

TSM&O DISSEMINATOR

TRANSPORTATION SYSTEMS MANAGEMENT & OPERATIONS

October-December 2022



District Six Launches New Purchase Tracking Software

**Hurricane Ian Presents Opportunity to Continue
Testing Smart Work Zone Technology**

Innovation and Partnerships Improve Executive Notifications

DIVAS Cameras Help Identify Monarch Butterfly Habitat



INSIDE THIS ISSUE

3	District Six Launches New Purchase Tracking Software
4	District Three Receives Past Due Back-to-Back Innovation Awards at 2022 Governor's Hurricane Conference!
5	Hurricane Ian Presents Opportunity to Continue Testing Smart Work Zone Technology
6	Innovation and Partnerships Improve Executive Notifications
8	Traffic Incident Management Crash Responder Safety Week (November 14-18, 2022)
10	DIVAS Cameras Help Identify Monarch Butterfly Habitat
11	Contacts

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.

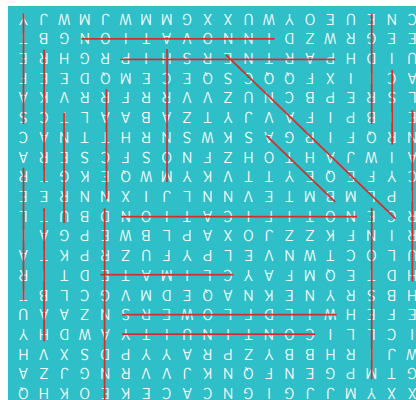
Photo credits: FDOT

PHYSICAL ADDRESS:

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

MAILING ADDRESS:

Burns Building
605 Suwannee Street, MS 90
Tallahassee, FL 32399



District Six Launches New Purchase Tracking Software

By Javier Rodriguez, PE, TSM&O Engineer, District Six

The FDOT District Six Transportation Systems Management and Operations (TSM&O) Office created a new software application that tracks the purchasing of all equipment and devices for the program. The application is aptly named Purchase Tracker Module (PTM) and has streamlined procedures to improve the overall process for the Office. Purchasing requires a great detail of effort and budgeting to secure funding and complete the acquisitions. Items such as hardware, software, licenses, and warranties must be identified at least one year in advance to be included in the annual budget. This requires TSM&O staff to forecast the equipment and services that will be needed to ensure operational continuity for the program. Staff must identify the items, justify their need, produce supporting documentation, and select their funding source and vendor.



DMS Maintenance

Documentation goes through several rounds of internal quality control checks before it is submitted to FDOT's purchasing department for final approval. Accuracy and detail are essential to this process because one simple mistake can delay the acquisition of these mission-critical items for the TSM&O program. PTM was implemented to simplify the complex nature of carrying out the purchasing process once the budget is approved. The previous system used an intricate and multi-page spreadsheet to track the annual purchases and budget. ITS Maintenance and IT staff used this spreadsheet to update the items for final review and approval. This open format left the process vulnerable to potential data entry errors. The spreadsheet had to be continuously reviewed for accuracy.

PTM streamlines this process for the team. It essentially transferred the spreadsheet into one easy-to-use interface that houses all pertinent information in a database. Data entry is simplified by filling in a form rather than cells of a spreadsheet. The form contains a purchasing checklist with pre-filled drop-down categories that intuitively helps the user complete the line items and mitigate errors. The purchase log interface allows the user to filter data to easily track purchase dates, delivery timelines, amount spent, and other items for each quarter. Several budget summary reports were developed to quickly track annual budget status.

PTM was implemented as a new module in the Operations Task Manager (OTM) software. It launched this summer and has widely improved purchasing efforts for the team. It is saving time and effort while reducing potential errors related to this important task. Additional enhancements are being planned for the software.

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



District Three Receives Past Due Back-to-Back Innovation Awards at 2022 Governor's Hurricane Conference!

By Amy DiRusso, District Three TSM&O Program Engineer, FDOT and Russell Allen, Atkins

After two consecutive years of canceling the annual Governor's Hurricane Conference (GHC), 2022 brought back the face-to-face conference and it was time to award those who continued to serve during the Coronavirus (COVID-19) pandemic. While social gatherings were replaced with social distancing for two very long years, the Florida Department of Transportation (FDOT) continued to carry out its mission to 'provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of our environment and communities.'



