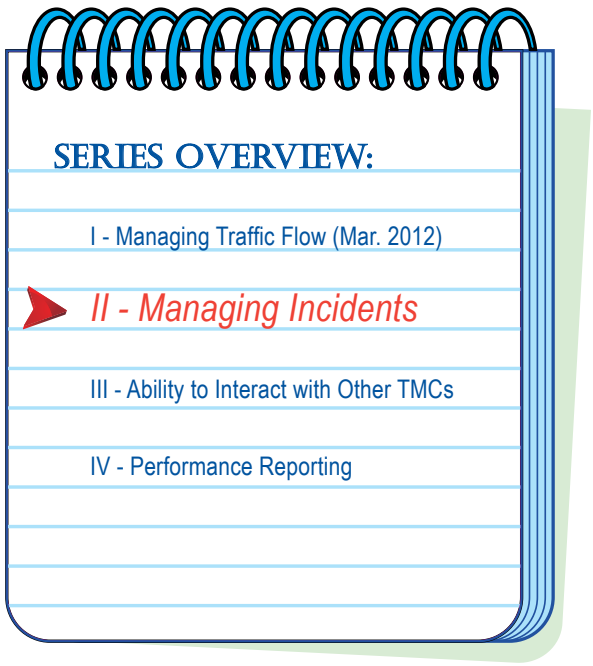
SUNGUIDE®
DISSEMINATOR
Florida Department of Transportation's Traffic Engineering and Operations Newsletter

SunGuide® Software: Managing Incidents

By Arun Krishnamurthy, FDOT Traffic Engineering and Operations, and Clay Packard, Atkins

This is a continuation of the SunGuide® software series, started last month. In the previous article, we talked about how SunGuide software can help identify incidents. In this article, we will discuss how SunGuide software can help manage incidents after the incident is identified. We will also describe the comprehensive approach used by SunGuide software for event management.



Traffic congestion and crashes are a significant problem on roadways. Florida's interstate system comprises about 1.7 percent of the state's roadways, but it carries about 24 percent of all roadway traffic. Because of this, congestion on Florida's interstate system has steadily increased over the years. Traffic-related events, particularly those that block travel lanes, can restrict the flow of already congested traffic and significantly increase travel times for motorists. Along with increasing travel times, these events add to motorist frustration and road rage, which can contribute to unsafe driving conditions. Therefore, it is important for transportation management center (TMC) operators to manage traffic effectively and ensure that travel lanes are cleared efficiently so that traffic can return to normal.

So how do TMC operators use SunGuide software to manage incidents in Florida? Once the TMC operator learns of an incident, the operator confirms it by monitoring closed-circuit television (CCTV) cameras in the vicinity to view the incident, or by requesting a Road Ranger service patrol or law enforcement

