

TSM&O DISSEMINATOR

TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

September - October 2019

District Six Begins RISC Services in Monroe County



District Three: Leveraging GIS for Improved Traffic Incident Management

Florida's Turnpike Promotes Child Passenger Safety



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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?

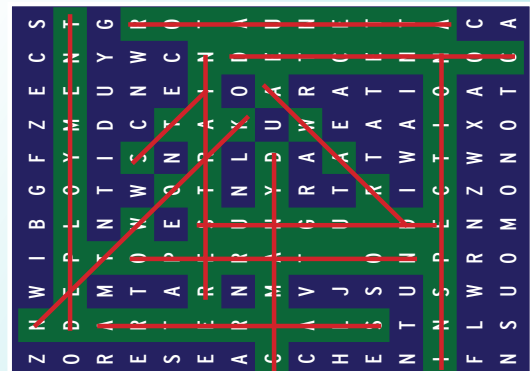
Email Jennifer Rich
(Jennifer.Rich@dot.state.fl.us)
with your story subject and title.

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

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District Six Begins RISC Services in Monroe County

By Javier Rodriguez, District Six TSM&O Program Engineer

The Florida Department of Transportation's District Six Transportation Systems Management and Operations (TSM&O) Office expanded the Rapid Incident Scene Clearance (RISC) Program to Monroe County.

The Monroe County RISC Program launched in September 2019 to expedite the clearance of major crashes involving heavy vehicles along US 1 from Stock Island to Florida City. The program is designed to improve area safety since US 1 is the only roadway that provides access to and from the Florida Keys and is the main evacuation route during emergency situations. Large-scale crashes often require specialized towing equipment and may take hours to clear from the roadway. This can be especially problematic in areas with limited alternative routes such as Monroe County.

The RISC Program mitigates these impacts by incentivizing the vendor to meet performance measures required in the contract. The measures require the vendor to arrive at the scene within 60 minutes of activation and reopen all travel lanes within 90 minutes of the Notice to Proceed in order to receive the incentive compensation. These parameters are built into the vendor contract and have proven to reduce closure duration times in areas where RISC is provided.

The Monroe County RISC fleet is strategically located along US 1 to promote faster response times. Each vendor needs three vehicles: a 35-ton heavy duty wrecker, a 50-ton wrecker and a recovery support vehicle. The service is managed from the SunGuide Transportation Management Center (TMC) in Miami-Dade County. Traffic operators coordinate with local law enforcement and activate RISC events upon their request. They use closed-circuit television (CCTV) cameras to monitor clearance efforts in the field.

This project is part of a larger effort to expand TSM&O in the Florida Keys. FDOT has partnered with local stakeholders and municipalities to implement these strategies and technologies for a more proactive approach to traffic management. It recently completed its first year operating and maintaining the traffic signals and devices along a 102-mile stretch of US 1. FDOT upgraded the signal system and equipment to current standards and is in the process of updating the area's closed-circuit television cameras.

FDOT will soon assume operations and maintenance responsibilities of the traffic signal system for the City of Key West and is working on the District's first Connected Vehicle project that will be advertised in the summer of 2020. The combination of these efforts is set to provide TSM&O solutions that will improve the safety and reliability of US 1. District Six continues to expand its arterial management program across both Miami-Dade and Monroe Counties to provide an integrated approach to traffic management across the region.

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



TAKE A SAFETY BREAK
FREE CAR SEAT CHECK
AT NEXT SVC PLAZA

Florida's Turnpike Promotes Child Passenger Safety

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

Florida's Turnpike Enterprise (FTE) partnered with Safe Kids Orange County, the Orange County Sheriff's Office, and the Florida Highway Patrol (FHP) to host child car seat safety inspections at its Turkey Lake Service Plaza on September 18, 2019. The event was in support of the national Child Passenger Safety Week campaign and was the first of what will become an annual tradition.



Child Passenger Safety Week

FREE CAR SEAT INSPECTIONS

Four out of five car seats are used incorrectly. Let us check yours.

Join nationally-certified Child Passenger Safety Technicians from Safe Kids Orange County and the Orange County Sheriff's Office to ensure your child is riding correctly in their car seat.

Technicians will check your car seat for proper installation, as well as check the car seat for any manufacturer recalls or expiration dates. This is a free service, weather permitting.

**September 18, 2019
1 - 3 pm**

**Turkey Lake Service Plaza
Florida's Turnpike, Mile Post 263**
Outside the Northbound Plaza Entrance

SAFE KIDS ORANGE COUNTY

FLORIDA'S TURNPIKE

It is a frightening fact that four out of five car seats are used incorrectly. This could mean an improper installation, a defective or faulty seat, or simply having a child in the wrong type of restraint for their age, height, and weight. Between 2011 and 2015, more than 31,000 children under the age of 13 were killed in vehicle crashes and an estimated 599,000 more were injured. That is more than double the population of the city of Orlando.

Turnpike staffers in Traffic Operations and the Public Information Office worked together to plan the event, in conjunction with Carrisa Johns, Occupant Protection Specialist with the Orange County Sheriff's Office, and Lt. Kim Montes of the Florida Highway Patrol.

A live on-air segment was filmed by Orlando's FOX 35 the morning of the inspection event, highlighting important installation tips and the alarming statistics mentioned above. FOX 35 anchor Danielle Knox, herself a young parent, admitted being one of those who thought she had her seat installed correctly, but learned that it wasn't, upon inspection at an Orlando-area fire station.

Florida's Turnpike Promotes Child Passenger Safety, *(continued from page 4)*



Carrisa Johns from the Orange County Sheriff's Office did a live remote speaking with anchors at FOX 35 about car seat safety (top left) and certified child passenger safety technicians performed free car seat inspections at the Turnpike's Turkey Lake Service Plaza (lower left).



Central Florida's Spectrum News 13 also recorded footage and interviews from the afternoon inspection event for their evening broadcast.

