

Southeast Florida Regional TMC Operations Committee

Standard Operating Guidelines

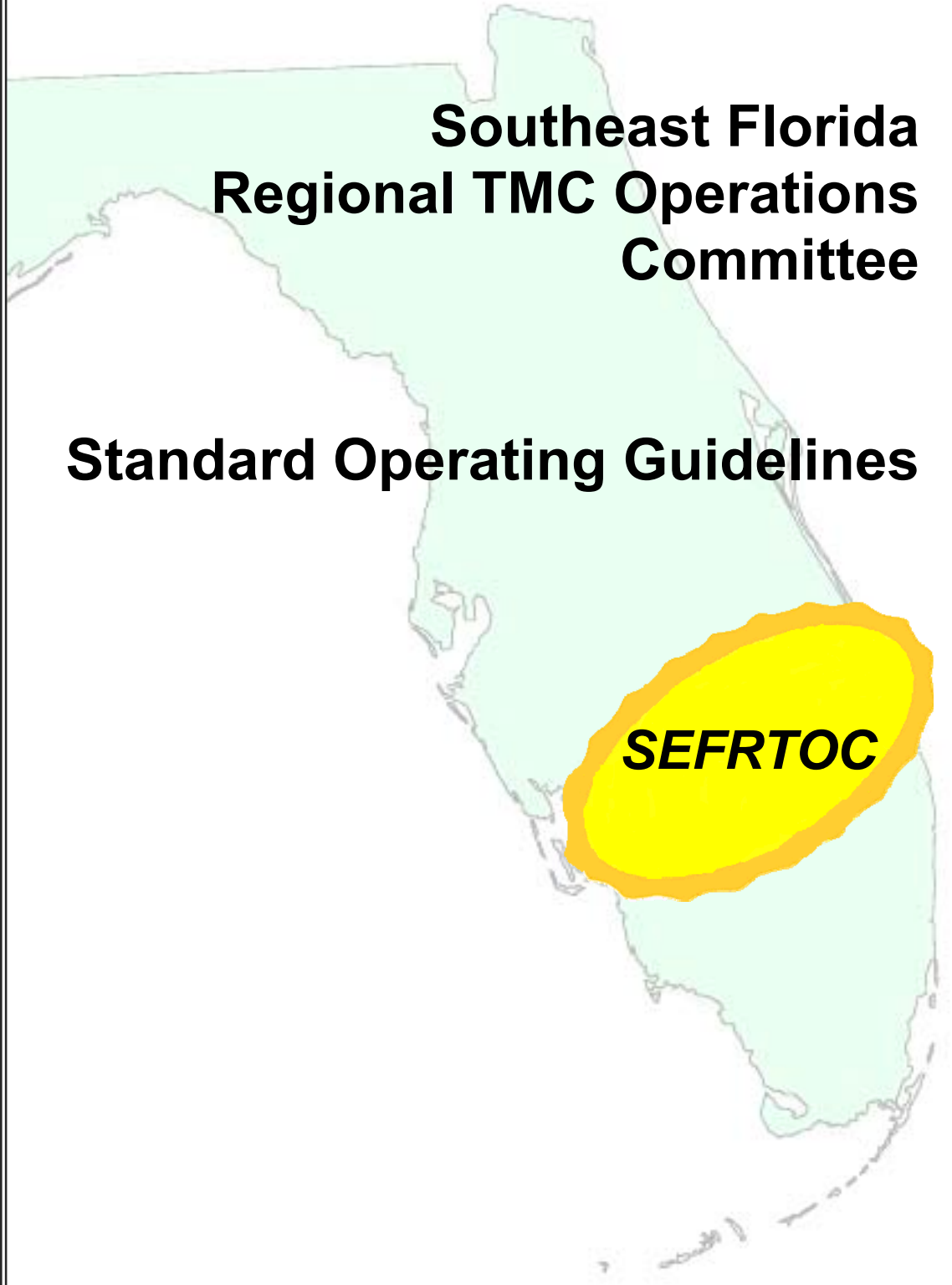


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1 INTRODUCTION

The South Florida Regional ITS Coalition brings together municipal, county, regional and state agencies to ensure compatible implementation and operation of Intelligent Transportation Systems (ITS) throughout the region. The Southeast Florida Regional TMC Operations (SEFRTOC) committee has been formed to further the objectives of the Coalition by leading initiatives related to day-to-day operations.

