FDOT's Traffic Engineering and Operations Monthly Newsletter

SUNGUIDE℠ DISSEMINATOR

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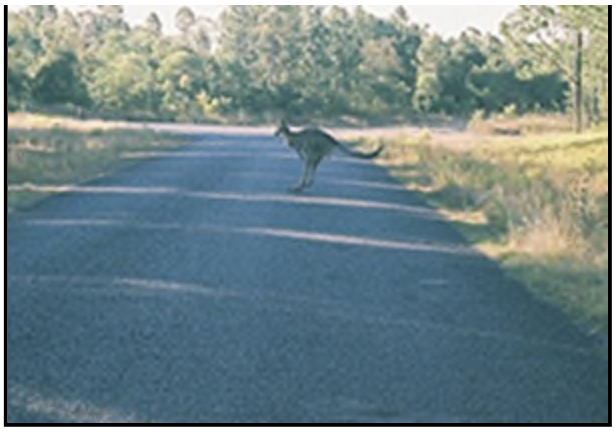
October 2005 Edition

Link to Florida's Statewide ITS General Consultant

Commercial Vehicle Operations and Freight Mobility—Thinking Outside the Box ...

What Can Florida Learn From 'Down Under?'

In August 2005, the Institute of Transportation Engineers (ITE) held their



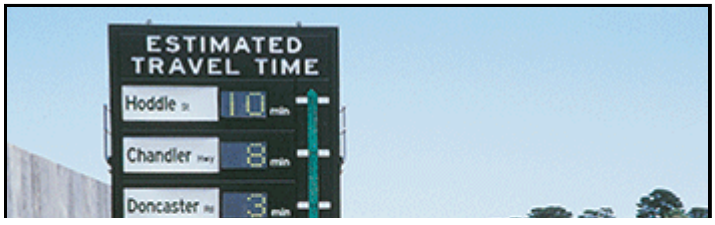
Annual Meeting in Melbourne, Victoria, Australia. Although the meeting had presenters from around the globe, not surprisingly, a large number of the participants were from Victoria. This provided attendees with a large amount of information on all aspects of the transportation system within the Australian State of Victoria. This article provides a brief overview of a few of the successful freight-related Australian solutions that can benefit Florida.

In the U.S., the concept of public-private partnerships to solve transportation problems is not new and has had many documented successes. In Victoria, this idea has been leveraged to produce some very creative solutions to some very tough problems. The Victoria Transport Association (VTA) is one of the leading entities within the state that brings together industry, labor (unions), and governmental agencies (federal, state, and local) for the purpose of solving tough transportation problems that directly affect the freight transportation industry in Victoria. VTA was formerly named the Victoria Trucking Association, but realized several years ago that its stakeholders were more than just the trucking industry. In fact, their interests and domain extend beyond the freight (trucking, rail, ports, and intermodal) industry. They realized that toll roads, city streets, safety trends, planning organizations, etc., all greatly affect their core membership and, to that end, they have embraced the full transportation industry and have been welcomed to the 'comprehensive' transportation roundtable.

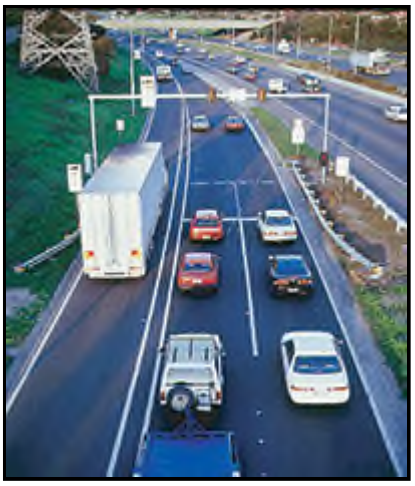
What is most interesting about VTA is how well-rounded it is when it comes to considering all sides of an issue. VTA assures that freight transportation industry concerns are well represented, but they also make sure that the public issues (especially those that relate to the safety of the traveling public as well as the safety of the transportation industry workers) are factored into any solution. No one in the partnership is willing to sacrifice safety in return for increased profits.

