SUNGUIDE® DISSEMINATOR

Florida Department of Transportation's Traffic Engineering and Operations Newsletter
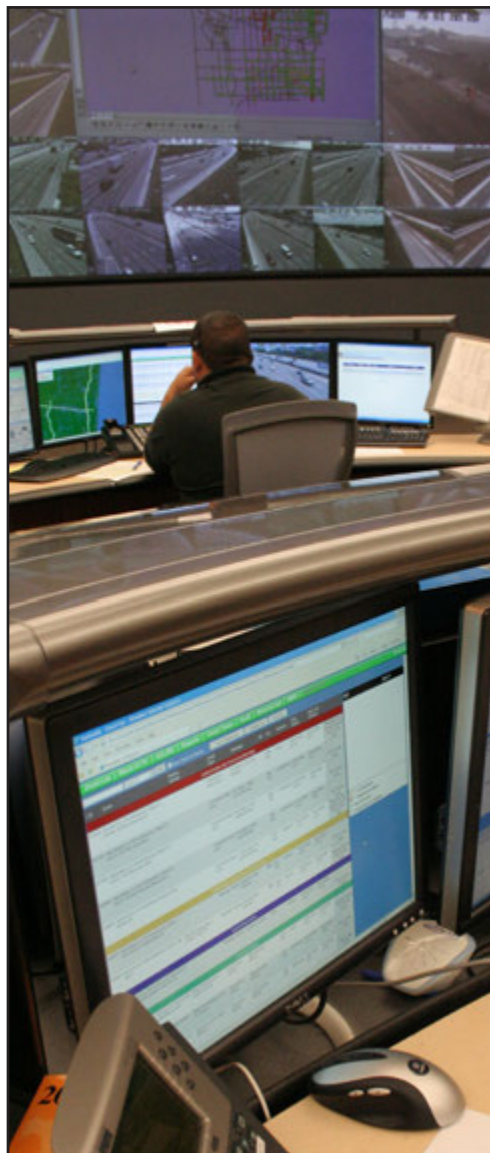
FDOT

Why Testing is Important for SunGuide® Software

By Clay Packard, Atkins

The Florida Department of Transportation's (FDOT) advanced traffic management system, SunGuide® software, is behind transportation management center (TMC) operations throughout Florida. It communicates directly with almost all deployed intelligent transportation systems (ITS) devices and third-party data feeds; it detects, manages, and responds to traffic events; it interfaces with other external systems; and it provides an interface for operators to perform all of these mentioned functions. It is mission critical to the safe operation and event management of Florida's Interstate system.

SunGuide software is being improved continuously with new enhancements and other modifications. FDOT Central Office ITS Program coordinates the needs of the users, oversees the software modifications via the SunGuide software contractor, witnesses the factory acceptance test (FAT) conducted by the contractor at the development lab, and then performs the independent verification and validation (IV&V) of the software. FAT and IV&V testing helps FDOT ensure the quality of the software prior to delivering it for use in TMCs. There are several ways both

District Four operator workstation with SunGuide software.

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the FAT and IV&V improve the quality of the software by finding issues before its release for operations.

1. FAT demonstrates successfully built functionality. In the software developer's lab, the contractor demonstrates that the software requirements of the system are met and the modifications were successfully integrated into the existing system. This first test activity provides FDOT with confidence that the desired modifications were built, that any final adjustments can and will be made, and that the software will be ready to move on to the next phase of rigorous testing.

2. IV&V demonstrates a successful product ready for release. All functionality is tested regardless of what or how it was tested at FAT. One key difference between FAT and IV&V is that, fundamentally, it is important to verify that the software is able to be deployed and operated by the user, not just the software developer designing or modifying the software. Also, it is verified by the Central Office ITS Program with knowledge of the software and how it is built, primarily with the user needs in mind. The software development lab has many tools and techniques and even workarounds at their disposal that are not available or known to the end user. The IV&V strictly follows the documentation to deploy and upgrade the software and ensures that it is tested without any undocumented tools or special configurations unavailable to end users.

