In addition to these activities, the TGC is providing general program management services to FDOT's ITS Office, including developing project schedules and budgets, providing project coordination and review, and providing liaison functions with the Districts. The TGC is providing general technical support as well, including oversight of the upgrade to the Statewide Motorist Aid Microwave System and development of upgrades to the Statewide 47 MHz Land Mobile Radio System.

The TGC is currently providing technical and program management support for the following specific initiatives:

- Management of FDOT's Wireless Agreement with SpectraSite/Lodestar Towers, FDOT's Wireless General Manager authorized to construct commercial wireless communications towers on FDOT rights-of-way to facilitate FDOT's wireless resource sharing initiative;
- Implementation of FDOT's Statewide 47-MHz Repeater System, including: reviewing and merging radio coverage maps produced by previous consultants, developing a statewide frequency use plan, a statewide Continuous Tone Coded Squelch System (CTCSS) plan, procurement specifications for construction projects, and construction, engineering, and inspection (CEI) services to the construction projects as they are awarded;
- Oversight of the Statewide Motorist Aid Microwave System, including microwave systems design, network management, and reconfiguration of the system for the consolidation of Florida Highway Patrol (FHP) dispatching centers;
- Management of FDOT's microwave maintenance contract, including direct monitoring of the contractor to ensure compliance with FDOT requirements;
- Provision of licensing coordination with the Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) (i.e., preparing documentation and formal submittals to these agencies for the approximately 350 licenses that FDOT holds);
- Review of microwave frequency coordination requests received from FCC-authorized frequency coordinators, or applicants and their consultants, to protect FDOT's licensed transmission paths

- from harmful radio frequency interference;
- Administration of FDOT's ITS Office Local Area Network (LAN) and maintenance of the ITS Office website; and
- Design and development of specifications for data links to connect selected traffic count sites to the Statewide Motorist Aid Microwave System, and transport of data from these sites to a traffic monitoring center for the Transportation Statistics Office.

The TGC's role is important in that it provides FDOT with the flexibility to undertake a myriad of high-complexity projects, and to effectively manage each project to a high degree of quality with adherence to scope and schedule. Working as an extension of FDOT's own staff, the TGC brings technical expertise, staff capabilities, and resources that add value to FDOT's ITS Program.

For more information, please contact Mr. Nick Adams at the FDOT ITS Office in Tallahassee, (850) 410-5608.

* * * *

Return to top

UPDATE: Tampa Bay SunGuide^{SM} ATIS/ISP Contracting

As this issue of the *SunGuide^{SM} Disseminator* goes to press, FDOT and local stakeholders from the Tampa Bay area are finalizing the *Scope of Services/Functional Requirements (SCOPE) for an Invitation to Negotiate (ITN)* to be used in the procurement of an Advanced Traveler Information System (ATIS) Information Service Provider (ISP). This ATIS is to be deployed for use by travelers in six counties in and around the Tampa Bay area. The SCOPE also provides for the establishment of links to other traveler information systems as they are deployed around the State.

The SCOPE is the product of a Project Team composed of representatives from two FDOT Districts, the Florida Turnpike Enterprise, the FDOT ITS Office, and numerous organizations from across the Tampa Bay area, with support provided by the ITS General Consultant. These organizations, which will remain involved throughout the procurement process and eventual system implementation and operation, include:

- Bay Area Commuter Services (BACS)
- City of Clearwater
- City of St. Petersburg
- City of Tampa
- FDOT District 1
- FDOT District 7
- Florida's Turnpike Enterprise
- HARTline Transit
- Hillsborough County
- Hillsborough County MPO
- Pinellas County
- Pinellas County MPO
- Tampa-Hillsborough County Expressway Authority

Procurement of ISP services via an ITN is intended to result in an agreement with a private firm to design, build, implement, and operate and maintain the ATIS through 2008. Operation of the ATIS is expected to commence during 2004, with system expansion taking place throughout the contract.

