INSIDE THIS ISSUE

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Link to Florida's Statewide ITS General Consultant

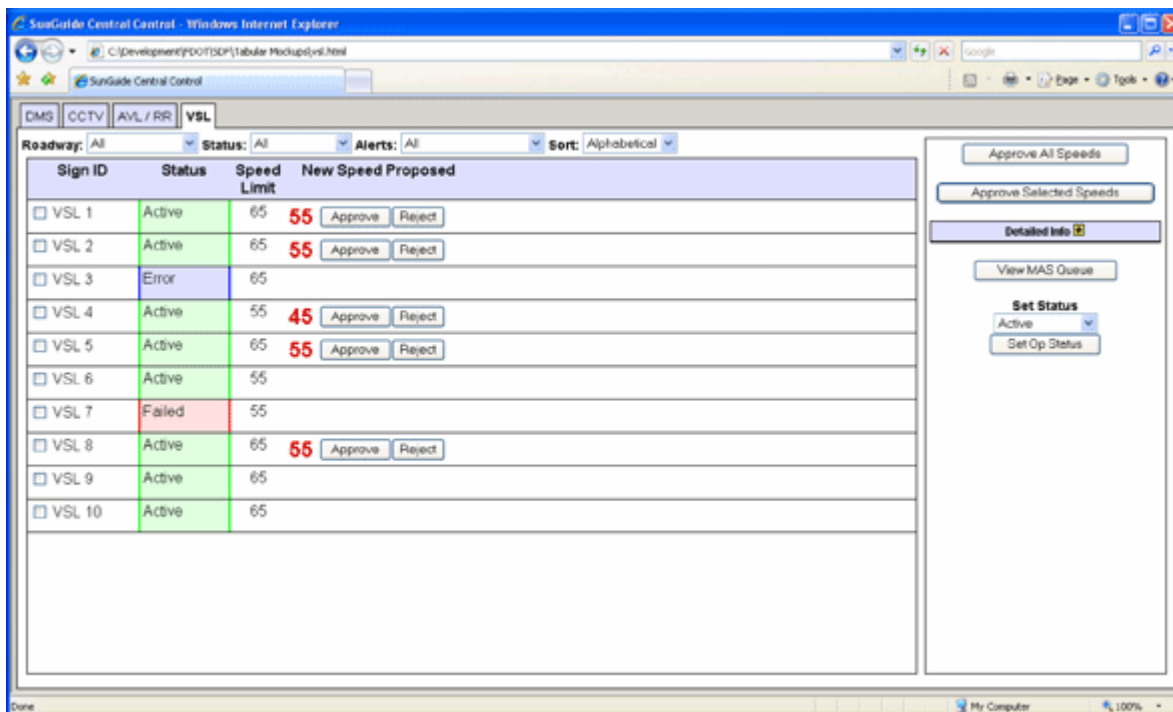## SunGuide^{SM} Software Release 3 Enables iFlorida Transition

The FDOT ITS Program, in partnership with District 5 Traffic Operations, has embarked on a major enhancement to the SunGuide^{SM} Software. In October 2006, the initial deployment of the SunGuide Software was accomplished at the Orlando Regional Transportation Management Center. This initial deployment consisted of SunGuide Software Release 2.2

along the I-95 corridor in District 5. The primary objectives were for dynamic message sign (DMS) and vehicle detection control and monitoring, as well as incident management.

Some of the software functionality demonstrated in the *i*Florida Surface Transportation Security and Reliability Information System Model Deployment will be implemented in the SunGuide Software Release 3. The new SunGuide software functionality provides District 5 with further efficiencies gained from system integration and standardization. In addition, integrating the functionality demonstrated by the iFlorida model deployment into SunGuide provides the other FDOT Districts and their customers with this new functionality. On March 7, 2007, a Letter of Authorization was provided to Southwest Research Institute to begin work on the SunGuide Software Release 3. The *i*Florida portion of this release includes new functionality in four primary areas:

Variable Speed Limit Signs –

There are 22 variable speed limit (VSL) signs along I-4 in the Orlando area. These devices are controlled in the SunGuide Software, similar to other DMSs using the National Transportation Communications for Intelligent Transportation Systems Protocol. SunGuide Software Release 3 recommends speed limits for the VSL signs based on occupancy thresholds. Each VSL sign is configurable within the plan, including the trigger and recovery occupancy thresholds. There is also built-in error checking available to assist the SunGuide operator.