In addition to free inspections conducted during the two-hour outreach event, safety information was distributed by both Turnpike and FHP representatives along with promotional items from Florida 511. Hundreds of impressions were made through these face-to-face interactions and untold thousands of others via broadcast and social media.

The important takeaway message is that the "four out of five" statistic is not only realistic, but may be conservative, as 100 percent of the inspections we conducted saw at least one error addressed or corrected. The impact of that reality was not lost on a single member of the event team.

Children are indeed our future and their protection is paramount.

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



(Almost) In the Eye of the Storm

By Pete Vega, District Two TSM&O Program Engineer, FDOT

This past September, I had the honor of guiding the District Two TSM&O team through one of the most harrowing storms to threaten the east coast of Florida in quite some time. Hurricane Dorian devastated parts of the Bahamas and was barreling its way toward our coastline, but our team was ready for anything and everything that came our way. A notable challenge was prepping our “newbies” to fill the slots left from a recent employee departure and another employee on military leave. In their place we relied on two young embedded engineers with only a few months of experience with the Department. Those two rose to the challenge, and as always, Dee Dee Crews, Glenn English, and Matt Harbert stepped up and kept us focused on the hurricane response plan we’d developed over the past several years.

The first step taken was to ensure that the twenty-three advanced traffic controllers recently installed on US 19 were communicating and operational. This deployment was completed due to the previous experience encountered during evacuations last year, where motorists took this route instead of I-75 to evacuate from southwest Florida. The effort included the deployment of CCTV cameras and cellular communication, so that the district and department emergency operations center could monitor traffic conditions along that corridor, with the ability of activating a flush plan when this corridor became too congested. The two newly-embedded engineers checked each intersection under the supervision of Glenn English to verify that the system was ready if needed. The Department addressed all identified communications issues immediately, in preparation for the storm.

The next area of focus was to ensure that the river monitoring devices installed last year at the I-10 and I-75 bridges crossing the Suwannee and Santa Fe rivers were active and communicating with our website. These water level and velocity sensors are critical to District Two in ensuring the bridges are not at risk due to rising waters - as was the case a few years ago. The team sent out the RTMC consultant staff and ITS maintenance contractor to verify the operational capability of these devices and their communication with the NOAA satellites over the Gulf of Mexico. One location had an issue that was immediately addressed by changing the configuration to its original setting.

Dee Dee Crews stepped up as usual by making sure that we had the additional Road Rangers patrols available for 24/7 operations, adequate staffing at the RTMC for our needs throughout the storm, and all TIM responders ready at a moment's notice. Her ability to make this happen was very important to our district since we have three corridors that are delegated for emergency shoulder use (ESU) and we could not have pulled it off without these partners. Fortunately, the storm took a sharp turn to the right approximately one day from landfall and headed up the coast, a few hundred miles away.

The final piece of the puzzle was making sure we had enough emergency generator and signal crews to assist with the repair of any impacted traffic signals. All contracts were in place one week in advance of Hurricane Dorian, with fifteen crews staged at predetermined locations one day in advance of the expected landfall. The biggest challenge with the pre-staging was keeping the crews focused on the job at hand while they waited for their assignments. Fortunately, there was no need for their assistance once Hurricane Dorian headed towards the middle of the Atlantic.

Once the dust settled, our team felt a pride in being ready to respond to anything thrown our way. Initially, it appeared to be overwhelming to them, however after prepping for the week it was sort of anticlimactic to the team in that they weren't able to test their skills with Dorian. I've been doing this for 26 years now with the department and no storm is the same, yet I felt we were more ready for this one than any I've dealt with in the past. Our plan for the coming year is to enhance our response capabilities to plug any holes that may have existed. At this point, my guess is that there are only a few minor things to address before next hurricane season.

For more information, please contact Pete Vega at (904) 360-5463 or by email at Peter.Vega@dot.state.fl.us.

SunGuide® and SELS Joint Meeting Held in Tallahassee

By Jennifer Fortunas, State Managed Lanes Engineer, FDOT

In September, FDOT Central Office Traffic Engineering and Operations held a joint meeting of the SunGuide Change Management Board (CMB) and the Statewide Express Lanes Software (SELS) Change Management Team (CMT), the first meeting of its kind in many years.

SunGuide is FDOT's Statewide Traffic Management Center (TMC) software application for control of intelligent transportation systems (ITS) roadway devices, traffic and incident management, data collection, and traveler information dissemination. SunGuide is also an important means by which information is exchanged across a variety of transportation agencies. SELS, also known as the Express Lanes Module in Operations Task Manager (OTM), is the primary operator interface for express lanes operations.

The data collected from SunGuide is used to dynamically calculate toll amounts and produce map and graphical views of traffic conditions in the express lanes and general purpose lanes. It provides notification of toll amount changes in the form of pop-up messages and carries out commands in SunGuide software to post dynamic message sign (DMS) messages. It also communicates with the Florida's Turnpike Enterprise toll web service to apply the correct charge to customer's SunPass® account.

Express lanes are a type of managed lane that use tolling, separation and access control, and vehicle eligibility to manage congestion and provide customers a reliable travel time on some of Florida's most critical highways. The managed lane network in Florida is quickly growing from the original seven mile stretch of I-95 Phase 1 Express Lanes in District Six, to 80 miles operating across the state today. Another 100 miles of managed lanes are currently under construction and over 500 miles are in development.

