FDOT DISTRICT SIX
ITS ANNUAL REPORT (FISCAL YEAR 2013-2014)

eEXPRESSYourself

FDOT

SUNGUIDE

A Message from the District Secretary

While it is recognized that we cannot build our way out of congestion, we do have the potential for improving the reliability of our transportation system through efficient operations. Based on the five-year operational success of the 95 Express, District Six has been planning the development of a regional network of express lanes to improve mobility within Southeast Florida. District Six is working closely with its partners in expanding the express lanes program to other strategic corridors including SR 826, I-75 as well as continuation of the 95 Express through Broward and Palm Beach Counties. This express lanes network will improve mobility and travel time reliability to the region's travelers whether they continue to use their personal vehicles or take advantage of express buses offering enhanced reliability and services.

A key contributor to the success of the regional express lanes network is the Intelligent Transportation System (ITS) program. Our ITS program operates from the District Six SunGuide® Regional Transportation Management Center (TMC) 24 hours each day, 365 days each year. The TMC serves as the command center for our express lanes as well as other vital functions including incident management, Road Ranger coordination and dispatching, ramp signaling, traveler information, work zone management, emergency management and ITS maintenance.

In the past year, our ITS program was successful in improving operations. During Fiscal Year (FY) 2013-2014, the 95 Express serviced over 22 million vehicle trips operating at peak hour travel speeds of 17 to 18 miles per hour higher than the general purpose lanes. Traffic operations have also improved within the I-95 general purpose lanes due to the efficiency of our ramp signaling program. Roadway incident clearance times reduced to 28 minutes which represents a 44% reduction from the 2005 FDOT District Six baseline of 50 minutes. Road Rangers provided over 41,000 assists and continue to play an important role in safety management for those involved in roadway incidents.

The success of these programs requires dedication and an entrepreneurial spirit of our staff in developing innovations as applied to each aspect of our ITS program. During the past year, we have made enhancements in the development of software to support future expansion of express lanes; began posting speed profiles on the TMC video wall to track performance of our strategic roadways in real-time; and made upgrades to our ITS maintenance systems to improve the reliability of our equipment and systems.

In closing, I would like to thank our ITS team for the continued success of our program. I would especially like to share my sincere gratitude to Rory Santana, P.E. for all his hard work and dedication to making the District Six ITS program, including the 95 Express, an international success. Rory recently retired after 30 years with FDOT District Six including serving as ITS Manager between 2005 and 2014.

As District Six Secretary, I am proud of our accomplishments this past year, as presented in this annual report, and look forward to making our multimodal transportation system best in class in meeting the travel needs of our residents and visitors.

Gus Pego, P.E.
District Six Secretary of the Florida Department of Transportation

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Introduction

The theme for this year's annual report is "Express Yourself". The growing regional express lanes network within Southeast Florida provides an opportunity for our travelers to make choices as to which components of the multi-modal transportation system works best for them. If travel time reliability is important, they may wish to "express themselves" in using the express lanes along I-95 and in the future SR 826 and I-75. If convenience is important, they may wish to use the express buses, operating within the express lanes, allowing them to take advantage of WiFi during their commute and leaving the driving to others. If their choice is to use general purpose lanes along the freeways or use arterials, they may benefit from our evolving Transportation Systems Management & Operations program.

The Florida Department of Transportation (FDOT) District Six Intelligent Transportation Systems (ITS) Program offers our travelers the ability to "express yourself" in a variety of ways. The ITS Program was developed to offer travelers a diverse range of services to make customized choices based on individual needs in terms of alternative routes, modes and schedules. These services support traveler information, incident management, work zone management, and active traffic management programs. FDOT District Six is committed to enhancing system capacity and improving regional mobility through the use of ITS allowing travelers to express themselves in the manner that best addresses their individual needs.

This FDOT District Six ITS Annual Report covers the timeframe from July 1, 2013 to June 30, 2014 (FY 2013-2014). This ITS Annual Report aligns with the program's five primary functional areas listed below:

- ITS Deployments – Providing planning, design and procurement of ITS equipment, including Closed Circuit Television (CCTV) cameras, Dynamic Message Signs (DMS), vehicle detectors and communications supporting ITS operations.
- TMC Operations – Providing a central location for data collection and dissemination. The SunGuide Transportation Management Center (TMC) in Miami-Dade County is the command center for managing traffic incidents as well as providing proactive operations through express lanes, ramp signaling and other active traffic management strategies.
- Incident Management – Providing and dispatching Road Rangers, and other incident management resources, to safely and quickly clear lane-blocking events as well as provide motorist assistance. An important part of the program is coordination with first responders to identify, develop and implement solutions to improve incident management.
- IT/ITS Maintenance – Managing the maintenance of ITS field and TMC equipment to ensure system availability, security and stability, as well as provide software support.
- Traveler Information – Providing real-time traveler information services through various media, such as the telephone, Internet, Smartphone applications, and social media.

This marks the ninth edition of District Six's ITS Annual Report. In this report, we highlight how the District Six ITS office focused its efforts on enhancing its operational strategies, software and coordination efforts. We hope you find the report informative and welcome you to "express yourself" by joining District Six as we continue to improve the reliability of the multi-modal transportation systems within South Florida.

FLORIDA DEPARTMENT OF TRANSPORTATION

ITS MISSION:

Enhance the safety, security and efficiency of Florida's transportation system through the implementation of interoperable ITS technology in support of local, regional and statewide mobility.

ITS VISION:

Be the national leader in ITS by promoting multijurisdictional coordination for the provision of an efficient, secure, reliable, and safe transportation system.

