FDOT's Monthly ITS News

SUNGUIDE®

DISSEMINATOR

Inside This Issue
July 2011

Florida's Traveler Information System Transit Enhancement

The Florida Department of Transportation (FDOT) is working on a future enhancement to Florida's 511 Traveler Information System (FL-511) that will give users the ability to access more detailed transit information with a single phone call. By dialing 511, callers will be able to listen to transit schedule information, including bus arrival and departure times, and they will be able to obtain emergency messages from transit agencies.

LogicTree worked with FDOT to include transit scheduling information directly from FL-511. The transit enhancement is optional for transit agencies; not all transit agencies in the state plan to participate.

Currently, the FL-511 system allows users to transfer to a transit agency's phone number or visit an agency's web site through a link from www.FL511.com. With this enhancement, anyone seeking transit information can dial 511 or visit www.FL511.com rather than trying to remember a seven- or ten-digit phone number or a web address.

511 Main Menu – Transit Option

When a caller dials 511, they can request transit information at the main menu. Once FDOT enables the upcoming transit enhancements, participating Florida transit agencies will provide automated bus schedules and additional information about their services. FL-511 will continue to offer transfers to agencies currently on the system who choose not to participate in this enhanced program.

Since all transit agencies do not provide information in Spanish, the new transit module will be available only in English. This is the only module in Florida's traveler information system that is not bilingual. It will have both speech and dual tone multi frequency (DTMF) touch-tone recognition options. Information will be taken from the transit agency's database and presented just as it is—without translation.

Transit Main Menu Changes

To select the new transit option, the caller will either say "Transit" or select the corresponding DTMF code for this option. Once in the transit module, the caller can give the name of the transit agency or ask for a list of agencies. If a list of agencies is requested, the caller will be asked to select a region in order to narrow down the selection. The caller would then select the appropriate agency.

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Transit Agency Menu

Callers will have two options once in the new transit module. The first is the "Micro" menu option, where the caller can receive scheduled bus arrival information or be transferred to the agency's call center.

The second option is a "Custom" menu option where a caller can choose between other service options that might be offered by the transit agency, i.e. lost and found, etc.

Scheduled Bus Arrival Menu

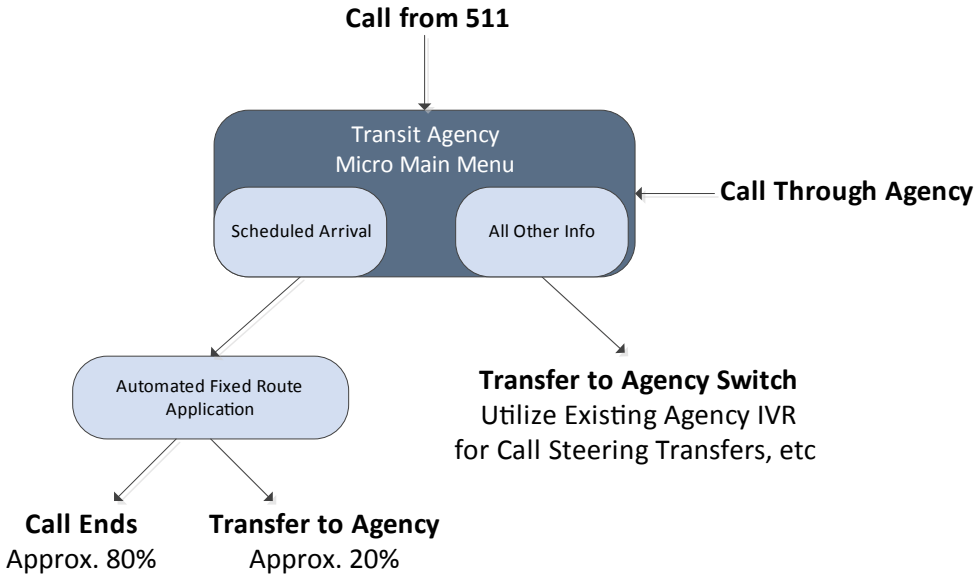
After selecting the "Micro" option from the "Transit" menu, callers can hear the next scheduled arrival at a particular stop by providing the stop number, intersection, or a landmark. The stop number can be spoken or entered by the phone keypad.