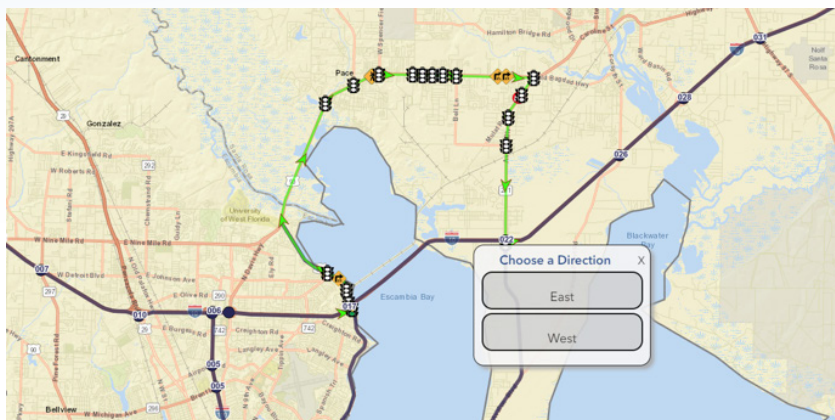
The joint meeting was a great opportunity for SunGuide and SELS users throughout the state to get together and talk face-to-face about these important tools. The group discussed the future of SELS and OTM, proposed enhancements to SELS, and approved items for upcoming SunGuide releases. Christine Shafik, State ITS Software Engineer, gave an update on the significant progress the SunGuide team has made in the reduction of backlog in the issue tracking system. Christine gave a brief update on the progress of the new SunGuide release 7.2. We are already looking forward to planning the next joint meeting sometime in 2020!

For more information, please contact Jennifer Fortunas at (850) 410-5601 or by email at Jennifer.Fortunas@dot.state.fl.us.



District Three: Leveraging GIS for Improved Traffic Incident Management

By Kenny Shiver, FDOT District Three and Karen Gonzalez, Kimley-Horn



Presenting District Three's Interstate Traffic Incident Management Web Mapping Application

When it comes to traffic diversions, Florida's District Three is leading the way toward the standardized and comprehensive use of readily-available data to make informed decisions in real time. For months, the District has been developing a web-based application that consolidates all available traffic data into one database accessible to all FDOT staff and stakeholders. The app utilizes this data to automatically identify approved diversion routes within the surrounding transportation network while minimizing delays and potential impacts caused by traffic-related incidents.

How did it get started?

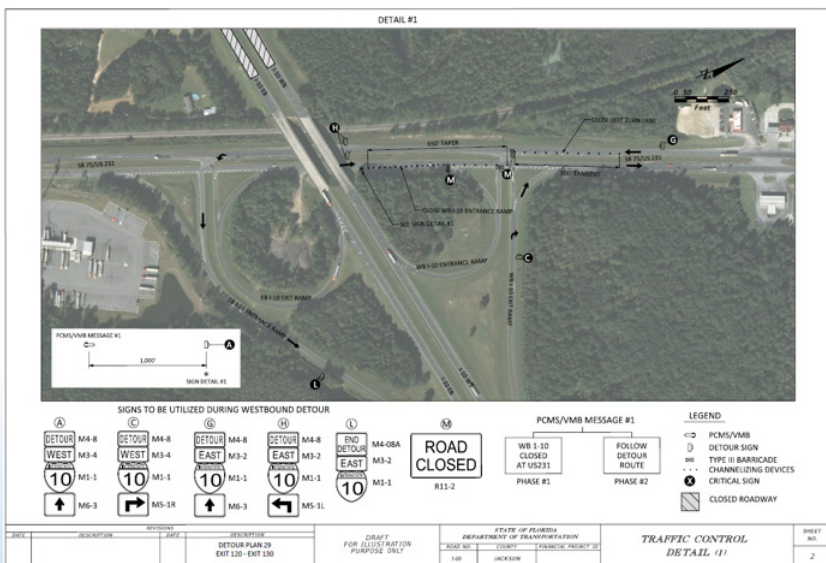
This is not the first effort toward creating diversion plans in the state, and most districts do maintain different levels of engineering detour plans. However, many of these plans require the user to go through different sources to find the latest and most-detailed information on common closures, known drainage issues, and traffic control devices, among other data. This presents a challenge since detour plans may be triggered by non-recurring events such as flooding. When time is of the essence, there is a pressing need for the most up-to-date information to evaluate diversion routes with the lowest impact in real time.

The District initiated its efforts by developing detours over routes in need of bridge inspection, but staff quickly realized that an ongoing comprehensive database was needed. From here, efforts were directed at developing an interactive database along I-10 and some arterials that incorporated plans into what is now a collection of all available data. It was important for the platform to be web based and device agnostic to allow use throughout all devices with an internet connection.

Obtaining feedback was essential to the development process. Outreach was carried out to key stakeholders such as sheriffs, fire chiefs, Florida Highway Patrol, and regional transportation management center (RTMC) staff. By dividing the district for outreach, stakeholders were given



The heavy vehicle turns were verified in MicroStation using AutoTURN



Detailed Detour Plans

District Three: Leveraging GIS for Improved Traffic Incident Management

(continued from page 8)

opportunities to voice concerns and evaluate the software at a series of meetings. The local stakeholders offered crucial input, such as requesting railroad crossings, on-going construction projects, and points of interest such as gas stations and hospitals to be included in the application. Through that evaluation the present application was developed.

What is it?

The resulting web application (web app) uses state-level geographic information system (GIS) layers to “bring it all together” into one database to show a very comprehensive system for detours. Seven simple traffic data layers are used to guide the users through the official turnaround points. The seven layers consists of information from live traffic feeds, traffic control devices, interstates and bridges, active construction projects, work program projects, points of interest, and transportation management.

