FDOT's Traffic Engineering and Operations Monthly Newsletter

SUNGUIDE℠ DISSEMINATOR

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The *SunGuide Disseminator* is a publication of:

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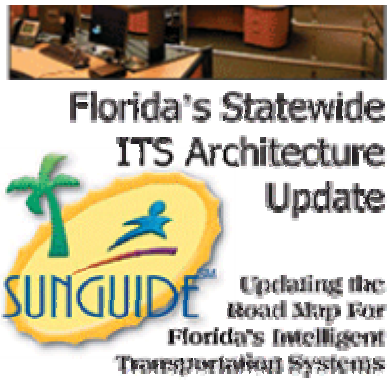
July 2005 Edition

Link to Florida's Statewide ITS General Consultant

Stakeholder Input a Key Component of Statewide ITS Architecture Update

FDOT is calling upon transportation professionals throughout the state to lend a hand in updating the Statewide ITS Architecture (SITSA)—a framework for the planning, design, development, integration, and

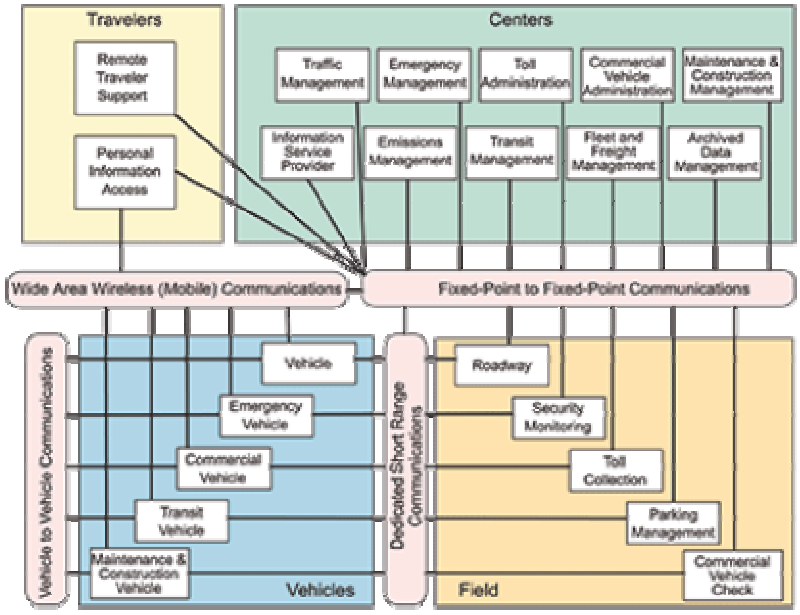
implementation of Florida ITS projects, as well as their operation and maintenance once deployed.



From June 21 through August 2, the FDOT Traffic Engineering and Operations ITS Section has scheduled stakeholder meetings in each District so that the update process can be explained and participants can provide their comments. This is an important opportunity for ITS professionals and local transportation officials to voice their concerns and provide input needed for the update, and to ensure the success of the ITS program in their area.

Florida's SITSA provides a unifying framework to ensure that transportation technologies work together smoothly and effectively on Florida's roadways. The update is necessary for several reasons.

First, the SITSA must reflect Florida's current and future ITS Program needs. The rapid pace of ITS deployment in Florida and throughout the country makes it essential that transportation leaders pause to examine the big picture and determine where ITS is headed, what needs should be met, and how important objectives will be achieved.



Second, Florida's ITS architecture must comply with the National ITS Architecture. Florida's current ITS architectures were developed in 2001, and need to be updated to include new information as well as enhancements that have been made to the National ITS Architecture since that time. These include ITS maintenance and operation, security coverage, disaster response and evacuation, 511 support, road closure management, and emissions management.

The third reason for updating SITSA is to integrate operations, maintenance, and security subsystems. The architecture defines these and other major ITS components and describes how system elements can work together as envisioned.

Lastly, the SITSA is being updated to harmonize all existing regional ITS architectures, which include the Statewide, District 3, District 7, Florida's Turnpike Enterprise, I-4, I-10, I-75, and

I-95 Corridor ITS Architectures. This process will help ensure that all Florida ITS operations can interface with each other and there is consistency between regions.

