



SUNGUIDE® DISSEMINATOR

All-Electronic Tolling Goes Live on Florida's Turnpike in Miami

Florida's Turnpike Enterprise just implemented all-electronic open road tolling on the Homestead Extension of Florida's Turnpike between the U.S. 1 (Exit 1) and County Line Road (Exit 47) interchanges in Miami-Dade County; cash payment for tolls is no longer accepted. Motorists must now use either SunPass or TOLL BY PLATE, and everyone has the benefit of paying tolls without having to stop. The transition to all-electronic tolling took effect the weekend of February 19, 2011, and the transition went smoothly for the Turnpike motorists. Contractors, toll operations personnel, and construction staff were working through the night on Friday, February 18, to convert plaza signing and commission the new overhead gantries, which had been installed over the last year, taking the place of the toll plazas and booths along this 47-mile stretch of Florida's Turnpike. When the sun came up, the toll booths had been closed by signs being taken down, change baskets removed, and other signs of use covered or wrapped up.

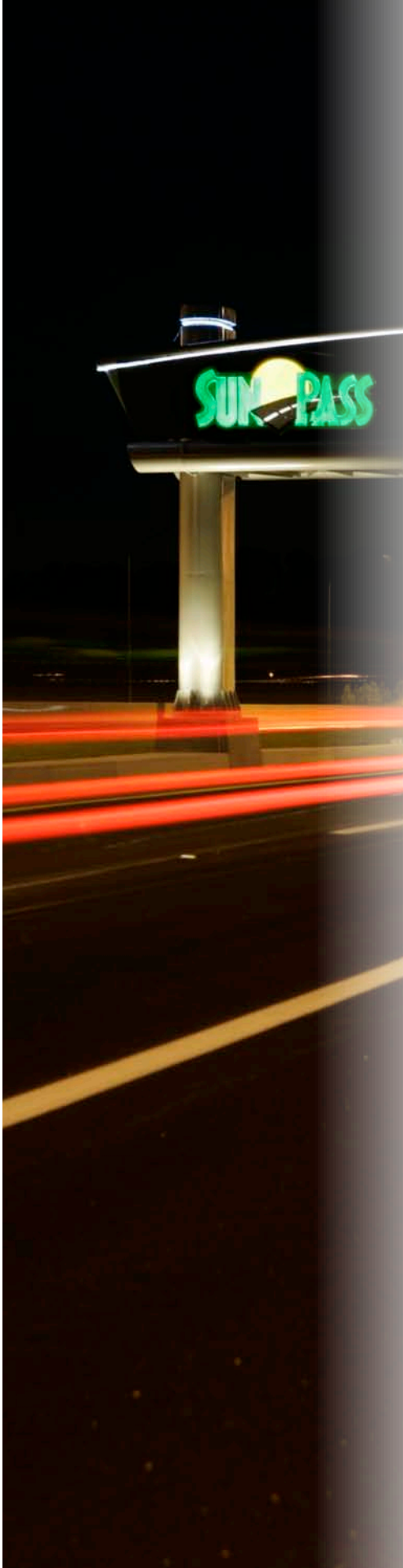
Removing cash toll collections from the roadway will improve safety by eliminating driver decisions about lane choice. Previously, drivers were faced with having to be aligned with the appropriate lanes in advance of toll plazas based on which method



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of payment they were going to use. Crash data from prior open road tolling conversions on Florida's Turnpike system reveal that crash reductions from converting to nonstop tolling points averaged at approximately 60 percent. All-electronic toll collection is quicker and there are no lines. It also benefits Florida's environment by reducing air pollution and fuel consumption.

Currently, approximately 80 percent of the tolls paid on the southern 47 miles of the Turnpike are collected with SunPass, Florida's prepaid electronic toll collection system. The system utilizes small, credit card size electronic devices, called SunPass transponders, which attach to the inside of car windshields. When a SunPass equipped vehicle goes through a tolling location, the transponder sends a signal and the toll is deducted from the customer's account. The SunPass Mini, also referred to in the industry as the sticker tag, is the most popular model with the public, and can be purchased at many retail locations in Florida, or on the SunPass.com web site for a mere \$5.00. As the deadline approached last week, the SunPass call center staff more than doubled the number of calls they handled each day to as high as 25,000 calls per day, as motorists made that last mad dash to get enrolled in SunPass or find out about other options.

