FLORIDA DEPARTMENT OF TRANSPORTATION

TSM&O DISSEMINATOR

TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

January - February 2023

One FDOT – TSM&O Support During Hurricane Ian

FDOT District Five Sees Benefits of Drones in TSM&O Projects

Central Office Announces SunGuide® Software Version Release 8.2

Talking TIM: Road Ranger Communications

FLORIDA DEPARTMENT OF TRANSPORTATION'S
TRAFFIC ENGINEERING AND OPERATIONS PUBLICATION

FDOT TSM&O
Transportation Systems Management & Operations

INSIDE THIS ISSUE

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?

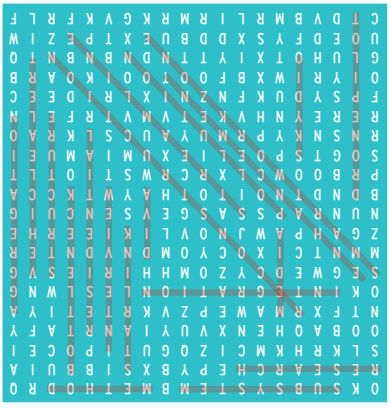
Email teodisseminator@dot.state.fl.us with your story subject and title.

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

Photo credits: FDOT

PHYSICAL ADDRESS:
Barry Building
3185 South Blair Stone Rd.
Tallahassee, FL 32301

MAILING ADDRESS:
Burns Building
605 Suwannee Street, MS 90
Tallahassee, FL 32399



FDOT District Five Sees Benefits of Drones in TSM&O Projects

By Gabriel Smith, Technical Information Consultant, District Five

The Florida Department of Transportation's (FDOT) Transportation Systems Management and Operations (TSM&O) program is always looking for emerging technology to help improve safety and efficiency on state roads, interstates, and local arterials, while also responding to traffic incidents and protecting motorists and crews in work zones. The recent launch of the Smart Work Zone Trailer is one example. Another program that has recently been launched and expanded is the drone pilot program.

Drone pilots Efrain Picon, Jovanny Varela, and Charles Coody are three of the pilots in FDOT District Five's TSM&O program helping to shape the future of TSM&O and TIM with the expanding capabilities of drones.

When drones are first mentioned, people often think of the sometimes-pesky buzzing aircraft flown as a hobby by enthusiasts. The reality is, drones have seen an explosion of uses in their capabilities from military to delivery service in recent years, and their use within FDOT District Five's TSM&O program is no exception.

According to Jovanny Varela, an IT analyst and drone pilot at FDOT District Five's Regional Transportation Management Center (RTMC), the drone program is being utilized on many different projects, improving the way FDOT enhances connectivity and safety through the region. "The drone program is an exciting and emerging program that we are continuously evaluating and looking for new ways to incorporate and utilize to improve safety and efficiency," Varela said. "Not just for the traveling public, the drones allow us to capture video and study roadways throughout Central Florida in ways that we aren't able to at ground level."

One of the exciting ways the drone program is being utilized is in traffic studies and bottleneck analysis. "During one of our bottleneck analysis programs, we were able to deploy our drone to capture some overhead video to aid in our analysis of signal changing," Varela said. "We were able to see, from a vantage point we couldn't capture visually or with traffic cameras, how a signal change would affect the subsequent signal phases and traffic flow after the change was made."

The drone has also been deployed for various other uses, such as capturing traffic counts, monitoring construction, and aiding in speed analysis. Since the drone connects to Starlink, a satellite internet program operated by SpaceX, the drone is able to operate in more remote locations.

The biggest benefit of drone technology is safety. FDOT District Five utilizes a Skydio 2 drone, an American-made product fitted with seven 4K cameras (six of which are used for obstacle avoidance). It is capable of subject tracking and can utilize autonomous 3D scanning. The drone is able to travel at speeds up to 35 mph. In addition to the previously mentioned features, the drone can also be deployed when traffic cameras are unavailable, allowing operators and managers at the RTMC to access real-time video information without having to risk sending someone into the field. Skydio's cloud fleet management software allows video to be shared through conferencing platforms like Microsoft Teams.

In total, six licensed pilots are stationed at the RTMC, with proper Federal Aviation Administration (FAA) certification and insurance. Jovanny Varela and Mike Hudson, Traffic Incident Management Program Managers, both see additional uses for the drone program moving forward. "The way that the drone can move and operate in areas that are unsafe or have unknown conditions, that we can access live video and stream it in multiple locations via Microsoft Teams across the state – I think the possibilities for utilizing drones as a tool for the TSM&O and TIM programs is limitless," Hudson said.

For more information, please contact Gabriel Smith at (407) 571-6798 or by email at gabriel.smith@dot.state.fl.us.

One FDOT – TSM&O Support During Hurricane Ian

By Fred Heery, P.E., FDOT State TSM&O Program Engineer; Russell Allen, P.E., Atkins

Photo of Sanibel Island Causeway Damage. Photo courtesy of FDOT

September 28, 2022, just four years after Hurricane Michael devastated Florida's panhandle, Hurricane Ian made landfall off the coast of Fort Myers, Florida. Hurricane Ian was a Category 4 hurricane, the third-costliest weather disaster in the world on record, and the deadliest hurricane to strike Florida since 1935. Coastal communities from Naples to Cape Coral, and as far inland as (site 1-2 cities/towns) sustained massive damage that resulted in substantial property damage and total loss, and unfortunately many lives as well.