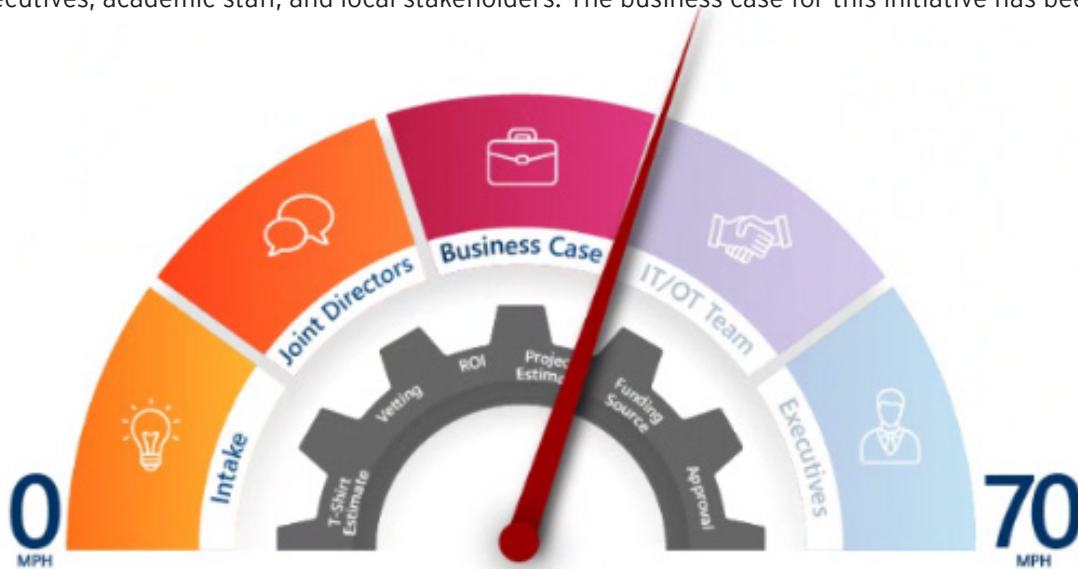
Within these layers, it is possible to access a wide range of information for the selected route and surrounding areas such as rest areas, fire stations, crossovers, Road Rangers routes, Florida Emergency Management Regions, evacuation routes, upcoming projects in the area, critical items needed (signage), heavy vehicle restrictions (e.g., sharp right turns), and even a link to download detour plans in detail. These features also include the ability to pick from multiple detour routes that consider the extent of congestion.

With Traffic Incident Management being such an important aspect of freeway operations, the benefits gained from this web app directly translate into reduced roadway clearance times to effectively manage freeway traffic during incidents. Reduced environmental impacts and even speedy implementation of arterial signal timing operations are added bonuses, as the web app allows integrated corridor management to watch both freeway and arterial traffic on the map.

In addition, numerous updates are being considered including partnerships with other crowdsourcing data apps such as GasBuddy and Waze. Law enforcement could also be a major player, gaining the ability to see incidents before they arrive on scene, potentially sharing their en route locations, and perhaps even opening a chat for the incident, resulting in increasingly safer responses. Yet another built-in feature being considered for future improvements will identify the number of traffic signals and associated maintaining agencies for detour activation.

What's Next?

A beta version of the web app is currently running on FDOT's server and is available to FDOT staff. Outreach has included several FDOT executives, academic staff, and local stakeholders. The business case for this initiative has been completed.



Although the web app started and grew as a grassroots movement in District Three, the hope is to make improvements over time to incorporate other districts' needs in a potential statewide model. After all, collaboration is at the source of this web app, its success being the result of a major collective effort. So far, the feedback from other districts has been overwhelmingly positive.

The ultimate vision is developing integrated corridor management with a decision support system through communication and collaboration, for the purpose of advancing FDOT's mission of a congestion-free and fatality-free transportation system.

For more information, please contact Kenny Shiver at (850) 330-1589 or by email at Kenneth.Shiver@dot.state.fl.us.

District Five MMA-MDP: Streamlining Event Report from the Field

By Claudia Paskauskas, CEO, InNovo Partners and Jeremy Dilmore, District Five TSM&O Program Engineer, FDOT

The Maintenance and Traffic Operations groups report significant events to fully inform Florida Department of Transportation (FDOT) leadership of state transportation system conditions. Traffic Operations became the primary source of data for interstates while on-scene maintenance response focused on arterials.

Toward the end of 2016, the Real-Time System Management Information Program (RTSMIP) required the designation of Routes of Significance (RoS). This resulted in even more required roadway reporting.

The RTSMIP identifies the four types of information about the RoS that are to be reported:

- Construction activities, including all lane closures, excluding short-term or intermittent closures or activity that does not close a lane (23 CFR 511.309)
- Roadway or lane blocking incidents, including all unplanned incidents that block a lane
- Road weather observations, including adverse or hazardous driving conditions and lane closures or restrictions due to environmental conditions
- Travel time information, on limited access roads, within specified metropolitan areas

There was a need to make the information about lane closures and emergency repairs more timely, available, and accurate.

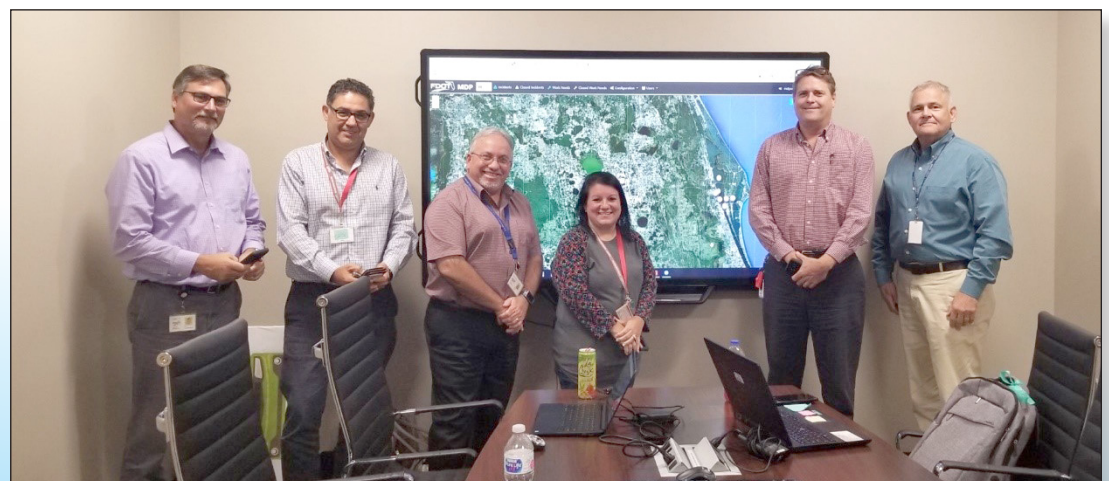
Additionally, a daily challenge for the Maintenance personnel was how to promote and practice safety in the workplace, specifically while completing field work. Processes that require personnel to take their eyes off of the road, while

logging work needs on the roadside, can lead to an unsafe scenario. Less time on the road increases safety for our staff.