SEFRTOC's mission is to facilitate regional mobility in Southeast Florida through coordinated Transportation Management Center Operations.

SEFRTOC is made up of Transportation Center Managers from various districts and agencies in Southeast Florida. A list of current members is included as Appendix A. The committee's objective is to establish a regional approach to ITS operations and incident management through coordinated communication, decision-making and planned resource sharing.

These Standard Operating Guidelines have been developed to assist with meeting the objectives and mission of the committee. The guidelines are intended to clearly identify the partners and partners' resources and to specify the individual roles and responsibilities with regards to interagency communication, DMS messaging structure, resource sharing, documentation, performance measurement, and review process.

The committee's success will be contingent upon the commitment of all partners to continue to provide active participation and continual improvement in regional TMC communication. This commitment entails monthly meetings, incident debriefing, and a proactive regional approach to incident management.



2 PARTNER DESCRIPTIONS

It is the strategy of this Committee to invite all South Florida Regional ITS Coalition agency members to participate in this committee in order to facilitate open discussion and develop policies and procedures to maximize the utilization of ITS resources in Southeast Florida. South Florida Regional ITS Coalition Committee members as well as other ITS stakeholders within the state who are currently operating/or planning to deploy a Traffic Management Center are invited to participate in this committee. The following provides an overview of the existing SEFRTOC partners and guidelines for interagency activities.

2.1 SMART SunGuide TMC (District 4)

Location: 2300 W. Commercial Blvd., Fort Lauderdale, Florida 33309
Office: 954-847-2775, Fax: 954-847-2681

The facility is a two-story structure co-located with District 4 TMC and Broward County Traffic Engineering Division Offices (BCTED).

The SMART SunGuide TMC operates twenty-four hours / seven days a week.

Mission Statement: Lead an integrated operation to proactively monitor and control the surface transportation system within Broward County.

2.1.1 Infrastructure

Current Deployment

District 4 operates a DMS System that controls 31 fiber optic/flip disks signs deployed on seven different roadways. The following shows the location and communication protocol of each:

Roadway	Total	Fiber	Dial-up
I-95	14	14	
I-595	5	4	1
SR84	6	5	1
I-75	2		2
SR441	2		2
SR869	1		1
US1	1		1

Table 1 SMART SunGuide Broward County DMS Locations / Communication Protocol

There are 45 CCTV cameras and 106 Vehicle Detectors on I-95 and I-595 in Broward County



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Future Deployment

Phase II deployment, scheduled for completion in 2008, will complete the ITS infrastructure in Broward County through deployment of additional CCTV cameras, VDS, and DMS signs on the remainder of I-595 and I-75.

2.1.2 Service Provided

Current Service

The TMC disseminates traffic information on the DMS network and shares traffic information with agencies and motorists via DMS, 511 systems, telephone, website and pager notification. Other services offered by the TMC include the following:

Answer and respond to motorist assistance calls received via *FHP by dispatching Road

- Rangers.
- Dispatch and coordinate Road Ranger Service Patrol vehicles to assist FHP with incidents on the freeway system.
- Dispatch the Severe Incident Response Vehicle (SIRV) and provide support during major incidents on the freeway system.
- Communicate with Florida Highway Patrol (FHP) in the resolution of lane blocking incidents.
- Live Web service – www.SMARTSunGuide.com - with camera images, incident detection map, current/historical incident reports and DMS message list.
- During events on the freeway system use the SunGuide software to send incident alerts, generate incident reports; and update the SMART SunGuide Website.
- Use SunGuide software to log lane closures due to construction and maintenance activities.
- Provide real-time information regarding lane blockage incidents to the South Florida 511 service provider – SRS.
- Provide traffic management during special event operations.
- Perform telephone and/or two-way communication for coordination with local law enforcement, fire, emergency management, hazardous materials (HAZMAT), transit and other agencies.
- For major incidents, collect and provide information to the Traffic Incident Management (TIM) Team, SEFRTOC, and other agencies containing the incident report, completed incident response checklist and any other exhibits, pictures, etc. related to each incident.
- Use SunGuide software to monitor and control ITS field devices. Monitor system-generated response plans. Accept or override as necessary.
- Initiate response plans as required for incidents.
- Conduct daily Quality Control/Quality Assurance of previous day's outputs to SunGuide Software and DMS. Update procedures as needed.
- Answer telephones to provide information or assistance to agency staff on traffic and road conditions.
- Video sharing with Palm Beach County ITMS, District 6 SunGuide TMC, and Florida's Turnpike Enterprise.
- Video sharing with other emergency responders and authorized users through an interagency Video and Event Data Distribution System (iVEDDS).



