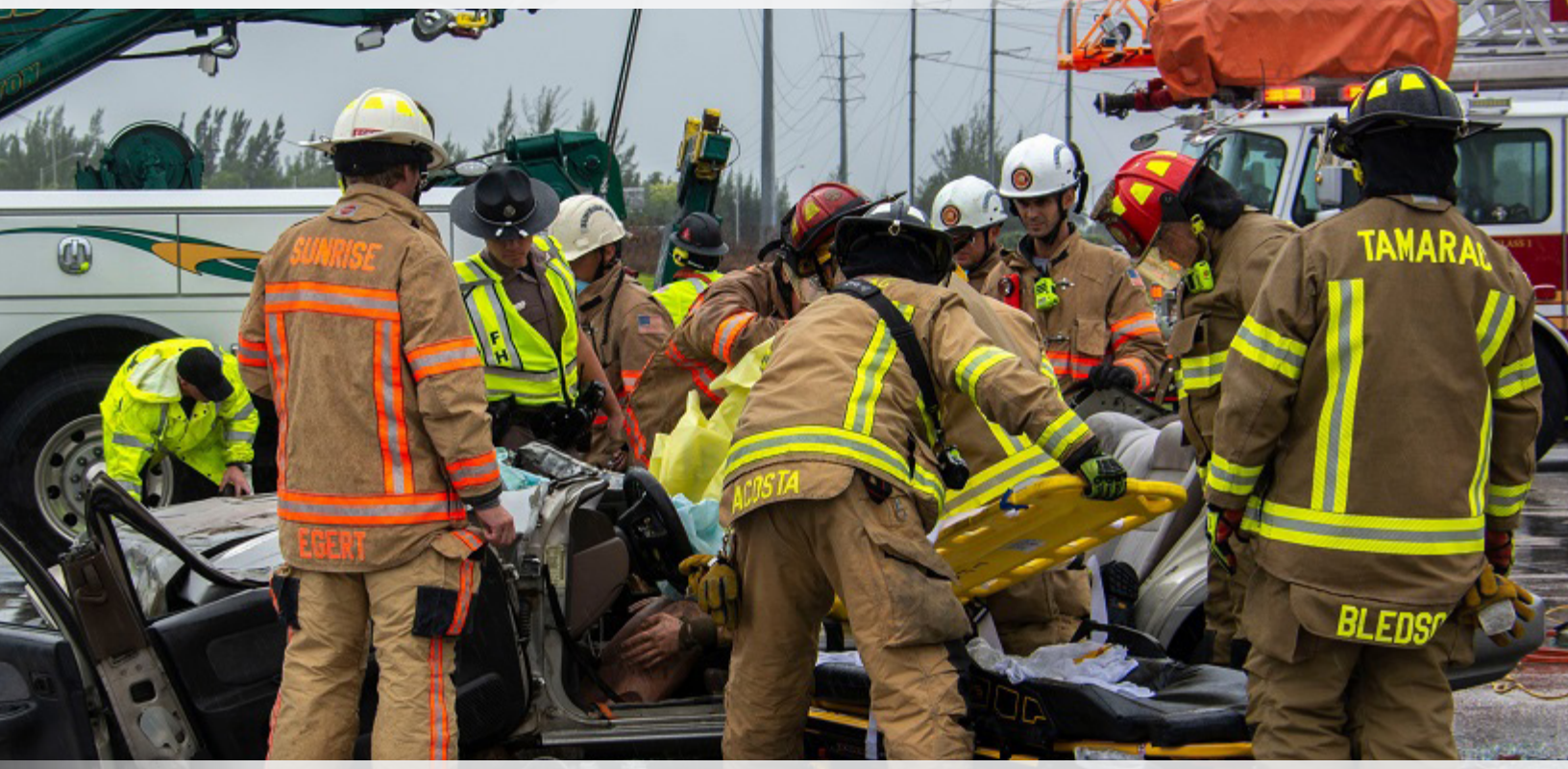
FLORIDA DEPARTMENT OF TRANSPORTATION

TSM&O DISSEMINATOR

TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

November - December 2019

District Four Participates in Annual National Traffic Incident Response Awareness Week