For customers without SunPass, the alternative is TOLL-BY-PLATE, a collection system that takes a photo of a vehicle's license plate as it travels under tolling equipment installed overhead and mails a bill for the tolls incurred over a 30-day period, plus a \$2.50 administrative charge per invoice, to the registered owner of the vehicle. This option is available to in-state residents or out-of-state residents, who may not want to purchase a SunPass for their infrequent use of the Turnpike system.

For those traveling in a rental vehicle, there is an easy and convenient way to pay tolls without stopping. Most rental car companies have programs that allow their customers to charge the tolls to the credit card being used to rent the vehicle. Motorists should always check with their rental car company for details. For information about participating rental car companies, go to www.SunPass.com/rentalcar.

Travelers will still be able to pay cash on all other segments of Florida's Turnpike—from its northern point at I-75 in Wildwood to its junction with I-95 at Golden Glades interchange in northern Miami-Dade County. While cash tolls were only removed on the southern 47 miles of Florida's Turnpike on February 19, the entire Turnpike system of roadways will eventually go to all-electronic tolling. It is anticipated that the next phase, from the Golden Glades interchange in northern Miami-Dade County to the I-595 interchange in Broward County, will be ready in 2014.

"Gone are the days of vehicles traveling at 60 mph on the Turnpike in Miami-Dade County – only to come to complete stop to pay a toll," states Turnpike Enterprise Deputy Executive Director and Chief Operating Officer Jennifer Olson. "All-electronic open road tolling means we will see fewer crashes, less congestion, and fewer greenhouse gas emissions. All-electronic tolling is the new face of the Turnpike that brings us into the 21st century."

For more details about the February 19 launch of all-electronic open road tolling on the southern 47 miles of Florida's Turnpike, go to www.FloridasTurnpike.com and click on the green "all electronic" button.

This article was provided by John Easterling and Sonyha Rodriguez-Miller, Florida's Turnpike Enterprise. For information, please contact Mr. Easterling at (954) 934-1620 or email to John.Easterling@dot.state.fl.us.

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District One Welcomes Florida Highway Patrol

Foggy conditions on highways throughout southwest Florida during the early hours of January 20, 2011, kept things busy at the Florida Department of Transportation's (FDOT) District One SouthWest Interagency Facility for Transportation (SWIFT) SunGuide® Center in Lee County. Intelligent transportation systems (ITS) staff had their hands full managing events but, as always, had invaluable assistance and support from the Florida Highway Patrol (FHP). The difference that morning was that the FHP's Fort Myers district headquarters for Troop F, commanded by Captain Tim Culhane, and its regional communications center operations, commanded by Captain Terry Davis, were now co-located inside the SWIFT SunGuide Center. A fast, but heartfelt, welcome to FHP had quickly shifted to the business at hand.

With the addition of FHP to the regional transportation management center, located inside the SWIFT SunGuide Center, the team is now operationally complete. FHP's communications center in Fort Myers is one of seven regional FHP communications centers in Florida. It provides support for ten counties in southwest Florida: Manatee, Sarasota, Hardee, Desoto, Highlands, Hendry, Glades, Charlotte, Lee, and Collier. There are 185 sworn law enforcement positions assigned to Troop F to patrol 1,313 miles of state roads, 8,576 miles of county roads, and 180 miles of interstate highways.

FHP communications operations is staffed with one captain, one lieutenant, four duty officer supervisors, 28 duty officers, and one clerk. They are the telephone contacts with the public and other law enforcement agencies for both emergency and non-emergency situations. Among their responsibilities are dispatching services for emergency and non-emergency calls and conducting computer inquiries for wanted persons, vehicles, registrations, and driver licenses.

Combining state law enforcement communications resources into a regional transportation management center is more cost-effective for Florida's citizens. Bringing these resources under one roof with staff managing ITS also enhances and streamlines coordination, which translates to more efficient response times to incidents on the state's highways, fewer secondary crashes, and faster restoration of normal traffic flow.