As envisioned, contractor selection will proceed according to the following milestones:

- ITN available for review - Mid-November 2002;
- Proposals due - Early January 2003;
- Proposals evaluations and negotiations with Proposers - February-April 2003;
- Contractor selection - Early May 2003; and
- First-year Program Management Plan due - October 2003.

As described in a previous issue of the *SunGuide* ^{SM} *Disseminator*, the project will be initiated by means of five parallel task orders:

1. Program Management;

2. Data Collection;

3. Data Fusion;

4. Information Dissemination:

   a. 511 Telephone Service;
   b. Internet Website/E-mail alerts; and
   c. Direct Information Feed for use by public agencies and licensed private firms; and

5. Project Marketing.

The Tampa Bay SunGuide^{SM} ATIS will be deployed in parallel with initiation of the U.S. DOT's Intelligent Transportation Infrastructure Program (ITIP) for the Tampa Bay area. Implementation of the ITIP, taking place during 2003, will support the ATIS operation via the deployment of approximately 100 vehicle detection sensors along I-4, I-75, and I-275. The selected ATIS ISP will be required to develop a system capable of utilizing ITIP-related data resources, subject to the terms and conditions of the agreement reached between FDOT and the pre-selected ITIP private partner, Mobility Technologies.

For information, please contact Mr. Jerry Karp at the FDOT District 7 Office, (813) 975-6413.

* * * *

Return to top

TRANSPO 2002 - A Milestone Event for ITS Florida

In this article from ITS Florida, we would like to focus on our rapidly approaching annual meeting - TRANSPO 2002. Taking a close look at the way in which other ITS America state chapters and other similar organizations operate, it became apparent to us that the primary sign of a successful, effective, and vibrant organization lies in its ability to plan and deliver a milestone event such as the annual meeting.

With this in mind, we set about the planning and organization of this important event for the ITS and transportation community over a year ago. Under the leadership of Diana Carsey from Hartline in Tampa, our TRANSPO 2002 arrangements committee has delivered a world-class event to be held in the Rosen Centre Hotel, Orlando from Sunday, December 8th, to Thursday, December 12, 2002. We are delighted that this meeting will also be the annual meeting for the Florida Section of the Institute of Transportation Engineers (FSITE) and are very appreciative of the sponsorship and organizational support effort provided by FSITE.

TRANSPO 2002 will be a milestone event in the evolution of ITS in Florida, with a comprehensive program incorporating the following major elements:

- ITS and Transportation Training Courses;
- FDOT ITS Business Opportunity Forum;
- Technical Program and Exhibition;
- Golf Tournament and Technical Tours;
- FSITE Annual Meeting and Awards Banquet;
- Key-Note Luncheon and ITS Florida Person of the Year Award;
- FDOT Telecommunications Roundtable Discussion.

ITS and Transportation Training Courses

While TRANSPO 2002's official technical program begins at noon on Monday, December 9th, our event has been further enhanced through the support and assistance of FHWA and FSITE to deliver two training courses on important ITS and transportation subjects. The first course on Sunday, December 8th, addresses the application of the recently developed *"QuickZone"* software that supports the analysis of delays, travel behavior, and life cycle costs associated with construction work zone activity. Given the amount of construction activity in the region and the state, this should prove to be an interesting, illuminating, and relevant professional development opportunity. The second course, on Wednesday, December 11th, tackles the subject of *Laws, Rules and Ethics for Professional Engineers*, and will provide an opportunity for senior and junior members of our transportation and ITS community to focus on this extremely important issue. Solid application of laws, rules, and ethics will be a key element in the future health and well-being of our professional community.

FDOT ITS Business Opportunity Forum

In addition to TRANSPO 2002's superb technical program, we have also developed another "jewel in the crown" through the cooperation and support of FDOT. FDOT's ITS Office has kindly agreed to hold their regularly-scheduled ITS Working Group Meeting on Monday December 9th, as a **Business Opportunity Forum** sponsored by ITS America. The forum will enable FDOT to describe their future plans for ITS in the state and receive feedback from product and service providers on potential solutions and relevant applications of information and telecommunications technologies.

