



SUNGUIDE® DISSEMINATOR

Florida Department of Transportation's Traffic Engineering and Operations Newsletter

District Four Launches Real-Time Generator Status Reporting System

By Dong Chen, FDOT District Four

The Florida Department of Transportation (FDOT) District Four Intelligent Transportation Systems (ITS) Unit manages over 200 miles of highway and has 27 generators that provide power redundancy throughout the five counties. To do this with maximum efficiency and productivity, District Four recently implemented a real-time generator status reporting system called Supervisory Central and Data Acquisition (SCADA).

SCADA was developed to simplify maintenance on generators, increase device availability, and reduce recurring costs. The system communicates to the generators from regional transportation management centers (RTMC) over the District's ITS field fiber network, so no communications carrier costs are incurred.

SCADA gathers and analyzes real-time data from field generators and transfers the information back to the maintenance team, alerting them of any system critical information. Every second, over thirty data points are collected from each of the generators, such as: low fuel level, weak battery, overheat condition, etc. This is a web-based system that is capable of running on any workstation and communicating with multiple generator brands. Other notable features include: HTML 5 compatibility, smart phone compatibility, and expandability with Java or Java script programming.



Generator maintenance in District Four.

Inside This Issue July 2013

- District Four Launches Real-Time Generator Status Reporting System .. 1
- District Three Update 3
- District Six Launches New Road Ranger Contract 4
- FDOT Renews Focus on Systems Engineering for ITS..... 5
- ITS Florida Update 6
- Editorial Corner: Exploring Safety..... 7
- Announcements..... 9
- FDOT ITS Contacts 9



Dynamic message signs provide information to motorists.

With hurricane season upon us, and an increased chance for power outages, District Four realized the need to test the full generator system and its capabilities not just before a storm, but on a continual basis. District Four also wanted a way to visualize the site link status and display a generator status map in real-time on the RTMC video wall. If a connection failure occurs to any generator component, the site link changes from green to red and email alerts are sent out to the maintenance team.

In addition to the SCADA's real-time monitoring of critical generator functions, the District Four ITS Unit performs diagnostic field checks on a monthly basis and a full system exercise twice a year, once before and once after hurricane season.

Because District Four's eyes are on the road, closed-circuit television (CCTV) cameras as well as other devices are dependent on power; the SCADA system will eliminate potential downtime due to power outages. With this capability, the RTMC can share information with motorists as they return to the area after a hurricane evacuation. Even under a regional commercial power outage, motorists would see signs displaying information about what roads may be closed and Road Rangers would be available for incident management and assistance. None of this would be possible without the use of CCTV cameras, dynamic message signs, and other devices.

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

* * * *

District Three Update

By Lee Smith, FDOT District Three

I-10 Rural Freeway Management System

The Florida Department of Transportation (FDOT) District Three is in the final stages of procuring a design/build team for the I-10 Rural Freeway Management Systems from east of Pensacola to west of Tallahassee. This project will include an Internet protocol over Ethernet communications network running on 158 miles of gigabit (GB) fiber optic infrastructure. The fiber optic communications network will also extend 40 miles along US 231 to the Bay County transportation management center (TMC) to provide real-time center-to-center (C2C) connectivity for camera sharing and incident management. This project includes closed-circuit television (CCTV) cameras to provide nearly full coverage of the corridor as well as dynamic message signs (DMS), microwave vehicle detectors, travel time sensors, road/weather information sensors, highway advisory radio (HAR) systems, and a trail blazer system. Finally, the project will include a new traffic monitoring site within the District Three Chipley office campus that will supplement and be integrated with the District Three regional TMC in Pensacola and the City of Tallahassee/District Three regional TMC in Tallahassee. This project will allow redundant control and incident management support for this important recreational, commercial, and evacuation corridor in the Florida panhandle.



Existing DMS on I-10.