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Figure 1 SMART SunGuide TMC



2.2 Florida's Turnpike Enterprise

Locations: Turnpike Operations Center, Milepost 65, Pompano Beach, FL 33069
Mailing address: P.O. Box 9823, Ft. Lauderdale, FL 33310
954-934-1370 , Fax 954-934-1351

Turkey Lake Service Plaza, Milepost 263, Building 5315, Ocoee, FL 34761
Mailing address: P.O. Box 613069, Ocoee, FL 34761
407-264-3363 / Fax 407-822-4902

FHP Lake Worth Dispatch TMC Team Center
Milepost 94, Lake Worth, FL

Vision Statement: Make Florida's Turnpike Enterprise the National Traffic Operations Innovator

Mission Statement: Promote motorist safety and mobility through people and technologies.

Florida's Turnpike Enterprise TMC facilities, shown in Figure 2, operate 24-hours a day, seven days a week. In addition, the FHP Lake Worth Dispatch TMC Team Center at the Lake Worth Regional FHP Dispatch, is staffed Sunday 2 pm to 10:30 pm; Monday 6 am to 10:30 pm; Tuesday and Wednesday 6 am to 2:30 pm and 6 pm to 2:30 am; Thursday and Friday 24 hours; Saturday 2 pm to 10:30 pm.

2.2.1 Infrastructure

The ITS field devices monitored and controlled from the TMC are as follows: Dynamic Message Signs (DMS), Highway Advisory Radios (HAR) with flashing advisory signs, and CCTV Cameras.

Twenty eight DMS have been deployed in strategic locations along the mainline Turnpike. There are 15 signs in Southeast Florida (shaded). The following shows the location of each:

Mile Post Mainline	
Northbound	Southbound
7.3	20.9
34	34
52.9	51.4
56.3	56.1
73.6	73.6
85	101.5
114.7	119.3
133.2	155
184.1	195.7
227.6	246
256.9	270
271.1	307

Table 2 Florida's Turnpike DMS Locations



There are DMS deployed in central Florida on the Toll 528/Beachline Expressway at eastbound milepost 0.9 and westbound milepost 2.5. There are also two additional DMS signs on Sawgrass Expressway at northbound milepost 1 and southbound milepost 7.

The following shows the locations of the ten HAR and 22 flashing beacon signs along the Turnpike.

Transmitter	Advisory Beacon Sign		
	Northbound	Southbound	Eastbound
25	19.5	29.5	
46	0X	52.9	47
71	66.9	75.5	SR869-MP 0 & 7
94	92.1	98.6	
133	129.3	141	
152	148	157	
229	224	234.5	
259	255.8	262.5	
304	301	309	

Table 3 Florida's Turnpike HAR Locations

System-wide, Florida's Turnpike Enterprise has 325 CCTV cameras. South Florida coverage includes mile-by-mile monitoring from Boca Raton to Fort Pierce, as well as other CCTV cameras at strategic locations in Broward and Miami-Dade counties. The Florida's Turnpike Enterprise has installed 346 miles of fiber-optic communication infrastructure. The Phase 1 Project has been completed (milepost 7 in Homestead to milepost 75 in Boca Raton). The Phase 2 Fiber Project has been completed (MP 75 to MP 155 near Fort Pierce). The Phase 3 Fiber Project, has been completed, includes the installation of fiber-optic communication, DMS, and CCTV cameras on Toll 869/Sawgrass Expressway. Phase 4 Fiber Project is near completion (MP 116 to MP 309).

Future Deployment

Future deployments include additional DMS and other ITS equipment and field devices such as Vehicle Detector Stations (VDS) and Remote Weather Information Systems (RWIS). Additional CCTV camera installations providing mile-by-mile monitoring capability in Broward and Miami-Dade counties will also be deployed.

Fiber-optic communication infrastructure and CCTV cameras at mile intervals will be deployed on the remaining segments of the Turnpike mainline in 2007.