511 –

FDOT District 5 has operated the Central Florida Traveler Information 511 Service since June 2002 and the Statewide 511 Service since November 2005. SunGuide Software Release 3 manages pre-recorded Waveform (WAV) files in accordance with the existing rules developed as part of the *i*Florida project. Scenario WAV files are automatically selected and concatenated based on current travel times. In addition, the SunGuide operator manually records incident link reports and floodgate messages. These WAV files are placed on the 511

telephonic system via a new interface to the existing interactive voice response vendor. The SunGuide Software graphical user interface (GUI) is enhanced in Release 3 to display 511 reporting segments on the operator map and display alerts for new or updated incidents on 511 reporting segments.

Statewide 511 Web Server –

SunGuide Software Release 3 enhances the existing SunGuide Web server to provide additional functionality required by the www.fl511.com Web site. The new Web site provides an enhanced "look and feel" that includes a more user-friendly map. Congestion is graphically shown by segment and camera snapshots are displayed by leveraging the existing SunGuide center-to-center and video capture capability.
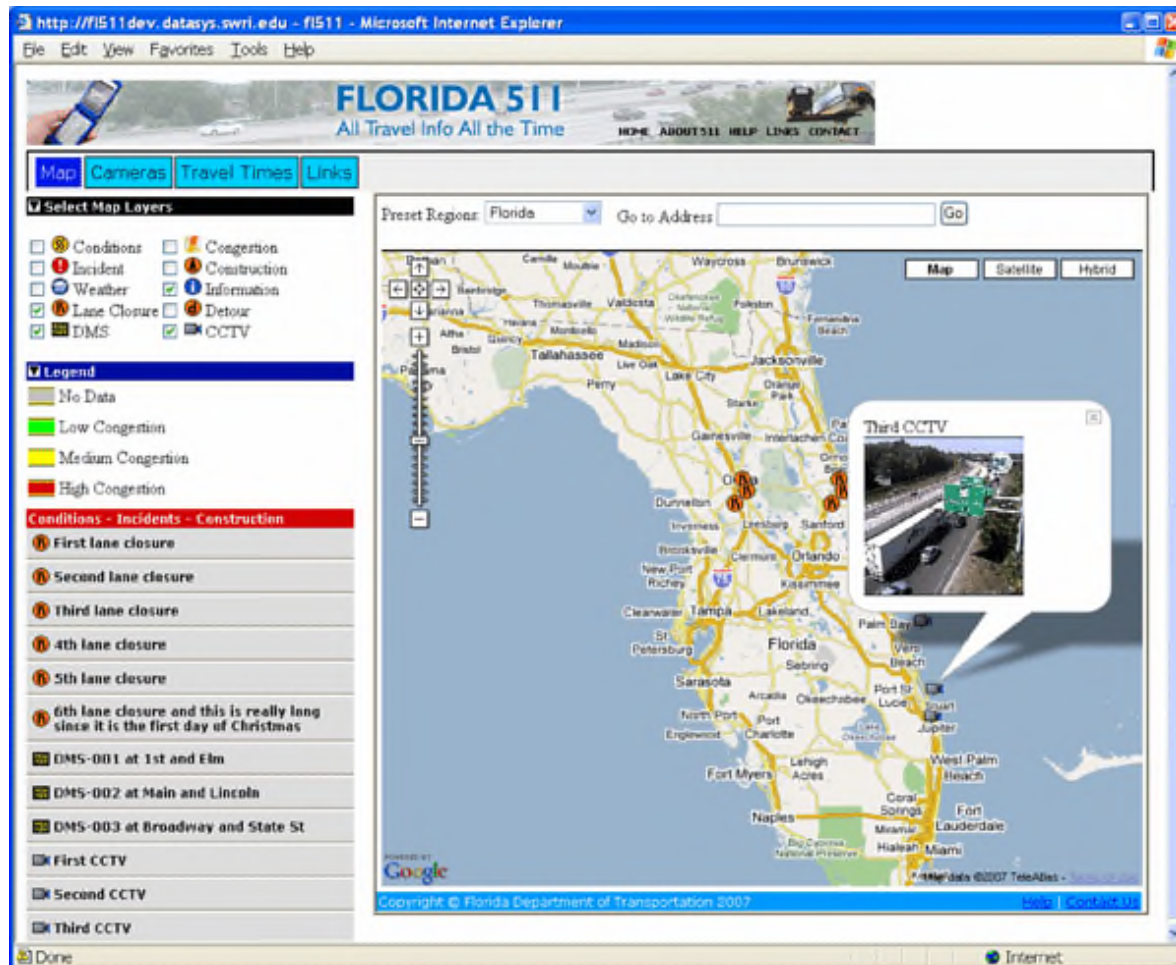
Operational Data Store –