Statewide Intelligent Transportation Systems Communications Network (SICN) Phase II Upgrade on Track for Early 2020 Completion

FLORIDA DEPARTMENT OF TRANSPORTATION'S
TRAFFIC ENGINEERING AND OPERATIONS PUBLICATION

FDOT TSM&O
Transportation Systems Management & Operations

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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.

Looking to be a Contributor for the Next Issue of the TSM&O Disseminator?

Email Jennifer Rich (Jennifer.Rich@dot.state.fl.us) with your story subject and title.

We would love to have your contribution be a part of the next edition.

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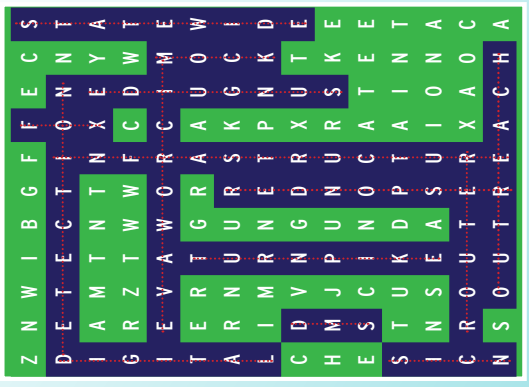


District Four Participates in Annual National Traffic Incident Response Awareness Week

By Nicole Forest, District Four TSM&O Resource Manager, FDOT

In recognition of National Traffic Incident Response Awareness Week, November 10-16, District Four's Transportation Systems Management and Operations (TSM&O) Group, alongside the Florida Turnpike Enterprise (FTE), participated in a large-scale incident recovery demonstration. The event was designed to raise awareness about traffic incident management and the dangers incident responders face.

The demonstration, attended by several news and media agencies, featured a small passenger vehicle lodged underneath a large bus, simulating how multiple agencies would respond to such an incident in real time. District Four's Severe Incident Response Vehicle Team was one of the highlighted responding agencies.

According to Chief Jeffrey Lopez, from the city of Tamarac's Fire Rescue department, the demonstration's goal was to remind motorists to slow down and move over for incidents where first responders are on the scene.

District Four felt compelled to participate again in this year's demonstration, after 15 Road Ranger-involved crashes occurred in the district in 2019 to date. Five of those crashes occurred in September alone. Compared to the previously reported total of nine crashes in 2017 and 2018 combined, this dramatic increase illustrates the continued dangers incident responders face.

To further push the narrative, District Four posted "Move Over" law messages on Dynamic Message Signs across the district and scheduled several social media posts to target younger motorists who may not have heard of the "Move Over" law.

"Our goal every year is to educate motorists on proper safety techniques that directly impact incident responders' lives. This year's awareness week is no different," said Michael McGee, District Four Traffic Incident Coordinator.

District Four's participation last year garnered 4,000 individual outreach impressions. This year's efforts are estimated to surpass that total.

For more information on District Four's awareness efforts, please contact Nicole Forest, TSM&O Resource Manager at (954) 847-2631 or visit the National Operations Center of Excellence website at https://transportationops.org/.