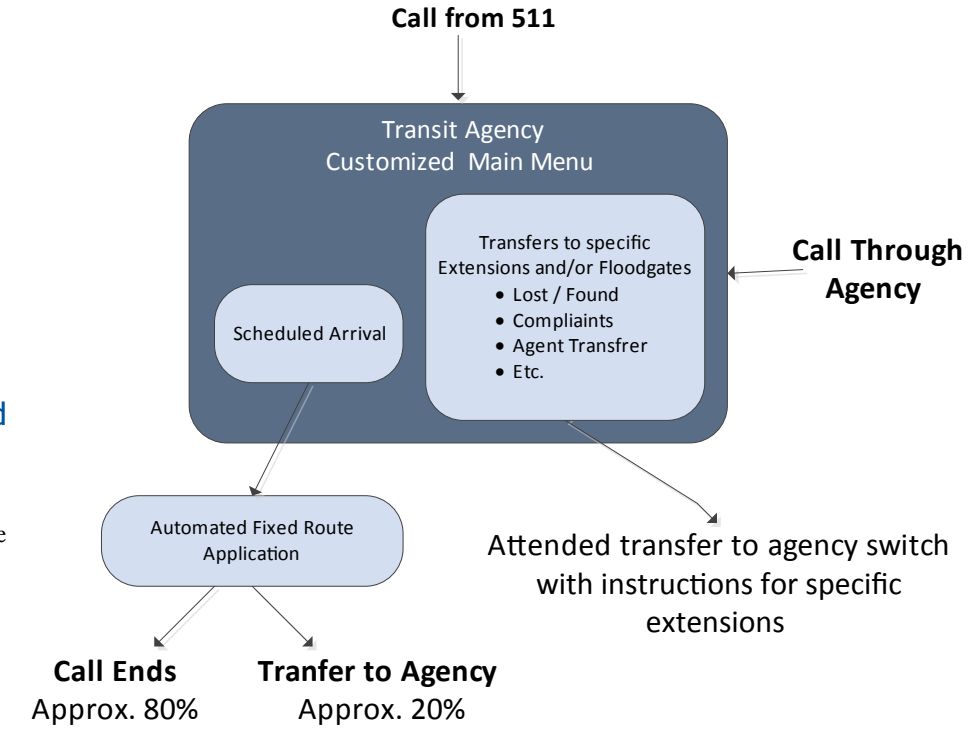
Broadcast Messaging

Each transit agency will have access to its own Broadcast Messaging Tool. This tool will allow agencies to record, activate, and deactivate broadcast messages; separate "alerts" from "informational" broadcasts where "informational" can be limited in terms of number and times delivered; and enable "push" broadcast notifications to the agency's Twitter or Facebook account.

Inbound Arrival Inquiry and Outbound Information Delivery Component

This component of the transit module gives agencies the ability to push scheduled or real-time bus arrival information to users by sending short message service (SMS) text or updating Twitter really simple syndication (RSS) feeds.





This transit enhancement to FL-511 provides the public with more information regarding transit service and helps users add transit into their decision-making when planning a trip. By making transit information more accessible, transit may become a preferred travel option, helping to reduce the demand on our roadways.