Technical Program and Exhibition

ITS Florida and FSITE have been able to bring together the best and the brightest in ITS, traffic engineering, and transportation planning in the State of Florida, and beyond, for presentations, discussion, training, and a comprehensive exhibition. Presentations and discussions are structured around a theme of *"Safety Under the Sun: Technology for Safe and Secure Transportation,"* and delivered through four parallel technical program streams:

- Safety and Security;
- Transportation Innovations;
- Management and Operations; and

- Transportation Planning.

This complete technical program is enhanced and complemented by the most advanced technology exhibition in Florida, beginning Monday, December 9th at noon; where almost 50 ITS product and service providers will display their capabilities and offerings. Attendees will experience "best practices" exhibits and demonstrations to teach more about the latest ITS products that will help them do their jobs better.

With respect to the technical program, we are honored that Orlando Mayor Glenda Hood has agreed to open TRANSPO 2002 and welcome participants to the conference. The kick-off speaker will be Ken Philmus, Director of Tunnels, Bridges and Terminals for the Port Authority of New York and New Jersey. This presentation will take place at noon on Monday, December 9th. Ken will discuss his experiences in the wake of 9/11; what he's learned from it and the importance of working together. He oversees the George Washington Bridge, Goethals Bridge, Bayonne Bridge, Outerbridge Crossing, Lincoln Tunnel, Holland Tunnel, Port Authority Bus Terminal, and the George Washington Bridge Bus Station. These facilities handle approximately 1.3 million travelers/vehicles per day between the states of New York and New Jersey and will collect over $760 million in revenue in 2002. To carry out the effective movement of so many vehicles and people, Ken supervises over 1,100 employees and a $1.4 billion five-year capital investment plan. This promises to be a fascinating and revealing opening session that should provide some wonderful insight into the application of ITS technologies for safety and security.

Golf Tournament and Technical Tours
Rounding off this superb technical program, we have also organized some wonderful special events on Tuesday afternoon, December 10th, including a super golf tournament at Champion's Gate Golf Resort and technical tours, including the University of Central Florida Data Warehouse, Orlando RTMC, and a driving simulator demonstration by the Center for Advanced Transportation Systems Simulation (CATSS).

FSITE Annual Meeting and Awards Banquet
FSITE will hold their annual business meeting on the evening of Tuesday, December 11th, followed by a joint FSITE/ITS Florida Awards Banquet recognizing the people and organizations that lead the development and deployment of ITS in the State of Florida. The Best TRANSPO 2002 Exhibitors will also be announced and featured.

Key-Note Luncheon and ITS Florida Person of the Year Award
A key-note luncheon will be held at noon on Wednesday, December 12th. This will be followed by an award announcement for the ITS Florida Person of the Year.

FDOT Telecommunications Industry Roundtable Discussion
Last, but not least, FDOT has announced that a Telecommunications Roundtable Discussion will be held on Thursday, December 12th, in conjunction with TRANSPO 2002. This is aimed at providing a discussion vehicle for telecommunications service and equipment providers who will be briefed on FDOT's telecommunications initiatives and take part in an RFP Workshop for an FDOT Telecommunications/ITS RFP that may be solicited in the Spring of 2003.

If you are interested in attending the conference, exhibiting at the exhibition, or sponsoring one of the events, please visit the ITS Florida website at www.itsflorida.org for further details and information.

We believe that TRANSPO 2002 will be an influential event on the Florida ITS calendar and look forward to seeing you there. **Let's network, plan, and make progress together towards making Florida an *ITS Powerhouse*.**

If you have some thoughts, comments, or opinions related to this article, or if you would like to suggest a topic that you would like ITS Florida to address in the coming months, then please share them with us by e-mailing them to bobmcqueen@pbsj.com.