Statewide Intelligent Transportation Systems Communications Network (SICN) Phase II Upgrade on Track for Early 2020 Completion

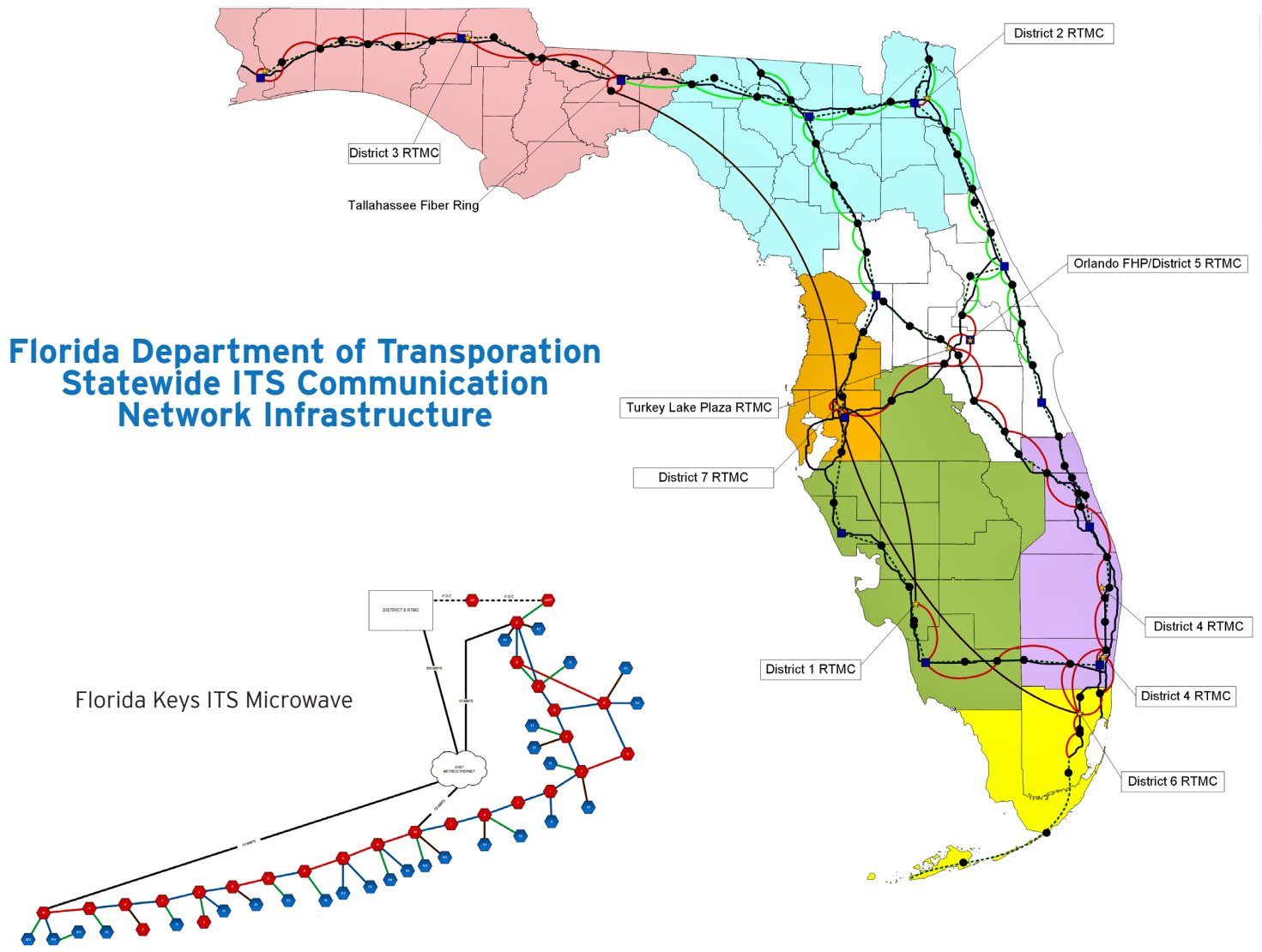
By Terry Posey, Atkins and Adam Sewall, Waterleaf International

The Florida Department of Transportation (FDOT) owns and operates the Statewide Intelligent Transportation Systems Communications Network (SICN), a microwave and fiber optic transmission network. The SICN transports and distributes intelligent transportation systems (ITS) data traffic among regional transportation management centers (RTMCs) and the State Emergency Operations Center (SEOC). Much of the SICN capacity is used for roadway camera monitoring, but the system is also used for traffic flow detection and dynamic message sign (DMS) control.