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

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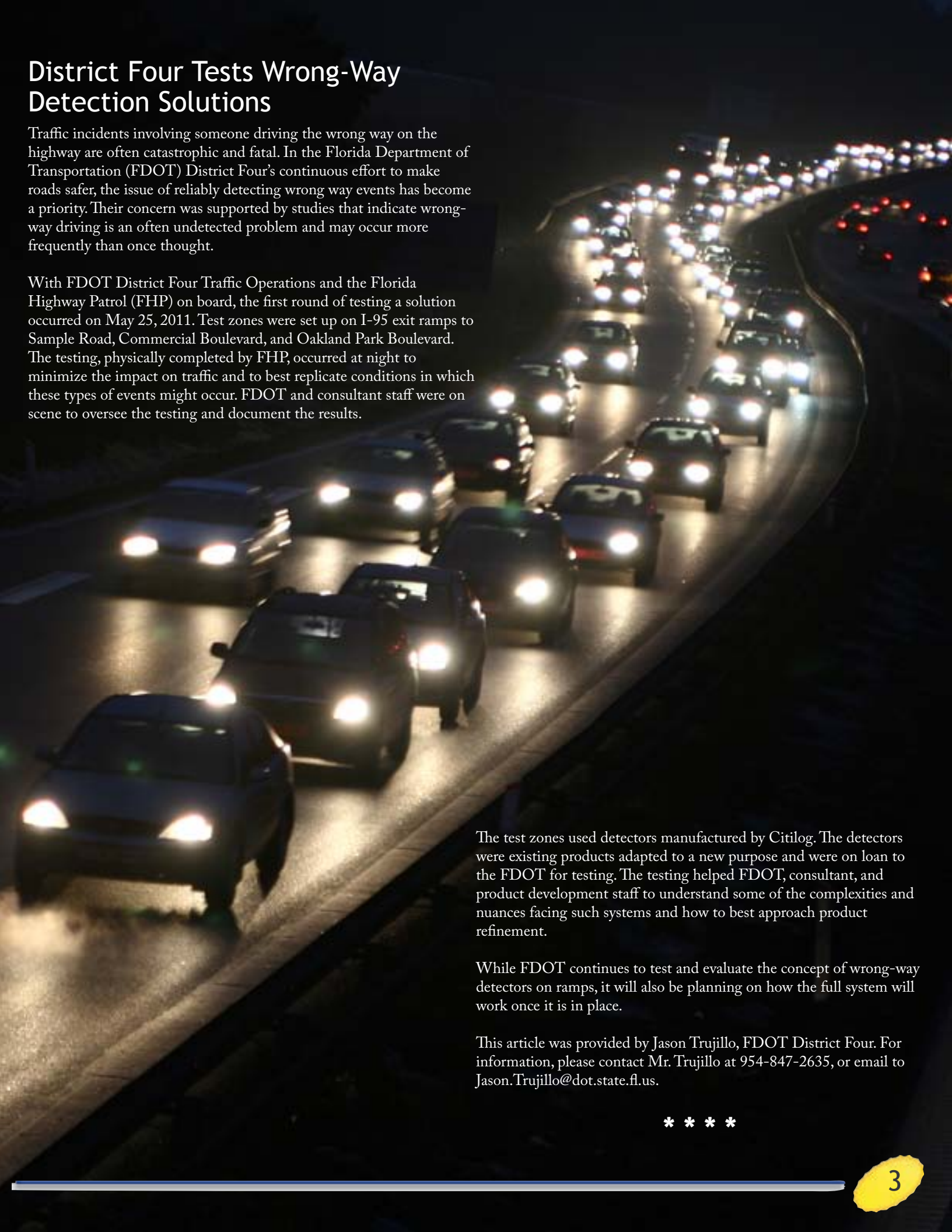
District Four Tests Wrong-Way Detection Solutions

Traffic incidents involving someone driving the wrong way on the highway are often catastrophic and fatal. In the Florida Department of Transportation (FDOT) District Four's continuous effort to make roads safer, the issue of reliably detecting wrong way events has become a priority. Their concern was supported by studies that indicate wrong-way driving is an often undetected problem and may occur more frequently than once thought.

With FDOT District Four Traffic Operations and the Florida Highway Patrol (FHP) on board, the first round of testing a solution occurred on May 25, 2011. Test zones were set up on I-95 exit ramps to Sample Road, Commercial Boulevard, and Oakland Park Boulevard. The testing, physically completed by FHP, occurred at night to minimize the impact on traffic and to best replicate conditions in which these types of events might occur. FDOT and consultant staff were on scene to oversee the testing and document the results.



The test zones used detectors manufactured by Citilog. The detectors were existing products adapted to a new purpose and were on loan to the FDOT for testing. The testing helped FDOT, consultant, and product development staff to understand some of the complexities and nuances facing such systems and how to best approach product refinement.

While FDOT continues to test and evaluate the concept of wrong-way detectors on ramps, it will also be planning on how the full system will work once it is in place.