FDOT D3 Secretary Phillip Gainer (left) and D3 Director of Operations Jason Peters (right) presenting D3 TSM&O Program Engineer Amy DiRusso (middle) with the 2020 GHC Innovation Award

Many lessons were learned after Hurricane Michael struck Florida's panhandle in 2018. But through the rigorous commitment of FDOT and its emergency partners, new ideas were brought to light and innovation was at the forefront. One of the innovative ideas that rose to the top was the FDOT District Three (D3) Transportation Systems Management and Operations (TSM&O) group's regional plan to provide state and local emergency partners with access to more than 250 real-time streaming video cameras.

In 2020, FDOT D3 was tested yet again when the US 98/Pensacola Bay Bridge suffered damage caused by Hurricane Sally that led to a long-term closure of this major bridge. Once again, the D3 TSM&O group rose to the challenge with an innovative solution to use real-time traffic data to improve traffic management strategies along detour routes required by the bridge closure.

Because of their efforts, the D3 TSM&O group, led by Ms. Amy DiRusso, PE (D3 TSM&O Program Engineer) was awarded the GHC Innovation Award back-to-back in 2020 and 2021. Even though the conference was canceled for two straight years, the GHC committee proudly presented these long overdue awards to FDOT D3 in 2022.

With support from their leadership, the D3 TSM&O team continues to apply both traditional and innovative technologies to carry out FDOT's vision of 'providing a transportation network that is well planned, supports economic growth, and has the goal of being congestion and fatality free.'

For more information, please contact Amy DiRusso at (850) 330-1241 or by email at Amy.DiRusso@dot.state.fl.us.

Hurricane Ian Presents Opportunity to Continue Testing Smart Work Zone Technology

By Gabriel Smith, Technical Information Officer, District Five

The Florida Department of Transportation (FDOT) is always looking to incorporate advanced technologies that will benefit safety and efficiency in projects. The Department's new Smart Work Zone Trailer has already shown it can improve safety awareness in active work zones (see TSM&O Disseminator July-September 2022), but just recently this technology added natural disaster safety to its repertoire.

Following an initial operation, the Smart Work Zone Trailer was deployed to State Road (S.R.) 46 in the aftermath of Hurricane Ian. The storm brought more than 15 inches of rain to Central Florida, resulting in major flooding in low-lying areas. The Smart Work Zone Trailer was activated to assist in monitoring a large work zone to ensure the traveling public and construction crews on site remained safe, highlighting the trailer's utility in disaster relief work areas. In conjunction with other technologies FDOT activated, such as the Florida 511 website being constantly updated with the newest information, the Smart Work Zone Trailer played a role in the Department's hurricane response efforts.

The trailer is equipped with video cameras, audible sirens, remote configuration and connected vehicle communication. At the top of the trailer is the Connected Vehicle Roadside Unit. This technology allows messages to be sent directly to motorists through in-vehicle systems. The trailer can be operated remotely from District Five's Regional Transportation Management Center (RTMC) in Sanford.

Motorists approaching the trailer site can receive Traveler Information Messages through in-vehicle systems that alert them to current conditions such as active work zones, lane closures, or other potential hazards, like standing water on the roadway. All this technology works together to improve work zone safety. Also, it notifies on-site workers of potential dangers around them.

The trailer was first deployed to the Wekiva Parkway (S.R. 429) project in early August. It stayed on site for eight days. During this time, the team at the RTMC tested and monitored the trailer's safety features. The goal was to see how the trailer functioned at an active work site. During the first deployment, no incidents were reported.

The design team is working to improve the directionality logic and the system's ability to differentiate the types of vehicles entering the work zone.

FDOT learned valuable lessons from the Smart Zone Work Trailer's initial operation. The main take-away is that additional training and ongoing education are needed. Construction personnel need to know what each audible alert means and how they should respond. Also, future consideration is needed as to how the trailer may impact the public. For example, what impact will the alarm have on nearby residential areas?

According to Nathan Mozeleski, FDOT Technical Manager - ITS & Traffic Engineering, "The Smart Work Zone is the idea of using technology in a way that we haven't done before in active work zones. What we're doing today is kind of that first step ... and as technology continues to improve, so do our abilities at the Department to provide those benefits of safety and operations to the public and to construction workers. The overall goal for the Smart Work Zone system is to improve safety for all modal users."