Engineers testing each of the 800 statewide network Ethernet connections.

Staging and testing of the entire SICN upgrade network (81 sites) prior to field deployment.

Statewide Intelligent Transportation Systems Communications Network (SICN) Phase II Upgrade on Track for Early 2020 Completion *(continued from page 4)*



FDOT's Phase II project upgrades the SICN through replacement of its aging Nortel® equipment (Passport 15000 Multiservice Switches, ASN routers, BPS2000 switches and BayStack hubs) with Nokia® 7705 SAR-18 Multiprotocol Label Switching (MPLS) data transport equipment. A well-respected and capable provider of wireless and fiber network integration and technical services, is carrying out this work.

The selected firm is supplying, configuring, installing, and integrating Nokia 7705 SAR-18 Service Aggregation Routers and a Nokia 7750 SR-a8 Service Router with the SICN's existing Harris® DVM6-45 TDM microwave backbone. This will enable cut-over of ITS traffic statewide with minimal impact to FDOT operations. This project implementation also includes seamless integration of FDOT's existing network management and ITS data transport services.

Many complex issues have been addressed and overcome in the switch from the legacy analog system to the state-of-the-art MPLS digital infrastructure. In late October, the staging, witness testing, and initial integration into the FDOT systems was completed - ahead of schedule and on budget. In the next phase of the project, the equipment will be installed and turned up at 81 sites throughout Florida. The final phase of turn-up and testing is projected to be completed in early 2020.

For more information, contact Randy Pierce at (850) 410-5608 or by email at Randy.Pierce@dot.state.fl.us.

Response partners from law enforcement, fire rescue and the towing industry demonstrated life safety, investigative, and recovery operations for the viewing gallery.

FDOT Mock Incident Demo Increases Responder Safety Awareness

By Mary Lou Veroline, TSM&O Technical Writer, Florida's Turnpike Enterprise

The Federal Highway Administration designated November 10-16, 2019, as 'National Traffic Incident Response Awareness Week' (NTIRAW). The safety observance is now in its fourth year of existence and efforts continue to be focused on educating the public about the nation's "Move Over" laws and the role that drivers play in keeping first responders safe.

Already, in 2019, there have been 39 "struck by" fatalities among first responders nationwide; 15 law enforcement, 8 fire/EMS and 16 tow operators. In addition, upwards of 60 Department of Transportation workers are struck and killed annually. The State of Florida lost its first member of the incident response community on November 6, 2019, when Escambia County Fire Chief Dwain Bradshaw was struck by a passing truck at a crash scene.

Several months ago, the nationwide planning group began brainstorming ways to mark the 2019 campaign utilizing the theme of "Safety is a TEAM Effort: Traffic Emergency Actions Matter." Florida's Turnpike and FDOT officials from Central Office and Districts throughout the State came together as part of the working group. Early on in the brainstorming process, Traffic Operations staff from the Turnpike's Pompano

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The mock crash scenario was set as a passenger vehicle rear-ending a large bus with driver entrapment.

FDOT Mock Incident Demo Increases Responder Safety Awareness *(continued from page 6)*

Beach Operations Center floated an idea to sister Districts Four and Six about staging a mock incident response demonstration for members of the South Florida media. The idea caught like wildfire and an event was tentatively put on the calendar for November 14.

Over the next two months, Turnpike staffers engaged response partners from the Florida Highway Patrol, Tamarac Fire Rescue, Sunrise Fire Rescue, the Sunshine State Towing Association, and Road Ranger vendor, AutoBase, to join in the demonstration. All agreed enthusiastically. A location was identified in western Broward County and permission was secured to utilize the Turnpike's tandem truck parking lot located along the Sawgrass Expressway (Toll 869) at Commercial Boulevard.