The Release 3 Operational Data Store (ODS) works in conjunction with the newly developed Reporting subsystem to allow reports to be generated directly from the SunGuide Software GUI. These subsystems enable sorting and filtering of data prior to generating and printing a report. The following *i*Florida reports are included in SunGuide Software Release 3:

- Toll Tag Reader Data Tables
- Travel Time Data Tables
- Summary Count Tabulations by Detector
- Traffic Volume Graphs by Detector

- Spot Speed Tabulations by Detector
- Traffic Speed Graphs by Detector
- Average Speed Tabulation by Segment
- Traffic Speed Graphs by Segment
- Daily Summary of Suspect Data
- Typical Volumes by Detector
- 511 Messages and Traffic Conditions
- Traveler Information Web Site Usage

The Release 3 data and reporting architecture is shown in the above figure. The blue areas represent new development, while yellow represents those areas that are being enhanced. The integrated SunGuide ODS and Reporting subsystem satisfy key user needs by enabling more accurate and efficient performance measures reporting and providing on-demand operational feedback.
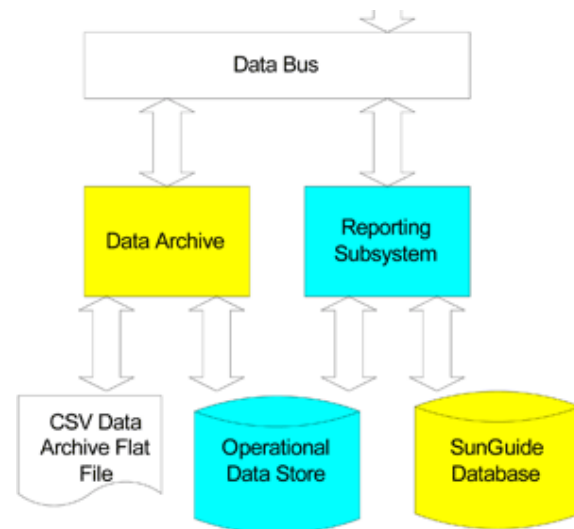
The design and development of SunGuide Software Release 3 is approximately a 6-month effort with deployment to the District regional transportation management centers anticipated in September and October 2007. SunGuide Release 3 users benefit from the new and enhanced functionality described in this article. Leveraging the *i*Florida demonstration projects into SunGuide provides the traveling public with increased service throughout the state of Florida.

This article was provided by Trey Tillander, FDOT Traffic Engineering and Operations Office. For more information, please contact Mr. Tillander at (850) 410-5617 or email Trey.Tillander@dot.state.fl.us.

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Federal Funding Opportunity

FDOT Seeks Federal Funding to Reduce Congestion in Southeast Florida

Congestion is one of the leading threats to mobility in America today. Not only does congestion affect you as a motorist, it also affects the commercial side of transportation as well. Trucks stalled on highways due to heavy traffic congestion; cargo trucks stuck at seaports operating at over-capacity levels; and airplanes not able to land due to over crowded airports, are costing Americans an estimated $200 billion a year. This is felt by everyone and goes far beyond the inconvenience that congestion may bring to us as we make our daily trips.