2.2.2 Service Provided

Turnpike TMC Operations include the following services:

- The Florida's Turnpike Enterprise TMC is the central facility for the monitoring, verification, dissemination and management of Turnpike traffic incidents and issues.
- Florida's Turnpike Enterprise TMC Team Members work closely with Florida Highway Patrol Troop K, FDOT Districts, 511 traveler information service providers, traffic media, Turnpike Construction and Maintenance personnel, the Public Information Office and other agencies to provide accurate and timely information to Turnpike Customers.
- Intelligent Transportation System field devices are operated to enhance safety, services, and traffic flow for Turnpike Customers.
- More than 325 CCTV cameras provide traffic monitoring capability.
- The 28 DMS, ten HAR transmitters, and 22 advisory signs with flashing beacons are operated from the TMC for information dissemination.
- Florida's Turnpike Enterprise TMC Team Members dispatch the State Farm Safety Patrol/Road Rangers via 450 MHz radio and Direct Connect systems.
- Florida's Turnpike Enterprise TMC Team Members use the SunNavSM application software to document all incident information, to activate ITS devices (DMS) and to monitor the Turnpike via CCTV pan-tilt-zoom cameras.
- Florida's Turnpike Enterprise TMC Team Members dispatch the Turnpike's Rapid Incident Scene Clearance (RISC) contractors to large vehicle accidents and are the official timekeeper for the incentive/disincentive program.
- The existing Turnpike Road Rangers' AVL system is integrated with both Florida's Turnpike Enterprise TMC facilities. The current AVL system provides the Florida's Turnpike Enterprise TMC with Road Rangers location information enabling more efficient response to incidents on the Turnpike by dispatching the closest available mobile asset(s).
- Florida's Turnpike Enterprise TMC has permanent staffing at the FHP Troop K, Lake Worth Dispatch Center. Three full-time FHP Dispatch TMC Team Members are committed to the FHP Dispatch Center, thus improving service to Turnpike customers. As liaisons between FHP and the TMC, FHP Dispatch TMC Team Members work in conjunction with the Turnpike's TMCs and facilitate sharing of incident status information between FHP and the TMCs.
- Florida's Turnpike Enterprise TMC Team Members provide real-time updates to regional 511 Travel Information service providers, including SmartRoute Systems, and conduct QA/QC oversight.
- Real-time Website traffic updates and selects video images via Florida's Turnpike website – floridasturnpike.com – as input into SunNavSM by TMC Team Members.



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Figure 2 Florida's Turnpike Enterprise Pompano Beach TMC Facility



2.3 Miami-Dade Expressway (MDX) Authority

The Miami-Dade Expressway Authority is a state sanctioned, locally administered public agency. MDX oversees, operates and maintains five expressways: SR 836 (Dolphin Expressway), SR 112 (Airport Expressway), SR 874 (Don Shula Expressway), SR 878 (Snapper Creek Expressway) and SR 924 (Gratigny Parkway).

Vision Statement:

The Authority's transportation system (System) will provide safe, affordable choices for the movement of people and goods in Miami-Dade County. The System will support and sustain economic opportunities in the South Florida region. It will be equitably tolled, well maintained, reliable, multi-modal and aesthetically pleasing while being environmentally sensitive. This System will be planned, delivered and operated in cooperation's with the Authority's partners in the public and private sectors

The Miami-Dade Expressway Authority Traffic Management Center (TMC) operates 24 hours a day, 7 days a week, 365 days a year.

The MDX Traffic Operations Center is co-located with the District 6 SunGuide TMC.

Location: 1001 NW 111th Ave., Miami, Florida 33172
Office Phone: 305-694-3386, Fax: 305-499-2257

Service Provided:

The Miami-Dade Expressway Authority TMC functions as a incident management center The TMC coordinates incident response between Road Rangers, FDOT District 6, Florida Highway Patrol, fire and rescue, and other partners on MDX roadways. The MDX Operations Center monitors traffic, identifies and manages incidents and dispatches Road Ranger Service Patrols. The MDX TMC also assists in the coordination of Rapid Incident Scene Clearance (RISC) contractor to large vehicle accidents.

2.3.1 Infrastructure

To Keep Miami-Dade County moving, MDX has included a series of ITS project on its 5 Year Work Program. These ITS projects include the installation of a fiber optic backbone, traffic monitoring cameras (CCTV) and detectors. MDX has completed the installation of ITS on SR 836. It is anticipated that the remaining ITS devices will be installed on all the MDX roadways by 2009.