This article was provided by Jason Trujillo, FDOT District Four. For information, please contact Mr. Trujillo at 954-847-2635, or email to Jason.Trujillo@dot.state.fl.us.

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Lights, Camera, Video….Take 1! SunGuide® Software

We may not always realize just how important a role cameras play in managing our roadway facilities. Transportation management centers (TMC) have dedicated personnel to monitor roadways around the clock so they can proactively identify any potential traffic issues. As we know, every minute of lane blockage can result in four additional minutes of traffic delays. Thus, the sooner we catch an issue and resolve it, the more efficient (or less congested) our roadways will be.

Florida's TMCs use the SunGuide® software to monitor and control devices, and to manage incidents. Cameras are no exception; so SunGuide software supports video display as well. SunGuide software plays an important role in leveraging video technology to monitor roadways. In this article, we survey three components of video: video switching, video format, and camera control. Then we will show how a couple of enhancements to SunGuide software will provide operators with the leading edge tools they need to monitor roadways in order to ensure mobility and safety on Florida's roadways.

Video Switching

Currently, SunGuide software allows operators to perform video switching. Video switching takes the video feed from a camera and switches it onto a video wall. Video walls are common in most TMCs and offer a large screen comprised of multiple digital display cubes which stream multiple camera videos. They can also use it for a TV feed and a computer screen as well. The SunGuide software also allows the video feeds to be dropped on other electronics shared display devices, such as stand-alone televisions and flat panel displays. This not only allows the Florida Department of Transportation (FDOT) to monitor an ongoing incident, but also allows FDOT to collaborate with other agencies housed in the facility and supporting roadway clearance. The SunGuide software provides an intuitive way for an operator to perform video switching.

FDOT is working on expanding the video viewing capabilities not only on the shared displays of video walls and televisions, but also making it convenient to switch video feeds to an operator's workstation computer. Currently within the SunGuide software, TMC personnel cannot simply click on the camera icon on the SunGuide software map to drop the feed onto their operator workstation. Operators can only use external, shared sources to view the video when switched using the SunGuide software. FDOT has plans to modify the software to allow the user to right-click on a camera icon and select a launch video option that will open the feed on the operator's workstation using a free and open source multimedia player, VLC Media Player. This will be a great enhancement as operators can look at cameras quickly without changing the video wall configuration on the video wall or other shared displays that affect others using them. This software modification should also help smaller TMCs that do not have video walls.

Video Format

The video compression standard is the next component under consideration. Video compression is a standard practice in the industry to conserve the communications backbone bandwidth. This allows us to transmit the video digitally across a network. Most cameras along the roadside currently use the MPEG-2 video compression standard—a standard that was developed about ten to 15 years ago. With recent advancements in technology, the H.264 video compression standard has been gaining. H.264 offers significantly higher compression capability as compared to MPEG2. As a result, many vendors are now supporting products that use this standard. In an effort to remain in the forefront of technological advancements, FDOT is considering using the H.264 standard.

An enhancement to the SunGuide software is proposed to support this newer standard. This will make the software more future proof and provide more device options from which FDOT may choose.

Camera Control

Thirdly, camera control is the process of adjusting the camera via pan, tilt, and zoom (PTZ) operations. This component is included as an optional component of the H.264 standard. While there are legacy PTZ protocols currently in use, the H.264 PTZ component is the only protocol supported by some IP cameras. Supporting the PTZ component of H.264 would allow SunGuide to potentially have a much larger market from which to select devices. Also, using the H.264 standard for both the camera control and video compression could be implemented on the same device rather than a camera and encoder separately, thus consolidating hardware and saving deployment and maintenance costs.

FDOT believes that the software enhancements for video switching, video compression, and camera control will make the SunGuide software more video-friendly while offering TMC operators more tools to monitor the roadways as they work towards keeping Florida's roadways safe.

This article was provided by Arun Krishnamurthy and Clay Packard, FDOT Traffic Engineering and Operations. For information, please contact Mr. Krishnamurthy at (850) 410-5615 or email to Arun.Krishnamurthy@dot.state.fl.us.