To address congestion, the U.S. Department of Transportation (USDOT) has unveiled its *National Strategy to Reduce Congestion on America's Transportation Network (Strategy)*. The *Strategy* provides a framework for public agencies to follow on order to achieve success

in addressing congestion problems. As part of this *Strategy*, the USDOT will provide funding through a number of grants for public agencies to implement projects to fight congestion. Funding is available under the ITS Operational Testing to Mitigate Congestion Program (ITS-OTMC Program) and the Value Pricing Pilot Program (VPP Program).

In order to maximize a grant applicant's chance of being selected, the applicant would need to agree to pursue four strategies. These four strategies are listed below:

- **Tolling**: Implementing congestion pricing or variable toll demonstration.
- **Transit**: Creating express bus service, bus rapid transit (BRT), and other innovative services.
- **Telecommuting**: Securing agreements with employers to establish telecommuting and flex scheduling programs.
- **Technology & Operations**: Utilizing new strategies to improve transportation system performance.

The FDOT has developed an application to receive discretionary funding from available grants to implement a pilot project to make improvements in Southeast Florida to help reduce congestion. The application embraces the four strategies noted above.

Tolling

Tolling will be implemented in the form of value pricing where high occupancy vehicle (HOV) lanes on I-95 will be converted to managed lanes, or high-occupancy toll (HOT) lanes, where tolls will fluctuate as congestion increases. Reconfiguration of the general purpose lanes north and south of the Golden Glades interchange in combination with the existing HOV lanes will allow for two managed lanes to be implemented in both directions. Occupancy requirements for HOV lanes will also be shifted from HOV-2 to HOV-3 as part of this pilot project to help control congestion on the managed lanes. The goal is to better utilize the managed lanes to move traffic, but still maintain a minimum operating speed of 50 miles per hour.

Transit

The provision of managed, or HOT, lanes will provide a means to implement express bus service in the corridor. The average speed for transit along an 11 mile portion of I-95 in Miami-Dade County is about 22 miles per hour. It is anticipated that managed lanes along I-95 will more than double the travel speed of transit along this 11 mile section. This is a significant improvement that will make transit more attractive and help reduce demand on the corridor. This should also have a positive carry-over affect on carpooling/vanpooling, making these options more attractive as well. Eligible carpools/vanpools would be issued special transponders allowing them free passage, thus increasing the attractiveness of organizing a carpool or vanpool.

Telecommuting

At its 2006 Transportation Summit, the Greater Miami Chamber of Commerce identified telecommuting on one or two days per week and flextime as a means to help reduce the roadway demand in the greater Miami area. For the purposes of this grant, the Chamber will work with its members to promote participation in programs that will allow employees to telecommute and/or implement a flextime work schedule. The Chamber would also help educate businesses on best practices for managing telecommuting and flextime programs, and provide information regarding the benefits of telecommuting and flextime programs,

which may not be overly apparent. Miami-Dade County will also promote a telecommuting program for county employees.

Technology

Implementing managed lanes requires an investment in technology to support variable pricing that would utilize electronic toll collection (ETC) systems. The implementation will require an investment in technology for pricing and enforcement, as well as traffic monitoring and information dissemination systems.

A significant amount of support technology is already in place along the corridor; however, additional infrastructure, such as antennas that interrogate vehicle transponders to determine the proper category for issuing tolls and cameras for video enforcement, would need to be installed. The ETC system could not operate without proper software, so software would be developed for calculating the variable toll which would take into account traffic density in the managed lanes and a vehicle's point of ingress and egress to the managed lanes. Changeable message signs would be placed at points of ingress to the managed lanes to provide toll information.

The pilot project in Southeast Florida is the lead-in to a long-term project that would provide elevated lanes in the median to carry express toll lanes. This long-term improvement would interconnect with managed lanes on other facilities being planned for the future development in Southeast Florida to create a managed lanes network. This long-term goal for the area may provide added weight to the grant application.

The FDOT's grant application is one of four applications that have been submitted by agencies in the state of Florida. Clearwater, Jacksonville, and Orlando have also submitted an application to tap into available funds provided by the USDOT. Twenty-one additional applications have been filed from across the nation by areas that include Los Angeles, Seattle, Denver, Dallas, Houston, Atlanta, Minneapolis/St. Paul, and Washington D.C., to name a few. New York City intends to submit an application and has received an extension to prepare that application. The USDOT has indicated that they will partner with a limited number of applicants making the competition for funding keen.