In addition to these two major testing events, several components or attributes of testing are included in these testing events to achieve coverage of all user needs:

1. Testing of the installation and upgrading procedures: Not only is the final state of the deployed software tested, but the tools, procedures, and documentation used to get it into the final deployed state are tested. This software is used as it was deployed using the tools, procedures, and documentation, for the remainder of the testing.

2. Testing of the modifications: While modifications were already tested at the lab, they are independently tested at FDOT's Traffic Engineering Research Laboratory. These modifications were previously coordinated with users, and users need them to work on the software's initial delivery.

3. Regression testing: When software is modified to implement new functionality, it is possible that existing functionality is inadvertently impacted. Regression testing repeats tests from earlier versions to verify that the functionality is preserved in the modified software.

4. Real device testing: It is important to have a development environment as realistic as possible to test real world scenarios. FDOT uses real equipment sometimes not available to the software development lab to verify that the software works as expected with real devices.

5. Input data feed testing: Just as real devices are used, real data feeds are used in the actual data feed testing. This includes the Nokia HERE.com data feed, the Florida Highway Patrol's computer-aided dispatch data feed, and the data feed from BlueTOAD™.

6. Output data feed testing: Part of the function of the software is to feed external systems including Florida's advanced traveler information system and the Regional Integrated Transportation Information System hosted by the University of Maryland. Testing is done to ensure that SunGuide software correctly feeds external systems.

In order to accomplish these testing events and activities, a lot of preparation and hard work goes into the efforts. Formal test plans, procedures, and report documents are produced amidst many long hours and days in the lab going through test procedures one-by-one. At the end of it all, a significant accomplishment awaits – a final product to be used in production to help fulfil the traffic operations mission of operating a safer and more efficient roadway system to help move people and goods throughout the state of Florida.

For information, please contact Mr. Vollmer at (850) 410-5615 or e-mail to Derek.Vollmer@dot.state.fl.us.

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Implementing Connected Vehicle with the Infrastructure

By Stephen Novosad, Atkins

Since the National Highway Traffic Safety Administration issued an advanced notice of proposed rulemaking in August 2014, that it may require dedicated short-range communications (DSRC) in light vehicles, connected vehicle activity has been on the rise. Vehicle-to-vehicle (V2V) communications, which uses DSRC, is becoming well established. General Motors made an announcement at the 21st World Congress on Intelligent Transport Systems (World Congress) held in Detroit that starting with model year 2017, the Cadillac CTS will be enabled with V2V communications technology (i.e. DSRC). This announcement is a significant step for V2V and connected vehicle in general.

During the past year, the United States Department of Transportation (USDOT) began to turn its focus to vehicle-to-infrastructure (V2I) activities. Several projects are focusing on V2I including the 2014 Southeast Michigan Test Bed project and the Integrated Vehicle Prototype (IVP) project. Each of these projects deals with implementing V2I. The test bed project provides interoperability between vendors, operators, application developers, and solution providers by developing V2I data exchanges and creating and testing the connected vehicle reference implementation architecture. The IVP project is creating a platform that can be used to deploy infrastructure containing connected vehicle technology. The prototype IVP platform consists of a Linux operating system, a global positioning system (GPS) antenna, and a DSRC antenna. The platform was initially deployed and tested at the Turner Fairbanks Highway Research Center and will possibly be deployed in central Florida and on Florida's Turnpike.

With the Florida Department of Transportation's (FDOT) deployment experience from the 18th World Congress, held in Orlando in 2011, and the experience that will be gained from the IVP project, FDOT will have the knowledge necessary to deploy connected vehicle throughout the state. FDOT has deployed roadside units (RSU), vehicle awareness devices, and onboard units (OBU). RSUs were deployed along both expressways and arterials. FDOT gained valuable deployment experience including mapping intersections, locating the GPS properly, and positioning the DSRC antenna correctly. FDOT integrated the RSUs with the infrastructure (FDOT fiber) so that the RSUs communicated with FDOT's SunGuide® software, the advance transportation management software used in FDOT's transportation management centers. This experience provided FDOT with a head start on understanding what it takes to successfully deployment V2I technology.