The Smart Work Zone Trailer, as well as the Advanced Work Zone Information (AWZI) system, have been shown at the District Five Vital Few Expo, the District Five CEI Summit, and a statewide executive leadership presentation at the District Five office in DeLand. Leaders are excited about how the technology will help increase safety statewide. Based upon the success of the initial Smart Work Zone Trailer deployments, there are plans to procure additional trailers for FDOT work zones.

For more information, please contact Gabriel Smith at (321) 257-7253 or by email at gabriel.smith@dot.state.fl.us.



The Smart Work Zone Trailer, seen here before its initial deployment, combines several technologies including a collapsible solar array and three video cameras atop the trailer.

Innovation and Partnerships Improve Executive Notifications

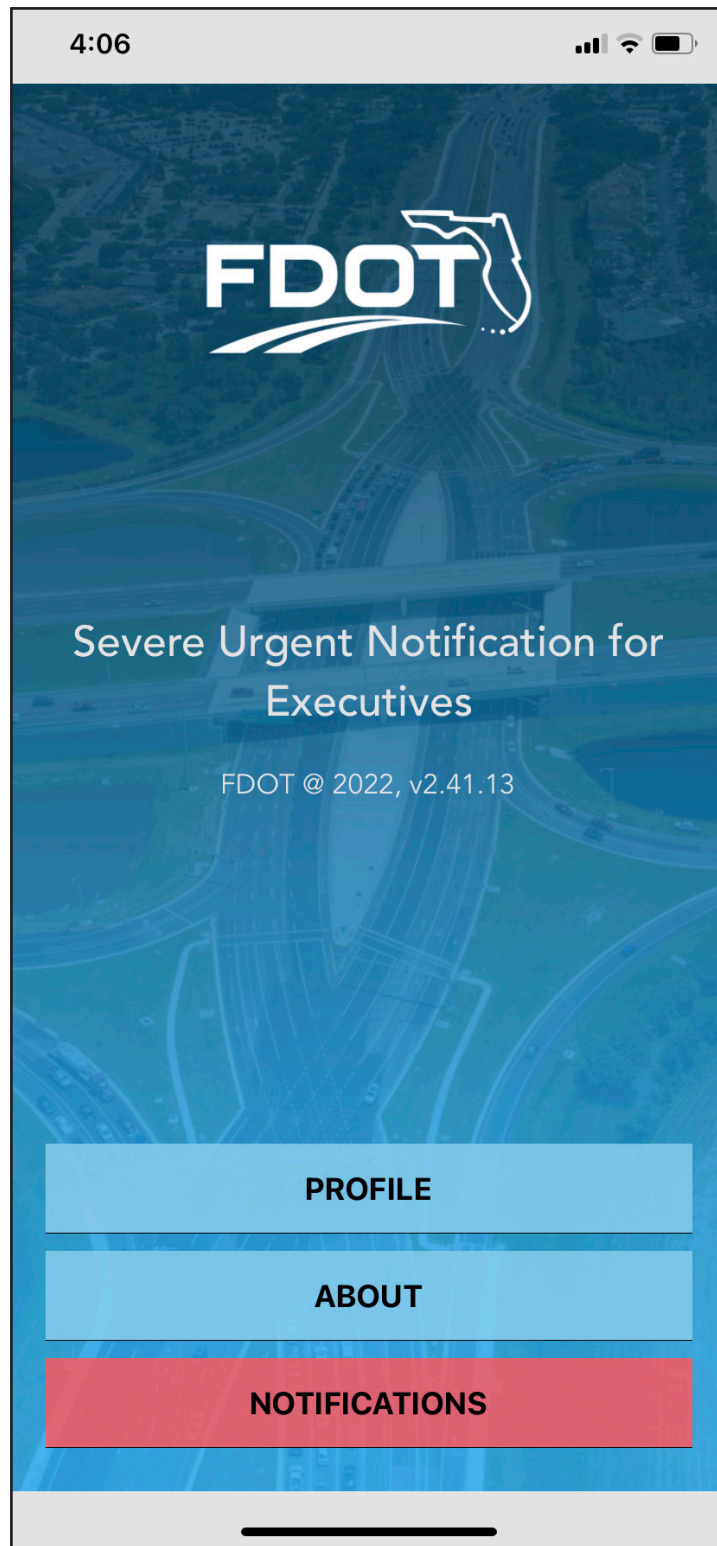
By Chrissie Collins, Traffic Operations FMS/AMS Specialist IV, District One