Table 4 provides an overview of the planned MDX deployments and current status (Existing, Completed, Under Construction, and Planned).



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Table 4 MDX ITS Deployments

SOUTH FLORIDA REGIONAL ITS COALITION - MDX FACILITIES ASSETS

Roadway Name	Roadway ID	ITS Device Type									Begin Milepost	End Milepost
		DMS	CCTV	VID	HUBS	F.O.C. (mi.)	ROAD RANGER	HAR	RTMS	3M CANOGA MICROLOOP		
SR 836 (EastWest or Dolphin Expressway) <i>Existing, Under Construction, Planned</i>	Dist. 6		16 U.C.		3 U.C.	13 U.C.		3 U.C.	67 U.C.	4 U.C.	0.0	11.8
SR 112 (Airport Expressway) <i>Existing, Under Construction, Planned</i>	Dist. 6		5 P		2 P	4.5 P		1 P	26 P		0.0	4.2
SR 924 (Gatigny Parkway) <i>Existing, Under Construction, Planned</i>	Dist. 6		6 P		2 P	5.5 P		1 P	33 P		0.0	5.4
SR 878 (Snapper Creek Expressway) <i>Existing, Under Construction, Planned</i>	Dist. 6		3 P		2 P	3 P		1 P	20 P		0.0	2.7
SR 874 (Don Shula Expressway) <i>Existing, Under Construction, Planned</i>	Dist. 6		8 P	8 P							0.0	7.2
SR 874 (Don Shula Expressway) <i>Existing, Under Construction, Planned</i>	Dist. 6					5 P					0.0	5.0
SR 874 (Don Shula Expressway) <i>Existing, Under Construction, Planned</i>	Dist. 6		8 P		3 P	7.5 P		2 P	45 P		0.0	7.2
SR 836 Extension (From NW 137 Ave to H.E.F.T.) <i>Completed</i>	Dist. 6		3 P		1 P	2.5 P		1 P	15 P		0.0	2.5
SR 836 / SR 112 Interconnector <i>Existing, Under Construction, Planned</i>	Dist. 6		3 P		1 P	2 P		1 P	12 P		0.0	2.0
Totals			52	8	14	43	0	10	218	4		



Figure 3 Miami Dade Expressway Authority Building



2.4 Palm Beach County Interim Traffic Management System (ITMS)

Location: 2200 Centrepark Drive West, Suite 200, West Palm Beach, Florida 33409
561-682-3350, Fax 561-682-3388

The Palm Beach County Interim Traffic Management System (ITMS), shown in Figure 4, is a comprehensive traffic and incident management system designed to address the traffic impacts of the Interstate 95 reconstruction and Tri-Rail double-track expansion throughout Palm Beach County. The Florida Department of Transportation (FDOT) District 4 and Federal Highway Administration sponsor the project. The mission of ITMS is to provide effective incident management and traveler information within the I-95 corridor between Boca Raton and Jupiter.

ITMS began operations in July 2003 and is now a 24/7/365 operation. A staff of fourteen (14) operators and supervisors coordinate all incident management and information dissemination. The operations center contains six workstations, a Barco rear-projection 168 x 42 inch video wall, server room, conference room, reception area, restrooms with showers, and a kitchen. ITMS backup electrical power system contains a one-hour unlimited power supply and a diesel powered electrical generator. The building housing the ITMS center is constructed with hurricane rated "Dade County" approved windows and walls.

2.4.1 Infrastructure

Customized Management Information System for Transportation (MIST™) computer system integrates closed circuit TV (CCTV), RTMS (radar speed detectors) and Dynamic Message Signs (DMS); live www.pb-itms.org web site; wireless communication to 30 SmartZone sites along I-95 and 37 DMS along arterial routes; 12 hub sites with T1/T3 lines; two Nextel cellular telephones with walkie-talkie (*Direct Connect*) features; 4-path fiber optics connection to 30 Palm Beach County Traffic Engineering CCTV cameras; remote MIST terminals at Palm Beach County Traffic Engineering and City of Boca Raton Traffic Engineering; Florida Highway Patrol monitor radio; emergency services two-way radio monitor; and three Motorola MC3000 two-way radios for Road Ranger communications.