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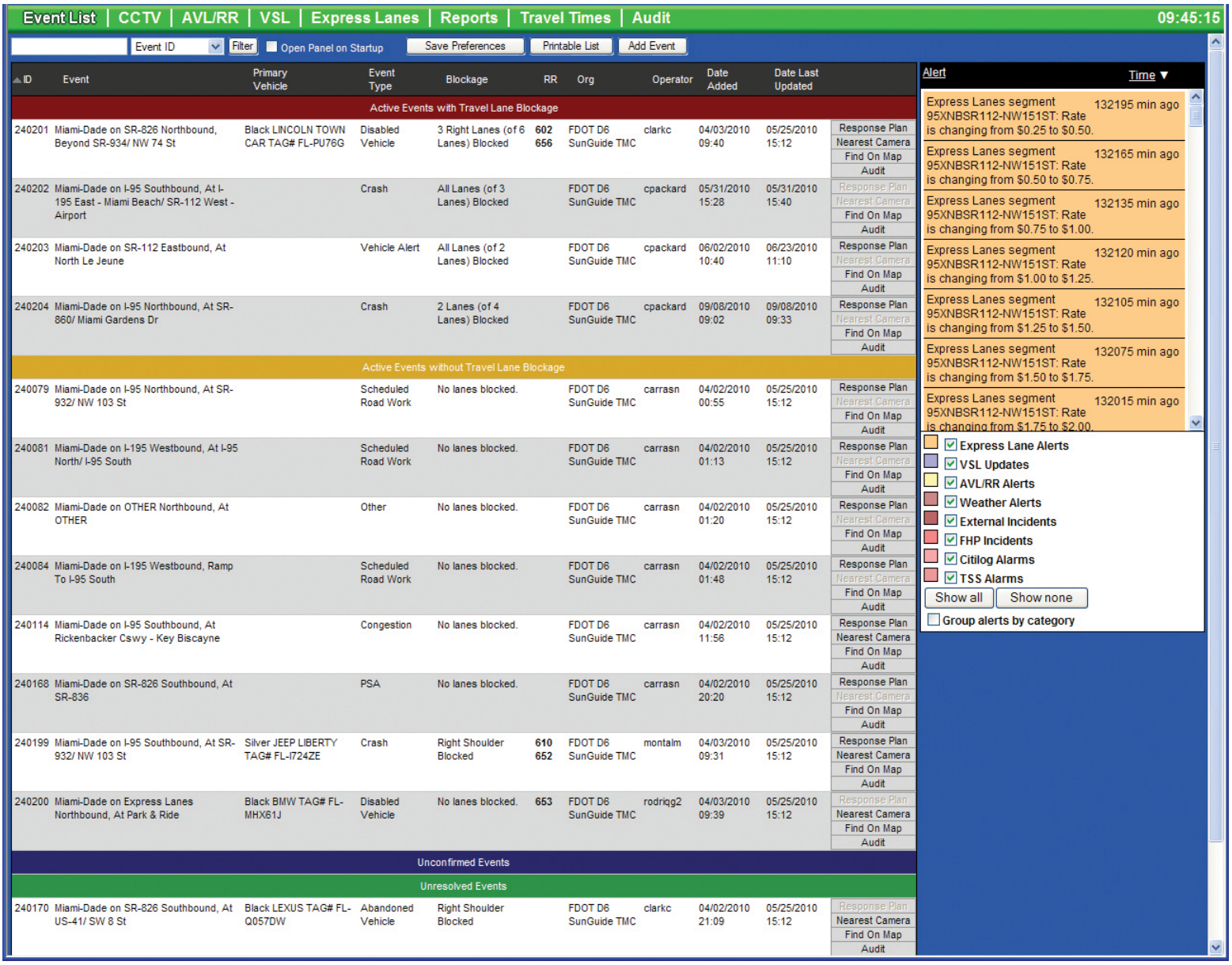
personnel to visit the incident site. TMC operators usually prefer visual confirmation of an incident as it helps in not only the confirmation, but it also provides additional details on whether the incident is impeding traffic, if any motorist is injured, and if they need to contact other agencies to assist with the incident.

Event Management Within SunGuide Software

The TMC operator would typically create an event in the SunGuide software to track and log information about an incident. Information entered in for the event includes when the operator first learned of the incident and when and how they confirmed the incident. The software also asks about the incident location and the type of incident. The software has extensive options to enter additional information; however, it does not require entry of all information up-front. The TMC operator can enter some information initially and continue to fill in other information as the incident progresses.

Using information added to the event screen, the software recommends an information dissemination plan. This includes posting incident messages on dynamic message signs (DMS), highway advisory radios (HAR), and Florida's 511 traveler information system (FL511), together with broadcasting email to District operations personnel. SunGuide software is able to determine the DMS and HAR devices in the vicinity of the incident and can also recommend the message to be included on these devices. This not only makes it easier for the TMC operator to disseminate incident information, but it also makes it



Sample event list showing actively managed incidents at the TMC by SunGuide software.

faster to broadcast the information. We believe that any time saved in trying to navigate through the software is time better spent in managing the incident.