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The Monroe County TIM Team Recounts Operational Improvements at Annual Meeting

The Florida Department of Transportation (FDOT) District Six Traffic Incident Management (TIM) team recently met with the Monroe County Incident Management Community to discuss hurricane season preparedness and other program initiatives as part of the county's annual TIM team meeting.

At the top of the June meeting agenda was a discussion of the team's progress during the past fiscal year (FY) 2010/2011 and a review of their completed action items and milestones achieved. The first item reviewed was the progress made for the county's access to the District's closed-circuit television cameras. District Six made the camera feeds available to the public via its Intelligent Transportation Systems (ITS) Program web site, www.sunguide.org. Clickable camera icons that expand to show live traffic feeds to assist with event management and verification were placed on a Google© map platform. With more than 40 cameras available on US-1 and Card Sound Road, this feature will be especially helpful during hurricane evacuation efforts.

Incident management personnel respond to an event to restore traffic flow.

Closed-circuit television camera help with traffic management efforts in Monroe County.

Ensuring that the county is well equipped to handle traffic incidents and special events is of crucial importance to the team. With Monroe's limited entry and exit points, the livelihood of the community greatly depends on the traffic management preparedness of FDOT during any type of emergency situation. This is why the

team updated the Transportation Management Center's (TMC) Hurricane Response Action Plan, which outlines team member roles, resources availability, and other important efforts in time for the 2011 hurricane season.

The team also highlighted various performance measures. As a result of the increased coordination between the area's TMC and incident management community, TMC operations staff managed a total of 61 percent more events in Monroe County from June 2010 to June 2011 as compared to the same time period in 2009 and 2010. This improvement in operations may be attributed to the automated alerts feature added to the Operations Task Manager Software to keep operators informed of event information posted on the Florida Highway Patrol and Monroe County Sheriff's Office web sites. This feature has increased communications between responding parties and is improving overall coordination efforts. So far, more than 1,100 alerts have been received for Monroe County since the feature was launched in December 2010.

Dynamic message sign informs Monroe County travelers of real-time traffic conditions.

In addition to improved operations, the team also discussed the District's increased traveler information dissemination efforts in the area. The team posted 31percent more messages on the dynamic message signs along US-1 this year. They assisted with messaging efforts for special events, such as holiday traveling, severe weather conditions, and other community activities, that would affect regular traffic flow in the area. They also posted more traffic reports on the Florida 511 traveler information service, publishing a total of 385 events and two floodgate banners and messages to the web and phone systems to assist area drivers with route planning decisions.

These milestones were made possible partly because of the ITS infrastructure upgrades completed by District Six this year. In their continuing commitment to enhance traffic operations in Monroe County, District Six identified ways to increase the efficiency of its communications infrastructure by separating the county's "daisy chain" wireless-based communications network into a three-network, metro-Ethernet-backed communications system to increase the system's reliability in case of interruptions related to severe weather conditions or outages. As a result of these upgrades, the county's ITS network reliability increased by approximately 4 percent, from 93.98 percent last year to 97.05 percent this year, which is critically important, especially during times of emergency situations.

The improvements noted this year show that the team's multi-pronged approach to enhancing the area's incident management efforts is working. Their commitment to improving the lines of communication with the community as well as their proactive stance on providing a reliable network has improved the team's performance measures in the areas of interagency coordination, events managed, and traveler information to deliver area residents and visitors safer, more reliable roadways.

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 ITS WORLD COMES TO FLORIDA

REGISTER NOW! ITSWORLDCONGRESS.ORG

ITS Florida invites you to plan ahead for the ITS America Annual Meeting and World Congress with more attractions than any other!

WHAT: 18th Annual ITS World Congress to be held jointly with the ITS America Annual Meeting

WHEN: October 16–20, 2011

WHERE: Orlando/Orange County Convention Center

REGISTER FOR THE ITS FLORIDA WELCOME RECEPTION AND DINNER

DATE: MONDAY, OCTOBER 17
TIME: 7:00 P.M.
LOCATION: DISCOVERY COVE

Join us for a relaxing start to the 2011 World Congress and Annual Meeting with a reception and dinner at Discovery Cove, an island oasis setting that offers intricate coral reefs, exotic animals, sugary white sand beaches, and exquisite waterfalls. Hosted by ITS Florida, this event will provide wonderful networking opportunities for attendees as they enjoy a Caribbean themed luau buffet with live entertainment. Come join us for this exciting evening of fun and friendship. Visit www.itsworldcongress.org to register.