Through this climate of cooperation, the transportation industry in Victoria has supported some unorthodox solutions to safety and congestion issues that negatively impact their operations. In Victoria, the trucking community has taken the lead in getting unsafe trucks off the road and putting unsafe operators out of business. To address the congestion issue, the trucking community has actually supported toll increases because they know the trade-off for the additional expense is a reduction in congestion, which saves money.

VicRoads, Australia's state transportation agency, also factors heavily into any transportation solution. With regard to the trucking industry and its place in the transportation system, VicRoads acknowledges the trucking industry's impact on the transportation system (as well as the economy) and actively factors trucking industry involvement into any solution they might implement. In order to increase the efficiency of the trucking industry, VicRoads has taken many steps to make existing roads operate better for commercial vehicles. According to Ted Vincent,



General Manager for Traffic and Transport Integration with VicRoads, some of their initiatives include: providing alternative routes to major terminals where restrictions exist; creating special routes for oversize/overweight vehicles; providing real-time information to truckers to encourage better travel choices; and implementing ITS solutions to improve peak throughput.

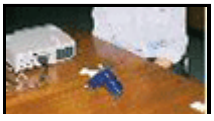


Another innovative solution for decreasing congestion and increasing commercial vehicle operating efficiencies involves a differential ramp metering application for trucks and passenger vehicles. The figure to the left shows a ramp metering configuration for trucks and passenger cars. Because of the negative effect on congestion (and on the truck's travel time) of making a truck enter the highway from a dead-stop, trucks are given their own lane on the on-ramp and ramp metering does not apply to trucks.

Because of VicRoad's acknowledgement of the effect the trucking community has on the economy, they have also committed to the following goals: improving commercial vehicle access to key freight areas; improving national, regional and cross-town freight connections; and managing safety and environmental issues relating to commercial transport. VicRoads proactively recognizes freight's place in metropolitan, economic, and transport system development.

Each of Australia's major cities has a port facility. The ports vary in size in terms of quantity of freight movements, but the major intake of goods for each capital city and, subsequently, the outlying rural areas of the state, occurs at each city's respective port. Visits to the ports in Melbourne and Sydney uncovered several creative solutions to decrease truck dwell time at the port, increase worker productivity, and assure port security with regard to Customs requirements.

The Port of Melbourne has implemented a program which has significantly reduced the dwell times of trucks within the terminal. To assure that trucks get in and out of the terminal as quickly as possible, the Port of Melbourne utilizes an appointment system. Trucks are given a one-hour time slot during which they may enter the port and pick up their container, which was recently off-loaded from the ship. What makes this program so interesting is that it is supported (funded) by the trucking operators that conduct business at the ports. The trucking company pays for however many time slots it uses on any given day. Operators who pay the most to the port recieve the best time slot choices. VTA assists the smaller owner/operator companies by providing them with a single point of contact to secure a time slot for them. VTA takes the requests from the smaller firms and secures time-slots for each of them. Any trucks that miss their time slots (or failed to secure one) must wait in a standby line. Access to the port is granted if/when there is an open time slot.



The Australian ports have implemented several ITS technologies to address many issues faced by ports around the world, such as increasing efficiency and supporting security. One of the terminal operators at the

Port of Melbourne provides trucks that use its facilities with transponders (free of charge) that bolt onto the bottom of the truck, as shown in the image on the left. These transponders are then used within the port complex to identify the truck and match it with the container to be picked up. The ports also utilize software that allows trucking companies to know where their trucks are at all times and if, or when, a particular container has been picked up.

Closed-circuit television (CCTV) cameras are also used within the port complex to keep Customs apprized of port activities. Customs agents in Canberra (the national capital) monitor port activities remotely through these CCTV cameras.

One of the terminal operators has implemented the use of an i-button (shown to the left). This device has helped them to decrease losses due to damage, increase employee productivity, and provide hourly employees with immediate feedback at the end of their shift as to how much money they have made based on their daily productivity. Some terminal operators are utilizing global positioning system technology for operating cranes and locating containers.

Although there are still many transportation issues within Australia yet to be solved, there is a lot Florida can learn from their successes thus far. One of the overriding themes was how much good work can be accomplished when all stakeholders are engaged and actively participating in creating solutions—specifically the freight industry marching lock-step with the traffic and planning communities. Public-private partnerships are powerful vehicles for change and our counterparts 'down under' have certainly provided us with several examples of how they have harnessed this power and used it to solve some of their most challenging transportation problems.