In a span of just seven days, Ian went from a tropical wave to tropical depression, and all the way to a Category 4 hurricane attaining wind speeds up to 155 mph. By the time Hurricane Ian was over, it had caused an estimated $113 billion in damage and claimed 157 lives in Cuba (5), Florida (148), North Carolina (5), and Virginia (1). The hardest hit areas were Sanibel Island and Pine Island.

Preparation

Just seven days before landfall, Ian was just a no-named tropical wave.

The TSM&O team began preparing emergency response plans prior to hurricane season. Statewide closed-circuit television (CCTV) camera feed tests were conducted weekly, the Florida Department of

ITS Communications Team with FDOT Secretary Jared Perdue and ITS Trailer Lite.

One FDOT – TSM&O Support During Hurricane Ian, continued from page 4

ITS Trailer.

Transportation Intelligent Transportation Systems Operations Network (FION), exercising the ITS trailers, testing of the Data Integration and Video Aggregation System (DIVAS) and Florida's advanced traveler information system (FL511), and testing of communications and operation of the video walls at the FDOT Barry Building Emergency Operations Center (Barry EOC) and the State EOC (SEOC).

Response and Recovery

The TSM&O team was monitoring the damage during Hurricane Ian. Prior to landfall, emergency response teams were created to support transportation functions such as communications and traffic signal damage assessments. With the anticipated level of damage, multiple teams in each category were assigned to provide transitions and overlaps of duties.

After Hurricane Ian made landfall, Central Office Transportation Systems Management and Operations (TSM&O) sent 13 teams to the Ft. Myers impact area from 10/1 to 11/4 for recovery efforts related to communications and traffic signal damage assessments.

The support teams also deployed three initial video trailers for monitoring the construction for Sanibel Island and Pine Island. These trailers are known as *ITS Trailer, ITS Trailer Lite, and EM Trailer.* The ITS Trailer and ITS Trailer Lite were initially deployed to Pine Island on each end of the area known as Matlacha, and the EM Trailer was deployed at the Sanibel Island Toll Plaza. These two areas were the most impacted and critical for recovery. The bridge approaches at each of these locations were destroyed cutting off access to residents that lived on the islands, including those that were trapped on the islands that chose not to evacuate. All three of these trailers are equipped with closed-caption television (CCTV) cameras that use an emergency communications cellular network known as FirstNET to communicate back from the FION system. Once the CCTV streams are on the FION system, they are then transmitted to FDOT's DIVAS applications, so that Management and key partners can view the streaming video in real-time from any desktop or mobile internet browser. This is the video aggregation portion of the DIVAS applications, and the data integration portion will be discussed later in this article. Throughout the recovery process, three additional trailers were added to the mission: *SunTrax Trailer 1, SunTrax Trailer 2, and the D5 Smart Work Zone Trailer.* The SunTrax trailers were not initially equipped with functional CCTV cameras, network equipment, and standby generators. The Central Office TSM&O team worked together with District One (D1) TSM&O and their ITS Maintenance contractor to get these trailers operational and ready for use.

In addition to property damage and transportation infrastructure damage, commercial power and communications infrastructure was damaged throughout the area as well. Starlink units were delivered to SunTrax and configured for emergency use. Starlink is an advanced broadband satellite internet service, and the world's first and largest satellite constellation using a low Earth orbit to deliver broadband internet anywhere in the world. Forty-four of the Starlink units were picked up from SunTrax and brought to District One to provide emergency communications to field teams, Management, and Base Camp. These units consisted of 11 Business Units and 33 Residential Units. Units were deployed for the ITS Trailers, EM Trailer, and SunTrax Trailers, the Sanibel Toll Plaza and FDOT Construction Command Post, Arcadia Maintenance, FDOT's Base Camp, and other strategic communication positioning, as well as drone pilot use for real-time streaming video and video file downloads to Management. Some of the units were installed on vehicles for "mobile command links" and one unit was actually deployed on a District Two boat to provide live drone footage to Management all around the state from the water.

Drones were utilized to assess damage to roadway infrastructure that was not reachable by vehicle or foot, and the video transmitted back to key Management on site, throughout the District, and even through the Starlink units back to the State Emergency Operations Center (SEOC). In addition to real-time video streaming, drone pilots used the Starlink units to download captured video to continue flying without running out of memory space on the drones' storage devices. But even with drones, the pilots could only fly so far with damaged roadways and bridges limiting their access to go farther. That's where District Two (D2) and their awesome boat captains come in. At the end of a long day, the D2 folks were in the process of putting one of their boats back on the trailer to head to base camp. However, the communications team had an idea that was sure to work and D2 was ready and willing to help!