Good luck to all Florida applicants.

This article was provided by Gene Glotzbach, FDOT Traffic Engineering and Operations Office. For more information, please contact Mr. Glotzbach at (850) 410-5616 or email Gene.Glotzbach@dot.state.fl.us.

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ITS Canada's 10th Annual Conference and General Meeting

On April 30 and May 1, 2007, ITS professionals from Canada, the United States, and places as far away as London, Holland, Malaysia,

and Guatemala, congregated in Niagara Falls, Ontario to attend ITS Canada's 10th Annual Conference and General Meeting.

Having been to an ITS Canada meeting before, it never fails to amaze me the international flavor this conference has.

Under the theme "ITS as a Gateway to Prosperity," the conference hosted a wide range of transportation and technology professionals and provided excellent technical sessions, along with a large vendor exhibit area.

The Chairman of ITS Canada, Joseph Lam, opened the conference by welcoming all. Jeff Paniati with the US Department of Transportation, Federal Highway Administration, shared information on some current and future federal initiatives.

Listening to the technical sessions, you get a sense that regardless of the country, the transportation and ITS communities all deal with the same challenges, such as integration of traffic operations centers with emergency operations and the use of cell phones as probes for obtaining traffic conditions.

The FDOT's ITS Program presentation, in the session titled "International Perspectives in ITS," allowed us to present our program's current and future initiatives. One of the most interesting presentations I heard was also in the International Perspectives session and it dealt with the public's changing opinions or perceptions on surveillance. When cameras and surveillance were used for safety, the public had positive views of the practice. As more areas have begun using surveillance as an enforcement tool to assess penalties for excessive speeds and illegal maneuvers, the public's perceptions has hardened.

This was an outstanding conference and a great learning experience. I look forward to next year's meeting to share our ITS Program with all and at the same time learn what our Canadian friends and some parts of Europe are doing in ITS.

This article was provided by Elizabeth Birriel, FDOT Traffic Engineering and Operations Office. For more information, please contact Ms. Birriel at (850) 410-5606 or email Elizabeth.Birriel@dot.state.fl.us.

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Inside the TERL

The FDOT has a goal to assure that only a safe and uniform ITS and traffic control system is implemented on the State Highway System. The Traffic Engineering Research Lab (TERL) plays a part in obtaining this goal by satisfying the statutory requirement (as listed in Florida Statute 316.0745 - Uniform Signals & Devices) that the Department of Transportation shall evaluate and certify all official traffic control signals and official traffic control devices before their purchase and installation in the state of Florida.

Specifically, the TERL supports this mandate by developing standards, specifications, testing procedures, testing tools, and testing capabilities used to evaluate and approve transportation equipment for use in the state. This ensures that equipment listed on the FDOT Approved Product List (APL) exceeds all required specifications the first time and every time it is used.

One area of utmost concern is safety. The implications of a problem that results in placing a citizen in an unsafe environment, which could have been avoided by a sufficient evaluation process, could be profound. Issues such as this could be reduced or completely avoided by making sure that travelers and commuters in Florida benefit from the highest quality traffic and ITS products possible.

Future editions of this newsletter will include details of the various activities that are occurring at the TERL, including updates on the traffic signals and ITS equipment approval programs, along with research and quality engineering activities.

This article was provided by Jeffrey Morgan, FDOT Traffic Engineering and Operations Office. For more information, please contact Mr. Morgan at (850) 921-7354 or email jeffrey.morgan@dot.state.fl.us.

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FDOT Equipment Certification

The FDOT Traffic Engineering and Operations Office, through the Traffic Engineering Research Laboratory (TERL), is responsible for approving all traffic control signal devices. Approved devices are kept on the FDOT Approved Products List (APL), a listing of devices that may be relied upon as meeting FDOT specifications, standards, or other criteria.

More information on the FDOT APL may be viewed at www.dot.state.fl.us/TrafficOperations/Traf_Sys/terl/apl.htm. Specific approved products in the FDOT APL may be searched at www3.dot.state.fl.us/trafficcontrolproducts/.