The objective of the 2-day stakeholder meetings is to bring ITS stakeholders together to update the regional ITS architecture and harmonize it with other regional ITS architectures. Focused, short background briefings will be presented during the meeting so that participants can become familiar with the terminology and methodology, and how these steps fit into developing a regional ITS architecture. The meetings will focus on identifying existing deployments as well as future ITS needs.

A final, single-day workshop will be held in each meeting location approximately eight weeks after the initial 2-day meeting. These workshops will be used to gain consensus on the draft SITSA update and to show participants how to use it. Stakeholders will have an opportunity to critique the content of the draft report materials and ask follow-up questions. As the process concludes later in the year, Florida transportation leaders will have a clear directive for ITS and a revised course to follow to achieve it.

Florida's SITSA is really a shared vision—what ITS will look like in the future and how it will serve the needs of travelers in our state. Organizations with that vision are encouraged to communicate it to FDOT. The only way for the SITSA to reflect the various regions' real vision is for the stakeholders to help develop it. Please make plans to attend the stakeholder meeting in your area.

This article was provided by Liang Hsia, FDOT Traffic Engineering and Operations. For more information, please contact Mr. Hsia at (850) 410-5615 or email Liang.Hsia@dot.state.fl.us.

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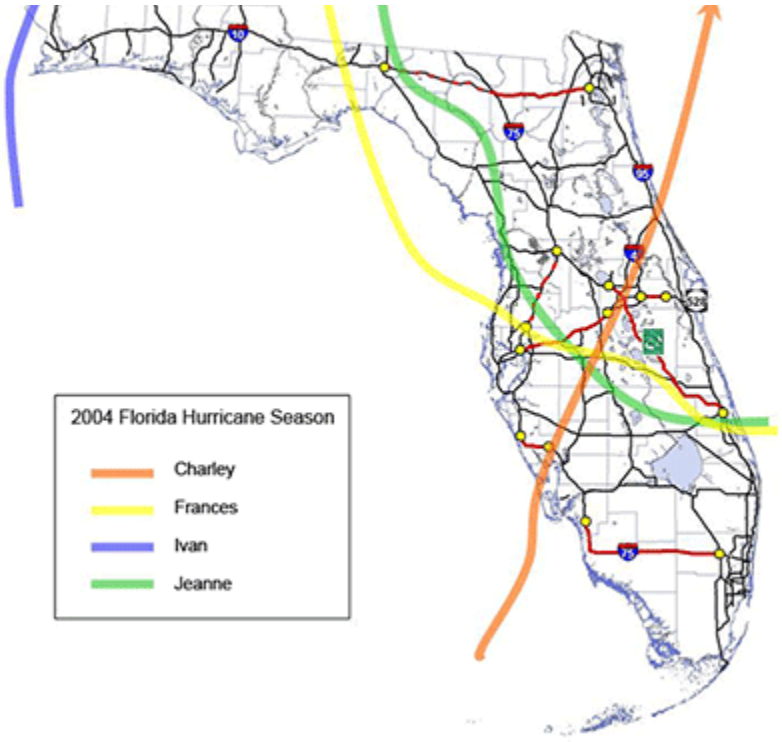
Better Contraflow Plan—A Tool for FDOT Incident Management

With the start of the 2005 hurricane season, FDOT traffic managers have a revised guidance document available to them that sets the parameters for one-way operations on certain limited-access highways in the state.

The technique used in the hurricane evacuation guidance document—referred to as a "contraflow"—is a means of gaining additional roadway capacity for traffic leaving an area in advance of a hurricane by reversing the traffic flow on roadways that lead into the evacuation zone. The FDOT Traffic Engineering and Operations Office's Traffic Incident Management Section conducted the statewide contraflow plan review and updated the various provisions it contains to make sure this technique used in emergency operation is conducted safely and effectively.

The Florida Intrastate Highway System Contraflow Plan Review project was initiated in



February 2005 as a response to the unusually high level of hurricane activity during the summer of 2004, when a tropical storm and four major hurricanes struck Florida during a 7-week period. Though a contraflow operation was never implemented in 2004, FDOT Districts still have their own individual plans for reversing interstate or expressway lanes and routing the traffic to a predetermined end-point. Each operation is carried out in cooperation with the Florida Highway Patrol (FHP), the Florida Department of Law Enforcement (FDLE), local fire and emergency medical personnel, and state emergency operations teams.