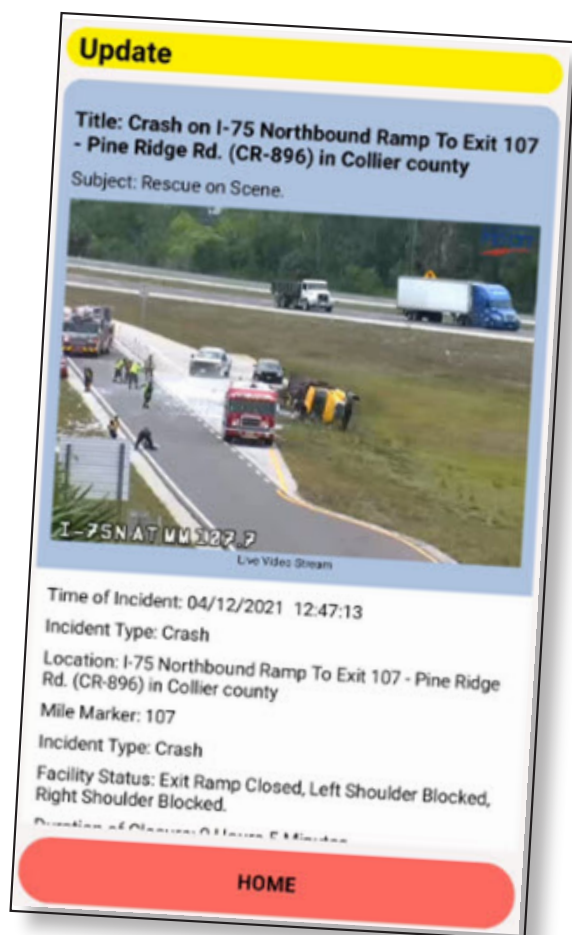
The life of Transportation Executives and Directors can be hectic with numerous emails, text messages, and phone calls received daily and oftentimes in the evenings and weekends. Timeliness is crucial to management having critical information, so they are properly informed and able to respond as the need arises.

The Level 3 emails that management receives gives detailed information when roadside incidents occur, but they often get buried somewhere in the inbox. This issue provided an opportunity for an innovative solution, and a proof of concept was brought into fruition to make sure the vital information reached management in a way that stood out from all the other technical noise.

A District One TSM&O staff member developed a beta version of a mobile application that allows the TMC operators to use a web interface that comes pre-populated with SunGuide incident information in combination with a Google map and traffic layer where the incident occurred, and live streaming video if available. Those with the application installed on their mobile phones receive an alert outside of emails to immediately notify the recipient of a Level 3 incident. This mobile application brought the information to a new level by allowing management to see the incidents in real time, no matter where they were.

When it came time to name the mobile application, nothing was more appropriate than naming it the “Severe Urgent Notification for Executives”, also known as SUN-EX.





Once the beta version was tested by people in different roles, the next step was to put it into production for the district before expanding it to statewide use. District One TSM&O partnered with the Central Office Information Technology (IT) Chief Information Officer (CIO), Application Services Manager, and staff to turn the effort into a project with milestones and deadlines.

TSM&O and IT were able to utilize authentication through an existing service to prevent management from having to maintain yet another account and password when signing into the application. The developer also collaborated with the IT staff to host the application in Azure and to make it available through Microsoft Intune for installation on authorized user's mobile phones.

The critical milestone of putting SUN-EX into production in District One has passed, and efforts are underway to bring the mobile application into production for the other districts. The vision for this mobile application has the potential to go beyond its current function and deliver critical information to management and the partnership between TSM&O and IT will strive to ensure a successful delivery.

For more information, please contact Chrissie Collins at (863) 519-2262 or by email at chrissie.collins@dot.state.fl.us.