* * * *

Return to top

ITS Office Attends PSWN Symposium

The Public Safety Wireless Network (PSWN) Program held its 17th Regional Symposium October 29-31, 2002, in Atlanta, Georgia, hosted by the Atlanta Police Department. PSWN is a Federal initiative, sponsored by the Department of Justice and the Department of the Treasury. While the focus of the group centers around key issues relating to the interoperability of public safety radio systems, many other topics are presented and discussed. Previous meetings have explored the role of the Federal Government and the States in public safety interoperability, spectrum resources available, funding issues and techniques and lessons learned from major events such as the 9/11 attack.

The effort is managed by Mr. Julio R. Murphy (Treasury) and Mr. Robert E. Lee, Jr. (Justice). Quarterly gatherings are held in various locations throughout the United States, which ensures a variety of opinions and a broad selection of local radio system experience and problems. Mr. Nick Adams, Telecommunications Coordinator for the FDOT ITS Office, attended the meeting to gain exposure to the latest interoperability methods and approaches currently being implemented by the State of Georgia.

During the three-day event, many other topics of interest to the public safety community were presented. Of particular interest, a panel of experts expounded on the requirements of critical communications between Public Safety Law Enforcement and other agencies such as Departments of Transportation. A FDOT task force on incident management is exploring solutions to this problem (among others). Improved and more efficient communications between response agencies are needed to decrease the time required to clear roadway incidents. Pilot projects are being planned to determine techniques and budget needs.

The PSWN series of symposia presents an excellent opportunity to gain knowledge of a wide-range of communications issues and solutions to problems common to all states and Public Safety Agencies. The next meeting will be held in Los Angeles, California in January 2003.

For more information, please contact Mr. Nick Adams at the FDOT ITS Office in Tallahassee, (850) 410-5608.

* * * *

Return to top

SunGuide℠ Disseminator Word Challenge
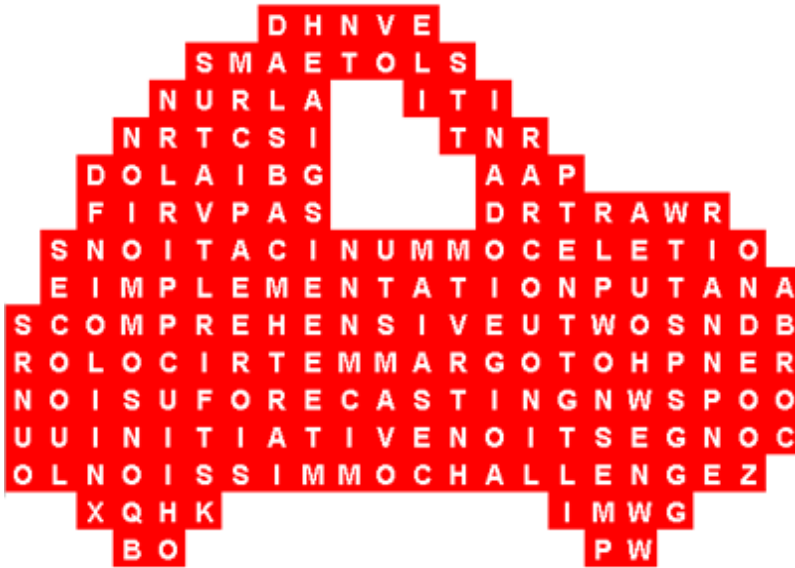
We invite you to have some fun and complete the *SunGuide℠ Disseminator* Word Challenge!

Find the words in the puzzle. Circle the words top to bottom, bottom to top, left to right, right to left, and even diagonally.

The answers can be found after the Editorial Corner.

Enjoy and Good Luck!

Words to Find

CHALLENGE	IMPLEMENTATION
COLOR	IMWG
COMMISSION	INITIATIVE
COMPREHENSIVE	OPERATION
CONGESTION	ORACLE
CONSULTANT	PHOTOGRAMMETRIC
CORBA	PILOT
DATA	PSWN
ENTERPRISE	TEAMS
FORECASTING	TELECOMMUNICATIONS
FORUM	VISAT
FUSION	

* * * *

Return to top

Editorial Corner

Reaching Your Objectives

Florida, with a population estimated at 16.4 million, is the fourth largest state in the nation. We host roughly 70 million visitors each year. These numbers are expected to continue to climb, contributing to

the ever-increasing congestion on our transportation system. In just ten years, congestion has increased almost 83 percent on the interstate system in Florida, and 45 percent on those interstates within the state's seven largest metropolitan areas.