FDOT will be deploying the IVP platform in the spring of 2015. As FDOT goes through this exercise and provides feedback to USDOT on the deployments, FDOT will be exposed to what it takes to deploy a V2I platform. Deploying these platforms will provide new challenges because of the new applications that will exist on the platforms. Some of these challenges will include having access to universal time and having access to a web site freely accessible by all Internet users. As FDOT deploys these platforms, FDOT will document the deployment process and note the challenges encountered and what was done to overcome the challenge.

For information, please contact Ms. Birriel at (850) 410-5606 or e-mail to Elizabeth.Birriel@dot.state.fl.us.

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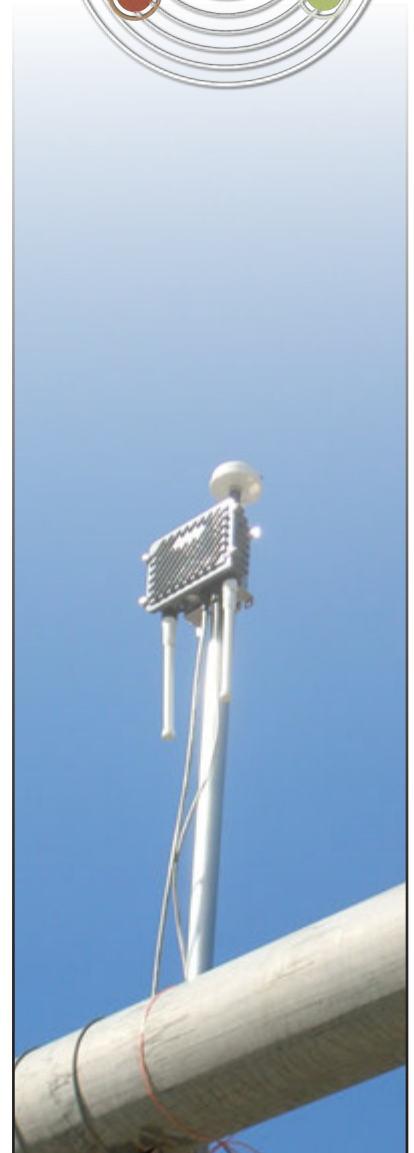
CONNECTED VEHICLE

Roadside unit.

Onboard unit used for demonstration.

FDOT ITS Program Demonstrates Connected Vehicle Technology at FAV Summit

By Stephen Novosad, Atkins

The Florida Department of Transportation (FDOT) Intelligent Transportation Systems (ITS) Program was well represented at the Florida Automated Vehicle (FAV) Summit 2014 held on December 15th and 16th at Disney's Coronado Springs Resort and the Walt Disney World Speedway. During the first day, as part of the Connected Vehicles and Autonomous Technologies session, Elizabeth Birriel presented FDOT's Connected Vehicle Program and an overview of the connected vehicle demonstrations to be performed the next day. Ms. Birriel, as the FAV Working Group Technical/ Infrastructure Committee Chair, presented the committee's activity for 2014 and plans for 2015.

Elizabeth Birriel presented FDOT's Connected Vehicle Program and an overview of the connected vehicle demonstrations.

Other highlights for the first day included Senator Jeff Brandes, Chairman of Florida Senate Transportation Committee, addressing the summit with a discussion on automation as an economic engine. Others sessions included Autonomous Vehicle Technologies Development, Utilizing Florida's Infrastructure for AV / CV Test - Bed Opportunities, and Freight & Transit Applications of AV / CV Technologies. Each session discussed Florida opportunities to utilize advanced technology to improve safety, mobility, and environmental activities.

The second day of the summit was devoted to demonstrations at Walt Disney World Speedway. There were numerous demonstrations involving both vehicles and surface water automation. Vehicle demonstrations included remote control vehicles, autonomous high mobility multipurpose wheeled vehicle (know as Humvee®), pedestrian detection, aftermarket forward collision avoidance, advanced driver assistance systems, and the ITS Program's connected vehicle demonstrations. The ITS connected vehicle demonstrations were very well attended. Derek Vollmer, the ITS SunGuide Project Manager, led the connected vehicle demonstrations. There were four demonstrations: over-height detection, wrong-way driving, hard braking, and emergency vehicle alert. These demonstrations had been previously performed for former Secretary Prasad in August at FDOT's Traffic Engineering Research Laboratory.