The District Five Traffic Operations, Transportation Systems Management and Operations (TSM&O), and Maintenance groups joined forces to develop a solution to address these known challenges safely and efficiently. The result is the Maintenance Mobile Application (MMA) and the Maintenance Desktop Portal (MDP).

The MMA was designed to provide a mechanism for creating and updating incident and facility damage records, identify the precise coordinates of the incident, dynamically select the corresponding parties that maintain that roadway location, and capture the event images and infrastructure details via a smartphone mobile application. The MMA capabilities greatly enhance the speed and efficiency of data collection for work needs.

After pulling over safely out of the travel lane, personnel can report an event by either completing a digital form on their smartphone or placing a phone call which will be dynamically routed by the MMA application to the traffic management center, designated maintenance yard, or responsible asset maintenance contractor (AMC) using global positioning system (GPS) coordinates and geographic boundaries. This makes reporting incidents or work needs very easy for the



MMA-MDP Development team.

District Five MMA-MDP: Streamlining Event Report from the Field

(continued from page 10)

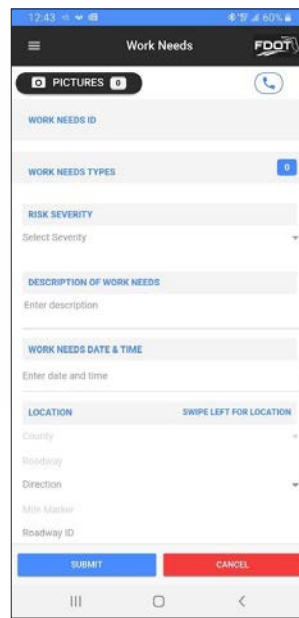
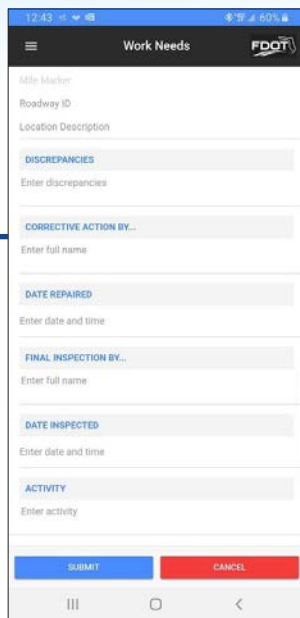
user. They don't have to be experts on the roads in our District, they only need to identify the problem, select if it is an incident or work need, take a picture, and hit send or make a phone call to route the issue to the appropriate party.

The MDP application serves as a central console in the traffic management center to visualize and handle reported events via MMA. The list of reported events is classified based on reported severity and can only be edited by authorized personnel. Data sent to the MDP central system results in an email notification that is automatically delivered to the appropriate party responsible for management of the roadway segment. The MDP application is also used by the FDOT or AMC maintaining unit to generate a report with a location map, photos, responsible person and a description of the work needing to be addressed.

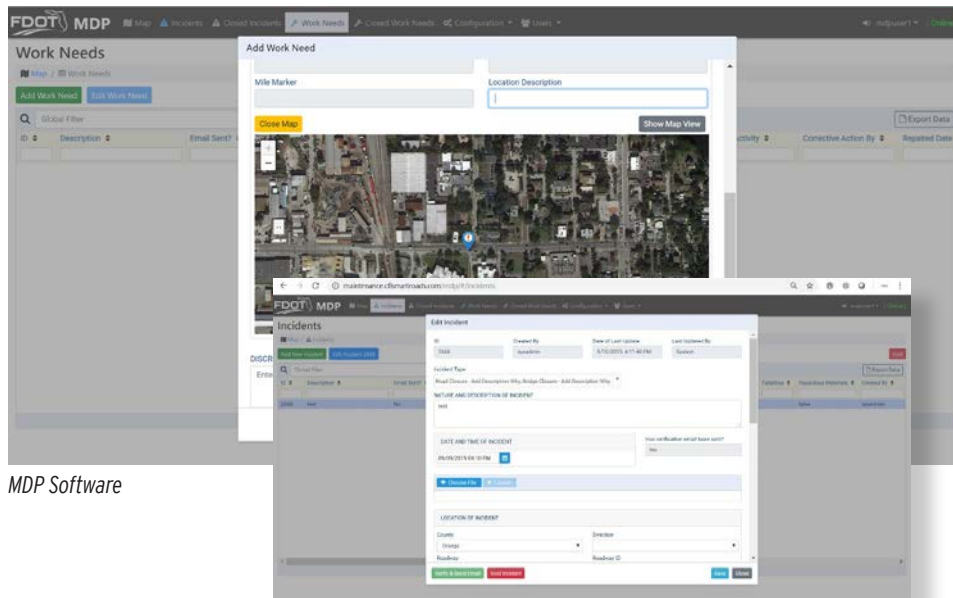
The development of the MMA-MDP application was done interactively and it involved the District Maintenance personnel including John Hatfield, District Maintenance Engineer; Christine Barone, Assistance District Maintenance Engineer; and Dennis Kirk, Deputy District Maintenance Administrator. The Maintenance team provided several hours of review, comments, and actively worked in the testing phase to ensure that a robust application could be delivered meeting their needs. Their involvement was essential for the success of the project and exceeded expectations.