2.4.2 Service Provided

- Incident Management (detection, verification and notification) communication center for I-95 in the Palm Beach County corridor
- Live web service for public and incident management partners <<http://www.pb-itms.org>> with 30 camera images, incident detection map, live incident reports and DMS message list
- Dispatch Road Ranger service patrol vehicles in coordination with Florida Highway Patrol *FHP telephone service
- Use the SunGuide software to send incident text message and e-mail alerts, generate incident reports, and update the ITMS Website.
- Notify traffic broadcast media of incidents and updates (including SunGuide 511/SmartTraveler and Metro Networks)
- Collect and provide incident information to the Palm Beach Traffic Incident Management (TIM) Team, SEFRTOC, and other agencies, upon request.
- Real time electronic messaging on sixty (60)-plus DMS along I-95 and arterials
- Monthly, quarterly, and yearly statistical/output reports



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Figure 4 Palm Beach County Interim Traffic Management System (ITMS)



2.5 SunGuide TMC — District 6

Location: 1001 NW 111th Ave., Miami, Florida 33172
Office Phone: 305-470-5757, Fax: 305-470-6969

The FDOT District Six SunGuide TMC facility, shown in Figure 5, is 32,000 square feet; two-story structure co-located with FHP Troop “E” Dispatching, SRS (511), Fish and Wildlife Commission (FWC) Dispatching, South Florida Commuter Services, and MDX TMC Operations.

The FDOT District Six SunGuide TMC operates on a twenty-four hours a day, seven days a week, 365 days a year basis.

2.5.1 Infrastructure

The FDOT District Six ITS Program plans, maintains, and operates ITS technologies in Miami-Dade and Monroe Counties. Initially, the FDOT District Six ITS Program focused on the limited access facilities in Miami-Dade County (I-95, I-75, SR 826, I-195 and I-395). Once most of the limited access facilities were implemented with ITS technologies, FDOT District Six began implementing ITS on their limited access and controlled access roadways (SR 5/US 1 in both Miami-Dade and Monroe Counties, and SR A1A/MacArthur Causeway). Additionally, limited ITS devices, primarily DMS and Trailblazers have been deployed on arterials leading onto I-95. A summary of the major elements of the FDOT District Six ITS Program is shown below.

FDOT D6 ITS Program Element	Number of ITS Devices			
	Operational	Not Yet Active	Under Construction	Planned
Vehicle Detectors	--	152	6	47
Dynamic Message Signs	51	--	4	4
CCTV Cameras	121	--	17	16
Trailblazers	--	27	--	--
Ramp Meter Sites	--	22	--	--
Fiber Optic Cable - Miles	38.8	--	15.3	11.5
Communication Hub Buildings	6	--	2	--

Table 5 FDOT D6 ITS Program Elements

2.5.2 Service Provided

The FDOT District Six SunGuide TMC primary functions are incident management and traveler information dissemination. The FDOT District Six SunGuide TMC coordinates incident response between FDOT, FHP, Monroe County Sheriff’s Office, fire and rescue, and other partners within the region. FDOT District Six SunGuide Operations team primarily monitors traffic, identifies and manages incidents, dispatches Road Ranger Service Patrols, disseminates traveler information (including travel times in the future), and will operate ramp meters and I-95 Express Lane in the future.

Traffic information from these primary functions is gathered, stored, and later reported using the SunGuide Software.



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Figure 5 FDOT District Six SunGuide Transportation Management Center



3 REGIONAL ITS INFRASTRUCTURE

3.1 Maps

Maps depicting Regional ITS Infrastructure are included in Appendix F.



4 INTERAGENCY COMMUNICATION

Each agency's internal procedures for notification schedule and procedure will be followed. In the event a device activation request conflicts with an agency's existing device operating policy, the policy of the agency that owns the device takes precedence. The agencies agree that if this occurs, both agencies will attempt to resolve the issue in a timely manner. If there are concurrent incidents on both agencies' roads, the owner agency needs to use judgment as to which incident takes precedence. Each agency has the option to adjust their device activation procedures to accommodate the other agency's request whenever possible.

4.1 When

Center-to-center communication will be initiated whenever there is a severe Level 2, Level 3, weather/fog advisory or AMBER Alert event. Each SEFRTOC agency is bound by their agency's AMBER Alert procedures. Coordination with one another using the main point of contact listed in Section 4.2 will ensure that each partner is providing consistent, accurate and timely information.