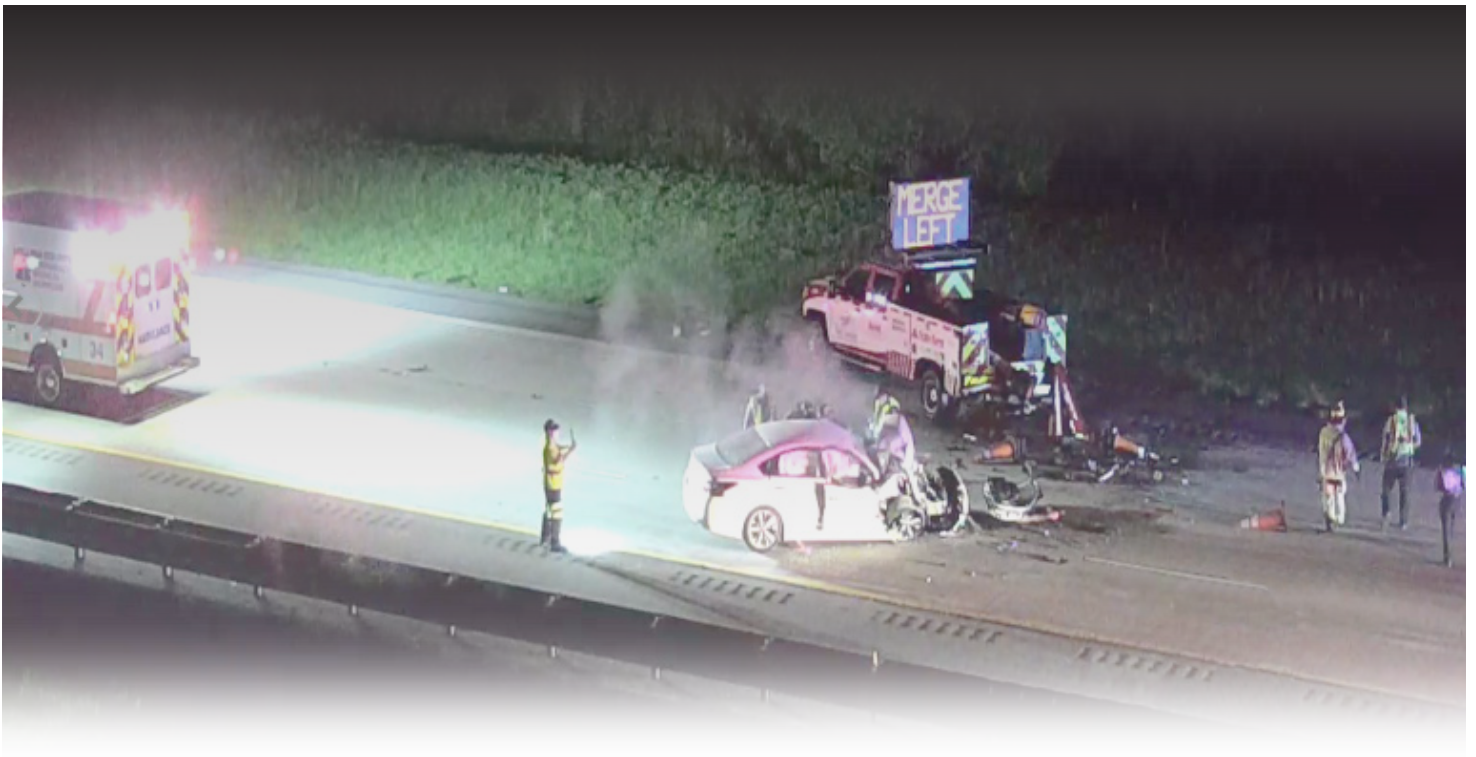
Break Time



URGENT
INNOVATION
TRAILER
BRIDGE
HURRICANE
TRACKER
CONTINUITY
PARTNERSHIP
CLIMATE
ENDANGERED

NECTAR
MILESTONE
BETA
NOTIFICATION
SAFETY
RISC
CLEARANCE
WILDFLOWERS
HABITAT
MONARCH





Traffic Incident Management – Crash Responder Safety Week (November 14-18, 2022)

By District 5 I-75 ICM Team (AECOM)

Transportation and traffic management are awash with acronyms providing a common language for practitioners inside our industry, but TSM&O and TIM (Traffic Incident Management) are among the most important. Several years ago, District Five elevated their TIM program by utilizing former responders in an operational function within the Regional Traffic Management Center (RTMC), serving as FDOT's incident coordinators. District Five's TIM personnel communicate with on-scene responders to quickly assess the severity of any major incident and determine what resources are needed. They also take the lead in dispatching tow vendors via their IRCS (Incident Relocation and Clearance Services) contract, which combines Rapid Incident Scene Clearance (RISC) and Safe Tow functions, to facilitate quick, safe clearance. By integrating themselves into the incident response process and having direct communications with local responders, the TIM personnel have built relationships and established a rapport with police and fire/rescue that has strengthened partnerships and enhanced interoperability.