Incident Management

This project will provide a platform of technologies to vastly improve incident response across the entire length of I-10 in District Three as well as on other routes, such as US 231. Even though traffic flow on I-10 is generally a level of service A or B in the rural areas between Pensacola and Tallahassee, a traffic incident can cause a major backup. Truck traffic currently comprises approximately 30 percent of the average daily traffic and is expected to increase significantly with the completion of the Panama Canal improvements and various port improvements in Florida. The probability of trucks being involved in major incidents and severe injuries is very high. Intelligent transportation systems (ITS) field equipment will allow District Three to verify incident locations and severity quicker, ensuring the response includes all needed emergency personnel and equipment. It is expected that fatalities will be reduced as injured crash victims are transported to trauma centers within the “golden hour,” where life-saving procedures are at least 50 percent more effective. The addition of 17 DMSs and eight HAR systems will allow District Three to better warn travelers approaching an incident scene. Travelers will be able to make alternative route decisions and the potential for secondary incidents will be greatly reduced. The HAR systems will be capable of transmitting over the amplitude modulation and citizens band radio frequencies to improve information to truckers.

Connectivity

Due to the number of CCTV cameras being install, at least 170, and the distances involved, District Three decided to implement a 10-GB Ethernet backhaul communications network between each communications hub and for C2C communications between the three RTMCs on the I-10 corridor. This project also creates connections with the Bay County and Okaloosa County advanced traffic management systems. The connections with the counties will allow video image sharing and allow FDOT to back-up the county TMC in an emergency. This 10-GB backhaul network will be supplemented with 1-GB connectivity between ITS cabinets and the ITS communication hubs along the corridor. The 10-G backhaul will also allow addition of more devices, including support for future programs such as connected vehicles. Layer 2 Ethernet switches will be placed in each ITS cabinet. The layer 2 network will be aggregated on Layer 3 Ethernet switches that will be placed in the communications hubs. Communications hub equipment will be placed in existing equipment shelters located adjacent to FDOT’s microwave towers on the corridor. Use of the microwave tower shelters will save District Three construction costs of approximately \$600,000 along with on-going maintenance costs.

For information, please contact Mr. Smith at (850) 330-1504 or email to Lee.Smith@dot.state.fl.us

* * * *

District Six Launches New Road Ranger Contract

By Javier Rodriguez, FDOT District Six

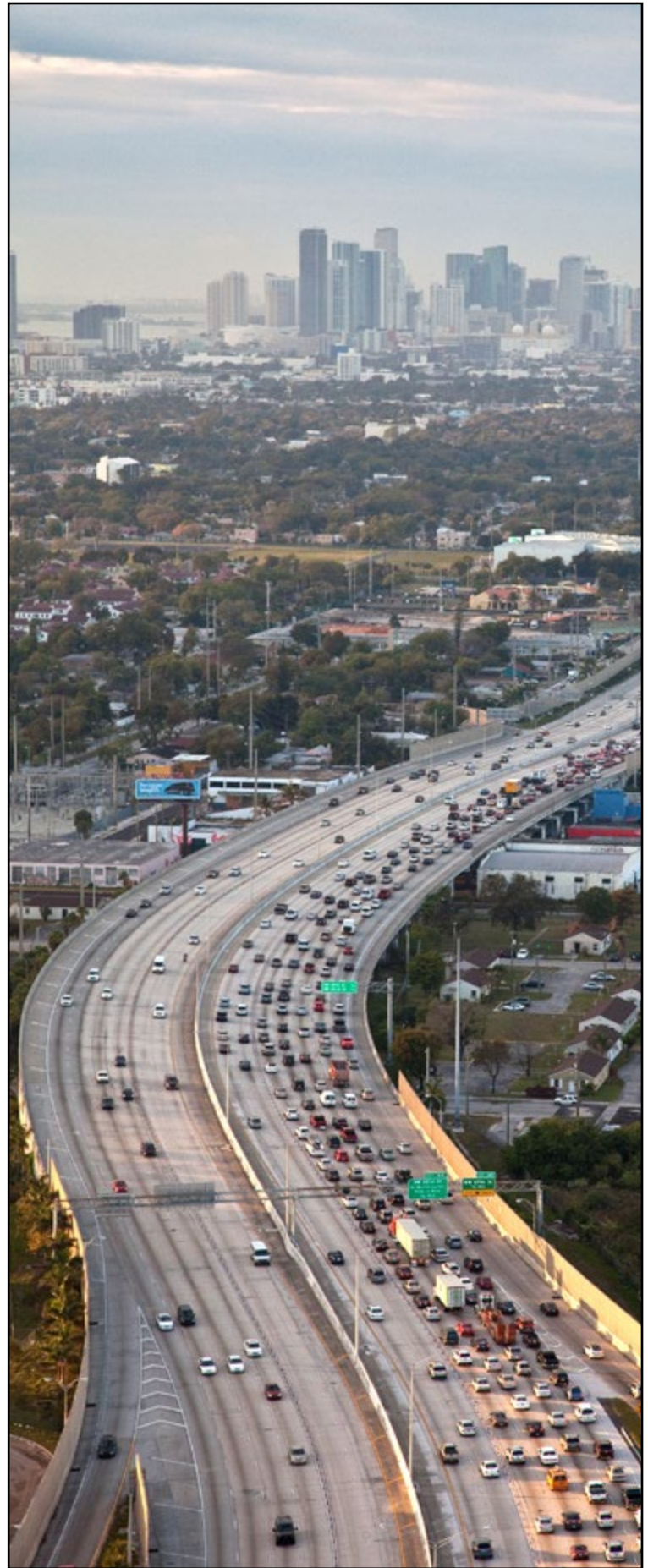
On June 30, 2013, the Florida Department of Transportation (FDOT) executed a new Road Ranger contract in Miami-Dade County. This contract was awarded to a new vendor to support incident management and motorist assistance operations along Interstates 75, 95 (including 95 Express), 195, 395, and State Road 826.