ITS Deployments

FDOT District Six continues to improve the ITS infrastructure to achieve its transportation goals in improving traffic safety, incident management, mobility and reliability. These improvements include expansion of the ITS infrastructure to fill the gaps in terms of providing additional CCTV cameras, dynamic message signs, vehicle detectors as well as accommodating new projects such as the Port of Miami Tunnel and SR 826 / SR 836 Interchange Reconstruction. A summary of active FDOT District Six ITS projects being built during FY 2013-2014 can be found below:

- SR 826 and I-75 Express Lanes Miami-Dade Deployments –These express lane projects began construction during 2014. ITS devices such as CCTV cameras, DMS, vehicle detectors, ramp signaling and other infrastructure support equipment will be installed to support these express lanes. These projects are scheduled for completion during 2017.
- TMC Video Wall – This design-build project replaces the back-end of the video wall with a control system that will allow TMC operations staff greater reliability and flexibility using the video wall and be prepared for the next generation of high definition CCTV cameras that are becoming available. Construction is scheduled for completion in October 2014.
- DMS Replacement – This design-build project replaces five amber freeway DMSs with color LED full-matrix DMSs of which four are located along I-95 and one located along I-195. Construction is scheduled for completion in July 2014.
- DMS Replacement and ITS Device Installation – This design-build project replaced two DMSs, installed 21 CCTV cameras and eight vehicle detectors in Miami-Dade and Monroe Counties. Construction began in June 2011 and was completed in December 2013.
- Arterial DMS Installations – This design-build project replaces two amber arterial DMSs with color LED full-matrix DMSs along Ives Dairy Road and one along Miami Gardens Drive. Construction is scheduled for completion in April 2015.

FDOT District Six continues to improve the ITS infrastructure in preparation for the expansion of express lanes.

- Palmetto Expressway (SR 826)/Dolphin Expressway (SR 836) Interchange Reconstruction Section V – This major multilevel interchange reconstruction project includes additional ITS elements, such as new CCTV cameras, new DMSs along SR 826 between SW 24 Street and NW 36 Street, vehicle detectors and fiber optic cables. The addition of these devices will provide District Six with full coverage of the SR 826/ SR 836 Interchange and completes the final fiber optic cable link for SR 826. Arterial DMSs will also be installed along SW 88 Street, SW 8 Street, Flagler Street, NW 25 Street, and NW 36 Street. Construction has been ongoing since 2009 and is expected to be complete during 2016.
- 95 Express Phase 2 Miami-Dade Deployments – This project, which began construction in November 2011, will extend the existing express lanes from the Golden Glades Interchange in Miami-Dade County to Broward Boulevard in Broward County. ITS devices such as CCTV cameras, DMSs, vehicle detectors and other infrastructure support equipment will be installed to support 95 Express Phase 2. This project is scheduled for completion during 2015.

The current and planned ITS device installations bring the total field inventory to 283 CCTV cameras, 114 DMSs, 320 vehicle detectors, and 22 ramp signal stations.

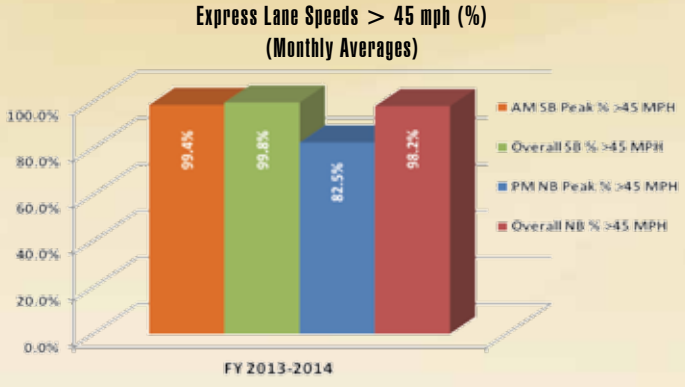
TMC Operations

The FDOT District Six SunGuide TMC serves as the command and control center for proactive traffic management (e.g., express lanes, ramp signaling) as well as its core functions of incident, work zone, emergency and special event management. The TMC operates 24 hours a day, seven days a week. TMC operators coordinate with emergency responders, Road Rangers and other incident management resources to clear incidents as quickly and safely as possible from South Florida's roadways. This coordination is enhanced by the co-location of the Miami-Dade Expressway Authority (MDX) TMC operations staff and the Florida Highway Patrol (FHP) Troop E dispatch within the TMC.

95 EXPRESS OPERATIONS

During FY 2013-2014, the 95 Express, reached the 100 million vehicle trip milestone. The project launched in December 2008 and has seen a steady increase in popularity in South Florida leading it to be considered one of the most successful and highly used express lanes facilities in the United States. During FY 2013-2014, the 95 Express serviced over 22 million vehicle trips.

Toll-exempt trips using the 95 Express (i.e., carpools of three or more and transit) experienced its first significant increase in years increasing from 449,000 to over 560,000 trips, a 25% increase. Of all toll-exempt trips, 40% are comprised of HOV3+; a number which remains consistent year-over-year. Express Lanes Bus Rapid Transit service also experienced increased usage during FY 2013-2014 rising from 2,590 to 2,810 boardings per day, over an 8% increase.



The presented graph highlights the reliability of the 95 Express. Reliability, which is an important performance measure for the Express Lanes, is defined as the percentage of time during the peak period where speeds remain above 45 miles per hour. The federal goal for this performance measure is 90%. For the second consecutive year, the northbound peak period reliability failed to meet its reliability goal.

In February 2014, the State Secretary of Transportation approved an updated Toll Rule, allowing 95 Express to increase its maximum toll charged from $1.00 per mile to $1.50 per mile. District Six implemented this toll increase on March 1, 2014 resulting in an improvement in reliability. The increase was approved because the $1.00 per mile maximum was not providing a sufficient deterrence to drivers to opt out of using the facility during highly congested periods. A combination of the higher traffic volumes and increased toll maximum resulted in increased total revenue for 95 Express during FY 2013-2014. Total revenue for the year was nearly $21 million, a 14% increase over the previous fiscal year.