Depending on the severity, incidents can last several minutes, or longer. TMC operators track the incident from the beginning so they can support it accordingly:

- They change the message broadcasted to the motorists as the number of blocked travel lanes changes.
- They track the number of responders on the scene and their arrival / departure times.
- They dispatch Road Rangers to the incident, depending on the severity and other priorities.

As they track an incident, TMC operators log all information in the SunGuide software. This allows TMC managers to analyze how incidents are managed in their jurisdiction and to make any adjustments to their procedures to more efficiently manage incidents.

Having all incident information logged in the software also allows TMC administrators to perform a quality check on the incident information. It is important to ensure the accuracy of the information disseminated on the DMSs, HARs, and FL511. Based on the Florida Department of Transportation's (FDOT) past experience, we know that the traveling public can easily lose confidence on broadcasted messages if they see inconsistent information; so it is critical for TMC operators to closely monitor incidents and ensure the accuracy of broadcasted messages.

Customization

SunGuide software is able to automatically recommend messages and pre-select the DMS and HAR devices to send messages to because of its ability to be customized. The software is customized to recognize which DMS is upstream and which is downstream. Also, the software is customized to provide a tailored message, depending on whether the DMS is on the same roadway as the incident or on a different roadway, or if the incident is on the ramp.

SunGuide Map

The SunGuide software map shows all the active incidents in the TMC's jurisdiction. This makes it convenient for TMC operators and administrators to view all incidents in the system. Icons indicate incidents by type. If it is a minor incident, the icon is green with the number "1" within the icon; but if it is a major incident, the icon is red with the number "3" within the icon. The number within the icon refers to the severity of the incident. Similarly, other incident types are differentiated by the color and text within the icon on the map. The icon also reflects if the incident information has been disseminated to DMS and FL511.

Road Rangers

Now-a-days, most Road Rangers use a mobile device to facilitate direct interaction with SunGuide software. TMCs have either purchased a vendor- or FDOT-developed mobile application product. These mobile devices used by Road Ranger are connected to the SunGuide software system at the TMCs to make it easier for TMC operators to collaborate with Road Rangers. This system not only transmits real-time location updates from the Road Ranger vehicle, but also allows the Road Ranger to enter incident information into SunGuide system software in the field. This saves time for TMC operators as they do not have to be on the phone with the Road Ranger to enter incident information into the software.

Conclusion

As shown in this article, SunGuide software offers the flexibility to manage incidents efficiently and effectively. Given its ability for customization, this software offers recommendations that are consistent with the users' preferences and the TMC's objectives and procedures. Also, given the business intelligence built into the software, it is able to disseminate information with minimal operator involvement, but with complete oversight. Most of the features in the software are designed to save TMC operators time and effort so they can focus on other important things related to incident management, such as coordination with law enforcement and other TMC personnel.

For information, please contact Mr. Krishnamurthy at (850) 410-5615 or email to Arun.Krishnamurthy@dot.state.fl.us.

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District Six and Florida Highway Patrol Work Together to Solve Copper Theft Case

By Javier Rodriguez, FDOT District Six

The partnership between the Florida Department of Transportation (FDOT) District Six and the Florida Highway Patrol (FHP) Troop E recently helped facilitate detainment of a person caught stealing copper wire from an electronic panel box on Interstate 95 (I-95) in Miami-Dade County.

In the early morning hours of February 21, 2012, an FHP duty officer advised a District Six transportation management center (TMC) operator about a call received to their communications dispatch office reporting a suspicious person seemingly stealing copper wire in the area of I-95 southbound, north of State Road 112. Trooper Thomas Winders overheard the call on FHP's radio channel and immediately drove toward the location. The TMC operator also dispatched a Road Ranger service patrol to the area.

Trooper Winders arrived first and encountered the suspicious person, who was still in the act of stealing the copper wire from a light pole on the expressway. Trooper Winders took the person into custody without incident. Shortly thereafter, District Six's Road Ranger service patrol arrived on scene to provide maintenance of traffic to keep traffic moving while the trooper continued to work the crime scene.