This article was provided by Richard Easley and Sharon Easley, E-Squared Engineering. For more information, please contact Mr. Easley at (703) 858-5588 or email reasley@e-squared.org.

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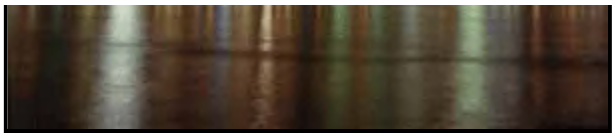
International Security Conference East

As the site of the 2005 International Security Conference (ISC) East, New York City was the destination for Nick Adams, FDOT ITS Telecommunications Coordinator, and Frank Deasy, ITS Telecommunications General Consultant Project Manager. The conference was held August 24-25, 2005. There were 328



exhibits from 55 countries, with over 8,000 attendees. Seminars were attended on a variety of security-related subjects, such as systems design, technology applications networking/Internet Protocol, closed-circuit television (CCTV), and access control. Information obtained from ISC East will be instrumental in planning, designing, and installing a new state-of-the-art facility security system, with modern hardware and software, to provide an enhanced ability to protect and maintain components of Florida's ITS deployment.

FDOT conducted a vulnerability assessment in 2004, which confirmed the need to improve overall security and access status for FDOT's 72 microwave facility installations. With the advent of multiple collocations, such as iFlorida, road weather information system research, ITS deployment, and the microwave upgrade project, the need for programmable access has intensified, along with traceable accountability of who was where, when.

All options will be considered in the development of a security and access system, with improved control and efficiency to allow occasional deliveries and routine maintenance. Emergency access, without an escort, is also planned to decrease response time during unplanned events.

While in New York City, P. B. Farradyne's New York office arranged a tour of the Joint Traffic Operations Center (JTOC) for the visitors. The JTOC is a highly integrated center, housing operations units of the

- New York State DOT for freeway surveillance and incident management;
- New York City DOT for traffic signal control, video surveillance, and incident management;
- New York Police Department (NYPD) for emergency and incident management, and enforcement; and
- TRANSCOM, a consortium of local and state agencies, for regional traveler information.

New York City has a fair share of the country's traffic congestion problems, and the daily challenge of keeping vehicles moving is never-ending. While the tour was in progress, there were over 300 NYPD traffic officers on-duty, not counting parking enforcers. Installation of communications infrastructure is very time consuming and expensive in the city locales. Wireless solutions are a vital part of the many methods now being implemented to better control and manage traffic situations. This tour provided an intense perspective and contrast to the problems encountered in Florida.

This article was provided by Nick Adams, FDOT Traffic Engineering and Operations Office. For more information, please contact Mr. Adams at (850) 410-5608 or email Nick.Adams@dot.state.fl.us.

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Traffic Incident Management Programs: A Head Start for Surface Transportation Security Planning and Operations

(Abridged from full article appearing in the January 2004 edition of Transportation Management + Engineering Magazine. A full version may be viewed in the archived articles at the ITS World TM+E Web site.)

The nation's surface transportation system has come under increased scrutiny from emergency preparedness planners since the terrorist attacks of 9/11. Planners and engineers still focus largely on resolving the routine problems that delay the nation's mobility. However, the overall efficiency of the transportation system during a large-scale emergency can mean the difference between life and death to potentially hundreds, even thousands of people.

Some solutions to the challenge of preparing the nation's surface transportation system for maximum effectiveness during times of serious need may already exist in the Traffic Incident Management (TIM) programs applied to the country's most heavily traveled and congested freeways and tollways. TIM relies upon the coordinated, pre-planned utilization of human and technological resources to safely and efficiently restore normal operating conditions to a highway facility disrupted by a traffic incident. Methods include an integrated combination of incident detection and verification, response, site management, clearance, traffic management, traveler information, and evaluation. These fundamental TIM activities can equally apply to ensuring a more secure surface transportation system by providing a blueprint for responding to and managing major crises ranging from a catastrophic terrorist incident to recovery from a natural disaster. Five crosscutting values bridge traffic incident management and transportation security functions.