For more information, please contact Carl Morse, FDOT Traffic Engineering and Operations Office, at (850) 410-5417 or email Carl.Morse@dot.state.fl.us.

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Aventura Police Department Uses Technology to Address Traffic Concerns

The City of Aventura has recently completed the first phase of a multi-phase project to enhance our ability to respond to traffic concerns more effectively.

With traffic being one of the major concerns for citizens and visitors of our city alike, the city has recently installed a very high-tech video monitoring system to help alleviate this problem. By using cameras installed at two of the worst intersections in the city, the police department dispatch center can now monitor the flow of traffic and dispatch officers at the first sign of trouble before being called by irate citizens.

We hope to be able to respond to situations as they develop, to clear accidents or traffic jams before they become a community concern.

The project, which includes two fixed "Extreme" video cameras and one pan, tilt, and zoom (PTZ) "Vicon" camera at each intersection, was designed and installed by the same vendors working on other FDOT projects. TransCore, Incorporated, along with the help of Systems Integration and Management, constructed two concrete poles measuring over 80 feet from the ground to support this network.

To stream the video back to the dispatch center's new state-of-the-art video wall, we installed an OS-Spectra microwave backbone capable of transporting data at the rate of 155 megabits per second, and a fiber network routed through CISCO routers to deliver video at a rate of 30 frames per second.

Dispatchers have the ability to move cameras and zoom in on potential problems. Using the software developed by TransCore, dispatchers can also call up "pre-set" positions that rapidly reposition the PTZ cameras at the touch of a button. This feature will help us to also monitor other situations at local businesses as they develop, such as bank robberies.

The City of Aventura Police Department is very fortunate to have the strong support of a forward-thinking City Manager, Eric Soroka, the City Commission, and a Police Command Staff led by Chief Thomas Ribel. Without their support this project would never have been accomplished.

Now that the first phase of this project has been completed and is working as designed, the decision to move forward with additional intersections has been made. By the completion of

this total project, we will have the ability to view live video from multiple intersections and areas of concern, such as the cities jogging path.

Because the "backbone" data network is so robust, we can now support our own 802.11 wireless network. Installation on a new TROPOS WiFi network will allow us to supplement the existing mobile data connectivity to officers' vehicles through Verizon's cellular network.

With greater speed to the patrol cars mobile data systems we will be able to live stream the same traffic video to officers and add additional video stream from banks and convenience stores. This added benefit will give our officers the ability to "see" what's going on inside a business when responding to alarms or disturbance calls before they go inside.

This project brings us to the forefront of technology advances for a police agency. We will not only be able to address traffic concerns more effectively, but we will also be enhancing both officers' and citizens' safety.

This article was provided by Sgt. Labombarda, Aventura Police Department. For more information, please email Sgt. Labombarda at Labombardat@aventurapolice.com.

For more information on ITS Florida, please check the ITS Florida Web site at www.itsflorida.org or contact Diana Carsey, Executive Director, at (727) 409-5415 or email CarseyD@verizon.net.

If you wish to contribute an article to the *SunGuide Disseminator* on behalf of ITS Florida, please email Mary Hamill at MaryKHamill@global-5.com.

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Editorial Corner—Road Rangers Save the Public Costs As Well

We all know the advantages to having Road Rangers on the interstate and how they benefit the state and public by relieving congestion and helping in times of trouble. Although you may not want to admit it, if you have run out of gas, you may have been saved by these "Angels of Mercy," with enough gas to get you to a station or home. Or you, your spouse, or children could have had a flat tire in the middle of rush hour, only to be greeted minutes later by a Road Ranger. These are just a few of the benefits of this wonderful service and I could go on

and on with the accolades that I see come in via email and snail mail thanking us for this program. But there are other benefits as well.