FHP advised the TMC operator of the missing copper wire from all the light poles on I-95 southbound between NW 46 Street and NW 56 Street, which, in turn, allowed the operator to contact the proper maintenance agencies to repair the light poles as soon as possible to avoid potential incidents or crashes

Catching this person was a relief, as FHP and District Six had received several calls in the past few months regarding copper theft activities, and this person's physical description matched the descriptions previously given by some callers during that time. It is possible that the person taken into custody could be the same one responsible for similar thefts in this area of I-95.

FDOT maintenance teams provide service to roadway equipment and technologies.

Copper theft has become a major problem through many parts of the state, causing unsafe conditions for drivers on the highway. State legislators recently passed a bill to enhance criminal penalties against thieves and corrupt recyclers. Starting this summer, the crime, which was previously considered a misdemeanor, will carry first-degree felony charges for the metal thieves as well as third-degree felony charges for recycling plants caught buying these stolen metals. The bill was created after a southeast Florida woman died last fall after she was hit by a car on an unlit Miami street after thieves stripped the traffic light of its copper wire.

In Miami, the partnership and co-location of FDOT District Six and FHP in our TMC is playing an important role in protecting the public's investments and safety on I-95 and all our roadways. FDOT hopes to continue working with all our partner agencies toward reducing this problem and promoting safety and mobility on all our highways.

For information, please contact Mr. Rodriguez at (305) 407-5341 or e-mail to Javier.Rodriguez2@dot.state.fl.us.

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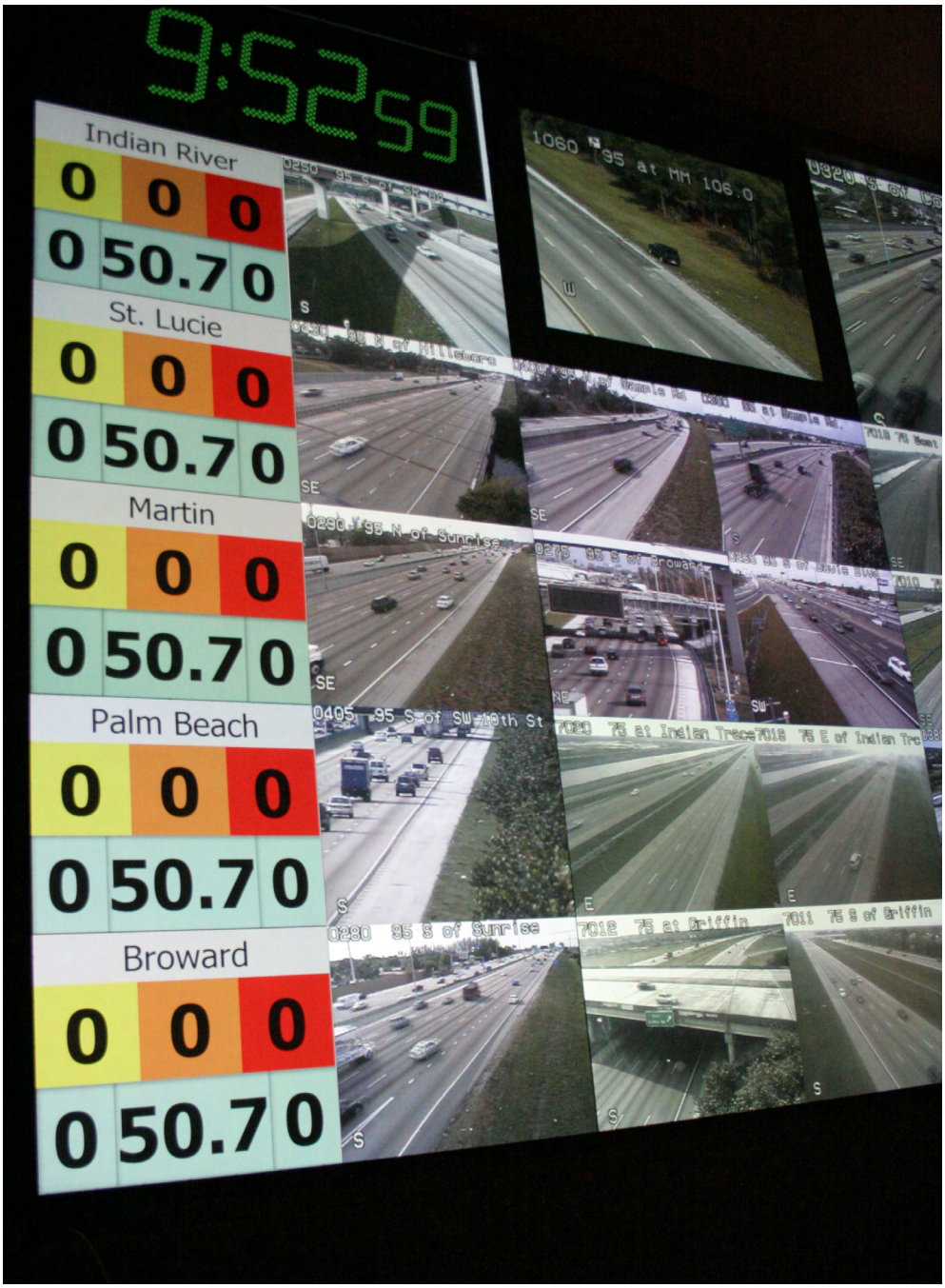
District Four Improves Video Wall Display