The original contraflow document, entitled *Analysis of Florida's One-Way Operations for Hurricane Evacuation*, was written in 2000 after the massive evacuation prior to Hurricane Floyd in 1999. At that time, several FDOT Districts had produced contraflow plans—part of the wave of evacuation planning efforts throughout the Southeast in response to Floyd. More recently, FDOT Districts and Florida's Turnpike Enterprise have been revising their individual contraflow plans, so the FDOT Incident Management Section intended that its update effort be a statewide strategic plan easily distinguished from the Districts' tactical plans. The purpose of the statewide plan is to provide general guidelines for contraflow planning and criteria for the utilization of reverse-lane operations on limited-access highways.

Meetings held around Florida from February 22 to April 1, 2005, gave Districts, the FHP, FDLE, local agencies, and others an opportunity to offer their perspective on contraflow issues and evacuation planning. The six District meetings were followed by a seventh meeting in Tallahassee with FDOT Central Office staff and individuals from other state departments involved in emergency response. Later, separate FDOT meetings were held with Alabama and Georgia transportation officials to acquaint them with Florida's evacuation planning and explain potential impacts on their highway systems from Florida residents fleeing hurricanes.

Conditions that prompt consideration of a contraflow mirror the criteria for declaring a large-scale evacuation, including:

- The strength of a hurricane,
- Its direction of travel,
- The point of anticipated landfall, and
- The measures warranted to protect the population threatened.

Enacting a contraflow plan is considered in that context. It is generally agreed that another busy hurricane season could bring the kind of situation that can trigger a large-scale evacuation of a major urban population prior to the arrival of a rapidly advancing major hurricane. Such a scenario could easily warrant the execution of a contraflow plan for an area's designated route.

If a contraflow is declared, for safety reasons, it would take place during daylight hours. To maximize use of the available daylight hours, the placement of barrels, barricades, signs, and vehicles for the contraflow would occur before dawn to ensure that the roadway is adequately prepared for the reverse-lane operation as soon after sunrise as possible. Later in the day, the reversed lanes would be closed in time to allow the last cars in line to clear the contraflow termination point, and the Districts to retrieve their equipment before sundown.

The most critical element of a contraflow operation is its termination point. Any misdesign or mishandling of the contraflow termination point has great potential to cause a multimile traffic backup, and the risk that motorists are stuck in their vehicles as the storm approaches. All contraflow plans reviewed involved the reversing of two lanes. Several plans terminate contraflow operations at an interchange with another limited-access facility, where a two-lane exit is employed to move two lanes of contraflow capacity to another roadway.

Other vital elements of contraflow plans are effective coordination among state and local agencies, and the ability to accurately assess whether traffic conditions warrant a reverse of highway lanes. A procedure must be adopted for handling disabled vehicles that may block the roadway, and the staging of emergency response vehicles and personnel along the route. Public awareness is also essential, not only to inform the community about its contraflow plan and its function beforehand, but to also inform them in the use of highway advisory radio, portable message signs, and 511 advanced traveler information system capabilities during the evacuation itself.

Contraflow operations are one of several hurricane response actions available to FDOT, though the Districts agree that the practice is one they hope they never use. To their credit, Florida's transportation professionals and emergency responders have worked together to map their contraflow plans with considerable thought and critical analysis. When the time comes to implement a contraflow operation, this supporting framework of agencies and expertise will increase the likelihood of success.

This article was provided by Mike Akridge, FDOT Traffic Engineering and Operations, Traffic Incident Management Section. For more information, please contact Mr. Akridge at (850) 410-5607 or email Michael.Akridge@dot.state.fl.us.