The field deployment MMA-MDP has just begun with the Brevard Maintenance yard and RTMC as of late September. The application was developed by our consultant.

For more information, please contact Jeremy Dilmore at (386) 943-5360 or by email at Jeremy.Dilmore@dot.state.fl.us.



MMA Software



maintenance.flsmartroads.com/mdp/#/estimated-repairs

ID	Name	Created Date/Time	Created By	Modified Date/Time	Modified By
1	Guardrail Damage	02/20/2018 10:12 AM	Javier Mier	01/17/2019 09:20 AM	justfield
3	Sign Damage	02/20/2018 10:12 AM	Javier Mier	01/17/2019 09:20 AM	justfield
4	Asphalt Damage	02/21/2018 02:53 PM	Javier Mier	01/17/2019 09:20 AM	justfield
5	Conc Beam Damage	06/28/2018 03:43 PM	alfredo.moreno	01/17/2019 09:24 AM	justfield
6	Steel Beam Damage	06/28/2018 03:44 PM	alfredo.moreno	01/17/2019 09:24 AM	justfield
7	Signal Damage	06/28/2018 03:45 PM	alfredo.moreno	01/17/2019 09:25 AM	justfield
8	Conc Pole Damage	07/02/2018 10:12 AM	alfredo.moreno	01/17/2019 09:25 AM	justfield
9	Aluminum Light Pole Damage	07/02/2019 11:13 AM	mdpuser1	01/17/2019 09:26 AM	justfield

maintenance.flsmartroads.com/mdp/#/facilities-damages

ID	Name	Created Date/Time	Created By	Modified Date/Time	Modified By
2	Guardrail Damage	02/20/2018 10:12 AM	Javier Mier	01/17/2019 09:47 AM	justfield
3	Electrical Cabinet Hit	02/20/2018 10:12 AM	Javier Mier	10/03/2018 02:50 PM	mdpuser1
4	Communications Cabinet Hit	02/21/2018 02:45 PM	Javier Mier	10/03/2018 02:50 PM	mdpuser1
5	Other - Add Description	01/02/2019 11:12 AM	mdpuser1	01/02/2019 11:12 AM	mdpuser1

District Four Expands Incident Management Response to Arterials Initiative is the first of its kind in Florida

By Nicole Forest, District Four TSM&O Incident Management Program Manager, FDOT

In light of outstanding continued success with District Four's Severe Incident Response Vehicle (SIRV) Program on South Florida's major interstates, District Four TSM&O managers decided to apply the same incident management efforts to Broward County's arterial roadways. In a monumental decision, District Four's SIRV program launched arterial coverage on July 29, 2019.



Originally created in 2005, SIRV is designed to mitigate the delays caused by severe traffic incidents on interstates by providing a safer work zone for emergency responders. To best implement this coordination, an important requirement of the SIRV program is to employ retired law enforcement officers, fire rescue workers, or military personnel. These highly-trained backgrounds provide SIRV operators the necessary tools and knowledge to serve as official FDOT incident commanders at any incident scene.

With coverage now extended to the arterials, SIRV's primary focus is to establish a controlled area for local police, fire, and towing agencies through proper maintenance of traffic. Once the scene is secure, SIRV assists in debris removal, lane closures, and incident support.

SIRV patrols and responds to incidents on the major east-west arterials from Commercial Boulevard south to Hallandale Beach Boulevard and from US-1 west to Dykes Road at Pines Boulevard.

"We are primarily here for their safety," said Edward Wojtal, retired police officer and SIRV operator. "I understand their perspective as law enforcement because I lived it, but I also have FDOT's best interest - clearing roadways and minimizing congestion."

Similar to their response on District Four's interstates, SIRV measures their success by documenting reductions in the length of time individual lanes are blocked, also known as **Lane Blockage Time Savings**. The length of time other responders are required to remain on scene, **Agency Time Saving**, and the duration of the total event, **Incident Time Savings**, are also tracked. Since commencing arterial coverage, SIRV responded to and assisted in managing and clearing 97 lane blocking events, resulting in the following savings:

- › Incident Time Savings: 627 minutes
- › Lane Blockage Time Savings: 747 minutes
- › Agency Time Savings: 250 minutes

Even more notable, using the Federal Highway Administration's lane closure reduction calculation, SIRV saved an estimated \$170,068 - \$254,405 in just two months of arterial patrol.

As of September, SIRV operates one dedicated truck in the arterial roadways between 6 a.m. and 7 p.m., Monday through Friday. However, due to their impressive results, an implementation plan is underway to increase SIRV's patrol hours and response fleet.

For more information, please contact Nicole Forest at (954) 847-2631 or by email at Nicole.Forest@dot.state.fl.us.

Winners for Reduced Statewide Cost Initiative for BlueTOAD® Data Travel Information

By Eugene Jules, Freeway and Arterial Management Specialist III, FDOT

The State Traffic Engineering and Operations Office's TSM&O team was named the 2019 TaxWatch Productivity Team Plaque Award winner for a reduced statewide cost initiative for Bluetooth devices (BlueTOAD®) and dashboard analytics software product. The team was led by the State TSM&O Program Engineer, Fred H. Heery, Sr., P.E.

The other team members were Eugene S. Jules, Freeway and Arterial Management Specialist III and Clinton O. Smith, P.E., TSM&O Program Development Engineer. The team accepted the award at the Tallahassee ceremony event on September 11, 2019.

BlueTOAD data is used to monitor routes of significance on major arterial corridors, including the performance of signal timing. For major evacuations, FDOT is able to generate reports on travel times, speeds, and routes taken throughout the state, thereby providing a more-detailed examination of each event. Some districts use the BlueTOAD data for monthly, quarterly, and annual reporting efforts based on the TSM&O Strategic Plan.

The TSM&O team recognized the opportunity to save Florida taxpayers thousands of dollars in cost savings with a reduction in the number of statewide agency support agreements from fifteen to one. The current agreement allows each district or local agency to access the data and travel information from one central site. Roadside devices covered by the new agreement are now unlimited at a reduced negotiated price.