The SWIFT SunGuide Center is located on Daniels Parkway just east of I-75 (exit 131) in Fort Myers. The center's mission is to enhance the safety, security, and efficiency of southwest Florida's transportation system through leading-edge technology and interagency coordination.

This article was provided by Chris Birosak, FDOT District One. For information, please contact Mr. Birosak at (863) 519-2507 or email to Chris.Birosak@dot.state.fl.us.



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ITS Striving to Help Public Safety

Monitoring Wind Speeds on Florida Bridges from Space

There are more than 10,000 bridges in the State of Florida and during severe weather some of them need to be closed. Road bridges in coastal counties are among the more likely candidates for closure. While closing a bridge is foremost a safety issue, the decision to close one can have significant socioeconomic implications to the local and regional populations. The current accepted technique used to close an individual bridge in Florida is to position law enforcement personnel at the bridge in advance of the approaching storm and have them make periodic wind speed measurements with a hand held anemometer. The Florida Department of Transportation (FDOT) believes they can improve upon this technique.

Later this year, under a new pilot project jointly managed by the FDOT Intelligent Transportation Systems (ITS) Program in Central Office and the FDOT District Two ITS Office, FDOT will install wind speed monitors on approximately 20 District Two bridges. The associated data will then be relayed via satellite and the FDOT statewide ITS network to the regional transportation management center in Jacksonville.

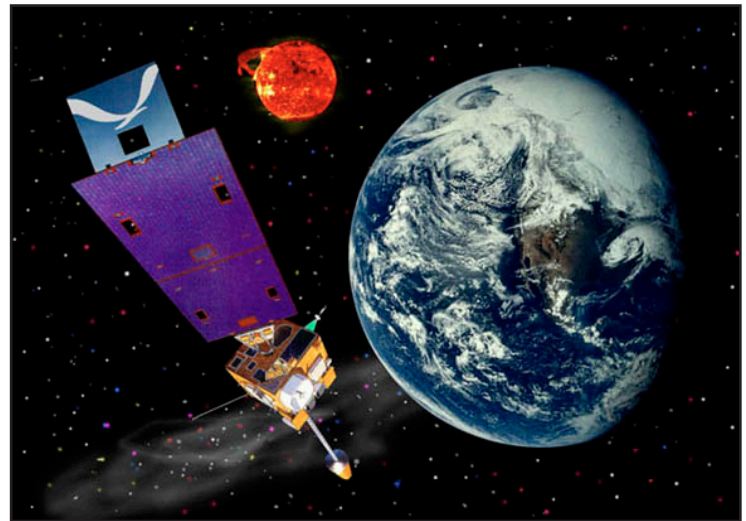
FDOT will utilize the National Oceanic and Atmospheric Administration's (NOAA) Data Collection System (DCS) satellite system. This system uses two geostationary spacecrafts located over North America to relay scientific data from data collection platforms (DCP) installed at monitoring sites to a centralized ground station. NOAA offers this free service to qualifying government agencies. Further, since the DCP equipment can be powered using small solar panels, there are also no recurring utility costs to operate the DCPs.

The DCP equipment to be installed on each bridge costs between \$5,000 and \$7,000 and includes a wind speed and direction sensor, data logger, satellite transmitter, solar panel, and battery. When the data logger determines that a pre-determined wind speed threshold has been exceeded, the transmitter can send in an alert via satellite.

Once the pilot project becomes operational, data from the bridge wind speed monitors will be relayed from the satellite back down to earth and received at a satellite ground station that the FDOT is planning to install at the District Two Lake City facility. This inland, less vulnerable location has a network connection to the FDOT statewide ITS network that will facilitate distribution of the wind speed data. The FDOT District Two satellite transportation management center also has access to the ITS network and is collocated with the Florida Highway Patrol's Jacksonville Regional Communication Center. Together, the two centers will view the bridge wind speed data from the 20 bridges and respond accordingly when the wind speed at a particular bridge increases above a predetermined threshold, or subsides below a desired level.