Connected vehicle demonstration led by Derek Vollmer.

The over-height detection demonstration consisted of an over-height vehicle, an over-height detector, and roadside unit (RSU). When the over-height detector is triggered, it sends a message to the RSU. The RSU transmits a warning to the driver that the vehicle is over height and what actions to take. If the driver ignores the warning message, a second message is sent to the driver warning of an impending collision with a structure. The SunGuide® software, FDOT's advanced transportation management software, was modified to receive the over-height alert and display the alert on the map. This demonstration added an autonomous piece to the over-height detection demonstration. A freightliner was used in the demonstration. The freightliner was autonomous capable and was put in autonomous mode. When the freightliner received the warning that it was over height, it would independently follow the instructions and exit before reaching the potential collision with a structure.

Autonomous–capable freightliner at the over–height detection demonstration.

The wrong-way driver demonstration consisted of three vehicles and RSU with one vehicle traveling the wrong way. The RSU established a detection zone to monitor for wrong-way driving. When a vehicle enters the detection zone going the wrong way, it receives a warning message that it is traveling the wrong way. The RSU also broadcasts a message that there is wrong-way driver. This message is received by oncoming vehicles and displayed to the driver. The wrong-way driver information is sent to the SunGuide software and a wrong-way icon is displayed on the operator map alerting the operator at the transportation management center of the wrong-way driver.

For the emergency braking demonstration, there were three vehicles following in close proximity to one another. The demonstration showed how V2V is used to warn trailing vehicles of a hard braking event by the lead vehicle. The lead vehicle accelerates and performs a hard braking event. A hard breaking event message is sent to the trailing vehicles. A warning message is displayed to the trailing vehicles that the lead vehicle has performed a hard braking event.

The emergency vehicle alert notification demonstrated how an emergency vehicle can broadcast its location and speed such that nearby vehicles are alerted of the emergency vehicle's presence, including its heading and distant from the vehicle. The emergency vehicle activates its siren and lights. This action causes the emergency vehicle alert message to start broadcasting. Vehicles in the area receive the emergency vehicle alert message. A message is displayed to the driver that an emergency vehicle is approaching. This message includes the direction from which the emergency vehicle is approaching and the distance the emergency vehicle is relative to the vehicle receiving the message. This information is updated in real-time such that as the vehicle moves closer the distance lessens.

Participants had the opportunity to ride in the freightliner or one of the two sport utility vehicles that were used for the demonstrations. Each vehicle had a visual display showing the messages a driver would receive.

For information, please contact Ms. Birriel at (850) 410-5606 or e-mail to Elizabeth.Birriel@dot.state.fl.us.

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District Four TIM Teams Making Great Strides in 2014

By Daniel Smith, FDOT District Four

The Florida Department of Transportation (FDOT) District Four traffic incident management (TIM) teams are one of several of the Intelligent Transportation Systems (ITS) Unit's programs designed to assist the regional transportation management center (RTMC) and enhance incident management activities throughout the District. TIM teams help to establish working relationships with law enforcement, fire rescue agencies, contracted towing and hazardous material containment companies, and a wide variety of private contractor companies. The multi-agency TIM partners meet bimonthly in Broward and Palm Beach Counties and the Treasure Coast (Indian River, St. Lucie, and Martin Counties) to provide, discuss, and improve operational services related to traffic management.

FDOT District Four has three TIM teams covering over 200 miles in these five counties. With a collective 500 members and 170 agencies, the teams had a tremendous year in 2014 and continue to grow in 2015.

Emphasizing the first goal of the National TIM Coalition, "Responder Safety," the District Four TIM teams' goal is to always present safety issues at TIM team meetings. District Four has seen an increase in motorist crashes with incident responder vehicles on the scene of highway events, including incident responder injuries and fatalities. Along with the motoring public, incident responders are our customers and we are always looking for ways to present and reinforce safety issues and procedures.

In 2014, the TIM teams had the privilege of hosting training presentations by the Federal Highway Administration (FHWA) Strategic Highway Research Program (SHRP2) in May and December with attendees from fire rescue, towing, law enforcement, and FDOT Operations and Maintenance.