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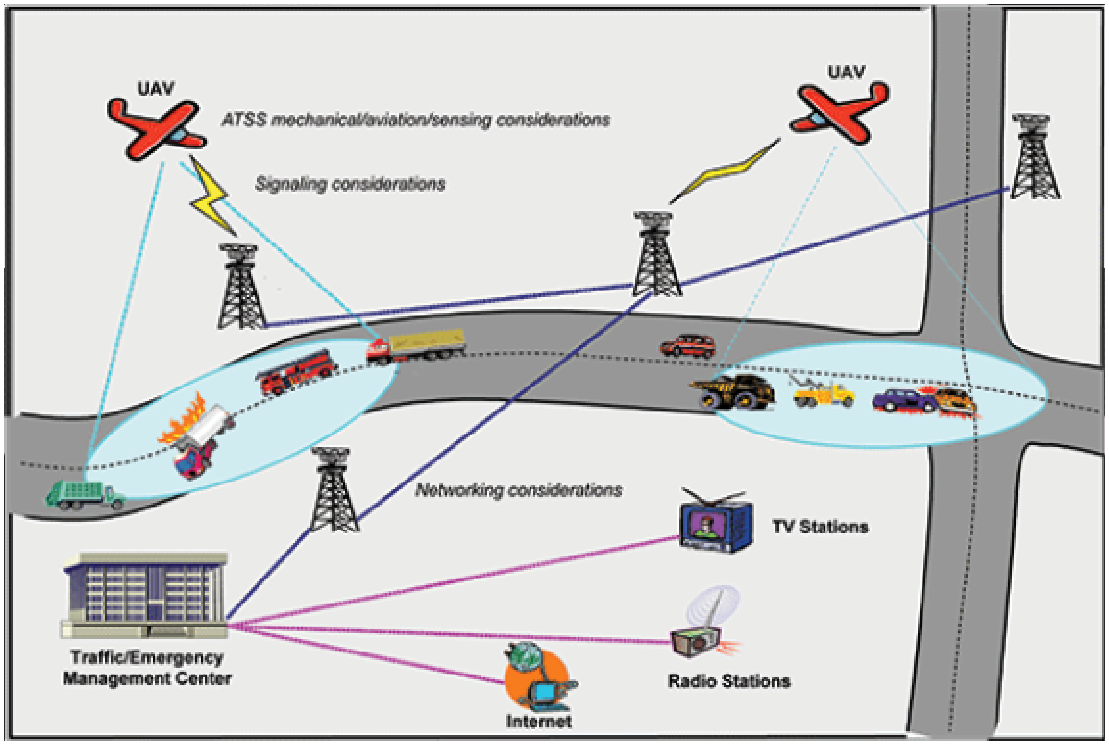
Traffic Surveillance System Communications Proof of Concept

The research team verifying the communications necessary for aerial traffic surveillance on rural interstates successfully concluded the Proof of Concept project that would rely on unmanned aerial vehicles (UAVs) to be FDOT's eyes in the sky.

The technology used is referred to as the airborne traffic surveillance system (ATSS), and it offers distinct advantages in gathering real-time video and other information for traffic managers. The Federal Aviation Administration (FAA) did not grant permission for the aerial portion of this project, so it was not conducted. However, the communications interface was completed.

In February 2001, the University of Florida (UF) research team from the College of Engineering submitted a proposal that addressed FDOT's requirements. It was entitled "Proof of Concept for Using Unmanned Air Vehicles in Florida DOT ITS Applications." After UF and FDOT made revisions, a Notice to Proceed was issued to the research team on November 16, 2002.

The scope for the Proof of Concept called for a 10-day ATSS flight and communications systems test along a 100-mile stretch of a Florida highway. The test would last ten hours per day and feature live video transmitted to several communications/control stations along the flight route. Each day, there would have been at least one daytime flight and every other day, one nighttime flight. Each flight would have included up to two round trips from the Tallahassee Regional Airport to the interchange of I-75 and I-10. The video signal would then be integrated into the existing FDOT microwave system for display at an appropriate regional transportation management center. (Copies of the final scope and proposal are available at www.list.ufl.edu/uav.)



After selection of the UAV integrator and vendor (SRA International and Aerosonde), the appropriate communications and video equipment was ordered for two microwave tower sites, the Lake City and SR-136 towers. Software for handling communications between the UAV,

the microwave towers, and the State Emergency Operation Center (SEOC) was developed. The researchers conducted a ground test of the installed communications components of the system. In this test, the video was simulated to be transmitted from a flying UAV at the I-75 interchange on I-10, then routed through the FDOT microwave communications system to the Tallahassee microwave tower on Mahan Drive. From there, the video was successfully transmitted through a T-1 line to the SEOC.