The new contract retained the same scope of services as the previous one, but added several features to build on the quality of the program as it moves forward. For instance, flat-bed tow trucks will still be required to stage flat bed tow trucks along designated locations for quick clearance, while pick-up trucks and tow trucks will continuously roam through their designated beats to provide corresponding motorist assistance and incident management services. Additionally, vendor responsibilities, such as contract administration, performance requirements, and vehicle conditions, remain the same. However, the new contract now requires the vendor to have a dedicated Class "C" heavy-duty wrecker as part of its fleet to be available for dispatch whenever a disabled commercial vehicle blocks a travel lane. This service will not replace Florida Highway Patrol's (FHP) rotation program or the District's Rapid Incident Scene Clearance services since it will only work to relocate the vehicle to a safe location. The new service is expected to reduce travel lane blockage duration times because it will expedite the clearance of these commercial vehicles.

In line with these improvements, the new contract also features a host of new quality control measures that include a roaming Road Ranger supervisor to spot check on services provided during the weekday rush hours as well as on the weekend beats. These roaming supervisors will work to ensure drivers set up proper maintenance of traffic (and have adequate equipment, amongst other things). The vendor will also be required to manage the contract from the District's transportation management center for at least four hours each week so they are aware of the FDOT contract manager's perspective.

District Six is working with the vendor and its partner agencies to ensure a seamless transition. It required Road Ranger operators to get re-certified to work under this contract and will also be hosting a variety of meetings to answer partner agency questions throughout the summer. The proper training and transition will be especially critical since this five-year contract will support the District during its expansion of the express lanes.

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



I-95 in Miami-Dade County.



FDOT Renews Focus on Systems Engineering for ITS

By Arun Krishnamurthy, FDOT Traffic Engineering and Operations

The Florida Department of Transportation (FDOT) and their local partners deploy several million dollars of intelligent transportation systems (ITS) projects on an annual basis. It is important to have a standardized process for ITS project deployment to protect FDOT's investment. FDOT deploys many innovative products that are new to the market resulting in limited contractor knowledge or experience with these products. This increases the risk for successful completion of projects. In order to minimize this risk, Federal Highway Administration and FDOT recommend use of systems engineering. Systems engineering describes a standardized process to follow when planning and implementing projects, and performing post-implementation activities based on the best practices followed in the industry.

Systems engineering applies to a multi-disciplinary environment and is not confined to any one field. As ITS is also multi-disciplinary, this process can be easily applied to ITS. ITS projects can overlap multiple engineering fields from communications, to electrical, to software, to civil engineering. A project may involve construction activities that include installation of devices, or a software task involving modification to systems and analyzing the data, or a communications project that involves laying several miles of fiber optic cable. The multi-disciplinary nature of the ITS industry makes the projects more complex, requiring skilled contractors.

Why is a structure or standardized process necessary? The standardized process removes the guesswork from activities that need to be conducted. Standardization is important to ensure consistency and it helps promote best practices. Standard processes, if followed, can ensure a higher rate of successful implementation of projects and it triggers important discussions between agencies and contractors which otherwise might have been forgotten.