As the District continues to operate the existing phase of 95 Express, it is also working with its partners District Four and Florida's Turnpike preparing for the next phase of the facility. 95 Express Phase 2, which is currently under construction and is scheduled to begin operations during 2015, is a 14-mile extension from the current phase into Broward County. Upon completion, this new phase will introduce two new 2-lane tolling segments in each direction. Drivers who wish to use 95 Express for long trips will benefit from "trip building" based operations. Trip building allows drivers to see a toll (or tolls) for longer distances than one exit ahead and locks them at the price shown (or lower) based on the time their toll transponder is read at the first tolling point passed. As part of the effort to make this transition seamless for drivers, District Six worked with its partners to develop business rules which were translated into software design requirements to accommodate the new type of operations. This software is scheduled to be placed into production at District Six during FY 2014-2015.

eEXPRESS Traffic

SR 826/I-75 EXPRESS OPERATIONS

District Six is expanding its express lanes network in alignment with a regional plan established for South Florida. After 95 Express Phase 2, the next express lanes project on the horizon for District Six is the SR 826/I-75 Express Lanes. The project limits are SR 826 from West Flagler Street to NW 154th Street continuing along I-75 from SR 826 to I-595 in Broward County. The project length is approximately 28 miles and spans FDOT Districts Four and Six.

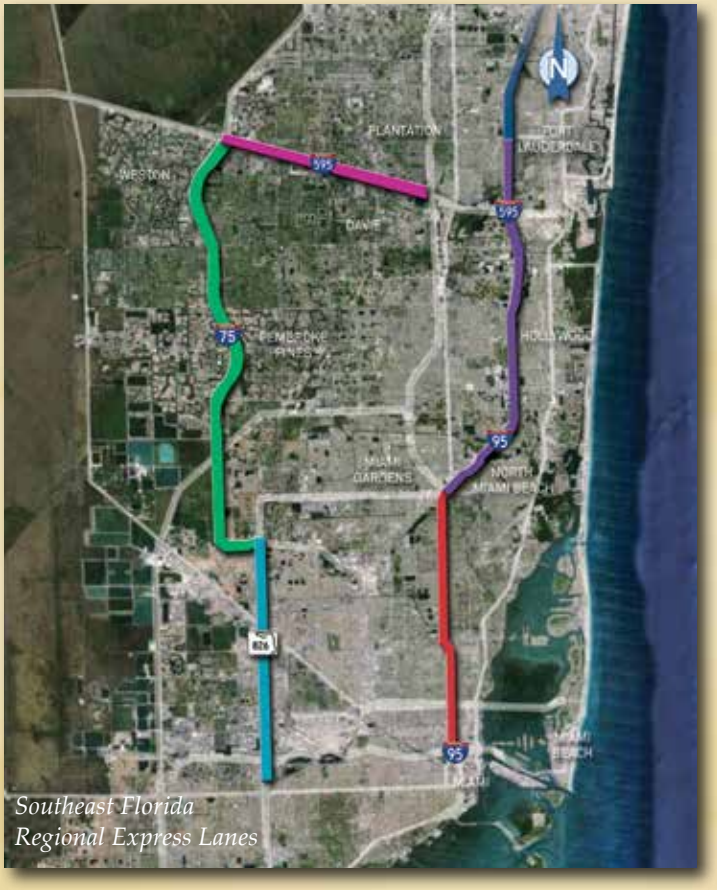
The SR 826/I-75 Express Lanes will include a two-lane direct connect reversible flyover ramp to/from the I-595 Express Reversible Lanes System in the northern end of the project in Broward County. There will also be a single-lane flyover ramp that connects the southbound I-75 Express Lanes to the southbound Homestead Extension of the Florida's Turnpike (HEFT), and a single-lane flyover that connects northbound HEFT to the northbound I-75 Express Lanes. There will be a flyover ramp (one lane in both the northbound and southbound directions) that directly connects I-75 and SR 826. In addition to the physical geometric improvements, the SR 826/I-75 Express Lanes will also include the following additional system components:

- Dynamic Message Signs
- Vehicle Detection
- CCTV Cameras
- Ramp Signal System (SR 826 only)
- FDOT Toll Setting Software
- Electronic Toll Collection System (Gantries and Back Office)
- Reversible Lane Control System

Operation of the SR 826/I-75 Express Lanes will be a joint effort between the TMCs in Districts Four and Six. Each FDOT District will utilize their respective contracts/ resources for:

- TMC Operations (express lanes, ramp signaling)
- Incident Management
- ITS Maintenance
- Roadway Maintenance
- Public Information

In addition, Florida Highway Patrol (FHP) and local police/ fire rescue agencies will provide emergency response.



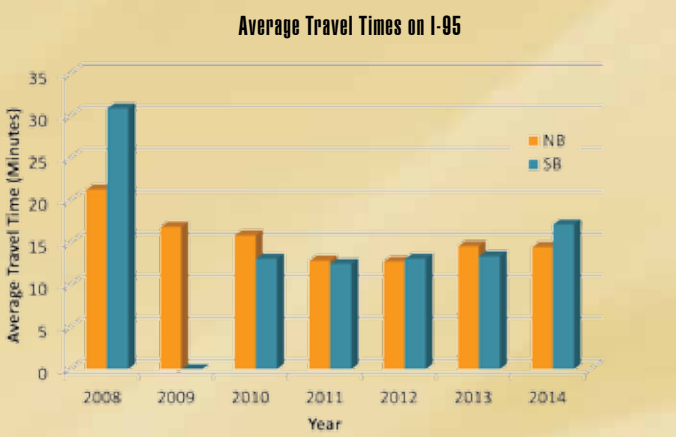
Southeast Florida Regional Express Lanes