SHRP2 TIM team training.

This training initiative is being conducted under a Memorandum of Understanding with FHWA and the American Association of State Highway and Transportation Officials (AASHTO). SHRP2 is focused on addressing the needs of the nation's highways regarding road safety, traffic congestion, and infrastructure rehabilitation. The course provides a foundation of best practices from across the nation that can be used across all responder disciplines to promote mutual understanding and awareness, and lead to increased responder and public safety and effective communications.

In addition, the annual Road Ranger training in April included SHRP2 training for 80 Road Ranger personnel. District Four's total responder trained for 2014 increased from 125 in 2013 to 264 personnel in 2014.

An important performance measure TIM managers use is FHWA's annual "TIM Self-Assessment," which is a tool used to assess the achievements of their programs and identify opportunities for improvement. TIM team members from fire rescue, towing, law enforcement, FDOT Operations and Maintenance, and hazardous material recovery grade their TIM team performance based on operational issues.

All three District Four TIM teams achieved a significant increase in their self-assessment scores from previous years. In 2013 (last reporting year), District Four achieved a 91.2 percent, exceeded the national average of 73.9 percent.

For any training requests within District Four, you may contact the District Four Freeway Operations Manager, Nicole Mcglynn at (954) 847-2631 or Nicole.McGlynn@dot.state.fl.us , or the District Four Traffic Incident Management (TIM) Team Coordinator, Michael McGee at (954) 847-2634 or Mike.McGee@smartsunguide.com.

For information, please contact Mr. Smith at (954) 847-2785 or email Daniel.Smith@dot.state.fl.us.

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District Six Updates Operations Task Manager Software

By Javier Rodriguez, FDOT District Six

The Florida Department of Transportation (FDOT) District Six Intelligent Transportation Systems (ITS) Office recently updated the Operations Task Manager (OTM) software in support of the expansion of 95 Express as well as to address the increase in the program's demand.

Growing population levels, in combination with a strong tourism industry and the absence of a comprehensive mass transit system, reduced the travel-time reliability of the District's highways. To counteract this, District Six added more ITS devices, enhanced its incident management service, launched the state's first managed lanes and ramp metering systems, and transitioned from operating a regional advanced traveler information services into a statewide system, known as FL511. Program staff was put in charge of managing these new initiatives and thus became responsible for ensuring their operational success. As a result, the daily duties of the ITS Office grew significantly and they became responsible for meeting new demands.

District Six recognized the challenges of having to produce more with the same level of resources. The ITS Office addressed this challenge by creating the OTM software and has since updated it to meet its expanding projects. Before the OTM software, operators logged into different systems and manually conducted certain functions to perform their tasks. The OTM software restructured this system and was created in modular form to work under one easy-to-use web interface. The software now features 11 modules since completion of the update, all of which support District Six's traffic management, incident management, traveler information, device maintenance, and reporting tasks.

One of the software's key features is the Express Lane Manager Module, which serves as the primary interface for managing the express lanes. It dynamically calculates and produces graphical views of traffic conditions along the facility with data collected from SunGuide® software, FDOT's statewide advanced transportation management system software. The OTM software provides notification of toll amount changes in the form of pop-up messages and generates post-analysis and performance reports, among other functions. The module was recently updated to support multi-segment tolling and trip building for 95 Express Phase 2. The software also features the Incident Notification Module that assists operators in their incident detection efforts. Before this module was introduced, staff had to physically search the Florida Highway Patrol and Monroe County Sheriff's web sites to learn about undetected incidents affecting the roads.

The OTM software automated this process by enabling the module to electronically scrape these agency web sites and alert operators of the new events posted. This automation allowed operators to detect more incidents within the same time period as before and freed them to focus on other tasks.

Similarly, the module for FL511 increased the District's efficiency because it enhanced quality control efforts for the FL511 traveler information system. Before this module was introduced, staff could only manually check the accuracy of information posted after it had already been published in the system. The manual checks were not only time-consuming, but could have potentially diminished the reliability of the information posted as well. The module automates these checks and performs them in real-time to ensure the information is accurate before it reaches drivers.