One FDOT – TSM&O Support During Hurricane Ian, continued from page 5

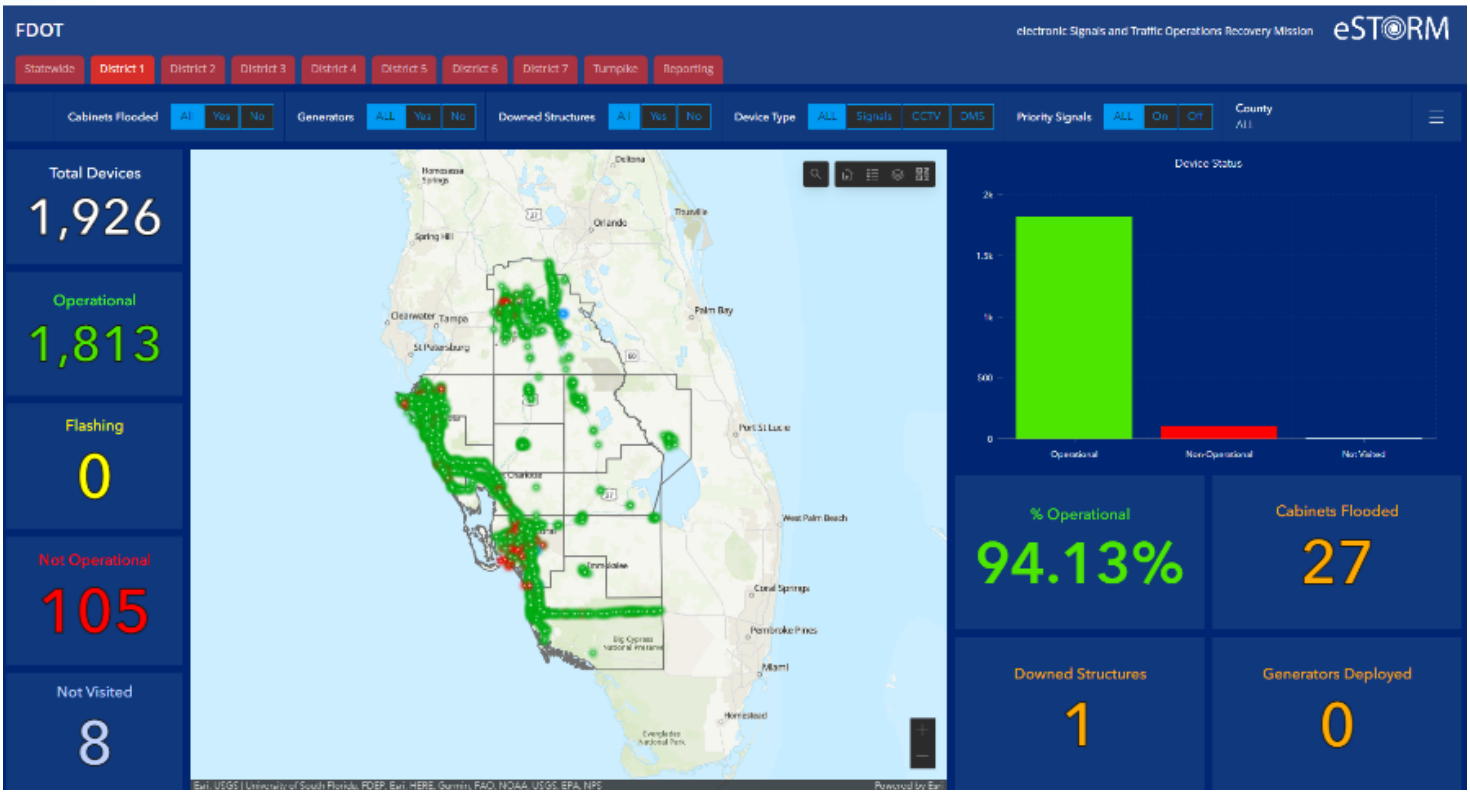
Photo of D2 boat operators.

Starlink Unit.

With that, the idea of hooking an inverter to the boat's marine battery to power a Starlink unit and taking a drone and its pilot to the water was born. With a Starlink unit and drone onboard, D2 took the team beyond the Sanibel Causeway to survey damage beyond what was accessible with a vehicle. At the same time Kenny Shiver, FDOT's ITS Communications Administrator, was back at the Sanibel Toll Plaza with local Management and other key staff. Mr. Shiver was coordinating with the "nautical team" as he had scheduled an all-hands Teams meeting with local Management as well as Central Office Management. As the drone was launched from the boat, it began streaming live video through the Starlink to its cloud-based interface. At that time, the video link was shared in real-time with all that were attending the Teams call. With this real-time video and communications, Management was able to direct the drone pilot where to fly and what key aspects of damage they wanted to see in order to start developing a reconstruction plan.

As part of the response team efforts for traffic signal damage in the area, the TSM&O teams used a suite of tools to assess traffic signal damage and restoration progress known as *eStorm*. These tools were also used to provide situational awareness to Emergency Operations Centers (EOCs) in the area. Field teams can use a smartphone application, which allows them to quickly enter data that they collect. This process streamlines the capture of field data, including site photographs and damage reporting. *eStorm* also has desktop applications known as *Desktop Editor* and *Desktop Dashboard*.