As November 14 approached, the Turnpike's Public Information Office began reaching out to members of the local media to pitch the story idea and invite their reporters to cover the event in live remotes. Again, the response was overwhelming!

Fast forward to event day, and the skies opened up in a steady rain. Hoping the weather would not "dampen" media coverage, the set-up team secured tents and trailers for the viewing gallery and rolled the dice. Not only did the media show up, but they showed up en masse!

South Florida channels four, seven, and 10, West Palm Beach channel five, and Spanish-language channels 23 and 41, all did segments dedicated to the event. The South Florida Sun-Sentinel covered the demonstration, as did the team from Total Traffic Network. All agreed that the rain brought a certain "reality" to the event as bad weather is often a contributing factor in highway crashes.

In all, the event was a rousing success in demonstrating the complex recovery operations that these teams perform, all while live traffic is moving alongside the scene. Each of the media stories went heavy on the theme of "Move Over and Slow Down for Responders" which is precisely the message this awareness week was created to disseminate.

For more information, please contact John Easterling at (954) 934-1620 or by email at John.Easterling@dot.state.fl.us.

Event participants gathered for a team photo at the conclusion of the Turnpike's multi-agency incident response demonstration.

From top: Chief Jeffrey Lopez of Tamarac Fire Rescue, Lieutenant Alvaro Feola of the Florida Highway Patrol; Road Rangers Roy Ward (Turnpike) and Pedro Ruiz (District Four SIRV); and Turnpike Intelligent Transportation Systems Technologist Jan Berges spoke with members of the media following the live demonstration event.

Getting Rid of the Box – Developing a Vision Without Boundaries

By Paul Clark, Statewide Scale Operations Manager, FDOT

Having been with the Department for many years, I have had multiple opportunities to lead statewide programs and initiatives and have always jumped at the challenge. But just over four years ago I was given the biggest opportunity of my career and that was to be part of the Department's Motor Carrier Size and Weight (MCSAW) Office. The primary function of MCSAW is to enforce Florida Statute 316 and Florida Administrative Code 14-26 as it relates to size, weight, and other requirements for commercial vehicles. We have 174 team members that are dedicated to day-to-day operations and enforcement statewide, but this just scratches the surface of what we do daily.

We also have a small core group that is responsible for designing, constructing, and maintaining the state's weigh station infrastructure. When I first became part of the team, the scale maintenance portion was running well and there was one identified project in the work program. Seeing that we were not adequately focused on total maintenance of our facilities, we started developing processes to identify where needs existed and developed a systematic approach to address them. With that in mind, we created the MCSAW Assessment Tool within a geographic information system (GIS) environment. Using this tool we have gone from one project to approximately forty-eight construction projects identified in the next five years.

With the expected growth of commercial vehicle travel on Florida's roadway network, combined with increases in population and tourism, effective investments are necessary to ensure the demands of increased volumes of commercial vehicles are met. In the past, MCSAW has held two strategic visioning sessions that have assisted with the planning and design of the weigh station of the future, equipped with mainline screening and intelligent mainline bypass systems.

Almost two years have passed, and the Department has made great strides in the advancement of freight mobility and safety and continues to stand positioned to be a national leader in freight technology deployment. On March 18, 2020, the MCSAW Office, in conjunction with the Commercial Vehicle Operations (CVO) Program, will be holding a third agency stakeholder strategic visioning session we are calling "Getting Rid of the Box." We hear a lot of discussion regarding "Thinking Outside of the Box" but our goal is to throw the box away, getting rid of institutional barriers to determine how we move forward as a state. This session is intended for key Department staff, as well as agency stakeholders. We will focus on how we can continue to accelerate technology deployments, identify data sharing opportunities, and allow for collaboration between agencies, offices, and across state lines.