Eugene Jules, Fred Heery, Clint Smith

This innovation has synergized and streamlined the way we do things here at the Department. I would like to recognize Russell Allen, P.E., formerly FDOT, for his contributions to this cost savings initiative.

For more information, please contact Eugene Jules at (850) 410-5642 or by email at Eugene.Jules@dot.state.fl.us.



ARTERIALS
DYNAMIC
SUNGUIDE
RESTRAINT
INSPECTION
CONNECTED
NETWORK
OPERATION
DEPLOYMENT
ITS
AWARD
ATTENUATOR

August Intelligent Transportation Systems (ITS) Working Group Face-to-Face Meeting

By Clinton Smith, TSM&O Program Development Engineer

On Wednesday, August 21, 2019, the Florida Department of Transportation (FDOT) Central Office (CO) Transportation Systems Management and Operations (TSM&O) program, in coordination with District Five's TSM&O office, hosted the ITS Working Group face-to-face meeting. The meeting was held at the District Five Regional Transportation Management Center (RTMC) in Sanford, Florida. There were 33 attendees total, composed of ITS personnel from the FDOT CO, each FDOT District, and the Florida Turnpike Enterprise (FTE). This represented a tremendous turnout.

Meeting attendees pose for a photo in front of the new District Five RTMC, completed earlier this year.

FDOT - REGIONAL
TRANSPORTATION MANAGEMENT CENTER
4975 WILSON RD.



Video walls and operator stations inside of the RTMC command center to help ensure safe and efficient traffic operations.



ITS Working Group Face-to-Face Meeting *(continued from page 14)*

Clinton Smith and Fred Heery from the CO TSM&O program led the meeting and facilitated the discussion. Technical issues, policies, and procedures, as related to ITS, TSM&O, freeway management, and arterial management were discussed during the two-day meeting. Other topics discussed included ITS operations and maintenance cost formulas, ITS equipment replacement costs, maintenance of ITS inventory requirements, and ITS internal control methods.

Gauges and sensors for stream and wind level monitoring and communications were discussed, along with ITS wide area network redundancy, transportation management center (TMC) guidelines, dynamic message sign policy and usage guidelines, wrong-way detection advanced countermeasures implementation, SunGuide software, and ITS construction engineering and inspection trainings.

Other topics discussed included, but were not limited to, ITS cybersecurity standards, red-tagging and moving disabled vehicles, and issues to be discussed with the Florida Transportation Builders Association's (FTBA) Lighting,

Electrical, Signs, and Signalization (LESS) Committee.

Following the discussions, there was a tour of the new, state-of-the-art District Five RTMC where other districts were able to learn the latest operational technologies and strategies, as well as coordination techniques to better improve traffic operations.

The CO TSM&O Office would like to extend their appreciation to District Five for partnering to host the meeting and for all of the districts' active participation during the two-day meeting. In the coming days and weeks, follow-up on a number of action items will be carried out and a wide variety of operational improvements will move forward.

All of the great work that comes out of the TSM&O program - ITS sections, is due to everyone's consistent hard work and willingness to meet face-to-face to hammer out the details!

For more information, please contact Clinton Smith at (850) 410-5626 or by email at Clinton.Smith@dot.state.fl.us.



Autonomous Truck Mounted Attenuator (ATMA) - Demonstration

By Raj Ponnaluri, State Connected Vehicles and Arterial Management Engineer, FDOT and Sneha Chityala, HNTB Corporation

On August 15, 2019, the Florida Department of Transportation (FDOT) conducted a demonstration of the work zone Autonomous Truck Mounted Attenuator (ATMA), at a testing track in a closed environment at the Northwest Florida State College in Niceville, Florida. The truck is designed to advance the safety of roadway maintenance crews.

As part of the FDOT's Connected Automated Vehicles (CAV) program, the CAV Business Plan centers on six focus areas. Among them, the three main focal points emphasize partnerships, deployment, and implementation. At the request of Royal Truck & Equipment and Kratos Defense & Security Solutions, along with Ferrovial Operators, FDOT attended the ATMA technology demonstration.

The business development director at Kratos Defense and Security Solutions, Maynard Factor, mentioned that using a traditional truck mounted attenuator (TMA) is dangerous and drivers are at serious risk of injury in a road crash situation. He went on to say, "To eliminate this dangerous assignment, we developed an ATMA by retrofitting the traditional TMA vehicles with driverless technology and unmanned operations."

In 2016, Florida ranked second in the nation with regard to fatal traffic crashes in work zones. Data shows that workers were present in the work zone in 35 percent of the fatal crashes and in 44 percent of the crashes resulting in serious injuries.¹ While work-zone fatalities make up approximately three percent of all traffic fatalities and two percent of serious injuries, the safe and efficient flow of traffic through work zones is an ongoing priority for Florida's transportation and traffic safety partners.

In 2017, the first ATMA systems were deployed across the United States and Europe. The driverless ATMA truck operates in a multi-vehicle leader-follower configuration.² The technology-equipped truck is outfitted with an electro-mechanical system and a fully integrated sensor suite that enables leader-follower capability; this allows the ATMA truck to follow a lead vehicle. In the leader-follower configuration, the system enables the maintenance vehicle (the leader) to transmit navigation data via encrypted vehicle-to-vehicle (V2V) communications to the ATMA (the follower). From there, the ATMA uses the data to follow the unmanned leader as it travels along the route. The ATMA increases work-zone safety by removing the driver from a work-zone truck.

ATMA systems feature component redundancy, an active safety system, high accuracy GPS and GPS-denied navigation, encrypted V2V communications, and multi-modal front and side-view obstacle detection. Also, there are attenuators that are mounted on the rear of a truck, which cushion the impact in the event of a vehicle crash. It also includes a user interface that provides system feedback, situational awareness, multi-camera views, and operator controls.