The *Desktop Editor* application has agency reports that are used to assign traffic signal status prior to field assessments. Some of the status categories for traffic signals include operational, power outage, and lack of communications. The *Desktop Editor* acts as a baseline to deploy Field teams to perform real-time field assessments. As the traffic signals are assessed and brought back online, the *Desktop Dashboard* is used to provide a summary of metrics related to restoration progress "at a glance". This data can be viewed on a statewide level as well as focusing on a specific district.



eStorm Desktop Dashboard.

One FDOT – TSM&O Support During Hurricane Ian, continued from page 6

In addition to the "boots on the ground" support, Central Office TSM&O was working hand-in-hand with District One TSM&O staff and Emergency Operations partners both in the affected area and in Tallahassee to keep traveling motorists informed of real-time roadway conditions and closures. In addition to its video aggregation capabilities mentioned above, the DIVAS application also has data integration and dissemination capabilities so that FDOT can ingest real-time data sources such as SunGuide® and disseminate useful information to the traveling public through FDOT's FL511 system. Also, FL511 has the capability of allowing key FDOT staff to enter critical roadway information directly through its *Event Reporting System* (ERS) interface. The purpose of the ERS is to enable key staff to enter events such as incidents and road closures for roadways not typically monitored by FDOT's Regional Transportation Management Centers (RTMCs) throughout the state. Following Hurricane Ian, the local EEOCs were entering road closures in a web-based tool known as *WebEOC*. This tool is used by, state and local EOC staff, and other authorized users, to share real-time data on conditions of roads and bridges. This data was then shared with the District One RTMC to update SunGuide and ERS. Together, these applications ensure that Florida's residents and visitors are kept informed with the latest information available on Florida's highways.

With long hours, hard work, and dedication from FDOT crews and contractors, the bridges to Pine Island and Sanibel Island re-opened ahead of schedule for local and emergency traffic.

As traffic signals were being repaired and traffic was returning to normal, the TSM&O teams continued to support the region with status updates for signals and road closures as well as continued monitoring of construction activities with the video trailers.

THANK YOU!

The TSM&O Team is proud to have supported recovery activities to help enable response and recovery efforts with construction. A special thank you to Katie Sherrard and the District One Construction staff and contractors, Central Office TSM&O and other partners, and District One Directors and TSM&O staff. Also, thank you to the State Materials Office for being a wonderful host at Base Camp.

For more information, please contact Fred Heery at (850) 410-5606 or by email at Fred.Heery@dot.state.fl.us.

All images courtesy of FDOT.

Break Time

O	K	S	U	B	S	Y	S	T	E	M	B	M	E	T	H	O	D	R	Q
R	E	S	E	A	R	C	H	E	P	Y	B	X	S	I	B	B	U	I	A
S	L	K	R	H	K	M	C	I	Z	Q	G	U	T	I	P	O	C	E	I
O	O	B	A	Q	H	E	N	X	V	U	Y	I	A	N	R	T	A	F	Y
N	T	F	X	R	M	A	W	E	P	Z	V	K	R	T	E	T	I	Y	A
O	K	I	N	T	E	G	R	A	T	I	O	N	L	E	S	L	W	N	G
S	E	G	W	E	D	C	Y	Z	O	M	H	H	I	R	I	E	S	V	G
M	M	N	T	C	I	X	O	C	Y	O	M	D	N	V	D	N	T	E	R
Z	G	A	H	P	A	W	J	N	O	V	L	I	K	I	E	E	R	H	E
N	U	N	R	A	P	S	S	A	S	G	E	V	S	E	N	C	U	I	G
B	D	N	D	T	N	O	I	T	O	T	H	A	Y	W	T	K	C	C	A
P	R	B	O	O	W	C	L	X	R	C	R	W	S	T	I	O	T	L	T
S	O	G	T	S	P	O	E	L	I	E	X	U	M	I	A	M	U	E	I
R	N	S	N	K	Y	P	R	M	U	Y	A	U	C	S	L	K	R	A	O
R	E	R	E	Y	N	H	V	K	E	T	V	M	V	T	R	F	E	L	N
F	P	S	Y	D	U	K	F	N	Z	N	I	X	L	R	I	D	E	E	C
O	I	Y	R	I	W	X	B	F	O	O	T	O	O	I	K	O	A	R	B
G	L	U	H	O	T	X	I	Y	T	T	N	D	N	B	N	B	N	T	Q
U	O	E	D	F	Y	S	X	D	D	B	U	E	X	T	P	E	Z	I	W
C	T	D	V	B	M	R	L	I	R	M	R	K	G	V	K	F	R	L	F

RECONSTRUCTION
SMART WORK ZONE
ENHANCEMENT
VEHICLE ALERT
SUBSYSTEM
MEDIA
INTERVIEW
DRONE PILOT
STARLINK
SKYDIO
BOTTLENECK
AGGREGATION
DIVA
RESIDENTIAL
INTEGRATION
POLLUTION
STREAMLINE
STRUCTURE
RESEARCH
METHOD

The good news is, charging stations could multiply rapidly. The bad news is, your electric car won't be an excuse to avoid road trips anymore.