Transportation Support for Emergency Management and Public Safety Functions

A major contributor to successful traffic incident management involves the pre-established relationships among key personnel that enable multi-agency, multi-disciplined coordination. Formal TIM programs strengthen and even broaden the relationships that form the basis of a more secure surface transportation system. With a "seat at the table", transportation agencies can support Emergency Management, Public Safety, Fire/EMS, Public Health, and other organizations in a variety of ways, including scenario-based exercises and drills, evacuation/contra flow planning, and travel/transportation information.

Voice / Data / Video Information Exchange and Interoperability

Effective communication is everything. Whether it's for managing a routine traffic incident or the prevention of a large-scaled disaster, transportation and public safety agencies need information to do their jobs. This information typically needs to be shared across system,

organizational, and jurisdictional boundaries. Due to a whole host of institutional and technological reasons, this vital information sharing often does not or can not occur. Regional TIM programs are an excellent venue to openly discuss communication interoperability issues, set goals, and develop strategies. With the majority of key stakeholders already participating, the programs can sponsor technology demonstrations, plan direct linkages between transportation and emergency operations centers, develop joint funding proposals, conduct elected official outreach -- whatever it takes to keep this issue in the forefront of everyone's agenda.

Timely Traveler / Transportation Information

Equally important to responding agencies communicating with one another is providing timely, accurate information about the incident or emergency to system users that range from motorists to responders. The challenge lies in providing clear information to this diverse target audience. TIM programs have long understood the benefits of timely and accurate traveler information. In fact, providing traveler information for incident management is often the most prominent function of today's traffic operations centers. This information dissemination infrastructure and methodology offer a great starting point for providing information during major disasters, but needs to be augmented with system status information as well. Not only do responders need the quickest route to an incident scene, they also need information on traffic, weather, bridge capacity, and overpass height. From a life/safety standpoint they need the best routes to trauma centers and the availability of hospitals to service mass casualties.

Critical Infrastructure Protection

Critical infrastructure protection, a relatively new term in transportation, is defined as the preventative measures taken to preserve or protect elements or infrastructure essential to the effective operation of the transportation system. TIM program participants offer expert, hands-on support in the identification and hardening of transportation elements considered vulnerable to attack. These can include physical facilities such as roads/bridges, rail lines, transit systems, ports and waterways, and all the associated equipment, control centers and communication networks required for the operation of each.

Technological Robustness and Redundancy

Protecting infrastructure and minimizing the consequences of any attacks require robust technologies with enough redundancy to sustain operations. Computing, communications and surveillance technologies used in Intelligent Transportation Systems (ITS), while much improved, are still not failure proof, nor are virtually any of the devices capable of "setting and forgetting". More emphasis is needed on operating and maintaining these crucial ITS elements. The participants in TIM programs are traditionally excellent problem solvers and excel even more at "what if..." scenarios. This hypothetical thinking applied to improving emergency response plans can identify areas needing additional redundancies.

Conclusion

Existing and future TIM programs have enormous potential for serving as a foundation for transportation security planning and operations. The transportation and public safety interagency relationships and synergies established through these programs coupled with advanced transportation system technologies deployed offer a head-start in addressing the many challenges we face today in ensuring the safety and security of the traveling public.

This article was provided by Steven J. Cyra, HNTB Corporation. For more information, please contact Mr. Cyra at (414) 359-2300 or email SCyra@hntb.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–The Outlook for ITS Under SAFETEA-LU

SAFETEA-LU raises transportation funding to a new level, allowing us to better meet many of our safety and mobility challenges. The outlook is optimistic for increased reliance on Intelligent Transportation Systems in our road and transit programs, but it is not without challenges that we must acknowledge and address.

The new law continues the ITS research program, provides funding for commercial vehicle technology programs and provides the ITS community with opportunities to participate on several commissions that will help shape the future of transportation policy and finance. Perhaps most important, the ITS deployment program graduates from a special dedicated program to core programs. As a result, transportation technologies will enjoy greater eligibility within these mainstream programs, which should lead to increased public sector investment in ITS.

In short, ITS has graduated and now leaves the relative safety of the college campus to find a job in the world. Intelligent transportation technology solutions will compete with a variety of other uses for these mainstream funds, including construction projects. We will have to make our case louder, more often, and with solid data to ensure that ITS is incorporated into transportation projects.