The final comprehensive test of the terrestrial communications system was completed on April 8, 2004. The test confirmed that the communication portion of the system with video relay was ready—all that was missing was the flight segment video and tower-mounted interface between the airborne video source and the terrestrial receiver. A comprehensive interim report detailing these findings was submitted to FDOT on April 25, 2004.

This article was provided by Liang Hsia, FDOT Traffic Engineering and Operations. For more information, please contact Mr. Hsia at (950) 410-5615 or email Liang.Hsia@dot.state.fl.us.

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2005 ITS Florida Legislative Plan

ITS Florida's (ITSFL's) main goal is to foster the application of ITS solutions in Florida by sharing ideas, as well as stimulating public/private partnerships, supporting ITS deployments, guiding policymakers, and encouraging interest and support throughout Florida. One important strategy for meeting this goal is to reach out to legislators annually during the session. This year, ITS Florida took a more proactive approach and established an Awareness Plan to meet with legislative representatives to educate them about ITS programs in Florida.

The aim of the Awareness Plan was to meet with several representatives from various areas throughout the state while they were in Tallahassee. The goals of the meetings were to raise awareness of ITS Florida and to identify at least one advocate for ITS. Letters were sent to over 12 legislators including the Chair of the Transportation Committee and the Senate Appropriations Chair. The

correspondence indicated that the purpose for the meeting would be to illustrate the many benefits of deploying various technologies that improve the safety and efficiency of our roadways. It also recognized the Florida Transportation Commission and FDOT as key supporters of ITSFL in our efforts to improve the benefits associated with deploying ITS. FDOT prepared maps and lists of ITS projects in each of the representatives' districts, which were provided to the legislators. In our meetings, we emphasized the major problems in transportation, which include increasing demand, increasing congestion and decreasing resources. ITS was described as providing better information to the traveling public to make informed decisions, which reduces congestion and saves lives. We also recognized that ITS provides a "better bang for the buck," but is only part of the solution to solving transportation issues in the state.

As a result of the meetings, ITSFL was invited to speak at the Senate Appropriations Committee in the fall. We anticipate an opportunity to brief the Transportation Committee as well.

Given that the Legislative session is an extremely busy time for our target audience, we are also planning informative meetings and transportation management center (TMC) tours in some Districts. In June, Senator Don Davis and other elected officials toured the Jacksonville TMC.

To reach even further, and because ongoing communication is critical, ITSFL has just started an "Adopt a Legislator" program where ITS Florida members will be given an opportunity to select a Legislator and arrange to call or meet at least twice during the next year.

Briefing key individuals and committees on the values and benefits of ITS has been well worth the effort. ITSFL is developing a brochure as well as presentation material to share with the Florida Metropolitan Planning Organization Advisory Committee; transportation, public safety, and public works associations; and other groups to continue to raise ITS awareness.

This article was provided by Anita Vandervalk, ITSFL Chair of Events Committee. If you have any ideas to improve our Awareness Plan, or want to get involved, please contact Ms. Vandervalk at (850) 219-6388 or email AVandervalk@camsys.com.

For more information on ITS Florida, please check the ITS Florida Web site at www.itsflorida.org or contact Diana Carsey, Executive Director, at (727) 409-5415 or email CarseyD@verizon.net.

If you wish to contribute an article to the *SunGuide Disseminator* on behalf of ITS Florida, please contact Erika Ridlehoover at (813) 376-0036, or email Erika.Ridlehoover@transcore.com.

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Editorial Corner—It's a Small World After All!

Many of us up north have lots of memories about vacation trips to Florida. As we traveled along I-95, we couldn't help but notice the license plates from the many different states and the truck traffic sharing the roadway. Maybe somewhere along the way we encountered unexpected delay, perhaps associated with a work zone or a major accident that we could have avoided had we just known about it earlier when we planned our trip, or been able to learn about as we were on our way.

Although we didn't necessarily think about it at the time, we were observing that problems in system operation along major highways, such as I-95, affect more than the people that live within our local jurisdiction or state. And, while relatively few trips stretch all the way from Maine to Florida, over half a billion trips of more than 100 miles are made each year in the I-95 Corridor Coalition (Coalition) region, with many of these crossing over multiple state and authority boundaries.