It is important to realize that all agencies already follow a project implementation process. This may be standardized for an agency or project managers may have their own process. This results in different processes being used by each agency, which could lead to some critical steps being omitted. On the other hand, having the standardized process allows the process to be re-used and includes guidance for the agencies on tasks to conduct through the project life cycle. Also, contractors prefer standardized process as they can expect each agency to use the same process without variance between agencies. The process promotes documentation and ensures details are not lost if an agency's employee resigns or retires.

The common misconception about systems engineering is that it increases the cost of the project and it promotes over-design. Systems engineering promotes risk-based project development. A higher risk project should follow a more involved process to minimize risk, while a low risk project does not have to undergo an involved process. As a result, a low risk project will have minimal systems engineering activities and would ensure the agency is not over specifying as part of the process.

When an agency compares the process they have followed in the past to what is recommended in systems engineering, many times, they may find that the processes are fairly similar, but different terminology may cause confusion since they haven't heard it before. If there are steps recommended in the process that the agency did not follow in the past, it is good to incorporate them in future projects because it helps them to be more comprehensive with the process and ensures that they don't leave out any important steps.

FDOT is currently updating the statewide systems engineering procedure. This will help agencies, FDOT and local agencies, to view the recommended process and the procedure will be made available on FDOT's web site. FDOT is also making resources available to help the agencies follow the process and understand what is expected. Additionally, FDOT plans to conduct outreach on systems engineering to District project managers from not only ITS, but also other departments that handle ITS projects. This outreach will also include local agencies as they deploy significant ITS projects, some of which are fairly complex. We feel strongly that systems engineering will help FDOT improve the process used to deploy projects and will also provide a better product for the funds expended.

For information, please contact Ms. Elizabeth Birriel at (850) 410-5606 or e-mail to Elizabeth.Birriel@dot.state.fl.us.





ITS Florida Update

By Sandy Beck on behalf of ITS Florida

ITS Florida Workshop – August 13-14, 2013

Register today for the ITS Florida Workshop at http://fs16.formsite.com/ITSFlorida/ITS_FL_Aug2013_Workshop/index.html.

The ITS Florida Workshop will be held at the Manatee County Public Safety Center at 2101 47th Terrace E., Bradenton, FL 34203. The following is a brief agenda:

Day 1 - August 13

11:30 - Meet and Greet

12:00 - Lunch

1:30 - Board Meeting followed by Workshop

6:00 - Dinner (Dutch Treat)

Day 2 - August 14

9:00 - ITS FL Workshop continues

Please register no later than August 5th for the luncheon. \$15 will be collected via check or cash at the luncheon and will cover breaks/lunch.

A group dinner will be scheduled for the evening of August 13 at a location to be determined on beautiful Anna Maria Island.

Reserve your hotel early!

ITS Florida has a block of rooms reserved on a first come first serve basis at the Tortuga Beach Resort on Anna Maria Island under the group name ITS Florida. The address is:

135 Gulf Dr. N.
Bradenton Beach, FL 34217
1-877-TORTUGA
(941) 778-6611

The ITS FL room block will be held until the hotel has a demand for the rooms, which could be released at any time. The normal rates at this facility are much higher than our group rate. You may also use this group rate two days prior or following our event. In fact, there is a “stay three days, get the fourth day free” available on a first come/first serve basis.

Contact Sandy Beck at ITSFlorida@ITSFlorida.org with any questions.

The Tortuga Beach Resort’s normal policy when booking a room is to charge a deposit to hold a room. If this presents an issue for a guest, please book your room directly with our Sales Contact at the hotel, Teri Turner, by calling (941) 778-6611, Extension 110 to avoid paying the early deposit. If booking through the front desk, each guest will be charged a deposit at the time of booking.

Save the Date - October 9-11, 2013

ITS Florida’s TechForum2013 Technical Conference

ITS Florida TechForum2013 will be held October 9-11, 2013, at the Rosen Shingle Creek in Orlando, Florida. This is ITS Florida’s largest event of the year. The ITS Florida Annual ITS / Transportation Technical Conference is one you don’t want to miss. This meeting will combine the ITS Tech Forum training with the ITS Florida Annual Meeting/ Awards Banquet, ITS Florida Board Meeting, and the new United States Department of Transportation ITS training course titled “Connected Vehicles 101.”

Note: Up to 12 hours of Professional Development Hours (PDH) may be earned by attending the technical sessions and/or training. These PDHs may be used to fulfill continuing education requirements for renewal of the professional engineer license.