But that shouldn't dissuade us. We know that ITS works, and that transportation technology has a broad range of applications in the road and transit environment, in urban and rural settings, as well as in passenger travel and freight movements. We know that in-vehicle ITS applications are moving forward, with systems available to consumers now, and more powerful solutions, including those that integrate vehicle and infrastructure, coming soon. We have the data to prove the value of ITS investments, and it is more critical for us now than ever before to tell this story as broad and as wide as possible – to every transportation official, every legislator, every decision-maker, and to all those use the transportation system.

SAFETEA-LU will govern our transportation programs for the next four years. It expires on September 30, 2009, and in the world of transportation legislation, four years is a short period

of time. Therefore, we have a relatively short window, and how well we do our job in the next 48 months may impact the future of ITS for years to come.

ITS America is making plans to support our members and advance ITS interests in the decisive years ahead, with several projects designed to support our members as they navigate SAFETEA-LU.

To begin with, we will continue an effort to review the special projects contained in SAFETEA-LU to highlight those that are ITS projects or that have a significant ITS component to them. We provided our members with a list of projects to focus on, helping the ITS community to narrow its focus from some 6,000 projects to those with ITS elements in them.

Next, we will help our members understand how ITS investments will take place at the federal and state level. The new funding realities contained in SAFETEA-LU will present our industry with challenges, but also with opportunities. We want to ensure our members are positioned to make best use of SAFETEA-LU funds to implement ITS solutions.

With the ITS deployment program's migration from dedicated funding to eligibility in mainstream program funds, we expect to expand our attention in Congress to include the members and staff of the Appropriations Committee. While transportation authorizers will continue to be important to the success of ITS, the authorizing committees may play a larger hand in the years ahead.

We also will work with US DOT as it implements and interprets the provisions of SAFETEA-LU. With our broad membership base, we can provide DOT with valuable communication that allows the agency to understand the implications of SAFETEA-LU on the ITS community. Our role in supporting many of DOT's nine major ITS initiatives will allow us to determine opportunities for additional ITS funding and to keep our members informed of developments that affect their ability to use funding to deploy ITS systems.

Finally, ITS America will continue to serve as the ITS community's advocate. As we track the impact of SAFETEA-LU on ITS investments, the Society will collect the input of its members to advocate potential improvements in ITS programs for the 2009 reauthorization.

It will take all of us to carefully observe how SAFETEA-LU impacts ITS investments, how useful a tool it is to improve transportation operations and system performance, and ultimately, how it impacts our ability to meet safety and mobility challenges. We look forward to working with the ITS community to ensure that not only does ITS find a job after graduation, but that it embarks on a long and successful career.

This editorial was provided by Neil Schuster, ITS America. For more information, please contact Mr. Schuster at (202) 721-4210 or email NSchuster@itsa.org.

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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

Mark This Date on Your Calendar...

FDOT will hold its ITS Working Group Meeting on December 8, 2005, at the Florida Mall Hotel in Orlando, Florida.

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

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Hold the Date—December 5-6, 2005

ITS Florida will hold its Annual Meeting on December 5-6, at the Florida Mall Hotel in Orlando in conjunction with the FDOT's Traffic Incident Management Team Meeting on December 7 and ITS Working Group Meeting on December 8.

All ITS members and friends are cordially invited to attend this 2-day program, sponsored by ITS Florida. There will be golf on Monday, a social Monday night, a Weather and ITS Information Seminar on Tuesday, followed by the Annual Membership Meeting. Closing the event is the ITS Florida Awards Dinner. Awards will be announced along with the ITS Florida annual scholarship winner. The chapter election results will be announced as well.

The Weather and ITS Information Seminar, on December 6, will feature national and international perspectives of the role of ITS in weather events and the availability of weather data to transportation.

The Annual Meeting will feature a status report on chapter progress and a presentation of ITS Florida's newly adopted goals and objectives. The featured presentations will be by Patrick McGowan, Chairman of the ITS America Coordinating Council, describing ITS America council activities, including the Coordinating, State Chapters, and Business Leadership Councils. Pat will also give an overview of the new Transportation Act, SAFETEA-LU's ITS provisions, and ITS America's strategies to leverage this federal authorization Act.