Editorial Corner: A Look at ITS in the Transit Community

Advanced public transportation systems (APTS) apply transportation management and information technologies to public transit systems to increase their operational efficiency and improve the safety of public transportation riders. In Florida, the Florida Department of Transportation (FDOT) Transit Office encourages transit agencies to make use of APTS/transit intelligent transportation system (ITS) technologies through technical assistance and guidance. Using technology, transit agencies can optimize their resources and provide enhanced customer services. Further, data collected from APTS technologies can be used by transit agencies in making more effective business and funding decisions for more a strategic, efficient transit system.

Examples of APTS technologies and their benefits include:

- Automated vehicle location (AVL) technology manages transit fleets and improves dispatching. This technology, combined with a communications system, creates a traveler information system, which provides real-time information to customers on upcoming stops, bus arrival information, schedule changes, and delays via the telephone, internet, information kiosks, or mobile phone applications.
- Automated passenger counters (APC) helps transit agencies to monitor ridership demand, which allows them to dispatch vehicles to accommodate increased demand in a timely manner.
- Electronic fare payment systems expedite fare collection thus improving the on-time performance and efficiency of the system.
- Roadside devices, such as traffic signals, can be programmed for bus signal prioritization to improve on-time performance
- In-vehicle guidance and safety systems can assist in reducing driver error and increasing safety for transit systems.

Additionally, archived data from these systems can be used to develop performance measures to monitor the entire system's performance, or examine particular routes, route segments, or stops.

Florida APTS Technical Assistance

To encourage and support Florida transit agencies in deploying APTS, the FDOT Transit Office contracted with the Lehman Center for Transportation Research (LCTR) at Florida International University (FIU) to create an APTS technology transfer web site. The purpose of this web site is to assist agencies in developing ITS strategies, procuring APTS, promoting

knowledge sharing, and supporting the implementation of transit ITS activities with a focus on interoperability. The program is a key component in the FDOT's efforts to provide transit agencies in Florida with APTS technical assistance, technology transfer, and relevant information. The web site is located at http://floridaapts.lctr.org/floridaapts/.

The FDOT Transit Office is currently revising this web site to update and add to the existing compendium of technical resources. The revised web site will include an updated APTS inventory for the state of Florida; national case studies and related literature; a list of ITS contacts at Florida transit agencies; and a library of contracts, purchasing agreements, and other vendor information for peer–to-peer exchanges. It will also include a presentation on the Benefits of ITS for local policy boards and decision makers. Additionally, the Transit Office realizes that ITS needs and implementation strategies vary by the size and sophistication level of transit agencies. Therefore, conceptual implementation plans are being developed for both small rural and large urban agencies based on a hierarchy of needs, which builds on existing transit ITS components.

Looking Ahead

This fall, we are excited to be working with the ITS Program to integrate transit in Florida's 511 system. This new venture is a wonderful opportunity for transit agencies to provide real-time transit information to Florida's traveling public in a familiar, accessible format. Our role will be to coordinate with our transit partners in facilitating and providing transit information in the format necessary for inclusion in the 511 system.

Additionally, we hope to coordinate with the ITS Program in identifying common procurement practices and technologies to develop an approved vendor list for APTS.

With assistance from the ITS community, the FDOT Transit Office will continue to support Florida transit agencies in implementing and improving APTS technologies to provide enhanced transit services and to optimize the efficiency of the local systems.

This editorial was provided by Diane Quigley, FDOT Transit. For information, please contact Ms. Quigley at (850) 414-4520 or email to Diane.Quigley@dot.state.fl.us.

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Announcements

Save NOW by Registering for the 18th World Congress!

Now is the time to make preparations to participate in this exciting conference. Registration is open for the 18th World Congress on Intelligent Transportation Systems in Orlando and ITS America's Annual Meeting & Exposition, but early registration ends August 1 when the cost to attend increases.

Top reasons to attend?

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

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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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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