Although FDOT was successful in beginning construction on an additional 632 lane-miles of roadway last year, increasing the State Highway System by 1.6 percent, the Daily Vehicle Miles Traveled (DVMT) on the system increased 3.4 percent. (In other words, travel is outpacing new system capacity at a rate of more than two-to-one.) Not only has the number of vehicles on the roadways increased, but also the percentage of time that we spend driving in congested conditions. In the seven largest metropolitan areas, the percentage of time we spend driving in congested conditions has increased over 45 percent.

The fact is, we cannot afford to build ourselves out of congestion. There is not one state in the nation that has enough funds available to meet all of its transportation needs. With a $29 billion transportation-funding shortfall projected through 2020 on the Florida Intrastate Highway System (FIHS) alone, the Florida Transportation Commission sees ITS technology as a viable and cost-effective method of increasing capacity on the existing State Highway System. ITS is the quintessential "*more bang for the buck*" proposition. **To emphasize the importance the Commission places on technological solutions to transportation problems, it has placed ITS among its seven critical issues currently being addressed.** The leadership of the Commission held a strategy session with staff one year ago in an effort to focus the Commission's efforts on a few issues critical to the state's current and future transportation needs. Meeting those needs through ITS deployment is one of the strategic priorities.

Commissioners Norman Mansour, Gasper Lazzara, and myself were appointed to a subcommittee of the Commission to address the ITS objective. This objective was first noted in the recommendations that emanated from the *"Organization and Operational Review of the Department of Transportation."* The study was conducted by the Commission at the request of the Legislature. That objective is to ensure that ITS deployment is given high priority in the development of the 2025 Florida Transportation Plan update, to advocate the full integration of existing and future ITS, and to bring a focus on the benefits of ITS in addressing the capacity needs of the state.

The Commission fully supports FDOT's efforts in deploying a statewide ITS network. FDOT is developing a statewide telecommunications network as the first step in establishing ITS technology along Florida's five principal transportation corridors: Interstates 4, 10, 75, 95 and Florida's Turnpike. The plan includes sophisticated traffic surveillance, control and driver information systems, as well as traffic operation centers to support freeway management systems. A communications transmission system is required to support the many different ITS elements and to link them to both the regional and statewide traffic management systems.

FDOT began developing its proposal for a 2,200-mile statewide fiber network system in 1998 for the purpose of providing the communications backbone to a statewide ITS. However, due to market conditions and the requirements of the state procurement system, this Florida Fiber Network has yet to become a reality. The Commission, in an effort to expedite the deployment of ITS technology, recommended that FDOT consider wireless technology as an alternative to a fiber optic wireline system.

As a result of this recommendation, FDOT drafted a Request for Information (RFI) specifically to find out about the wireless technologies that exist and how they might be developed as solutions in the overall statewide ITS communications network. FDOT received an overwhelming response to its RFI and is moving forward with a hybrid communications backbone consisting of both wireline and wireless technology. This effort should result in expedited deployment of statewide ITS.

In conclusion, let me reiterate just how important ITS deployment is to the Commission. The wireless initiative mentioned above is just one example of how we can help your industry. I have met with Chester Chandler, Manager of the FDOT ITS Office, to discuss ways in which the Commission can help his office achieve its objectives. The same holds true for the rest of the ITS industry. We are here to support your efforts and we welcome your comments.

The Commission was established by the Legislature in 1987 to provide oversight for FDOT and to ensure sound management of public resources. The Commission is composed of nine governor-appointed Commissioners who serve four-year terms. They review and make policy recommendations to the Governor and Legislature on statewide transportation issues. Further, the Commission serves as the nominating committee in the selection of the Secretary of the Department of Transportation. For further information, or to contact the Commission, visit its web-site at www.ftc.state.fl.us.