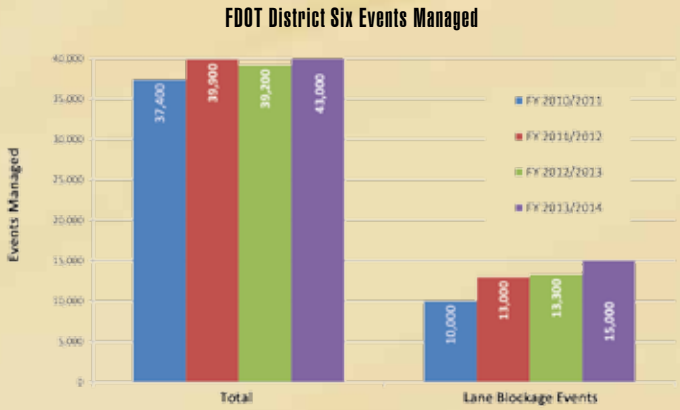
RAMP SIGNALING OPERATIONS

Another component of the 95 Express is the ramp signaling system, which entered its fourth full year of operation during FY 2013-2014. Consisting of 22 total ramp signals, the system improves operations along I-95 by regulating the flow of vehicles entering the roadway during peak periods of travel. TMC operators can also activate the ramp signaling system in the case of congestion during non-peak periods or during an incident or special event. As demand along the freeway increases in the future, ramp signaling will continue to be one of the tools that will help District Six continue to be proactive in managing congestion. The graph on the next page indicates the decrease in average travel times along I-95 from before the ramp signaling system's implementation (2008) to after its implementation (northbound in 2009 and southbound in 2010).

TMC Operations continued

eEXPRESS Traffic





PERFORMANCE MEASURES

In December 2007, District Six set targets for key operational performance measures that have the greatest impact to the public. During FY 2013-2014, TMC operations staff once again exceeded those targets, thanks to quality control procedures that include daily reviews of all travel lane blocking events.

The table below shows the performance measures average results and targets. These goals continue to be exceeded as operators managed 43,000 total events and 15,000 lane blocking events during FY 2013-2014. The above graph shows the number of events compared to previous years.

Performance Measures	FY 11-12 Average	FY 12-13 Average	FY 13-14 Average	Target
DMS Efficiency	99.77%	99.87%	99.78%	>95%
TMC Operator Error Rate	0.30%	0.36%	0.38%	<0.59%
Time to Dispatch Road Rangers*	00:00:44	00:00:44	00:00:44	<00:02:00
Time to Confirm an Event*	00:01:42	00:01:40	00:01:48	<00:02:00
Time to Post DMS*	00:02:27	00:02:16	00:02:28	<00:05:00
Time to Notify Other Agencies*	00:01:11	00:01:30	00:01:42	<00:07:00

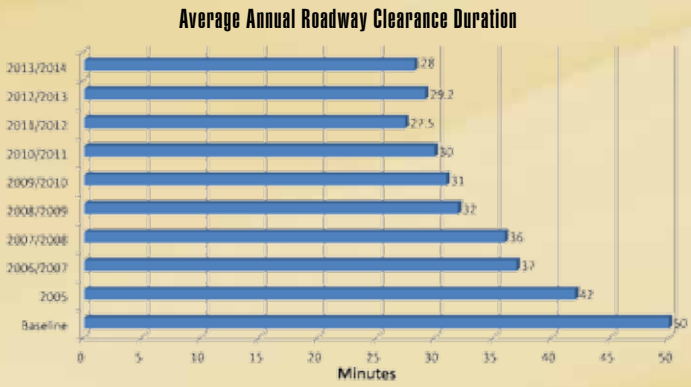
*Time = Hours:Minutes:Seconds

Incident Management

eEXPRESS Safety

District Six's incident management service helps maintain roadways free and clear of road blocking incidents. The multi-agency Traffic Incident Management (TIM) Team plays a significant role in helping FDOT reach its goal: reduce traffic congestion, as well as decrease the chances of secondary events, caused by prolonged exposure to traffic incidents.

With the help of all its partners in the TIM Team, District Six's average annual roadway clearance time was 28.0 minutes during FY 2013-2014 which is an improvement of 4% compared to last fiscal year.



TRAFFIC INCIDENT MANAGEMENT (TIM)

Special event coordination was a major component of incident management efforts during FY 2013-2014. Interagency coordination within the TIM Team made that possible.

- ***TIM Coordination*** – Thanks to the relationships built within the TIM Team, the TMC's TIM representatives were able to continue coordination efforts and outreach with partnering agencies. Meetings were arranged with several agencies within the TIM Team such as FHP, Road Ranger contractors, roadway maintenance contractors and fire rescue representatives. The group discusses upcoming FDOT projects as well as conducts post incident analyses of recent large scale events to apply lessons learned.

  FHP Troop E and TMC operations staff continue to share information and resources to help detect and manage incidents along District Six roadways more efficiently. The relationships built in the TIM Team help District Six by creating more efficient interagency coordination during future incidents along general purpose lanes as well as express lanes.

- **95 Express Phase 2 Incident Management Plan** – District Six and District Four joined forces to develop the 95 Express Phase 2 Incident Management Plan (IMP). The IMP provides incident management strategies for the 95 Express Lanes Phase 2 Project. As this project spans both Districts, close coordination between TMCs and other agencies is needed to ensure a common approach to incident management.