The link to the ITS Florida Rosen Shingle Creek block of hotel rooms is <http://booking.ihotelier.com/istay/istay.jsp?groupID=1065676&hotelID=6840>.

Call for Speakers

If you are interested in providing a presentation on any of the following topics, please send a short summary of your presentation to Ken Jacobs at kjacobs@pinellascounty.org by July 26, 2013.

- Transportation Systems Management & Operations
- Managed Lanes
- New ITS Technology Advancements
- Data Warehousing/Data Archiving
- Incident Management/Emergency Management
- Connected Vehicles
- Adaptive Signal Control
- ITS Standards
- Lessons Learned on ITS installations

Sponsorship/Exhibitor Opportunity

Sponsorships

As a sponsor your company's logo will be included on the program; your company will also be recognized on our electronic display board and announced at the opening session and the award banquet. Sponsorships are available starting at \$250.00. Please contact Sandy Beck at ITSFlorida@ITSFlorida.org for further details.

Exhibitors

This year's TechForum2013 includes the opportunity for exhibitors to have a display table located in the technical training room, providing direct access to participants during breaks, lunch, and after sessions. Exhibitor spaces are available starting at \$250.00. If you are interested in exhibiting at the TechForum2013 Technical Conference, please contact Connie Braithwaite at CBraithwaite@econolite.com or Sandy Beck at ITSFlorida@ITSFlorida.org for further details. There is limited space available. This year's event will provide a dedicated time slot for exhibitors, sponsors, and vendors to present to the attendees in a group setting.

Registration information for attendees, sponsors, and exhibitors will be available in July 2013.

If you have any questions or wish to provide an article to ITS Florida, please contact Sandy Beck at itsflorida@itsflorida.com.

* * * *

Editorial Corner: Exploring Safety

By Joseph Santos, FDOT Safety Office

In previous newsletter articles, I provided a general overview of national and state transportation safety efforts. These included a national effort through legislation (Moving Ahead for Progress in the 21st Century – MAP-21) and a state effort through the Florida *Strategic Highway Safety Plan (SHSP)*. The *SHSP* bring together all of Florida's safety partners to focus on the 4Es (engineering, enforcement, education, and emergency medical services) of safety and includes the following emphasis areas: aggressive driving, intersection crashes, vulnerable road users (pedestrians, bicyclists, and motorcyclists), lane departure crashes, impaired driving, at-risk drivers (aging road users and teens), distracted driving, and traffic data. This month I would like to highlight some key excerpts from the *SHSP* on aggressive driving.

Aggressive driving, as defined by state statute, requires inclusion of at least two of the following contributing causes: speeding, unsafe or improper lane change, following too closely, failure to yield right-of-way, improper passing, and failure to obey traffic control devices. In Florida, aggressive driving is not an enforceable offense. On a continuum, law enforcement officers can cite a simple moving violation, careless driving for multiple violations, or reckless driving in extreme cases of observed aggressive driving. The issuing officer can also select the "Aggressive Driving" checkbox on traffic citations for data collection purposes. Aggressive driving often manifests itself in coincidental discourteous and unsafe driving behavior, which threatens motorists, bicyclists, and pedestrians. Although aggressive driving is not new, the prevalence of such behavior continues to be a threat to safety on our highways. Data collected for the American Automobile Association Foundation's fourth annual *2011 Traffic Safety Culture Index* found 55.1 percent of respondents felt aggressive drivers were a "very serious threat" to their personal safety, and 33 percent responded they were a "somewhat serious threat." In on-line surveys of Floridians, aggressive driving is always identified in the public's top three issues of traffic safety. Special efforts to curb such behavior are warranted.

Florida has taken steps to implement aggressive driving strategies identified in the 2006 *SHSP*. A check box has been added on citations to show aggressive driving was suspected and a number of citations are now being reported. The Florida Department of Transportation (FDOT) Safety Office administers federal funds for aggressive driving programs, which includes speed control enforcement, use of unconventional traffic control vehicles, and unmarked cars.

Grant-funded aggressive driving enforcement at the state, county, and local levels is illustrated by the following efforts.