For over a decade, the members of the I-95 Corridor Coalition have been working in the spirit of our four C's: communication, cooperation, coordination, and consensus so that people and freight can move more safely and efficiently between our member states. We are very pleased that we were recently able to expand our geographic border to encompass Florida, Georgia, and the Carolinas. Just as traffic within a metropolitan area doesn't stop at local jurisdictional boundaries, neither does tourist or commercial vehicle traffic along I-95 stop at the Virginia/North Carolina border. We now have the opportunity to more completely serve the long distance traveling public.

But the traveling public isn't the only beneficiary of Florida's participation in the Coalition work. Every member survey we've conducted through the years has pointed to information sharing with peers as one of the most important services that the Coalition provides. By sharing their experiences from the many innovative ITS activities underway in Florida, and through the leadership of Mike Akridge, Elizabeth Birriel, Gene Glotzbach, and District personnel, FDOT's early and continuing involvement in a wide variety of Coalition activities has made us a stronger organization. We appreciate that these busy people somehow find the time to contribute as much as they do.

The I-95 Corridor Coalition is very optimistic about its future. Under the leadership of Executive Committee Chair Neil Pedersen of the Maryland State Highway Administration, and his fellow Executive Committee members David King of the North Carolina Department of Transportation, Brian Rowback of the New York State Department of Transportation, and FDOT's own Ysela Llort, the Coalition continues to broaden its program of dealing with the important issues affecting the long distance traveler and freight shipper. We have interesting work underway on topics such as implementing consistent policies related to the quick clearance of incidents; creation of a Coalition-wide travel information sharing network; creation of a transportation modeling network that stretches across the entire region so that

multistate analyses can be more easily and accurately performed; the security and efficiency of freight movement, including the role of water and rail modes; accessibility to public transportation service information in rural areas; and standard electronic payment methods across transportation and other service providers. It's a full plate, but it's the most exciting set of issues that I've seen the Coalition tackle in my years as Executive Director.

We hope that many of you will be able to join us at our 2nd Annual I-95 Corridor Coalition Meeting, to be held on December 13-14, in Saratoga Springs, New York. Yes, it can be cold up there that time of year, but it's a beautiful little town that will be cheerfully decorated for the holiday season. So, pack some warm clothes, plan on drinking a hot chocolate or two, and come join your colleagues to learn more about the Coalition's work, share your thoughts and ideas, and help us make this event a couple of days that are so interesting and informative that they make it onto your annual calendar every year! Check our Web site at www.i95coalition.org for details as they emerge.

The best thing about being associated with the Coalition is being able to observe people working happily together to provide better service to the public. Thank you, Florida for becoming a part of that culture from the moment you became a Coalition member! On behalf of all of our members, let me express how much we appreciate the contributions of your talented professionals. We hope that they have, in turn, benefited from their participation.

Disney was right—it is a small world. We're all connected through our transportation system. And an issue that you face today may be one that someone in Virginia resolved yesterday, or that someone in New Jersey will face tomorrow. With your participation, the Coalition can be the happy place where people go to learn about, and from, each other. And we promise, we won't play that same song over and over and over and...

This editorial was provided by John Baniak, I-95 Corridor Coalition. For more information, please contact Mr. Baniak at (518) 584-4826 or email JBaniak@nycap.rr.com.

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FDOT Equipment Certification

The FDOT Traffic Engineering and Operations Office, through the Traffic Engineering Research Laboratory (TERL), is responsible for approving all traffic control signal devices. Approved devices are kept on the FDOT Approved Products List (APL), a listing of devices that may be relied upon as meeting FDOT specifications, standards, or other criteria.

The APL is a means for the FDOT to meet *Florida Statute 316.0745, Uniform Signals and Devices*, which states, "All official traffic control signals or official traffic control devices purchased and installed in this state by any public body or official shall conform with the manual and specifications published by the Department of Transportation pursuant to subsection (2)."

More information on the FDOT APL may be viewed at www.dot.state.fl.us.TrafficOperations/TERL/APL.htm. Specific approved products in the FDOT APL may be searched at rite.eng.fsu.edu/iapl/page1.php.

For more information, please contact Carl Morse, FDOT Traffic Engineering and Operations Office, at (850) 414-4863 or email Carl.Morse@dot.state.fl.us.

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Announcements

Another TMC Officially Opens!