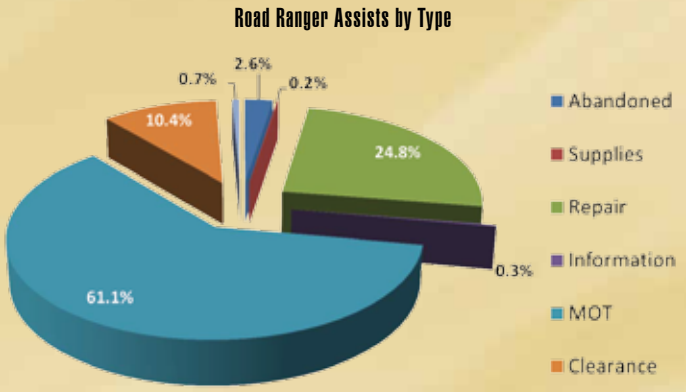
ROAD RANGERS

The TMC serves as the control center for dispatching and coordinating field operations and one of the largest parts of District Six's field operations are the Road Rangers. As the most visible component of District Six's incident management service, Road Rangers provide incident response and motorist assistance along I-95, I-75, SR 826, I-195, I-395 and the MacArthur Causeway. As seen on the pie chart on the following page, more than 90% of Road Ranger assists are for Maintenance of Traffic (MOT), repair or clearance services.

- **New Road Ranger Services Contract** – During FY 2013-2014, District Six began a new Road Ranger services contract. A new vendor was selected to perform these services. In addition to the familiar pickup trucks, tow trucks, and flatbed wreckers, the new contract adds a heavy duty wrecker. The heavy duty wrecker is used on an on-call basis to relocate commercial vehicles and buses out of the travel lanes to a safe area for repair or for other towing services.

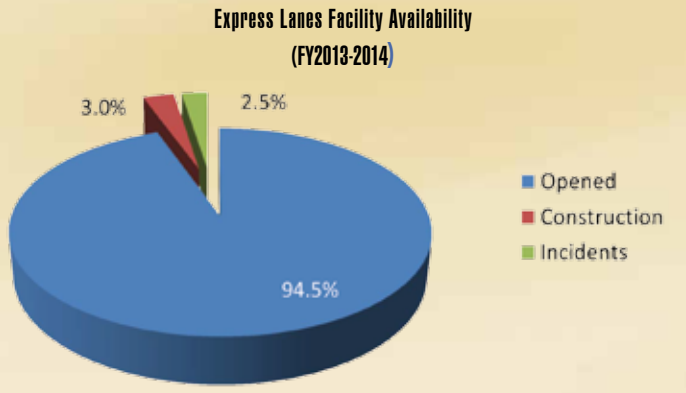
- **Additional Road Rangers** – District Six added a few new Road Ranger Service Patrol units to the existing fleet. One set of vehicles was provided as part of the SR 826/I-75 Express Lanes Project and the other set was for the various concrete pavement rehabilitation projects along I-95. These vehicles patrol 24 hours per day, 7 days per week and include a tow truck and flatbed truck. The I-95 concrete pavement rehabilitation contracts also provide a Road Ranger tow truck and flatbed while the contractor is working within FDOT right of way, which is usually overnight on weekdays.

Incident Management continued



INCIDENT RESPONSE VEHICLES (IRV)

District Six's IRV Program responded to 1,134 events during FY 2013-2014. IRV operators, along with the FHP, Road Rangers and other responders were instrumental in keeping the 95 Express lanes open and available for use 90.3% of the time during the fiscal year with the facility remaining closed due to incidents 3.9% of the time. The average travel lane blockage duration in the express lanes was 21.5 minutes in the northbound direction and 19.3 minutes southbound. Even though IRV operators focus mostly on the 95 Express lanes, they also assist motorists in the general purpose lanes along I-95 on an as needed basis.



- **Safety and SIRV Coordination** – District Six continued coordination between its IRV operations staff and the District Four TMC's Severe Incident Response Vehicle (SIRV) Team. This coordination is needed due to the overlapping construction limits for the 95 Express Phase 2 project. The two teams meet and discuss IRV/SIRV procedures and lessons learned.

RAPID INCIDENT SCENE CLEARANCE (RISC) UPDATES

RISC supports Florida's Open Roads Policy by being an incentive-based program for the rapid removal of the more complex incidents that occur along District Six roadways that would normally require additional time for clearance. RISC contractors need to respond with all required vehicles within 60 minutes and clear the travel lanes within 90 minutes to receive the incentive. TMC operations staff use the RISC module in Operations Task Manager to track RISC activation, resources arrival and clearance times. During FY 2013-2014, the average RISC response time was 45 minutes while the average RISC travel lane clearance time was 68 minutes. In total, TMC operations staff summoned RISC resources 19 times during FY 2013-2014, more than doubling last year's activations. This is a significant improvement in performance of the RISC program, as compared to last fiscal year, as shown in the table below.

RISC Performance	FY 2012 - 2013	FY 2013-2014	Target
Average Activation Time	28 min	23 min	--
Average Response Time	46 min	45 min	60 min
Average Travel Lane Clearance Time	85 min	68 min	90 min
Average Total Incident Clearance Time	225 min	161 min	--
Total RISC Events	7	19	--

The RISC arterial pilot program continued during FY 2013-2014 covering Krome Avenue (from Kendall Drive to US 27), US 27 (from SR 826 to the Miami-Dade/Broward County line), and the MacArthur Causeway. This program was launched in 2011 to address the problem of major incidents along these roadways that experience high commercial vehicle traffic volumes.

IT/ITS Maintenance

Data

District Six's ITS Program is highly dependent on technology to be able to process the tremendous amount of data throughout the TMC's computer network. The TMC's IT/ITS maintenance staff manage and maintain that technology – both in the TMC and out in the field. The entire network of equipment, including roadway detectors, CCTV cameras, DMS, communications infrastructure, servers, computers, software applications and the TMC's video wall, must remain operational 24 hours a day, seven days a week. In turn, these systems call for an aggressive maintenance program that ensures ITS equipment is operating adequately.

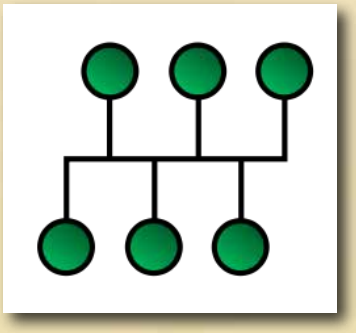
The table below shows that the availability of key system components improved in almost all categories during FY 2013-2014 as compared to the previous fiscal year.