It is hoped that this data can be used to develop protocols for local county emergency management and law enforcement personnel on how to share the data and respond to it. This public safety wind speed pilot project is the first of its kind in Florida and appears to be the first of its kind to use the DCS, according to NOAA. The various benefits of this pilot project, combined with the novel and inexpensive use of satellite technology, have created an exciting concept. There is already interest from other FDOT Districts in getting involved with the program.

This article was provided by Randy Pierce, FDOT Traffic Engineering and Operations Office and Brian Kopp, The Semaphore Group. For information, please contact Mr. Pierce at (850) 410-5608 or email to Randy.Pierce@dot.state.fl.us.



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District Six Creates Alternate Fiber Route for SR 826/SR 836 Interchange Reconstruction

The Florida Department of Transportation (FDOT) District Six design-build team for the SR 826/SR 836 Interchange Reconstruction Project recently completed work that allows for alternate routes of data for the District's Intelligent Transportation Systems (ITS) Program.

District Six created the dense wave division multiplexing (DWDM) network system to form a redundant backup data route in the event that the Miami-Dade Expressway (MDX) Authority's fiber optic cable backbone on the north side of SR 836 was damaged during construction of the SR 826/SR 836 Interchange Reconstruction Project. Seventeen data links could be at risk from accidental damage due to the construction. These data links include the 95 Express Lanes tolls, MDX tolls, District ITS devices along I-95, MDX ITS, and connections to District Four ITS devices.

DWDM is a technique used to increase the capacity of fiber optic cable. The DWDM network system reroutes all of this data using only two fibers. Two fiber optic loops or rings were created (north and south of SR-836) to provide redundancy. If one communications loop is damaged, the other loop is available as a backup to keep all critical data flowing. Without the DWDM network system, the District ran the risk of losing connection with several ITS devices imperative to the daily operation of the SunGuide® Transportation Management Center's services, such as 95 Express, travel times, ramp signaling, and closed-circuit television camera feeds.

The successful completion of the DWDM network system ensures that the District and MDX will continue receiving uninterrupted data throughout the construction phase of the SR 826/ SR 836 Interchange Reconstruction Project. A new fiber optic backbone will be installed near the end of the project. The DWDM network system will be available to District Six and MDX in the future as additional communications backup.

The SR 826/ SR 836 design-build team and the District showed their ability to be forward-thinkers and foresee a potential issue before it occurred by implementing a creative solution to the problem. The DWDM network system also helps the SR 826/SR 836 Interchange Reconstruction Project remain on schedule as well as cut costs by preparing for unexpected fiber optic damage.

This article was provided by Javier Rodriguez, FDOT District Six. For information, please contact Mr. Rodriguez at (305) 470-5341 or email to Javier.Rodriguez2@dot.state.fl.us.

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The DWDM System plan provides an alternate route for transferring data – like CCTV video feeds and detector data needed for the proper operation of 95 Express and travel times.

Enhanced Location Reference Markers: Providing Pinpoint Locations for Incidents

Reduce incident clearance times. Reduce secondary crashes. Reduce response times and the number of responders sent to incidents and improve their safety. These are performance outcomes that the Florida Department of Transportation (FDOT) District Four wants to achieve. As a means to do this, District Four will be deploying enhanced location reference markers along I-75 and I-95. The markers will be installed every 2/10ths of a mile. The project is currently in the design phase and outreach to 911 centers is being planned.

Past research by the Federal Highway Administration (FHWA) shows that faster and more accurate identification of incident locations reduces the total length of incident duration, thus reducing the likelihood of secondary crashes. The FHWA reports that approximately 20 percent of all incidents are secondary in nature. Enhanced location reference markers will provide motorists, and in-turn first responders, with detailed information not currently available to allow 911 dispatchers and regional transportation management center operators to pinpoint incidents and reduce response time to incidents. Removing incidents more quickly from travel lanes and shoulders returns traffic back to normal flow faster, reducing the possibility of secondary incidents. Secondary incidents in high-speed traffic can be severe, even fatal, especially when they occur at the boundary between free-flowing, highway speed and stopped traffic, such as occurs at the end of the traffic queue.