By Dong Chen, FDOT District Four

The video wall in the Florida Department of Transportation (FDOT) District Four SMART SunGuide® Regional Transportation Management Center (RTMC) is no longer just a collection of highway traffic images. The centerpiece of the RTMC control room is pumping out data in new and innovative ways. The video wall now displays real-time information about various intelligent transportation systems (ITS) functions to improve "situational awareness." This allows ITS administrators to tell at a glance what is happening throughout the District, according to Daniel Smith, FDOT District Four ITS Operations Manager.

One of the new features is an "operations dashboard;" a vertical column of five cubes (one for each county in the District) located on the left side of the video wall. Each county cube is divided into six smaller squares. Three squares are used to show the number of active incidents and level of severity. Level 3 incidents are displayed in red, Level 2 incidents in orange, and Level 1 incidents in yellow. Other information displayed for each county includes the number of generators in operation, the average incident clearance time for the year, and the number of inoperable ITS devices.

Another new feature will be a SolarWinds management console displaying the current status of the ITS network. This will allow RTMC managers to quickly see the how the network is performing and identify any potential problem areas.



Video wall with new display feature.

These improvements provide a better way to display key images from closed-circuit television cameras. The main screen from each operator's workstation will be displayed on the video wall. The configuration of the images on the wall will mirror the layout of the consoles in the control room. This will improve information sharing among operators and allow managers to easily view incidents that operators are monitoring.