Research from Master University Agreements Support District Four:

FAU Pilot Smart Work Zone Performance Measures on SW 10th Street Project

By Arlene Willis, TSM&O Integration Manager, FDOT District Four and Dr. David Kan, Principal Investigator, Florida Atlantic University

A team of Florida Atlantic University (FAU) graduate students and researchers led by Principal Investigator Dr. David Kan worked with the TSM&O Integration Manager, Arlene Willis, and Arterials Manager, Daniel Smith, to develop and implement a safe and reliable method and set of performance measures to monitor and manage construction, creating what the Federal Highway Administration (FHWA) has aptly coined, 'Smart Work Zones' in District Four. Unlike traditional Smart Work Zone projects, this recent effort addressed emerging issues such as noise and pollution, which had not been previously incorporated.

Traffic disruptions during construction in work zones are the leading cause of vehicular congestion, safety concerns, and pollution issues. The deployment of Intelligent Transportation Systems (ITS) devices to enhance mobility and safety at work zones is widely known as Smart Work Zones (SWZs). The use of real-time information collected for operational improvement in the roadway segment and the surrounding road network or affected zones has been found to greatly improve mobility, protect workers in the zone, and reduce user costs. The research by FAU proposes non-traditional performance measures to be used for SWZ monitoring and evaluation. The measures complement those typically found in guidance from federal and state departments of transportation.

FDOT District Four will implement the SWZ at SW 10th Street in the City of Deerfield Beach, in Broward County. The influence area includes four well-traveled corridors: Military Trail, Lyons Road, Powerline Road, and Florida's Turnpike. In addition to traditional measures for mobility and safety, District Four sets a new precedent by incorporating noise and air pollution measures and is developing targets to be met.

The SW 10th Street SWZ pilot study is a great example of how to actively monitor noise and air pollution levels in work zones during construction, measure the impacts of countermeasures created to reduce both, and increase the quality-of-life experience for those in the vicinity of work zones. For more research information, check out the FAU website at https://www.fau.edu/engineering/directory/faculty/kan/. The expected outcomes of making informed decisions to reduce the negative impacts of road construction include reduced and predictable travel times, less noise, and improved air quality.

The new measures used in other industries under consideration are hourly equivalent exposure indicators for noise and CO_2, NOX, and particulate emissions for pollution. What's next? Setting standards and targets for these measures and determining their effectiveness as a tool from which to make decisions will unfold over the course of the project, which is expected to last until 2028.

Lessons learned from the SWZ performance measure development and implementation could guide future practitioners and stakeholders who want to quantify and monitor SWZ performance and impacts beyond mobility and safety, using existing and readily available data sources.

FAU researchers and Dr. Kan would like to see the newly developed SWZ performance measures and implementation plan adopted in practice, to bridge the gap between newly proposed methods and recommendations and real-world applications. We hope that the proposed measures and methods make a positive difference in performance monitoring and evaluation for future work zones and that they impact the extent of the planning for safe road construction work zones.

For more information, please contact Arlene Willis at (954) 677-7899 or by email at Arlene.Willis@dot.state.fl.us.

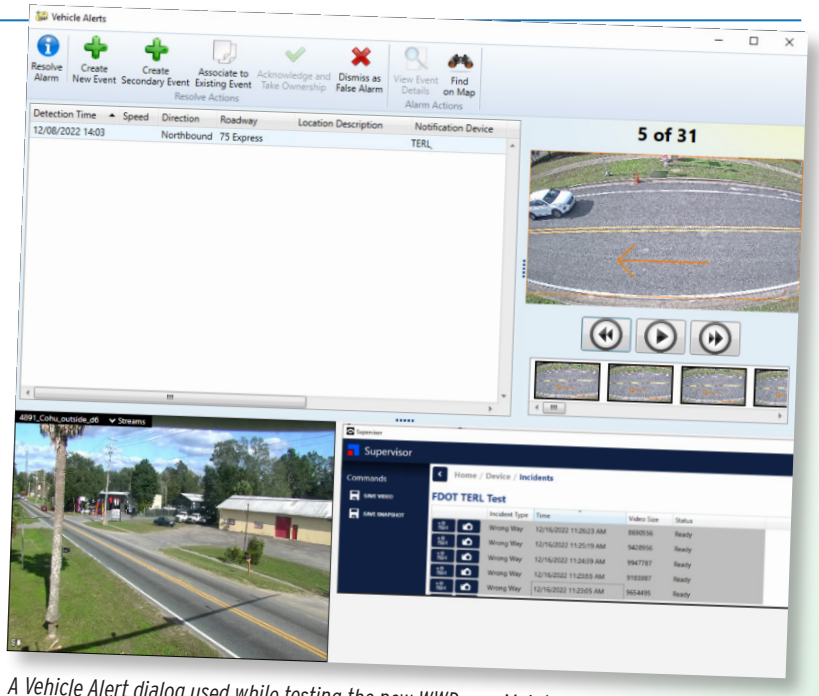
FDOT Central Office Announces SunGuide® Software Version Release 8.2

By Christine Shafik, State TSM&O Software Engineer, FDOT and Carla W. Holmes, Gresham Smith

FDOT Central Office released SunGuide® Software Version Release 8.2 to the Districts in December of 2022. Since development of SunGuide® Software began in 2003, FDOT Central Office has continued to introduce new features and functionalities that make the software more user-friendly and allow it to keep pace with the innovative technologies and projects FDOT's TSM&O program employs to provide a safe and efficient transportation system.