Past visioning sessions and coordination with the Freight Logistics and Passenger Operations and Transportation Data Analytics (TDA) offices have led to the development of business and strategic plans. By reviewing strategies identified in these plans, we hope to pinpoint and advance areas of stakeholder collaboration, technology developments and deployments, and data sharing activities. These advancements will increase the efficiency and safety of our transportation system now and will aid in the planning, design, operations, and maintenance of the state highway system, as it relates to goods movement in the future.

One of our goals for the upcoming meeting is to focus on expedited freight processing on Florida's interstate system. Participants will consider creative ways our state weigh stations, TDA deployed devices, agriculture interdiction stations, and more, can be used to enhance the efficient movement of freight on Florida's interstate highways.

Also at this meeting, we will be providing a glimpse of a new freight operations exchange (FOX) database application. This new data sharing interface will provide the exchange of actual truck data that we see at MCSAW weigh stations, ramp weigh-in-motion sites, and data captured through virtual weigh stations. This means actual truck counts, classification, and actual weight (all the way down to the axle level) can be shared among interested parties. We believe providing access to this data will be beneficial to a host of new users.

For more information, please contact Paul Clark at (850) 410-5540 or by email at Paul.Clark@dot.state.fl.us.

ASCT Project Improves Traffic Flow, Safety on SW 8 Street

By Javier Rodriguez, District Six TSM&O Program Engineer, FDOT

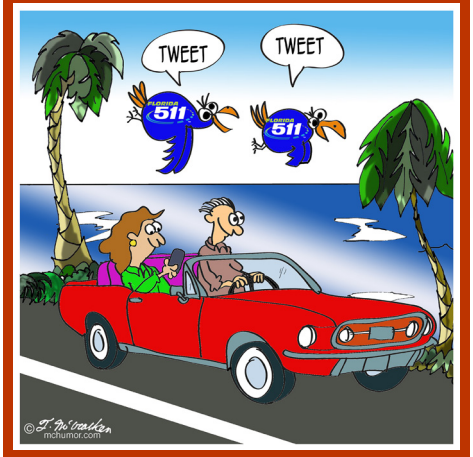
The Florida Department of Transportation District Six recently unveiled the favorable results of an independent evaluation of an adaptive signal control technology (ASCT) pilot project in Miami-Dade County. The SW 8 Street ASCT Pilot Project is shown to be working to improve the safety and traffic conditions of this critical east-west corridor.

This project was the first of its kind for the District. It completed its first full year of operations in 2019 and was launched in partnership with Miami-Dade County and it includes intelligent systems upgrades to 30 signalized intersections on this highly traveled corridor. This technology uses a real-time traffic optimization algorithm that enables traffic signals to adapt to actual traffic demand. The goal was to use ASCT technologies to improve safety and reduce congestion on the main corridor and its cross streets. The study, completed by Florida International University (FIU) in September, revealed the project is achieving this goal. On the main street (SW 8 Street), the study confirmed that travel times improved in the range of 3.65 to 12.5 percent. Total delay was reduced by 11.8 percent, vehicle throughput increased by 5 percent and crash frequency was reduced by 9.73 percent. On the cross streets, total delay was reduced in the range of 9.8 to 23.5 percent and crash frequency was reduced in the range of 4.05 to 11.6 percent.

These mobility improvements confirm that ASCT technologies are a viable solution in the arterial management toolbox. The reduction in delay shows this project has been a good investment in the community with a benefit to cost ratio of 3.70. These findings confirm the benefits multi-agency transportation projects provide our region and are a major achievement for both the District and County. The project results are also a good example of other arterial projects that may be implemented in the future.

For more information, please contact Javier Rodriguez at (305) 640-7307 or by email at Javier.Rodriguez2@dot.state.fl.us.