We all know that ITS is a great asset to the FDOT, and it does identify when a major incident has occurred. What it can't do is brought to the table by the services offered by the Road Rangers; and that's where the rubber meets the road. The Road Rangers help direct traffic and assist in clearing incident scenes as quickly as possible in order to:

1. Get traffic back to normal as quickly as possible and
2. Clear the queue to eliminate secondary crashes.

But there is still one part of the equation missing, and that part is sometimes forgotten. Thanks to the District 4 transportation management center and their Incident Management Program we now have a way to quantify that part of the equation; and that is the savings to the public by providing this service. It is hard, if not impossible, to quantify the cost benefit that the Road Rangers bring to the FDOT, but not necessarily so hard to quantify that brought to the public. District 4 developed a cost matrix that lists the savings to the public for changing tires, providing fuel, removing debris, providing general information and directions, jump starts, minor repair, FHP assistance and other miscellaneous services. We asked all Districts to provide us with the same information that District 4 used for 2006, and extrapolated a cost savings for each District. The total cost savings for the calendar year 2006, as presented to the Executive Board on May 16, 2007, was $38,956,999.

In conclusion the Road Rangers not only reduce congestion, secondary crashes, and improve the use of the ITS deployments, they also provide a significant savings to the public that is not readily apparent to everyone, yet provides a great benefit to the traveling public.

This editorial was provided by Mike Akridge, FDOT Traffic Engineering and Operations Office. For more information, please contact Mr. Akridge at (850) 410-5607 or email Michael.Akridge@dot.state.fl.us.

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Announcements

Congratulations Gene!

Please join us in congratulating Gene Glotzbach for his selection as FDOT Employee of the Quarter for the first quarter of 2007. Gene was selected based on his continuing efforts for the statewide 511 service and the statewide ITS standards development as well as his willingness to serve as a volunteer on the Traffic Engineering and Operations Office social committee.

Congratulations Gene!

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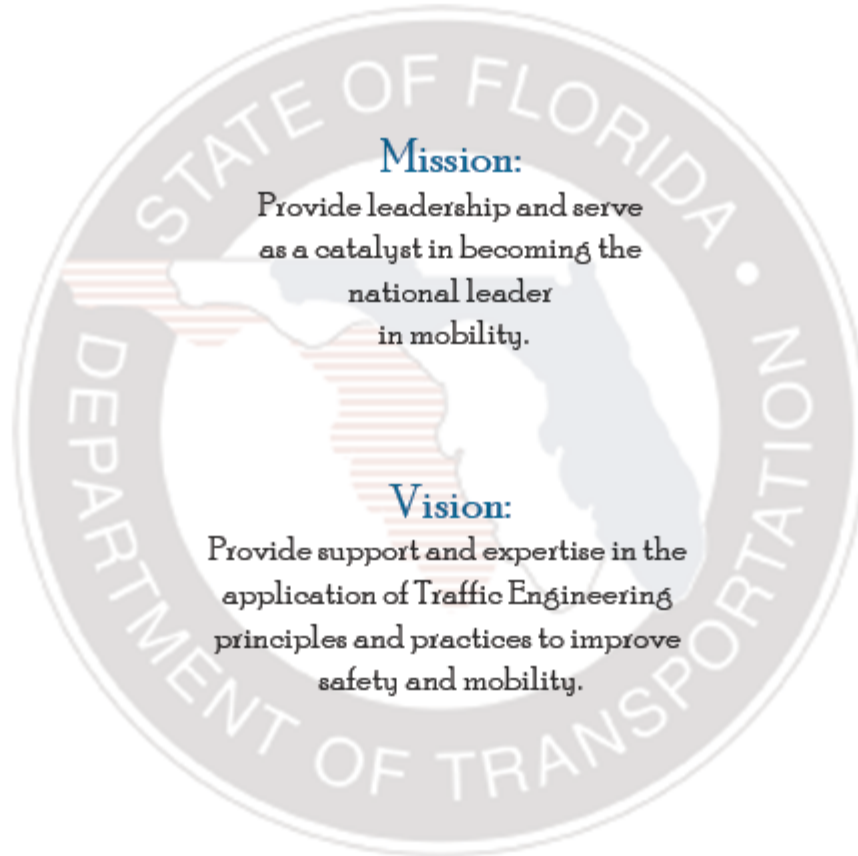(850) 410-5608

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FDOT Traffic Engineering and Operations
Mission and Vision Statements

Mission:
Provide leadership and serve
as a catalyst in becoming the
national leader
in mobility.

Vision:
Provide support and expertise in the
application of Traffic Engineering
principles and practices to improve
safety and mobility.

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