A few of the enhancements included in SunGuide® Software Version Release 8.2 are:

- SunGuide users can now open video streams from Closed Circuit TV (CCTV) cameras associated to specific dynamic message signs (DMSs) and ramp meters. Presets can be added to these associated cameras that allow users to verify DMS messages and monitor ramp operations more easily.
- SunGuide's Event Chronology Report has been enhanced with new filter options that allow users to streamline reporting and only see information on the event chronology types they are interested in.
- A new Maintenance Mode feature has been added to SunGuide's wrong-way driving (WWD) detection alerting subsystem that allows operators to place a WWD device in maintenance mode to prevent it from sending alerts to the RTMC when construction or maintenance activities are expected to trigger false alarms.



A Vehicle Alert dialog used while testing the new WWD new Maintenance Mode feature at the Traffic Engineering Research Laboratory.

- Multiple Road Ranger incident management and motorist assistance activities can now be entered more easily into SunGuide via the Operator Map and the Smart Phone Application for Road Rangers (SPARR App). This enhancement makes documenting on-scene activities more efficient for operators and Road Rangers.
- SunGuide users now have a shortcut to create a copy of an existing Scheduled Actions, saving time and mitigating the risk of errors when creating new plans and actions with similar elements to existing schedules.
- The addition of a new Truck Parking Availability Subsystem (TPAS) Verification feature makes monitoring and reporting truck parking facility counts easier with the use of prompts for making timely checks to verify the state of truck parking facilities, and the automation of a new TPAS Verification Report.
- There were also enhancements made to back-end SunGuide processes and administrator-level functionality, including upgrades to SunGuide's configuration dialogs, databases with ceased-use devices, CCTV driver, and the addition of a failure reporting subsystem.

To learn more about SunGuide® Software, visit http://www.sunguidesoftware.com/.

For questions, additional information, or suggestions for enhancements to SunGuide® Software, please contact Christine Shafik by e-mail at Christine.Shafik@dot.state.fl.us.

District Six Appoints New TSM&O Engineer - Freeways

By Javier Rodriguez, P.E., TSM&O Program Engineer

Yamilet Diaz, P.E.

FDOT District Six has appointed Ms. Yamilet Diaz, P.E. as the new Transportation Systems Management & Operations (TSM&O) Engineer for the Freeways division. The position manages the Intelligent Transportation Systems (ITS) operations and maintenance contracts for the District. In her new role, she will be charged with the unique challenge of managing one of the most congested regions in Florida. Ms. Diaz will oversee over 100 employees and consultants to manage all aspects of freeway operations including incident management, traveler information, managed lanes, device maintenance, and other supporting services. She will work with TSM&O staff and partner agencies to implement innovative solutions to meet the regional travel needs of Miami-Dade and Monroe Counties.

Ms. Diaz is well positioned for this role as she has been supporting the District Six TSM&O Office for over 11 years. She began her career as an engineering intern and worked through various consultant positions, eventually joining FDOT as the TSM&O Engineer for the emerging Arterials division in 2017. Ms. Diaz played a pivotal role in growing that division. She identified ways to improve arterial operations and partnered with local agencies to implement multimodal transportation projects that improved the safety and mobility of local roadways.

Ms. Diaz paved the way for several projects that were the first of their kind for the District. She launched the District's first Adaptive Signal Control Technology (ASCT) project along SW 8 Street which reduced congestion in this high traffic east-west corridor in Miami-Dade County. She was also responsible for improving the Traffic Signal Maintenance and Compensation Agreement process with maintaining agencies which led to better accountability and maintenance efforts. Ms. Diaz is credited with leading the District's traffic signal system expansion in Monroe County. She successfully spearheaded the District's plan to assume the operations and maintenance of the county's traffic signals from the local municipalities in the area. The project spanned over 100 miles along US 1 and took several years to complete. This led to the establishment of the Monroe County Traffic Signal System we see today. Most recently, Ms. Diaz served as the Project Manager for the Florida Keys Connecting Overseas to Advance Safe Travel (Keys COAST) project, which is the first connected and automated vehicle project in the District. She administered all aspects of the project, including planning, design, and the early stages of construction.

Ms. Diaz has been recognized with numerous industry awards and regularly speaks at transportation conferences to share her knowledge and lessons learned about arterial management. She is a professional engineer and a graduate from Johns Hopkins University (Bachelor of Science in Mathematical Sciences) and Florida International University (Bachelor of Science in Civil Engineering). The TSM&O Office looks forward to working with Ms. Diaz in her new role.

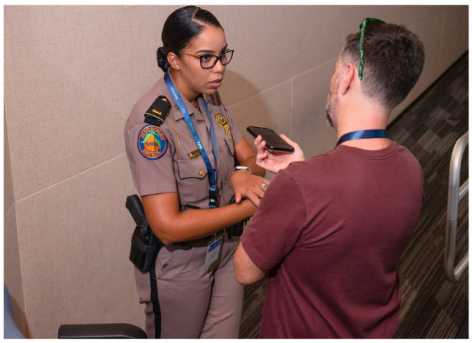
For more information, please contact Javier Rodriguez at (305) 640-7307 or by email at: Javier.rodriguez2@dot.state.fl.us.