Break Time



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TURNPIKE
MICROWAVE
INFRASTRUCTURE
DETECTION
DMS
ROUTER
DIGITAL
OUTREACH
MOCK
SICN
RESPONDER
SUNGUIDE
FOX
STATEWIDE

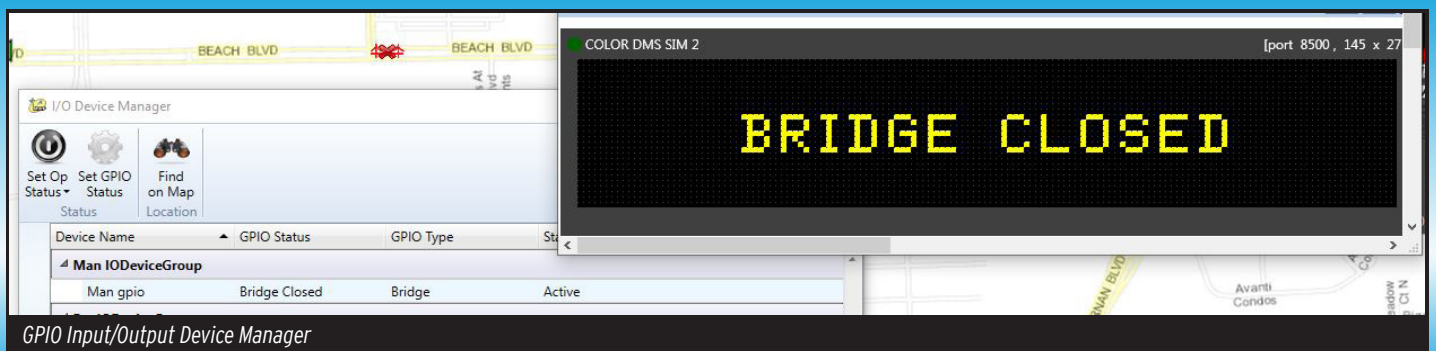
FDOT Central Office Upgrades to SunGuide® Software Version 7.2

By Frances C. Ijeoma, TSM&O Software Engineer, HNTB

and Christine Shafik, State ITS Software Engineer, FDOT

The Florida Department of Transportation (FDOT) Central Office upgraded to the new SunGuide software release 7.2 to enhance intelligent transportation systems (ITS) operations. This switch is part of the commitment to ensure the transportation management center (TMC) is using the most up-to-date software and helps position it to manage future traffic demand. A new subsystem is included in this latest release: general purpose input/output (GPIO).

The objective of the GPIO subsystem is to support adding new configurable features to the system. The system maintains a collection of GPIO icons, GPIO status values, GPIO types, and GPIO features. GPIO devices can be added or removed using the GPIO device configuration dialog. A device name and description can be indicated, as well as various communication parameters. For devices to be displayed on the operator map, they must be added to a GPIO device group.



GPIO Input/Output Device Manager

The "status type" field determines where information about the bridge state should be obtained and if they are "external" or "manual" type. For an "external" type, information concerning the data feed URL and device ID must be stated. For a "manual" type, no external data source is available for the bridge.

The icons displayed for GPIO device groups may be modified if desired. The list of icons cannot be changed, but the image used for showing the status on the map may be changed by using the "modify icon" button.

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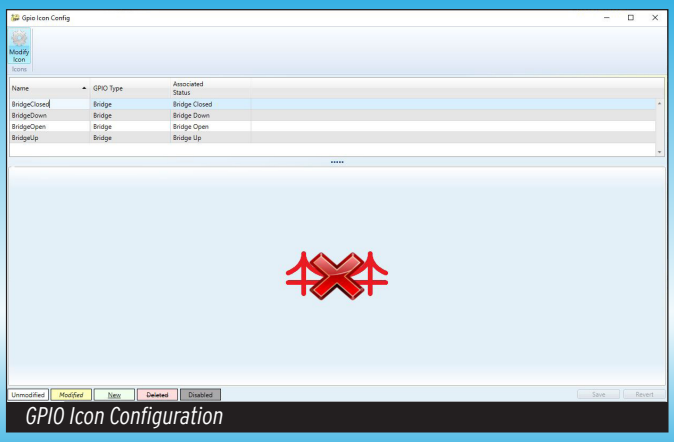
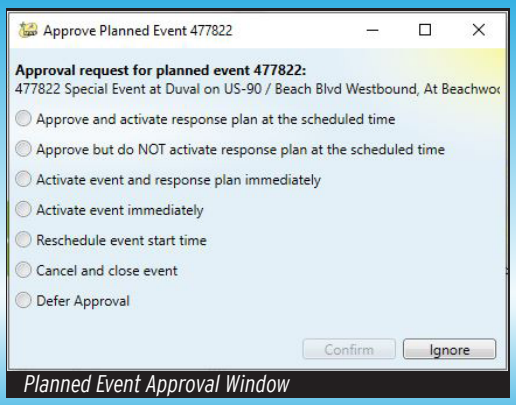
FDOT Central Office Upgrades to SunGuide® Software Version 7.2