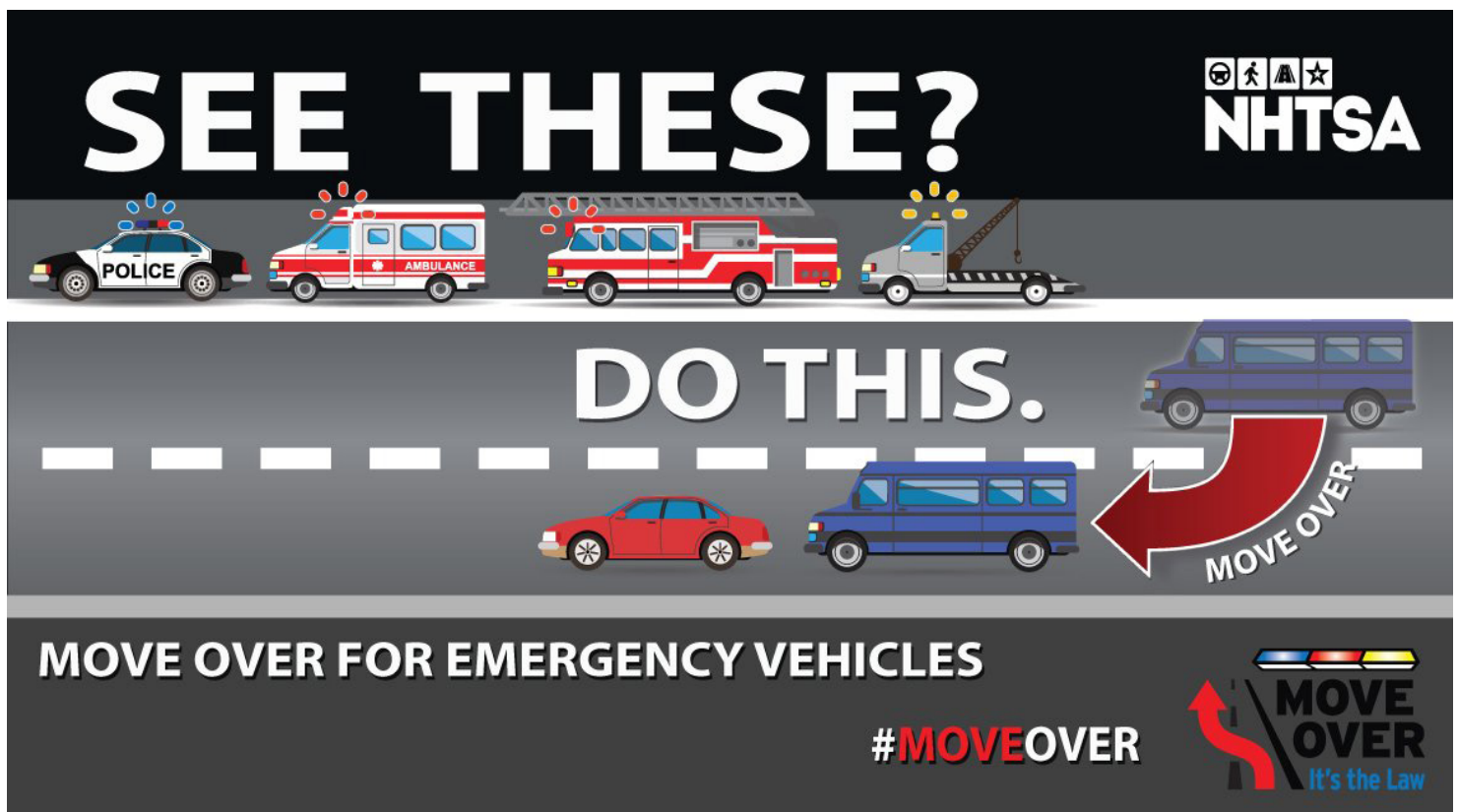
*TIM - Crash Responder Safety Week,
continued from page 8*

Each year, the U.S. Department of Transportation's Federal Highway Administration (FHWA) sponsors a week dedicated to highlighting the dangers of traffic incident management. This year's Crash Responder Safety Week (CRSW) occurred from November 14th to the 18th. While District Five's Integrated Corridor Management (ICM) team is planning events and outreach to mark the week, they are encouraging everyone in the TSM&O community to play a part. Most of us in TSM&O know a first responder who has been injured, or worse, at a crash scene.