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

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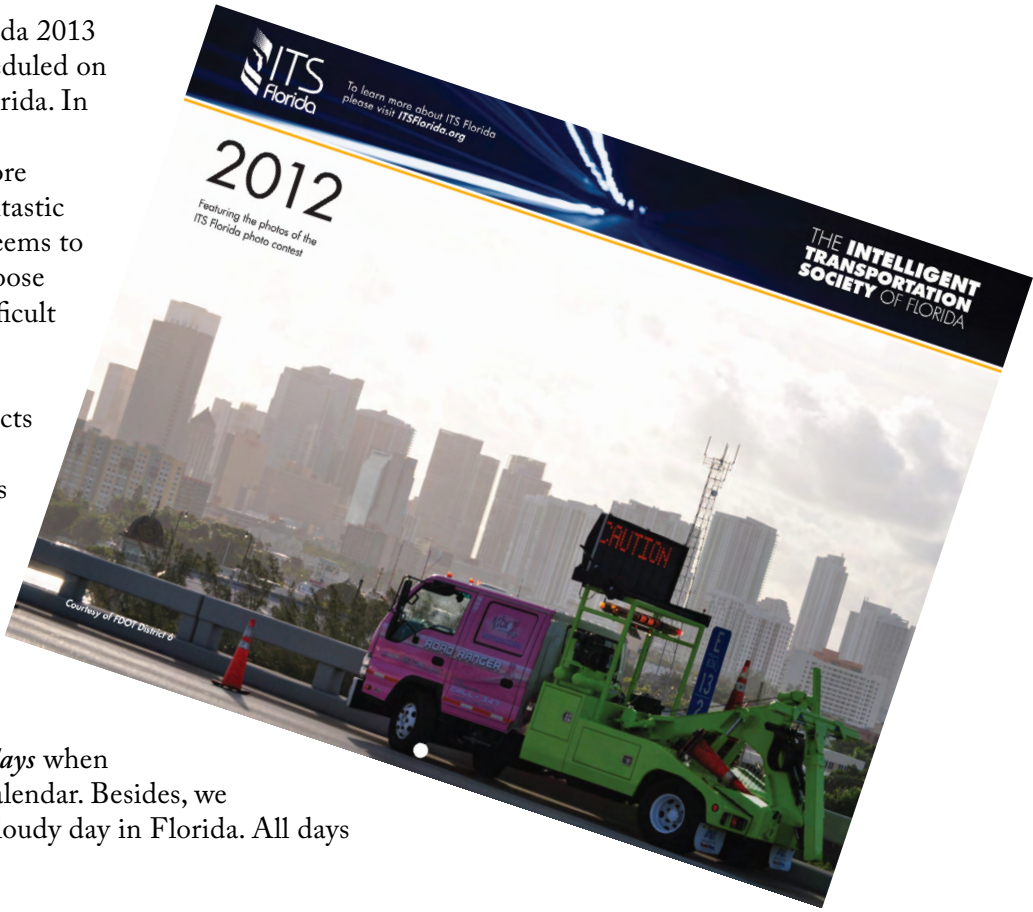
ITS Florida 2013 Photo Calendar

By Eika Birosak, ITS Florida

The ITS Florida calendars, showcasing our intelligent transportation systems (ITS) projects across the state, have made us the envy of other ITS America State Chapters. Many times, other State Chapters ask, "I want to take this idea back to my State Chapter. Do you mind?" Of course not! This is an example of flattery to the greatest degree. The key to the continued success of these calendars is you – the ITS community. ITS Florida needs your photos and your sponsorship support to make the 2013 calendar the same success as the earlier versions.



ITS Florida will be producing their ITS Florida 2013 calendar for distribution at Transpo2012, scheduled on October 28 – 31, 2012, in Bonita Springs, Florida. In order to meet this production schedule, photo submissions are due to ITS Florida on or before **Friday, June 1, 2012**. So start taking those fantastic photos now! The ITS Florida judging panel seems to get more and more high-quality photos to choose from each year, making the selection more difficult with each passing year.

The photos are normally pictures of ITS projects or aspects of ITS located within the state of Florida. ITS Florida looks for unique qualities or unique characteristics when judging the photos. Something new and exciting is always well received.

Here are a few tips to remember when taking photos for submission:

- Photos should be taken on ***bright, sunny days*** when possible in order to show up well in the calendar. Besides, we don't want folks to know we ever have a cloudy day in Florida. All days are sunny and beautiful!

- Take photos in ***landscape format***. Photos taken in portrait format can only be used as inset photos, which are needed, but are not the ones displayed prominently as a month selection.

- Use a ***high-resolution*** camera when possible. The better the resolution, the better display the picture will have in the calendar.

- ***Keep captions*** for each of the photos you plan to submit. Captions should identify the photo content. We also need to know who is submitting the photos.

- If you are submitting a photo of a public sector project as a private sector member, ITS Florida recommends that you clear this with the public sector agency prior to submitting and submit the photo as a joint submission.