Subsystem	Annual Average System Availability	
	FY 2012-2013	FY 2013-2014
CCTV	95.47%	97.56%
DMS	93.85%	96.66%
Detectors	94.90%	96.13%
Video Wall	97.49%	97.43%
SunGuide™ Software	97.97%	99.86%
OTM	99.85%	99.97%

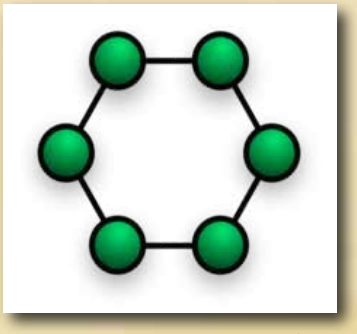
- **ITS Utility Infrastructure Locates** – One important function of the TMC is to prevent outside entities from damaging the ITS infrastructure. The ITS Program includes a large amount of underground fiber optic and electrical cables installed throughout Miami-Dade and Monroe Counties. Notifications (or locate tickets) are received from Sunshine 811 regarding activity that may interfere with underground utilities. The ITS Program sorts through these tickets and when necessary will physically mark the ground showing the location of the ITS underground infrastructure. During FY 2013-2014, 13,370 tickets were received and 2,358 tickets were located.

I-95 EXPRESS LANES NETWORK IMPROVEMENT

Originally the 95 Express Lanes network was installed in a bus topology for all the field devices resulting in a vulnerable system with multiple points of potential failure. In order to improve network reliability, IT/ITS Maintenance devised and implemented a ring topology. This effort included documentation of the existing network, making fiber backbone splice changes, and making configuration changes to network devices. These improvements were performed utilizing the existing FDOT infrastructure, thereby minimizing costs to the Department. This upgrade results in a significant improvement in system availability across the entire 95 Express Lanes network and substantially less field service visits.



Bus topology



Ring topology

TMC STORAGE AREA NETWORK UPGRADE

During FY 2013-2014, the Storage Area Network (SAN) was upgraded by expanding the storage capacity from 16 terabytes to 32 terabytes. The additional storage capacity is needed to accommodate the continuous growing requirements of the SunGuide Software database. This upgrade is anticipated to accommodate the TMC's operations data storage needs for the next five years. The SAN switches were also replaced with newer switches supporting higher bandwidth and advanced connectivity options. While the old switches had reached their "end of life" cycle the new ones are fully supported by their vendors and better suited for the newly upgraded SAN.

NAP NETWORK ATTACHED STORAGE (NAS)

District Six ITS Program includes backup servers at the Network Access Point (NAP) of the Americas facility located in downtown Miami. The original NAP Network Attached Storage (NAS) was no longer adequate to maintain the required data needs at this backup facility. The existing NAS was replaced with a new NAS featuring 6 terabytes of storage space outside the blade enclosure. The new NAS has enough capacity for accommodating the standby SunGuide Software database as well as other applications hosted in the NAP that are critical for the TMC's disaster recovery plans. The new NAS should be adequate to accommodate TMC needs for at least four years.

Traveler Information

eEXPRESS Yourself

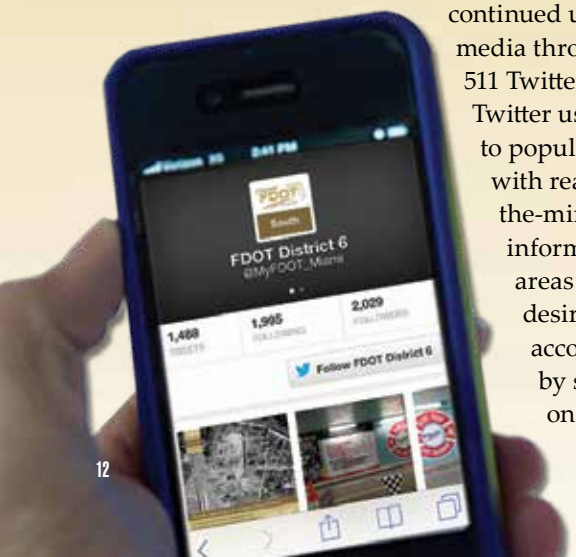
Providing traffic information to motorists within South Florida allows them to make more informed decisions regarding alternative routes, modes and schedules when confronted with congestion, traffic events, or construction. FDOT provides traveler information through the statewide Florida Advanced Traveler Information System (FLATIS), commonly referred to as 511. The service publishes real time traffic information to the public through the Internet on FL511.com and a smartphone application as well as through a phone-based Interactive Voice Recognition System (IVR). District Six's many DMSs provide motorists with lane blockage information and travel times. District Six's ITS website, SunGuide.info, allows motorists to view live feeds of the ITS Program's CCTV cameras in Miami-Dade and Monroe Counties.

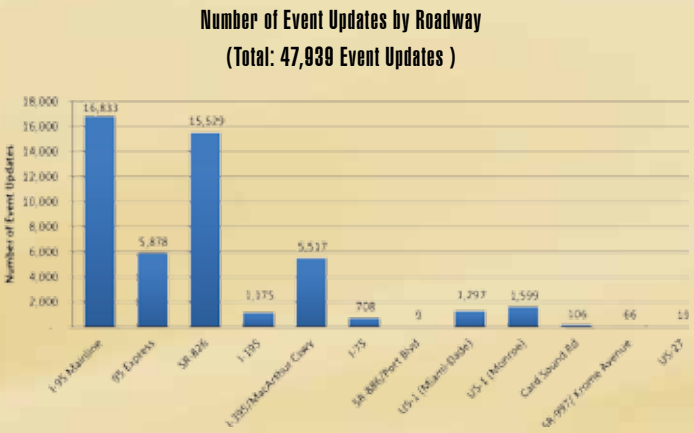
FLORIDA'S ADVANCED TRAVELER INFORMATION SYSTEM (FLATIS)

During FY 2013-2014, the 511 service continued to receive a significant amount of calls statewide with users in Miami-Dade and Broward Counties making up a considerable portion of those calls. District 6 TMC operators published 48,000 event updates from lane blockage and congestion events on roadways managed by the District Six TMC. The graph to the right shows the number of event updates by roadway.