Another important feature of the OTM software is the ITS Maintenance Module. It converts device failure checks from being a manual, operator-centric task to one that is performed at set intervals by the module itself. It tracks the contractor's performance measures, generates reports, and documents preventive maintenance activities to promote the life of the ITS devices and the program itself. The ramp signaling feature assists with the system's daily operations – monitoring communications status and metering modes via the status monitor feature – and also generates reports. The last key functionality featured in this software is the Rapid Incident Scene Clearance (RISC) Module, which has eased tasks associated with this service since it documents essential contractor benchmarks, guides operators through the RISC implementation process to reduce error, and keeps track of vendor rotation list, along with other functions.

The modules noted above, in combination with others, have improved internal and external operations for District Six. It has allows the team to support the rise in program demand without overburdening staff or sacrificing the quality of the services provided.

An OTM software video showcase may be viewed online at http://tmc.sunguide.info/sunguide/index.php/press/loadvideo/797.

For information, please contact Mr. Rodriguez at (305) 470-5757 or email to Rodriguez2@dot.state.fl.us.

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ITS Florida Announces Results from its 2014 Annual Meeting

By Sandy Beck, ITS Florida

The Intelligent Transportation Society of Florida (ITS Florida) held its annual meeting in Orlando on December 3th - 5th. At that conference, ITS Florida provided United States Department of Transportation training, Florida Department of Transportation (FDOT) updates, and Intelligent Transportation Systems (ITS) Executive Roundtable, and the ITS Florida Board meeting. During the Awards Banquet, ITS Florida announced its 2015 Board of Directors, award winners, and scholarship recipients.

ITS Florida Board of Directors 2015

ITS Florida is proud to announce our 2015 Board of Directors as follows:

Past President:	Gregg Letts, P.E., AECOM
President:	Ken Jacobs, Pinellas County Transportation Department
Vice President:	Sara Calhoun, P.E., VIBE Engineering
Secretary:	Connie Braithwaite, Econolite
Treasurer:	Corey Quinn, P.E., Central Florida Expressway Authority
Director-at-Large:	Dr. Mohammed Hadi, P.E., Florida International University
	Terry Hensley, Florida Department of Transportation
	Stephanie Hoback, Wavetronix, LLC
	Adam Moser, P.E., Gresham, Smith and Partners
	Charles Stratton, P.E., Metric Engineering, Inc.
	Jonathan Tursky, TransCore

Board Picture (L– R, Ken Jacobs, Sara Calhoun, Connie Braithwaite, Gregg Letts, Adam Moser, Mohammed Hadi and Charles Stratton)

The following ITS Florida Board members are completing their terms, but will remain active:

- 2014 Immediate Past President, John Easterling P.E., PTOE, Florida's Turnpike Enterprise will become an active Ex-Officio member of the board.
- Carlton Urban, P.E. served as a Director at Large for four years and served on many subcommittees including the Membership, Scholarship, and Awards subcommittees.

We thank both John and Carlton for their leadership and service to ITS Florida!

ITS Florida looks forward to having everyone involved during 2015.

ITS Florida Awards

ITS Florida President's Award – This individual award recognizes superior career achievements in ITS and extraordinary service to ITS Florida. This is ITS Florida's highest award and is given only for truly superlative performance and accomplishment.

Erika Birosak was awarded (posthumously) the ITS Florida President's Award for her dedication and commitment to ITS Florid, which was matched by few. Her career accomplishments and her professional passion to see ITS succeed and flourish in Florida were unmistakable. Jay Calhoun read a letter from Chris Birosak accepting the award.

ITS Champion Award – This award is given to an individual (ITS Florida member or not), who has made significant contributions to advance the cause of ITS in Florida.

Mark Reichert has been a steadfast supporter and contributor to ITS Florida. He has been the key person in providing Florida legislative updates related to transportation at ITS Florida meetings. He had a hand in supporting many ITS Florida initiatives, such as ITS awareness days for legislators at the Capitol and a campaign that ITS Florida led to support Road Ranger funding when it appeared in danger due to misinformation on the part of key legislators. Mark's son Josh was present to accept the award for his father.

Pictured are John Easterling, Josh Reichert, and Gregg Letts.