This editorial was provided by Florida Transportation Commissioner Bob Namoff.

* * * *

Return to top

SunGuide^{SM} Disseminator Word Challenge Answers

* * * *
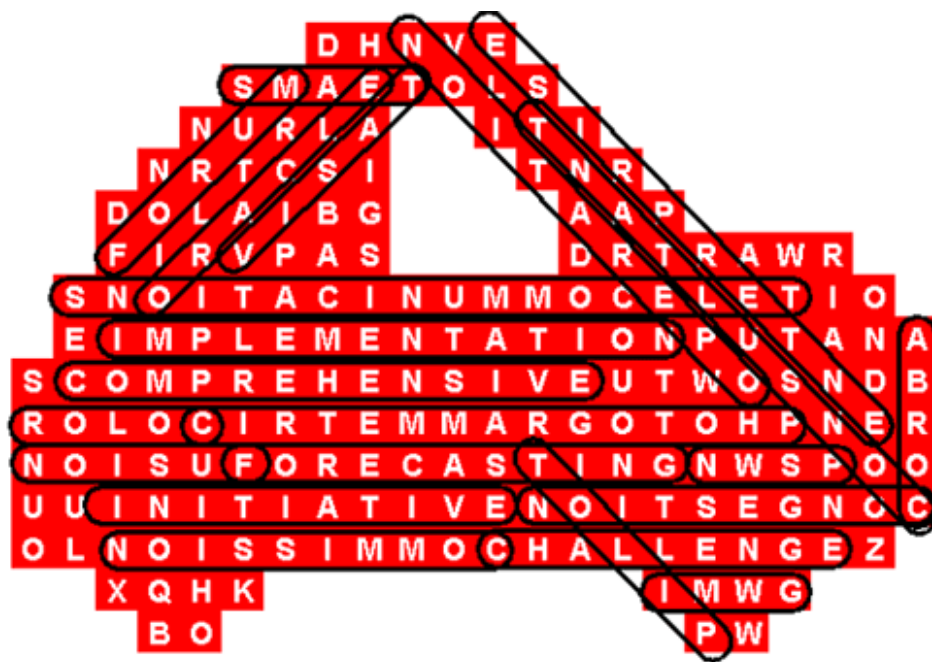
Return to top

Announcements

The Business Opportunity Forum - *Plan on Attending . . .*

Our ITS Working Group Meeting will take on a different format this December 2002. Instead of our normal format for the Working Group Meeting, for this one time, the FDOT ITS Office will convene and moderate a Business Opportunity Forum concurrent with TRANSPO 2002, *"Safety Under the Sun: Technology for Safe and Secure Transportation."* The Business Opportunity Forum will last a half day and provide an opportunity for consultants, contractors, and vendors to learn about FDOT's *Ten-Year ITS Cost-Feasible Plan* and upcoming projects that will be advertised by FDOT.

The Business Opportunity Forum will be held on Monday, December 9, 2002, from 8:00 a.m. to 11:45 a.m. at the Rosen Centre Hotel in Orlando, Florida. FDOT will lead-off with a brief overview of the *Ten-Year ITS Cost-Feasible Plan* and a discussion on the challenges. This will be followed by a District panel discussing "lessons learned." Three Districts will each make 10-minute presentations on "lessons learned" from their experiences in deploying ITS.

Telecommunications Roundtable Discussion

FDOT has announced a Roundtable Discussion for the telecommunications industry to be held in conjunction with TRANSPO 2002. Telecommunications service and equipment providers comprise the target audience; however, the meeting is open and anyone may attend. The Roundtable Discussion will include an overview of FDOT's telecommunications initiatives and an RFP Workshop for a future FDOT Telecommunications/ITS RFP, envisioned in the Spring of 2003.