Enhanced location reference markers are currently used in the Miami, Orlando, and Tampa areas of Florida as well as Indiana, Kentucky, Maryland, Missouri, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Washington, and Wisconsin. This project will be funded in the 2011-2012 fiscal year and the signs will be installed in 2012.

This article was provided by Gaetano Francese, FDOT District Four. For information, please contact Mr. Francese at (954) 847-2785 or email to Gaetano.Francese@dot.state.fl.us.

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District Four's project to deploy Enhanced Location Reference Markers is currently in design phase.

Be Part of the 2011 World Congress in Orlando—Join ITS Florida Today!

ITS Florida has established an ambitious agenda for 2011, including enriching the organization through increased memberships during the year the 18th World Congress on Intelligent Transport System is being held in Orlando.

With about 80 active members on its roster, ITS Florida aims to double that number through a variety of initiatives being steered by its membership committee, and foremost is conveying the advantages of membership.

Benefits of ITS Florida membership:

- Be part of planning the 2011 World Congress in Orlando
- Monthly newsletter
- Network with Florida ITS community
- Showcase your organization as part of the ITS FL display at events
- Advocate and influence the future of ITS through our official role as ITS Advisors to FDOT
- Free job postings and notices on the ITS Florida web site
- Access ITS FL scholarships for member universities
- Discounts to ITS FL events, exhibitions, and training
- Earn professional development hours through ITS Florida sponsored training

ITS Florida board members are actively involved in World Congress planning efforts with ITS America staff. The call for hundreds of additional volunteers to assist with World Congress is expected in May. World Congress attendees will participate in technical tours and technology showcase demonstrations as well as hearing from leading U.S and world transportation leaders. ITS Florida members benefit by maximizing their company's exposure to a national and international audience of industry professionals and by taking part in the many technical presentations, tours, and exhibits, along with networking opportunities at venues, including Walt Disney World, Sea World, and Universal Studios.

Aside from the opportunities afforded by the World Congress, ITS Florida regularly brings together agencies from all aspects of the ITS industry to address issues affecting the program and raise awareness of the benefits of ITS to the traveling public. These efforts help increase support for intelligent transportation and provide direct access to some of the program's most influential policy makers, allowing ITS Florida members to enrich the ITS program from the inside out.

The ITS Florida membership committee recently completed a letter-writing campaign to potential new members informing them of the many benefits of joining as well as the activities planned for the year.

For more information on ITS Florida, please check the ITS Florida Web site at www.itsflorida.org or contact Sandy Beck, Chapter Administrator, at itsflorida@itsflorida.org. 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.



FDOT's 511 Traveler Information System and ITS Florida were well-represented at the Florida Transportation Builder's Association annual meeting in Orlando, February 15-16. Representing 511 and ITS Florida were Jane O'Dowd and Olivia Polk of Global-5 who provided details about the upcoming ITS World Congress in Orlando and statewide, bilingual 511 traveler information.

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Editorial Corner—The Importance of Public Feedback

You may not always like the feedback you get, but, from a public agency standpoint, it is valuable to help determine how well you are doing—particularly for systems that interface directly with the public. No matter how diligent and thorough your process is for developing your system, you never know how well it will be received until it goes public.

The Florida Department of Transportation's (FDOT) next generation 511 system, which replaced the five regional 511 systems, was no exception. The next generation 511 system went through an extensive design process with numerous design reviews conducted by the FDOT along with acceptance testing and an independent verification and validation process. In addition, the FDOT hired a marketing firm to promote this 511 system to the public in order to get their perspective on the system design.

Even though the FDOT went through a rigorous design process, from a user's perspective, there were still issues with the new system once it launched. A significant portion of the issues reported to the FDOT by the system's feedback function were from users confusing the operation of the new system with the old, replaced regional systems. Feedback from the users who misused the new system was not unexpected and over time the public caught up with the learning curve and this type of feedback died down. A small number of callers that left feedback found and reported legitimate issues with how the system operated. Based on feedback from callers reporting both perceived and legitimate issues, the FDOT made changes to give callers a better experience with the system. This feedback from the public was the primary source of information on how well the new 511 system was working and was an important cog in the process to improve the system.