FDOT District Four's Pre-Holiday Travel Media Day with FL511

By Natacha Placide, Marketing/Public Outreach Coordinator, FDOT District Four RTMC

**Thomas Mangan,
SIRV Operations Manager,
interviewed by Channel 10**

**Alexandra Lopez, PE, PTOE,
TSM&O Program Engineer,
Interviewed by Channel 7**



**Lt. Indiana Miranda,
Florida Highway Patrol (FHP),
interviewed by NewsRadio WIOD**

**Mauricio Micolta,
TSM&O Freeways Manage,
Interviewed by Channel 51**

**Wayne Kinser,
American Automobile Association (AAA),
Interviewed by Channel 10**

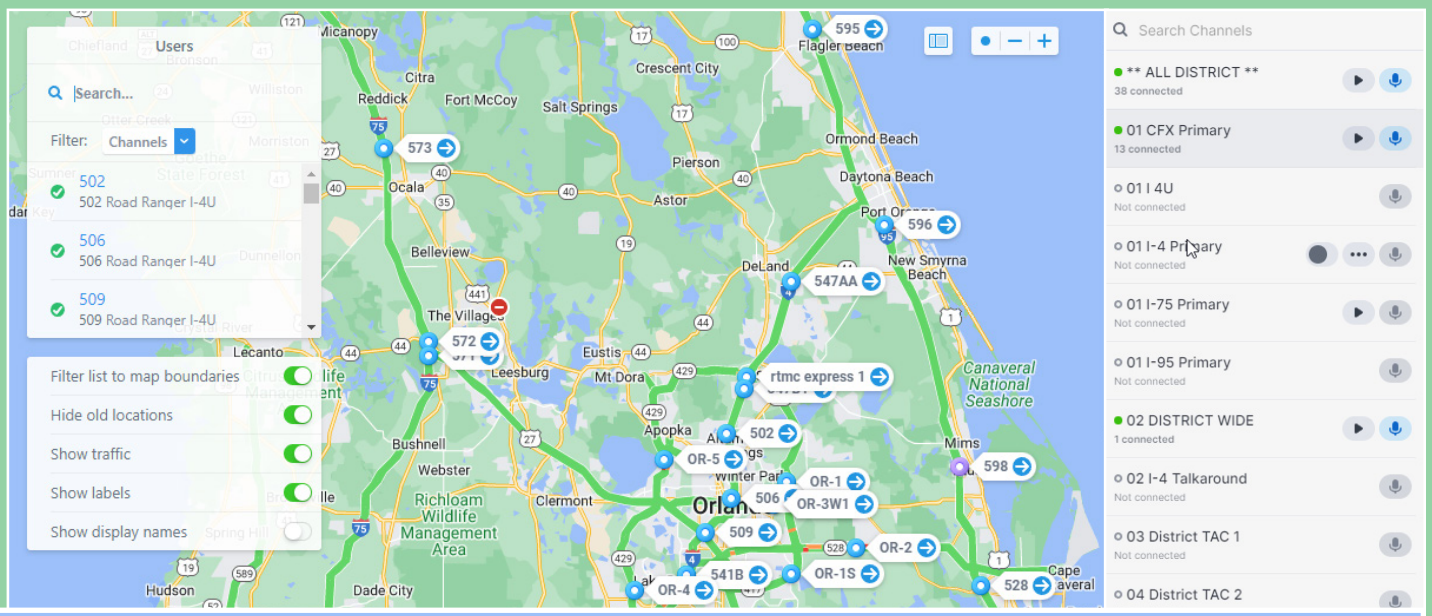
**James Landini, PE,
FDOT Florida 511
interviewed by Sun Sentinel**

The Florida Department of Transportation (FDOT) District Four hosted its Pre-Holiday Travel Media Day with Florida 511 on Friday, November 18, 2022, at the Regional Transportation Management Center (RTMC) in Fort Lauderdale, FL.

It was a busy morning at the RTMC. Representatives from local television stations (English and Spanish), newspapers, and radio stations attended. Through behind-the-scenes footage, viewers were able to gain an insider's perspective of the RTMC's operations. Representatives of the Transportation Systems Management and Operations (TSMO) program at FDOT District Four, Florida 511, the Florida Highway Patrol (FHP), the American Automobile Association (AAA), Severe Incident Response Vehicle (SIRV) program, and Road Ranger Service Patrol (RRSP) were interviewed. AAA provided the media and its viewers with the most recent travel statistics. Florida 511's representative encouraged travelers to download the FL511 app to get real-time traffic updates on traffic delays, congestion, road closures, crashes, and construction.

This year's Pre-Holiday Travel Media Day was an outstanding success. Several live interviews were conducted, millions of impressions were captured on social media, and vehicles from SIRV and Road Rangers were present to demonstrate the safety measures being implemented. The Florida Department of Transportation reiterated its commitment to providing accurate, timely, and relevant information to educate the public and promote road safety.