The Broward County Traffic Engineering Division and Transportation Management Center (TMC) located at 2300 West Commercial Blvd., in Fort Lauderdale, is now officially open for operation. This facility is a new 42,000-square foot, state-of-the-art TMC from which the county-wide arterial traffic signal system and the FDOT freeway system is managed. FDOT currently operates 31 dynamic message signs and 45 monitoring cameras over a 45-mile freeway communications network. In addition, 11 Road Rangers patrol vehicles are dispatched from this facility to assist motorists.

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iFlorida—511 Goes Live!

Florida's 511 traveler information system will be going statewide soon through *i*Florida, an FHWA grant initiative. There are still some details that need to be worked out, but barring any unforeseen circumstances, FDOT anticipates that the statewide 511 traveler information system will be available for the Labor Day weekend.

Look for upcoming announcements about this very exciting event for Florida.

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Mark This Date on Your Calendar...

FDOT will hold its ITS Working Group Meeting on July 19-21, 2005, at the Tradewinds Sandpiper Hotel & Suites in St. Petersburg, Florida. This will be a condensed version of the annual meeting with the following events:

July 19	1:00 - 5:00 p.m.	SunGuide Software / Center-to-Center / Incident Management Meetings
July 20	8:00 a.m. - 10:00 a.m.	Change Management Board Meeting
	10:00 a.m. - 12:00 p.m.	511 Working Group Meeting
	1:00 - 5:00 p.m.	ITS Florida Board of Directors Meeting
July 21	8:00 a.m. - 5:00 p.m.	Training

For more information, please contact Ms. Pamela Haynes at (850) 410-5632 or email Pamela.Haynes@dot.state.fl.us.

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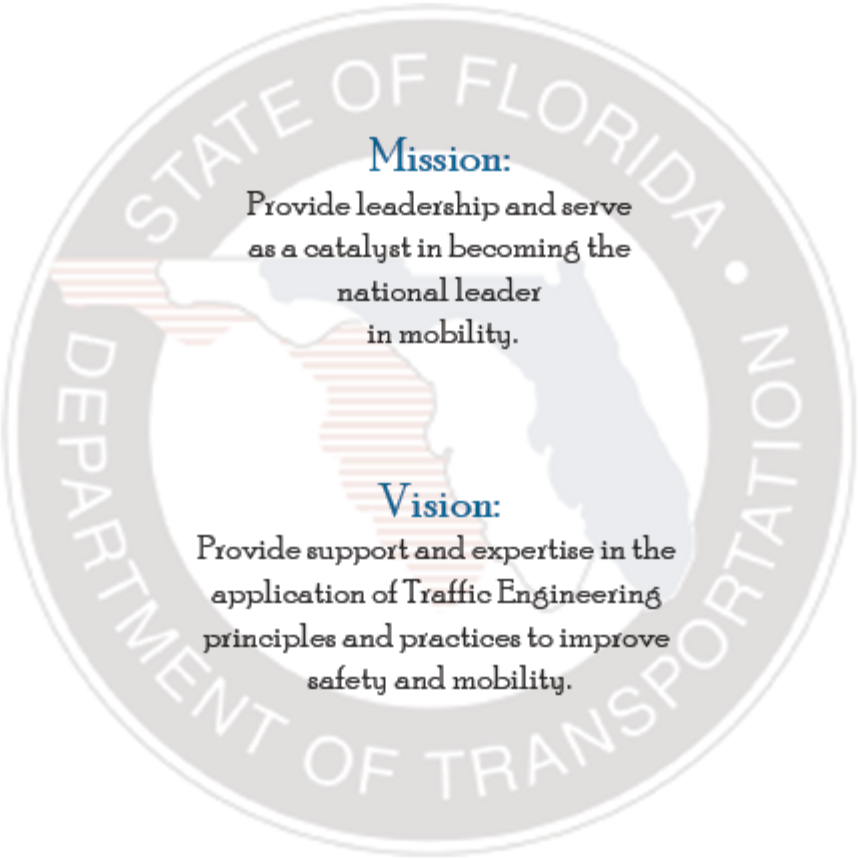
FDOT Traffic Engineering and Operations Mission and Vision Statements



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.

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SunGuide Disseminator ***July 2005***

PBS&J QCAP Document Control Panel	
Created by:	England
Reviewed by:	England, Priore, Bausher
Date:	June 28, 2005