- A four-day “Operation Safe Ride – Speed/Aggressive Driving” statewide program conducted by the Florida Highway Patrol (FHP) Troopers in 2009 resulted in 11,651 citations, of which 5,797 were for speed; 186 of the citations were checked for “aggressive driving.”
- The Seminole County Sheriff’s Office conducted concentrated enforcement of driving under the influence/ aggressive driving in 2009 and 2011, and the Winter Springs Police Department conducted an “Unlawful Speed, Red Light, Aggressive Driving” enforcement operation in 2010.
- Multijurisdictional enforcement programs for aggressive driving also have been deployed in several regions of the state.
- FHP and FDOT Safety Office also released a “Don’t Hang Out in the Left Lane” campaign to reduce aggressive driving incidences by reminding drivers that the left lane is for passing.
- In 2007, a Community Traffic Safety Team conducted a two-month aggressive driving education campaign that resulted in 4,207 contacts through e-mail, brochures, and flyers, and 110,000 hits on a partner agency web site.
- In 2008, FDOT collaborated on a Federal Highway Administration project with six departments of transportation (Florida, Pennsylvania, Iowa, Texas, Arizona, and Washington) to assess the effectiveness of dynamic speed feedback signs on reducing speed and crashes on curves on two lane roads; aggressive driving was a component of this project.

Through the implementation of the Aggressive Driving Emphasis Area Action Plan, the aggressive driving emphasis area member agencies and their partners will reduce the number of aggressive driving-related fatalities and serious injuries by five percent annually.

The Florida *SHSP* aggressive driving emphasis area team identified the following three strategies:

- Support and promote effective law enforcement efforts to reduce aggressive driving;
- Increase training and education on the problem of aggressive driving; and
- Identify initiatives within engineering to reduce instances of aggressive driving.



Enforcement is the lead “E” selected for the aggressive driving emphasis area to ensure that the action plan is focused and stays on track.

My next article will cover another enforcement-related *SHSP* emphasis area – impaired driving.

More information concerning the Florida *SHSP* can be found online at <http://www.dot.state.fl.us/safety/SHSP2012/SHSP-2012.shtm>.

For information, please contact Mr. Santos at (850) 245-1502 or e-mail to Joseph.Santos@dot.state.fl.us.

* * * *

Announcements

Good Luck Arun!

Please join us in wishing Arun Krishnamurthy good luck as he leaves the Florida Department of Transportation (FDOT) to pursue new opportunities in the private sector. He and his family will be moving back to Jacksonville where they have a house and his wife's workplace. Arun's enthusiasm and passion for his work have been evident over the years, and his dedicated service to FDOT is appreciated. We hate to see him leave, but we wish him the best in his future endeavors.

* * * *

FDOT Traffic Engineering and Operations Mission and Vision Statements



FDOT Contacts

District 1

L.K. Nandam, DTOE
Chris Birosak, ITS
FDOT District 1 Traffic Operations
PO Box 1249
Bartow, FL 33831
(863) 519-2490

District 2

Jerry Ausher, DTOE
Peter Vega, ITS
FDOT District 2 Traffic Operations
2198 Edison Avenue
Jacksonville, FL 32204
(904) 360-5630

District 3

Jared Perdue, DTOE
Lee Smith, ITS
FDOT District 3 Traffic Operations
1074 Highway 90 East
Chipley, FL 32428-0607
(850) 638-0250

District 4

Mark Plass, DTOE
Dong Chen, ITS
FDOT District 4 Traffic Operations
2300 W. Commercial Blvd.
Ft. Lauderdale, FL 33309
(954) 777-4350

District 5

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

District 6

Omar Meitin, DTOE
Rory Santana, ITS
FDOT District 6
1000 NW 111th Avenue, MS 6203
Miami, FL 33172
(305) 470-5312

District 7

Gary Thompson, DTOE
Chester Chandler, ITS
FDOT District 7 Traffic Operations
11201 N. McKinley Dr.
Tampa, FL 33612
(813) 615-8600

Florida's Turnpike Enterprise

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

Mark Wilson

State Traffic Engineer
(850) 410-5600

Elizabeth Birriel

Deputy State Traffic Engineer - ITS
(850) 410-5606

Paul Clark

Incident Management and
Commercial Vehicle Operations
(850) 410-5607

Fred Heery

Deputy State Traffic Engineer - Operations
(850) 410-5419

Alan El-Urfali

Deputy State Traffic Engineer - Systems
(850) 410-5617

Physical Address:

Rhyne Building
2740 Centerview Drive
Suite 3-B
Tallahassee, FL 32301

Mailing Address:

Burns Building
605 Suwannee Street
MS 36
Tallahassee, FL 32399

* * * *

* * * *