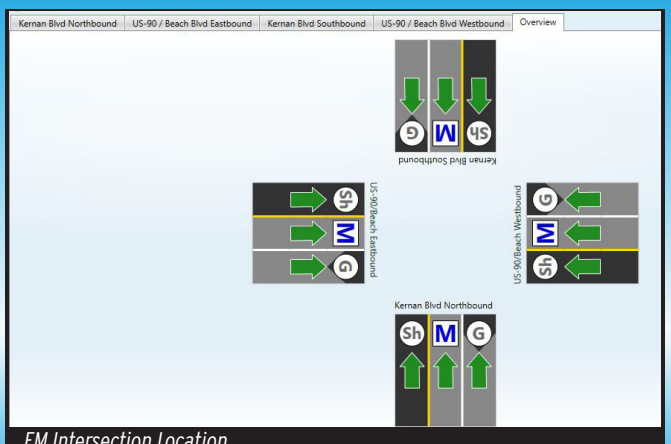
(continued from page 10)



GPIO Icon Configuration



Planned Event Approval Window



EM Intersection Location

One of the upgrade's key features is "planned event". The software allows a user with permission to schedule an event to start in the future. The user can input the lane blockage and if the lane blockage is set for a "planned event", the timestamp for the start of the lane blockage will be the start time of the event. The user can also create a response plan for the "planned event", at the time the "planned event" is created. A user with permission has many different authorization options: approve the start of the event before the event is scheduled to be started, approve the start of the event at the scheduled time and activate the response plan, or approve the start of the event at the scheduled time without activating the response plan. Additionally, a user may: approve the start of the event immediately and activate the response plan, approve the start of the event immediately without activating the response plan, reschedule the start of the event, or cancel the start of the event and close the event. The user also has the option to defer approval of the event.

Other key features are "audit chronology", primary or secondary roadways, "EM intersection locations", and "dynamic message sign (DMS) font configuration".

With "audit chronology", the software will enter audit records into the event chronology at the time the audit is performed, indicating which record was modified by referencing the record type, the timestamp of the record, and the user.

The primary or secondary roadway feature supports the configuring of a parent roadway in the roadway configuration window. When an event is created on a secondary roadway, the event will be reported to Florida's Advanced Traveler Information System (FLATIS).

"EM intersection locations" allow the user to add, modify, and delete intersection locations in the EM location configuration dialog. Intersection configuration contains a read-only visual representation of the approach configuration and allows the user to modify the approach angle to the intersection.

"DMS font configuration" allows a SunGuide 7.2 user, with permission, to configure up to four fonts when sending a message to National Transportation Communications for ITS Protocol (NTCIP) DMS devices. An approved user can also configure one of the four fonts to be the default font value when sending messages to the device.

Additional upgrade features are "case sensitivity" in object names, automation, handling, and approval of events that meet "executive notification" criteria, and integration with traffic signal systems using the Traffic Management Data Dictionary (TMDD) 3.03d.

For more information, please contact Christine Shafik at (850) 410-5615 or by e-mail at Christine.Shafik@dot.state.fl.us.

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