For more information, visit the ITS Florida Web site at www.itsflorida.org.

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I-95 Corridor Coalition Annual Meeting

Please join us for the I-95 Corridor Coalition Annual Meeting on December 13 and 14 at Saratoga Hotel and Conference Center in Saratoga Springs, NY. Program highlights include New York ITS Showcase; Coalition Project Highlights and Demonstrations; Awards Dinner; Information Exchange Forums; and Program Track Committee Meetings.

For additional information on the Annual Meeting, or on the I-95 Corridor Coalition, contact Noreen Hazelton at 978-835-3127 or i95nhaze@aol.com, or visit the I-95 Corridor Coalition Web site at www.i95coalition.org/.

For sleeping rooms, please contact the hotel directly at 518-584-4000 or 888-999-4711 and request a room under the I-95 Corridor Coalition conference.

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Experience ITS at the 12th World Congress on ITS

The 12th World Congress on ITS will be held on November 6-10, in San Francisco at the Moscone Center. This year's theme, "Enabling Choices in Transportation," communicates the emphasis on the end-user in transportation.

Visit their Web site at www.itsworldcongress.org/ for registration and program information.

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A Hearty Welcome...

Please join us in welcoming Shane McConnell to the staff of the Telecommunications General Consultant. Shane is a part-time employee with RCC Consultants. He will be assisting in maintaining the documentation and records for FDOT's microwave network and motorist aid equipment as well as create electronic records for posting to the Infonet sites.

Shane is a student in the FAMU/FSU College of Engineering studying Electrical Engineering at the undergraduate level.

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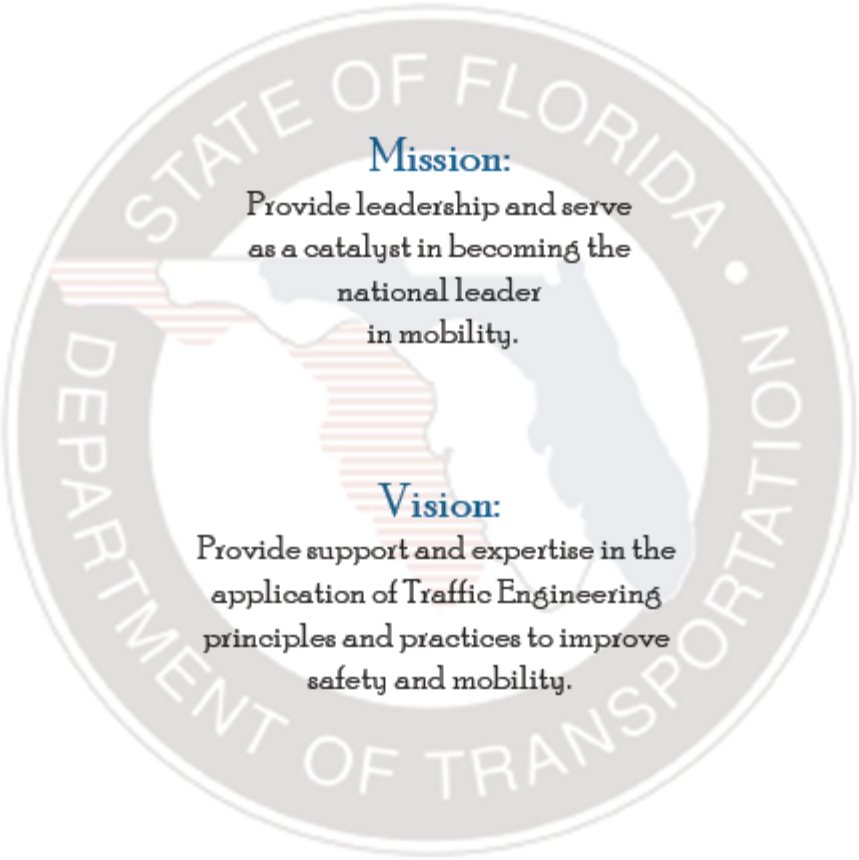
FDOT Traffic Engineering and Operations Mission and Vision Statements



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