Based on caller feedback, the FDOT, through LogicTree (the system developer), made improvements to call flows, voice prompts, and recognition rates. Initial feedback suggested that, since 95 percent of the calls to the system are made in English, the system should assume the caller's want to operate the system in English. Based on feedback, callers wanted to be able to get past the opening greeting quickly and get to traffic conditions. System call flows and prompts were modified so that callers could ask for a facility as soon as the opening greeting began, allowing the caller to jump immediately to the information needed. Unless Spanish is specifically requested, the system assumes English.

Additional changes were implemented based on common problems callers had with the new 511 system. These problems are not system malfunction issues, but issues of misuse by the caller. The FDOT directed LogicTree to update the error handling process, so that the system recognizes these misuse issues as legitimate commands and puts the caller into the system at the spot where they had intended to go. Over time, the system has been fine tuned to boost up its recognition rates.

The new 511 system has been significantly improved based on caller feedback. Listening to some of the early feedback, we could have discounted the value of the feedback as some callers leaving messages got quite abusive with their language. However, we took the position that even abusive feedback was beneficial, as it indicated there was a strong disconnect between some callers and the system. Utilizing call recordings, the FDOT and LogicTree were able to determine the callers' problems and, if warranted, make adjustments.

The feedback received by the FDOT has been the catalyst in making the Florida's traveler information system one of the better systems in the country. Feedback is a necessary ingredient for all successful systems.

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

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Inside the TERL

The Florida Department of Transportation (FDOT) has a goal to assure that only a safe and uniform traffic control system is implemented in the state of Florida. The Traffic Engineering Research Lab (TERL) plays a part in obtaining this goal by satisfying Florida Statute 316.0745 - Uniform Signals & Devices. Below is a look Inside the TERL at activities that help accomplish our goal.



The primary mission of the TERL is to maintain an Approved Product List (APL) of devices that have been tested and verified to meet FDOT requirements. Establishing and maintaining the APL encompasses a broad variety of activities. These activities include:

- The review of manufacturer quality assurance/quality control (QA/QC) programs, and comprehensive product evaluation and testing,
- The initial development and continuous improvement of all traffic control system product specifications,
- Maintenance and technical operations of the systems used for testing (including the design, installation, and operation of a small-scale transportation management center [TMC]) as well as the installation and integration of field devices around the TERL facility and various remote testing locations.

The primary goal of these efforts is to ensure that products sold and deployed on transportation projects in Florida are safe and reliable, are of good quality, and perform as required.

The TERL welcomes and encourages any comments and feedback regarding products listed on the APL. Is there a product you would like to have placed on the APL? Are you a maintaining agency in Florida that would like to sponsor a project to evaluate a new product; would you like to share your experiences with a product (good or bad) with us? If so, we want to hear from you.

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

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Announcements

Registration is Open!

Registration is open for the 18th World Congress on Intelligent Transportation Systems in Orlando and ITS America's Annual Meeting & Exposition. Now is the time to make preparations to participate in this exciting conference.

Top reasons to attend?

- Valuable networking events
- Exciting technical tours
- Interactive technology showcases
- Internationally acclaimed awards
- More than 250 sessions



ITS America's "Best of ITS Awards" recognize the best and brightest of the transportation technology community. This is a unique opportunity to be recognized at the premier global event on advanced transportation technologies in front of hundreds of transportation professionals, policymakers, and press. The deadline for entries is May 31, 2011.

We hope you will get involved; help us showcase the best of ITS here in Florida.

To learn more please visit www.itsworldcongress.org.

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Join Us in Welcoming...

Please join us in welcoming Brian Ritchson, a new member of our ITS Program team. Brian is a graduate of Florida State University, holding a Bachelor's Degree in Computer Science. Brian joined us on February 7, 2011, through our ITS general consultant, PBS&J, an Atkins company. Brian works with Clay Packard to provide support to the SunGuide® software, central data warehouse, and 511 together with other software-related projects.

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FDOT Traffic Engineering and Operations Mission and Vision Statements



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