For more information, please contact Alexandra Lopez, at Alexandra.Lopez@dot.state.fl.us or by phone at (954) 777-4376.



Talking TIM: Road Ranger Communications

By Sheryl Bradley, District Five ICM Project Manager

Communications is a vital part of District Five's Regional Transportation Management Center (RTMC) and Road Ranger operations. In the past, District Five has used Nextel push-to-talk, FirstNet's Enhanced Push-to-Talk, and Statewide Law Enforcement Radio System (SLERS) radios. While these met the need, they all fell short in one area or another with regards to the district's identified needs. The push-to-talk systems were exclusive to a singular cell phone carrier, which meant the potential for multiple systems across our Road Ranger programs and/or changes in communications systems every time Road Ranger contracts changed. SLERS, while reliable, had a couple of dead zones. All of the systems lacked flexibility for adjusting talk groups to our operational needs.

After an incident where a Road Ranger activated an emergency alert on SLERS and the RTMC's inability to quickly and easily track down the involved party and their location, District Five embarked on a mission to find another alternative. Garrett Popovich, District Five Communications Administrator and Senior TIM Specialist, found Zello which provided an enterprise version of their software at no cost to first responders. Zello is an instant push-to-talk voice communication system, so we no longer have to worry about changes with each contract nor require Road Ranger providers to utilize a single carrier, opening up opportunities in areas where cell phone coverage varies by provider.

Garrett has worked closely with the Zello team and customized features that enhance Road Ranger communications, which includes hand held and desktop interfaces. We have unlimited capability to create channels which can then be patched together, as needed, to facilitate communications across different work groups and/or to quickly add users and devices when needed. The system provides very accurate GPS location, which serves as a back-up AVL when SunGuide is unavailable. Pictures can be sent from the field to every device on any given channel and there is a playback feature that prohibits the need to continually ask for repeats, tying up valuable bandwidth on busy channels. This also allows for oversight and monitoring of performance across the RTMC and Road Rangers.

Additionally, we have added a critical fail-safe that ensures proper attention is given when an emergency alert is activated. When a Road Ranger hits the emergency alert button, they are immediately moved to an open emergency channel and their GPS location is displayed for everyone in that group. If the alert goes unanswered by the RTMC for 30-seconds, a text goes out to all of the TIM leadership group. If the emergency alert still goes unacknowledged for more than 1-min, every phone in the RTMC and TIM leadership cell phones are called with an automated message advising of an unresolved alert. With implementation of this system, we have immediate access to critical information and ensure timely resolution of all emergencies, real or accidental activation, prioritizing the safety of our Road Rangers.

The Road Ranger system mimics SLERS security policies so that we would have the ability to integrate with the new FHP SLERS system, should we ever need to do so. Garrett recently implemented the same system in District Four which provides the added benefit of easily linked and interoperable systems across the two districts.

For more information, please contact Sheryl Bradley by email at Sheryl.Bradley@dot.state.fl.us.

CONTACTS

DISTRICT 1
Mark Mathes, DTOE
Steven Davis
FDOT District 1 Traffic Operations
801 N. Broadway Avenue
Bartow, FL 33830
(863) 519-2490

DISTRICT 2
Jim Hannigan, DTOE
Peter Vega
FDOT District 2 Traffic Operations
2198 Edison Avenue
Jacksonville, FL 32204
(904) 360-5630

DISTRICT 3
Kimberly Toole, DTOE
Amy DiRusso
FDOT District 3 Traffic Operations
1074 Highway 90 East
Chipley, FL 32428-9900
(850) 638-0250

DISTRICT 4
Jonathan Overton, DTOE
Alexandra Lopez
FDOT District 4 Traffic Operations
3400 W. Commercial Blvd.
Ft. Lauderdale, FL 33309
(954) 777-4350

DISTRICT 5
Jim Wood, DTOE
Jeremy Dilmore
FDOT District 5 Traffic Operations
719 S. Woodland Blvd., MS 3-562
DeLand, FL 32720-6834
(386) 943-5310

DISTRICT 6
Omar Meitin, DTOE
Javier Rodriguez
FDOT District 6 Traffic Operations
1000 NW 111th Avenue, MS 6203
Miami, FL 33172
(305) 470-5312

DISTRICT 7
Ron Chin, DTOE
Megan Arasteh
FDOT District 7 Traffic Operations
11201 N. McKinley Dr.
Tampa, FL 33612
(813) 615-8600

FLORIDA'S TURNPIKE ENTERPRISE
John Easterling, DTOE
Eric Gordin
Florida's Turnpike Enterprise
PO Box 9828
Ft. Lauderdale, FL 33310-9828
(954) 975-4855

CENTRAL OFFICE
Rudy Powell, Director
Traffic Engineering and Operations Office
(850) 410-5419

Fred Heery
State TSM&O Program Engineer
(850) 410-5606

Vacant
Connected Vehicles, Arterial Management, Managed Lanes
(850) 410-5616

Jeff Frost
State TIM/CVO Program Manager
(850) 410-5607

Derek Vollmer
Traffic Engineering Research Lab Manager
(850) 921-7361

Vacant
State Traffic Services Program Engineer
(850) 410-5416