SMARTPHONE APPLICATION AND SOCIAL MEDIA

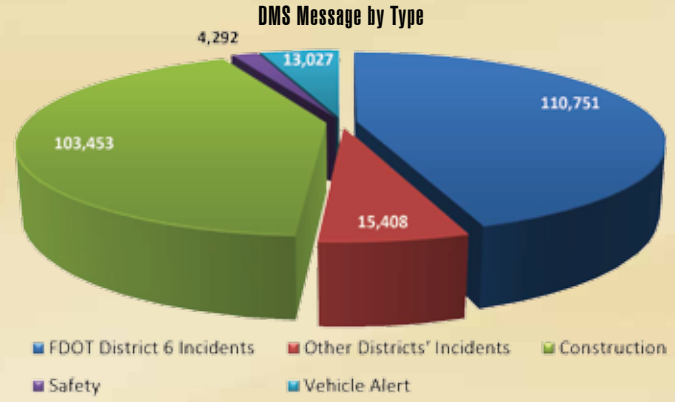
FLATIS continued publishing information through the Florida 511 "app". Users download the application on their iPhones, iPods and iPads allowing them to receive travel information in their vicinity statewide. The application offers users the option to have traffic incidents populate automatically based on the user's GPS location. The development of an "app" for the Android platform was completed and released during FY2013-2014. Florida 511 continued utilizing social media through several 511 Twitter feeds, which Twitter users can follow to populate their feeds with real-time, up-to-the-minute traveler information in the areas of Florida they desire. The 511 Twitter accounts can be found by searching "FL511" on Twitter.





DMS MESSAGING

Another important component of District Six's traveler information service is its system of DMSs, which displays lane blockage information, travel times, pre-event messages and congestion messages - all of which help motorists plan their trips and avoid congestion in both Miami-Dade and Monroe Counties. During FY 2013-2014, more than 246,900 messages were deployed on District Six DMSs, with the majority of messages being for incidents and construction. This is a 14% increase compared to the previous fiscal year.



Public Outreach

95 EXPRESS People

Public Information (PI) staff remained committed to raising public awareness and completed various initiatives to support this mission throughout the fiscal year. Staff partnered with the media to promote the program's public services and their benefits. The TMC hosted tours, published numerous articles and participated in industry conferences to enhance its profile within the local community and at the national level. Additionally, staff continued to build on its role of supporting 95 Express operations. They worked with partner agencies to streamline customer service procedures and enhance the driver's experience with the project and its multi-modal services.

ITS Staff led improvement efforts by adding inquiry categories to the project's website and electronically forwarding them to a specific agency representative for faster response times. Also, they officially launched version two of TMC Connect, the software that is used to document and track project responses. As a result, partner agencies now directly manage comments received through the project's website, instead of waiting to have them manually filtered through District Six. The Office hosted several training sessions with District Four, South Florida Commuter Services, SunPass as well as with Broward and Miami-Dade County transit agencies in support of this function. These continuous improvements in software and interagency communication supported the project through its various changes during the fiscal year and will continue supporting it as it expands to 95 Express Phase 2.

Some of this year's outreach highlights included:

TOURS

The District Six ITS program conducts tours of the TMC year-round. Tours typically include a presentation of the ITS program, viewing of the control room operations, and in some instances a walkthrough of the TMC. Staff facilitated tours for:

- New Zealand Transportation Agency
- Alameda – California Metropolitan Transportation Commission
- Florida's Transportation Commission
- Miami-Dade Metropolitan Planning Organization – New Members
- Port of Miami Tunnel
- Florida International University/Georgia Tech University Engineering Program
- Florida International University Engineering Exposition
- FDOT District 7
- FDOT District 4

WLRN Interviews FDOT District Six for its "End of the Road" Series

INTERVIEWS

District Six ITS PIO staff conduct interviews with media and other programs to help increase awareness of the ITS program. Some of the interviews conducted during FY 2013-2014 include:

- WLRN – End of the Road Series
- Miami Herald
- Sun Sentinel
- Tampa Tribune
- CBS 4

COMMUNITY INVOLVEMENT

District Six ITS staff participated in various campaigns and functions in the community to support important issues and increase awareness of the ITS program. Some of the community involvement efforts over the past fiscal year include:

- Distracted driving campaign initiatives
- Employee fair with South Florida Commuter Services
- Community Traffic Safety Team
- University of Miami Safety Fair
- Miami Chamber of Commerce Leadership Committee

CUSTOMER SERVICE

Customer service efforts continued to be a high priority, especially because 95 Express experienced several changes during this fiscal year, most notably an increase in toll rate. As a result, staff processed more than 300 comments from a variety of topics that included tolling, transit and data requests for academic and professional institutions from around the world.

Benefits to the Public

eEXPRESS Results

One of the most important financial benefits of the ITS Program to South Florida motorists is the reduction in incident duration. The average travel lane blocking incident duration during this fiscal year was 28 minutes. This represents a 44% reduction from the 2005 FDOT District Six established baseline average duration of 50 minutes.

The FDOT District Six ITS Program's budget for FY 2013-2014 included operating, maintenance and capital improvement costs. The costs displayed in the table below are considerably less than the normal capital costs associated with expanding highways and facilities.