Certificate of Outstanding Achievement – This is an "open-ended" class of awards that may be given by ITS Florida for outstanding service by individuals or organizational units.

District One – The ITS Freeway Management System along the I-75 corridor in Sarasota and Manatee Counties within District One. This project integrated ITS field equipment into the Manatee/Sarasota advanced transportation management systems transportation management center (TMC) in Bradenton. FDOT will be collocated with Manatee and Sarasota Counties who are managing their arterial signal systems out of this TMC. This shared space is known as the Satellite TMC for I-75 in District One. The Satellite TMC collocation with the two counties is able to coordinate major incidents and monitor the impact of detours on the arterials. This is a unique integration project since the Satellite TMC is really a remote workstation utilizing the Southwest Interagency Facility for Transportation (SWIFT) Center SunGuide® software servers and database. However, the equipment at the Satellite TMC runs as a backup in case of any failure at the SWIFT Center. Mark Roberts accepted the award for District One.

Pictured are John Easterling, Mark Roberts, and Gregg Letts.

Manatee County – The backup TMC was designed and installed by Manatee County staff, and funded solely by the county. The backup TMC was fully operational in less than two months from the beginning of the concept plan stage. The total cost of the facility was approximately $40,000. This relatively low cost can be attributed to the fact that the project was completely handled in-house and thereby eliminating some of the costs associated with contracting out the project. This facility provides a great return on the investment for the county and the region by providing a fully functional backup TMC for handling regional traffic issues. Accepting the award was Mukunda Gopalakrishna, Manatee County.

Pictured are John Easterling, Mukunda Gopalakrishna, and Gregg Letts.

ITS Florida Scholarships

ITS Florida awarded four Anne Brewer scholarships for 2014. The first three scholarships awarded were:

Ling Wang – University of Central Florida (UCF)
Ms. Wang is graduate student pursuing a doctorate in transportation engineering at UCF with a focus on transportation safety. She currently has a perfect 4.0 GPA and holds numerous academic awards. Among the most prestigious was the China National Scholarship, which is granted only to the top one percent of undergraduates. She is currently studying real-time crash prediction and microscopic simulation for expressways and submitted a paper on this topic that was published at the 2014 Transportation Research Board (TRB) Annual Meeting. She is currently working on projects for the Florida Department of Transportation and Central Florida Expressway Authority as a research assistant at UCF. Both projects focus on using ITS for proactive traffic system management.

Ling Wang – UCF

Jiawei Wu – UCF
Mr. Wu is completing his master's degree in transportation engineering at UCF and has been admitted to the doctorate program. He currently has a 3.75 GPA. His master's thesis is related to analyzing and assessing taxi drivers' behavior and performance in large city driving. He designed the full experiment and extracted data for the full analysis, which is a talent that few graduate students possess according to his advisor. He is currently working on two research projects that require knowledge of geographic information system and has been instrumental in developing computer code to streamline data processing.

Jiawei Wu – UCF

Somaye Fakharian Qom – Florida International University (FIU)
Ms. Fakharian is an FIU graduate student pursuing a doctorate in transportation engineering with a focus on ITS. She currently has a 3.71 GPA and led the formation of the Women in Transportation Chapter at FIU earlier this year; she currently serves as the founding president. She received the prestigious Dwight David Eisenhower Transportation Fellowship Program Achievement Award for the 2013-14 academic year. She is working on a research project entitled "Performance Measurements of Transportation Systems based on Fine Grained Data Collected by AVI and AVL Systems" and has had five papers published in the ITS field including two at TRB 2014 and 2015.

Somaye Fakharian Qom – FIU

The fourth Anne Brewer scholarship award for 2014 is the newly created Erika Birosak Technical / Training Scholarship. The scholarship recipient of this award was:

Denita Jones – Pinellas County Traffic

Denita Jones – Pinellas County Traffic
Ms. Jones has a traffic studies and signal timing background and was shifted to the TMC six years ago. She has used her previous talents to become one of the lead operators and provides oversight and scheduling for the TMC. Pinellas County has one of the most robust arterial advanced traffic management system / advanced traveler information systems in Florida; the operation of the TMC for incidents is critical to efficiently operating the transportation network. Ms. Jones has been a key player in developing the operating staff, TMC operating procedures, and maintaining the computerized traffic signal systems. She is currently taking courses to enhance her management skills by taking project management and administrative courses.