ITS Florida needs sponsors for the 2013 calendar. The call for sponsors will be going out soon and should be similarly structured as in previous years. Last year's sponsors will receive the call first and then the request will be sent out to all ITS Florida members. Please make plans to become a sponsor and be seen by your customers all year long in the ITS Florida 2013 calendar. With the calendar being distributed at Transpo2012, everyone will want one and will want to take extras back to hand out throughout the year. Sponsors get extra copies to give to their customers. ***Don't be left out! Prepare now to become a sponsor.***

And, don't forget to make plans now to attend Transpo2012 in October in Bonita Springs to get your copy of the ITS Florida 2013 calendar.

For information, please contact Ms. Birosak at (813) 376-0036 or e-mail to Erika. Birosak@transcore.com.

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Editorial Corner: Using Private Data Sources

By Gene Glotzbach, FDOT Traffic Engineering and Operations

The Florida Department of Transportation (FDOT) is doing a good job in deploying intelligent transportation systems (ITS) in our urban areas, where we have deployed sensors and closed-circuit television (CCTV) cameras to monitor traffic on our limited-access facilities. A number of FDOT's Districts are now built out as far as ITS deployment goes. Several more Districts will be implementing their final deployments, thus building out their ITS in the next couple of years. So we are in good shape from a statewide perspective in our urban areas.

Where we lack is where you might expect — in our rural areas. We just don't have the funds to address the rural areas on a large scale. The primary rural segments that are not covered are Interstate 10 from Jacksonville to Pensacola and Interstate 75 from Tampa to the Georgia state line. For approximately 500 miles of limited-access facilities in the state, FDOT has limited ability to collect data to monitor these facilities.

Private data sources can help us to fill in these gaps by providing information in our rural areas. FDOT can acquire private data to be utilized at a fraction of the cost of deploying sensors for the same number of miles. FDOT is familiar with three companies, whose data systems have been tested and verified for accuracy. Based on FDOT's verification efforts, any one of these companies can provide useful data to assist in managing traffic in these rural areas.

Private data source collection systems can provide travel times/speed data, which can be integrated into our statewide SunGuide® software and then pushed out to the 511 traveler information system (FL511) for dissemination to the public. The data collection systems provide traffic flow information, letting the public know of bottleneck locations, which they can then avoid. FDOT currently uses one of these three companies to provide traffic flow information. This information is provided on the FL511.com web site as color-coded lines, where green represents good flow conditions and red represents poor flow conditions. Hovering over a link on the map brings up a box that provides the speed and travel time to traverse that link. When calling the FL511 phone system, the caller can get travel time information by roadway segment.

These data collection systems provide a good means of alerting FDOT of potential issues on the roadway. The map with the color-coded display is a good tool to track the degradation of traffic flow as the color changes from green to yellow to red indicating an issue with the traffic flow. Verification of a problem can then be accomplished utilizing the Florida Highway Patrol's computer-aided dispatch system and/or in combination with motorist feedback provided by FL511.

Monitoring rural areas with CCTV cameras and FDOT-supplied sensors may be the ideal situation, but the probability that FDOT will deploy cameras and sensors on the full mileage of rural limited-access facilities in the near future is small. Private data can be utilized to provide a good level of coverage that allows FDOT to have a reasonable feel for the traffic condition in rural areas.

For information, please contact Mr. Glotzbach at (850) 410-5616 or e-mail to Gene.Glotzbach@dot.state.fl.us.

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Announcements

Welcome to Florida Kris!

We would like to take this opportunity to welcome Mr. Kris Milster, who replaced Lokesh Hebbani as the Intelligent Transportation Systems (ITS)/Traffic Operations Engineer for the Federal Highway Administration's Florida Division Office. Kris is the main point of contact for ITS projects and traffic operations programs.

Kris can be reached at (850) 553-2246, or email to Kris.Milster@dot.gov.

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ITS America 22nd Annual Meeting & Exposition – It's Not Too Late!

It's not too late to register for and attend ITS America's 22nd Annual Meeting & Exposition being held in National Harbor, Maryland on May 21-23, 2013.

More information is available at http://www.itsa.org/annualmeeting.

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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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