Autonomous Truck Mounted Attenuator Vehicle

Representatives from the following state entities were present at the ATMA truck demonstration:

- Traffic Engineering and Operations
- State Maintenance Office
- District Three Traffic Operations
- Florida Highway Patrol

For more information, please contact Raj Ponnaluri at (850) 410-5616 or by email at Raj.Ponnaluri@dot.state.fl.us.

1. <https://www.fdot.gov/safety/workzonesafety/default.shtm>
2. <https://www.gpsworld.com/self-driving-work-zone-vehicles-enhance-safety/>



Spread the Word: Now Available - Florida's New Guide to Safe Mobility for Life

By Gail M. Holley, Safe Mobility for Life Program and Research Manager, FDOT

The Florida Department of Transportation's (FDOT) Safe Mobility for Life Coalition has released an updated guidebook to help aging road users meet their personal mobility needs to remain safe, independent, and active in their communities.

Florida's Guide to Safe Mobility for Life is an updated and expanded version of *Florida's Guide to Aging Drivers*, which was released in 2012. It provides resources, self-assessments, worksheets, and tips on using a variety of transportation options, even beyond the driver's seat. With these tools, older adults in all 67 counties can plan their own transportation futures using the keys to achieve Safe Mobility for Life:

- **Understand** the impact aging has on driving, changes in driving behavior, common driving errors, and Florida's driver's license and ID card.
- **Be proactive** about the skills and practices needed to stay safe while driving, walking, bicycling, and riding transit.
- **Plan** for a life beyond the driver's seat by learning how to discover and use transportation options in your community.

Older adults who read and complete *Florida's Guide to Safe Mobility for Life* can gain the skills to travel safely and confidently, with or without a car.

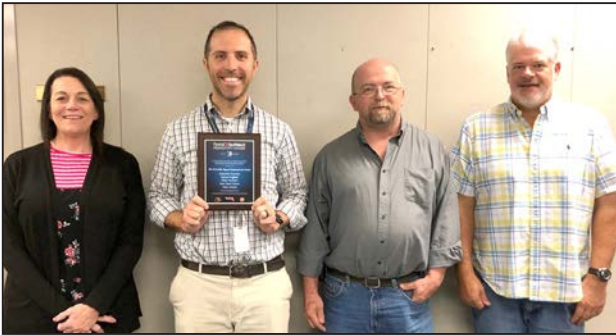
If you would like to learn more or help us get the guide directly into the hands of the people who need it the most, visit: SafeMobilityFL.com/Guide. From there, you can download the pdf, order a copy, access forms and worksheets that are in the guide, and utilize our Outreach Toolkit to help distribute this important information.

Florida's Safe Mobility for Life Coalition strives to achieve a reduction in the number of fatalities, serious injuries, and crashes amongst our aging population. By providing resources and educational materials that address the present and future mobility needs of our aging road users, we can help them maintain their safety, independence, and connections to the community.

If you would like more information on FDOT's Safe Mobility for Life Program and Coalition, visit SafeMobilityFL.com or email Gail M. Holley at Gail.Holley@dot.state.us.

District Two Traffic Operations Wins Two Florida TaxWatch Productivity Awards

By Pete Vega, District Two TSM&O Program Engineer, FDOT



Dee Dee Crews, Alex Varela, Matt Harbert, Glenn English.
Eduardo Gomez not pictured.



Dee Dee Crews, Alex Varela, and Matt Harbert.

US 19 Traffic Signal Deployment

Five members of FDOT District Two Traffic Operations office have been named winners of the 2019 TaxWatch Productivity Awards. The team, led by Eduardo Gomez, also included Glenn English, Matt Harbert, Dee Dee Crews, and Alex Varela. Team members accepted award plaques at the Tallahassee presentation ceremony on September 11, 2019.

The hardworking team earned this honor by addressing the need for traffic signal upgrades that became apparent during the Hurricane Irma evacuation in September 2017. During that event, traffic back-ups extended for miles along US 19 as tens of thousands of evacuees chose this route to escape the hurricane. The existing traffic signal systems could not handle the overflow traffic, resulting in law enforcement officers directing intersection traffic.

To avoid traffic back-ups in future evacuation events, District Two Traffic Operations devised and expedited an upgrade plan for 23 intersections along a 100-mile stretch of US 19. The updates included advanced traffic signal cabinets, controllers, closed-circuit television cameras, and cellular communications. The new capabilities allow real-time corridor control for the District Two Regional Transportation Management Center.

We congratulate the District Two team for recognizing the issue, weighing long-term plans against immediate needs, and working diligently to bring the solution, straightaway, to Florida motorists.

For more information, please contact Pete Vega at (904) 360-5463 or by email at Peter.Vega@dot.state.fl.us.

Wireless CCTV Deployment

The Florida Department of Transportation (FDOT) District Two Traffic Operations office brought home a second 2019 TaxWatch Productivity Award. This time, a team led by Matt Harbert took home the award plaques. The other team members were Alex Varela and Dee Dee Crews. The team accepted their awards at the Tallahassee presentation ceremony on September 11, 2019.

This conscientious team recognized the need for better traffic management on Butler Boulevard, a key traffic corridor in the city of Jacksonville. Butler Boulevard supports commuter traffic, tourist and special event travel, and serves as an emergency evacuation route. Planned improvements to traffic management were still years away from deployment for this thoroughfare.

The District Two team devised a solution to enhance traffic flow and safety without having to wait for years for its realization. The team installed a wireless closed-circuit television (CCTV) system along Butler Boulevard. This nimble solution avoided the time and money issues associated with traditional installations requiring fiber optic cable and associated equipment deployment. Butler Boulevard is now connected in ways that allow for better coordination of traffic and faster response times to roadway incidents.

We commend the District Two team for pinpointing a potential problem area, devising a solution, and delivering cost-saving and service-enhancing improvements.

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