For more information on ITS Florida, please contact an ITS Florida board member or email ITSFlorida@ ITSFlorida.org. If you would like to submit an article on behalf of ITS Florida, please contact Sandra Beck at ITSFlorida@ITSFlorida.org.

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Editorial Corner: FL511 and Big Data

By Russell Allen, FDOT Traffic Engineering and Operations

For the past 12 years, Gene Glotzbach led Florida's Advanced Traveler Information System, commonly known as FL511. During this time the system underwent several changes and enhancements, and has evolved into a national leader in traveler information dissemination. Today, we have a statewide 511 phone number with interactive voice response, a web site, 12 Twitter feeds, mobile applications for both Android and Apple, and both email and text/short message service alerts reaching over five million users per year. We also have data sharing agreements in place with third-party vendors to enhance roadway coverage beyond those typically covered by the Florida Department of Transportation (FDOT).

So, what's next? Social media is here to stay. The only thing that changes is the data that is desired and how it is delivered to the customer. In a world of ever-changing trends and rapid technology advancements, "keeping up with the times" is a full-time job. In fact, there are industries dedicated to doing just that…gathering "Big Data" and presenting it to customers in different ways, across different platforms—all while trying to satisfy the company's business model and financial goals.

In FDOT's world, the motorist is the customer, and the FL511 business model is to disseminate traveler information to all motorists to help them stay informed and save time and money. Whether it's commuting locally or long distance, tourism, or commercial vehicle operations—traffic and roadway data can enhance your driving experience by providing real-time information that helps you arrive on time. Because the need for this information is realized locally, regionally, statewide, and nationally, it is imperative that stakeholder feedback be considered on all of these levels. To remain a national leader in traveler information dissemination, I plan on working closely with my District and Turnpike counterparts and leaning on their local knowledge base to insure that I have the level of detailed information needed to move forward with the next generation of Florida's 511 system. FDOT will continue to incorporate more arterials into the FL511 system and potentially provide rerouting options to travelers before they get caught up in congestion along their scheduled route.

What does Florida's next generation of FL511 look like? Will there be more automated systems with adaptive intelligent hands-free, voice response capabilities? Is it a system that recognizes when you're transitioning between covered and uncovered roadways? Or maybe it will alert the driver that they are leaving Florida and offers to change to the adjacent state's system, or even download and install it for them if desired all through automated response. With technology advancing at relatively the same pace as the imagination, there's no telling what might be available tomorrow…unless you thought of it just yesterday.

While FDOT's mission stays the same, the consumer world is changing. Our goal is to provide people with traffic information. At the same time a company that opened its doors yesterday may be interested in letting you know when fresh donuts are being made, or how you can save money on services based on your location. Regardless of the angle, the overall picture is the same. "Give the customer what they want, when they want it." In the world of information dissemination, we all wear multiple hats based on our goals and interests. As we travel and share our information with services we agree to do so with, we become data points in a Big Data society. For the most part, we become numbers rather than names to help protect our privacy. Whether your name starts with an "A" or a "Z" is not as interesting to companies as how many businesses you pass while traveling from Point A to Point B; or whether you enjoy going to the movies as opposed to renting them online.

The concept of Big Data holds a lot of value to the private sector, and it may be in our best interest to partner with them to provide a product that best meets the consumer's needs as well as FDOT's. We may want to explore alternatives such as public-private-partnerships that allow for data exchange between FDOT and the private sector, and in return reap the benefits of a third-party dissemination platform (either public or developed specifically for FDOT) in which the private sector can also leverage a business model that satisfies their financial needs. This needs to be a long-term agreement, or a paid service—something that guarantees longevity of the system and adaptation to new technologies and interfaces.

FDOT's mission to provide traveler information to the motorist will continue, even if the way we provide it continues to change.

For information, please contact Mr. Allen at (850) 410-5626 or e-mail to Russell.Allen@dot.state.fl.us.

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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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