In many cases, these injured responders have been FDOT's own. We, at FDOT, have the knowledge and the reach to remind people including our friends, our colleagues, our relatives or the broader driving community, to slow down and move over when they approach a crash scene. Protecting lives should not have to cost lives. Yet every year, we lose people who are doing the crucial work of responding to crashes.

Respondersafety.com highlights the extent of the tragedy in the U.S. In 2019 for example, 18 law enforcement officers were killed while responding to incidents. Fourteen tow truck drivers and nine firefighters also lost their lives. That doesn't factor in many more who were injured. District Five's ICM team uses every opportunity to remind the public about the importance of Florida statute 316.126, the Move Over law. We all have a responsibility to protect the lives of first responders. Moving over when it's safe to do so, can be the difference between serious injury and even life or death. It's an everyday message but after last month's Crash Responder Safety Week, we hope Florida's entire TSM&O community will help get the word out.

For more information, please contact Lauren Pearson at (321) 257-7246 or by email at lauren.pearson@dot.state.fl.us.



DIVAS Cameras Help Identify Monarch Butterfly Habitat

By Denise Rach, Biologist & FDOT OEM Project Delivery Coordinator, Central Office

This past spring, the Office of Environmental Management (OEM) worked with the TSM&O Program Development Engineer, James Landini, to determine if the statewide Data Integration and Video Aggregation System (DIVAS) camera system could be used to identify wildflowers in bloom within FDOT's right of way.

These wildflower areas provide an important nectar source for pollinators, most notably monarch butterflies, which are a candidate species for listing on the U.S. Fish and Wildlife Service (USFWS) Endangered Species list. To be proactive in conservation of the monarch, OEM is working to join a nationwide collective agreement from across the energy and transportation sectors known as the Candidate Conservation Agreement with Assurances or CCAA. Through the CCAA, the FDOT agrees to adopt management practices that collectively create a net conservation benefit for the monarch butterfly. The adaptive management practices promoted under the CCAA are activities that FDOT already does routinely, like a reduced mowing schedule on the back slope, reduction of herbicide application, planting wildflower seeds, and timing of scheduled mowing activities to coincide with monarch migration. And these activities can work to sustain a rich network of lands that can provide significant monarch habitat.

Upon joining the CCAA, FDOT is required to demonstrate the effectiveness of the implemented conservation measures by conducting yearly effectiveness monitoring. Habitat sampling is conducted where conservation measures have been applied to determine whether suitable habitat for the monarch butterfly is present. To meet the CCAA requirements, FDOT must demonstrate that randomly selected plots within our enrolled acres contain at least two milkweed stems, or a 10% or more cover of flowering nectar plants at the time the plots are sampled. One of the biggest challenges we face is knowing when it's the best time to begin sampling.

Sampling should be conducted when monarch butterflies have the greatest potential to be present and ideally when plants are flowering for ease of identification. Florida's climate and range of latitudes presents challenges in identifying optimal timeframes for sampling throughout the State. This is where the DIVAS camera network has been a valuable tool to help determine when and where flowers begin to bloom. By checking the cameras, we can determine when flowering has begun in all regions of the State. This allows us to narrow in on the optimum sampling timeframe and increase our probability of meeting the success criteria for our enrolled acres. The camera feeds are periodically checked during the spring and fall bloom times to look for flowering activity. Based on what we see on the camera feeds, sampling times can be determined more accurately, which plays a pivotal role in the evaluation of our conservation efforts. A big thanks to James for all his help with this effort and for working with OEM to implement this innovative use of the DIVAS system.

For more information, please contact Denise Rach at (850) 414-5250 or by email at denise.rach@dot.state.fl.us.



I-75, Marion County



Florida Turnpike, Osceola County

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

Raj Ponnaluri
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