FDOT is holding this Roundtable Discussion as an RFP Workshop to help determine what telecommunications infrastructure opportunities are available in the current business environment. To date, FDOT has been unsuccessful in soliciting a viable fiber optic statewide network. As a result, FDOT is now seeking innovative ways to work in partnership with the industry, perhaps in a cost and resource sharing opportunity.

The Roundtable Discussion is set for Thursday, December 12, in Orlando, Florida, at the Rosen Centre Hotel (site of TRANSPO 2002) from 9 a.m. to noon. All participants are requested to RSVP to Jenifer Mixon at (850) 410-5600, or email jenifer.mixon@dot.state.fl.us, on or before December 5 to assist with meeting logistics. There is no charge to attend the Roundtable Discussion. Attire for this meeting is business casual and participants are not required to be registered for TRANSPO 2002.

Calendar of Events

ITS Florida provides a common area for ITS professionals to locate training and educational programs being offered. Visit the ITS Florida website at http://itsflorida.org/html/its_training.html to learn about upcoming programs.

Welcome Aboard Kristen!

PB Farradyne has hired Ms. Kristen Blanton as an Administrative Assistant on our Telecommunications General Consultant project for the FDOT ITS Office.

Kristen will be working directly with Chester Chandler, the FDOT ITS Office Manager. Kristen will be

maintaining project files, managing travel, and assisting in meeting planning functions of the FDOT ITS Office. Kristen will also prepare minutes for many of the major meetings of the FDOT ITS Office and ITS Working Group, and edit many of the office's reports. Finally, Kristen will be involved in managing the flow of correspondence and schedules, both paper and electronic.

Good Luck Terry!

Terrel (Terry) L. Shaw, PE, has left FDOT's ITS General Consultant and joined Transystems Corporation as a Senior Associate in their Jacksonville office. As the ITS General Consultant Program Manager, Terry was instrumental in getting the *Ten-Year ITS Cost Feasible Plan* adopted. In addition, Terry authored a white paper setting the direction the State will take in System Engineering and setting the standard for other states to emulate. Terry also provided valuable assistance in making the Florida Exhibit at ITS America's 11th and 12th Annual Meeting and Exposition a popular stop in the exposition hall.

Prior to his role with FDOT's ITS Office, he served as the statewide FIHS Planning Consultant project manager and the FDOT's Mobility Performance Measures Program project manager. Mr. Shaw also recently completed the National Cooperative Highway Research Program Synthesis 32-07 on "Operational Performance Measures for Highway Systems and Segments."

In his role with Transystems, Mr. Shaw will be responsible for project/program management and coordinating marketing efforts for transportation projects in Florida.

Please join the FDOT ITS Office in thanking Terry for his work and deidication towards moving ITS forward in Florida, and wishing Terry good luck in his new job.

* * * *

Return to top

FDOT District Primary ITS Contacts

FDOT ITS Office Contacts

District 1
Chris Birosak
FDOT District 1 Traffic Operations
PO Box 1249
Bartow, FL 33831
(863) 519-2507

District 2
Peter Vega
FDOT District 2 Traffic Operations
2250 Irene Street, MS 2815
Jacksonville, FL 32204-2619
(904) 360-5463

District 5
Anne Brewer
FDOT District 5 Traffic Operations
719 S. Woodland Blvd., MS 3-562
Deland, FL 32720-6834
(386) 943-5319

District 6
Jesus Martinez
FDOT District 6
1000 NW 111 Avenue, MS 6203
Miami, FL 33172
(305) 499-2446

Chester Chandler
ITS Office Manager
(850) 410-5600

Gene Glotzbach
ITS Deployments
(850) 410-5616

Liang Hsia
ITS Architecture Standards,
Research and Training
(850) 410-5615

* * * *

Return to top

SunGuide^{SM} Disseminator   *November 2002*

PBS&J QCAP Document Control Panel	
Created by:	England
Reviewed by:	England, Hoke, Watson, Glotzbach, Chandler
Date:	November 8, 2002