When the delays associated with incidents are reduced, motorists save time. This time savings can be directly translated to dollars. The Incident Management Program's contribution to the reduction in delay due to incidents translates into savings of $2.1 billion. Additionally, 95 Express and the Ramp Signaling System also contributed to the reduction of delay during peak hours translating into savings of $39 million. This estimate was calculated using widely accepted statistical methods for estimating the cost implications of traffic delays. The estimate only includes time saved by motorists; it does not address road user cost savings.

Fiscal Year 2013-2014 Costs	
ITS Operations	$5,763,237
ITS Maintenance*	$4,821,614
Road Rangers	$4,079,721
RISC	$47,500
FDOT Cost Center Operating Budget**	$2,198,961
Other (Consultants, FTE, FHP, FIU)	$3,128,778
Total Annual Operating Costs	$20,039,811
Total Annualized Capital Costs	$30,258,297
Total Annual Costs	$50,298,108

* Includes Express Lanes ITS Maintenance and Delineator Repairs

** Includes Utilities for Express Lanes

FDOT District Six's ITS benefits and costs are communicated to our stakeholders in demonstrating the value of the program.

When comparing the total estimated benefits of the ITS Program during FY 2013-2014 to the total annual operating expenses and capital investments (annualized over ten years at seven percent), the ITS Program is shown to be yielding $41.37 in economic benefit for every dollar spent (Benefit Cost Ratio of 41.37:1).

A comparison of the Benefit Cost Ratio for FY 2013-2014 versus the previous seven years is presented in the table below. The continuous increase in this performance measure is indicative of the continual improvement in the program, the number of events served, the reduction in incident durations as well as the increased value of travel time.

Fiscal Year	Benefit Cost Ratio
FY 2006-2007	17.04
FY 2007-2008	17.63
FY 2008-2009	21.53
FY 2009-2010	19.25
FY 2010-2011	24.05
FY 2011-2012	36.12
FY 2012-2013	36.48
FY 2013-2014	41.37

A Look Ahead to FY 2014-2015

Future

Next year, the FDOT District Six ITS program will continue to prepare for the transformation of the 95 Express to a regional network. This will require upgrades to the ITS infrastructure in the field as well as improvements to the software systems and layout of the control room within the TMC. These and other operational improvements are summarized below.

TMC RECONFIGURATION

District Six will be starting construction of improvements within the TMC control room to accommodate future operational needs. The number of workstations will increase from the existing eight, which is configured in a linear arrangement, to 18 workstations configured in a pod arrangement. The pods will be organized to facilitate more efficient communications among operators conducting like functions. For example, one pod will be dedicated to I-95 operations and include two workstations for express lanes, one for ramp signaling, one for incident management / coordination with Road Rangers, and one for a supervisor. A similar pod will be configured for SR 826 to accommodate future growth for the same functions. In addition, six individual workstations will be installed in front of the video wall for TMC support functions.

95 EXPRESS PHASE 2 AND PHASE 3

Construction will continue into FY 2014-2015 on 95 Express Phase 2. District Six will continue to support the project by preparing all necessary documents to ensure 95 Express operations continue to be a success. These documents will update software requirements, policies, procedures and incident management resources to handle the project's 14-mile expansion into Broward County. Phase 3 is currently in the development stage and will extend 95 Express into Palm Beach County. District Six will be working closely with its partners to ensure all stakeholders' needs and concerns are adequately addressed to maintain a regional approach across jurisdictional boundaries.

EXPRESS LANES SOFTWARE

The existing express lanes software will be upgraded to accommodate 95 Express Phase 2. This software will include trip-building features so that the user will know how much it will cost to traverse several segments of the Express Lanes system before their initial entry.

LONG DISTANCE MESSAGING

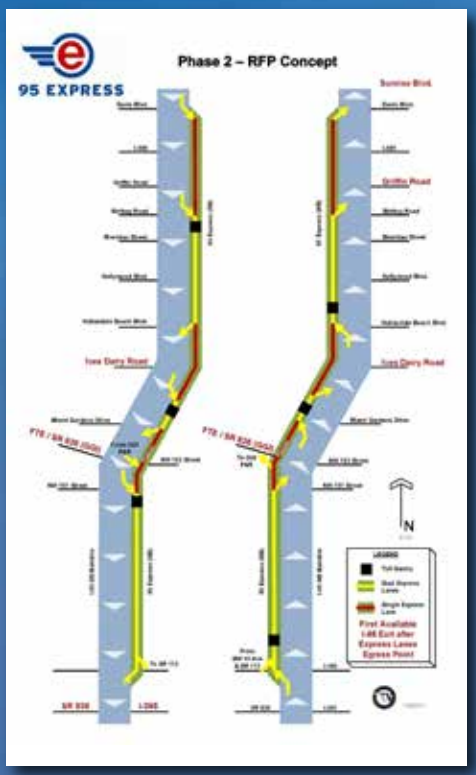
All TMCs throughout the state, including District Six, will begin posting long distance messaging indicating whether or not there are reported incidents and delays beyond the District's limits. This will enable motorists to seek alternative routes well in advance of lane-blockages to avoid delays for long trips.

INCIDENT RESPONSE VEHICLE (IRV) OPERATIONS

IRV operations will be expanded from five days to seven days each week to address incidents occurring in the 95 Express and general purpose lanes during weekends as well as the weekdays.

OTHER EXPRESS LANES PROJECTS

Building on the success of 95 Express, FDOT is currently planning to extend express lanes to other facilities in South Florida. To fully realize and maximize the benefits provided by express lanes, each individual express lanes facility must be developed as part of an overall network of express lanes facilities, meaning all express lanes would be linked to function and operate as a seamless, region-wide network. Roadways included as part of this expansion within South Florida are SR-826, I-75, I-595, Florida's Turnpike as well as portions of the Golden Glades Interchange and the SR 826/SR 836 Interchange.



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