4.2 Initial

Initial notification will be made upon verification of a severe Level 2, Level 3 or weather/fog advisory Active Traffic Event that has the potential to affect regional travel conditions.

Contact with other regional centers will be initiated upon notification of an AMBER Alert activation received from the Regional Traffic Management Center (RTMC) at District 5.

4.2.1 Updates

Updates will be provided in a timely manner whenever there is a change in incident status that requires message revision (lane closure status, increase/decrease in congestion).

4.2.2 Termination

The requesting agency will notify the assisting agency immediately upon determining that device usage is no longer required for the event.

During an AMBER Alert each agency agrees to make contact when termination is received from RTMC.

4.3 Who

Each agency has assigned a single point of contact (or phone number) to initiate and receive device activation and AMBER Alert requests as follows:

District 4 SMART SunGuide TMC – 954-847-2775
Miami-Dade Expressway Authority TMC – 305-470-5830
Palm Beach ITMS TMC – 561-682-3350
Florida's Turnpike Enterprise, Pompano Beach TMC – 954-975-4855 x1370
FDOT District 6 SunGuide TMC – 305-470-5830



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4.4 Method

All communication regarding device activation requests, updates, terminations, and AMBER Alerts are to be made by telephone (landline, cellular, or direct connect).



5 Coordination During Emergency Evacuation Events

Goal 4 of the South Florida ITS Coalition calls for coordinated safe and efficient evacuation methods. The mission of SEFRTOC is to achieve that goal through planning, coordinated communication strategies, and sharing of ITS resources during planned and unplanned evacuation events. Such events may include, but are not limited to, hurricanes, HAZMAT Incidents, Homeland Security, and nuclear power plant disasters.

5.1 Planned Events

Hurricanes account for most of the planned evacuation events in South Florida. Disseminating information to motorists on a regional basis is a critical part of the evacuation, diversion, and reentry processes.

To this end, the partners have agreed to the following meeting schedule to coordinate efforts during these events. Each agency will contact their respective Public Information Office and EOC for critical updates prior to each scheduled call. Road Ranger project managers or designee (D4, D6 and Turnpike) will be in attendance at each teleconference. Smart Route Systems (511) will participate in all pre-storm and post-storm activities.

Pre-Storm

96 hours	Email to schedule initial teleconference
72 hours	Teleconference Toll suspensions EOC Activation Evacuation/Contra-Flow Plans Contact Information
48 hours	Teleconference: Status updates Staffing Levels Road Ranger Schedule/Level Traffic Operations Status (construction activities, signals)
24 hours	Teleconference: Status Updates Agency Policy – Road Ranger cease operations Shelter Information Road Closures Diversion Routes
12 hours	Teleconference (should any area remain in a warning) Status Updates

Post-Storm

Within 12 hours or when Road Rangers back in service	Teleconference: Operations Level ITS Infrastructure Storm Damage Road Ranger Level Curfew
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Shelters
Schedule
Contact Information

All teleconferences will be scheduled for approximately 3 pm dependent upon conditions. All partners will provide a list of other scheduled conference calls that occur during activations if known.

5.2 Unplanned Events

The agencies agree to treat unplanned events in the same manner as regional Level 3 events. The lead agency will initiate communication within 30 minutes or as soon as possible after notification of such an event to coordinate a regional response.

5.3 Alternate Communication Methods

To be developed.

Currently researching:

- Satellite phone models
- Satellite phone providers (i.e. performance, reliability)
- Additional Highland wireless base station(s) and mobile units
- Florida's Turnpike Road Ranger Radio compatibility
- Video teleconferencing options
- Emergency email groups for information dissemination
- Internet messaging options



6 DMS MESSAGING STRUCTURE

Dynamic Message Signs can be used to effectively reduce congestion and secondary events caused by planned or unplanned incidents such as excessive daily traffic, accidents, detours, construction, and special events - locally as well as regionally. Once the motorist has gained confidence that the messages are current and concise, displaying information that assists in reducing delays, the DMS can be used to convey information to alter traffic patterns or modes of transportation.

DMS messaging is based on two main criteria, structure and content of messaging text. It is critical to develop and use consistent messaging that will allow quicker recognition by motorists. Structure and content are based on what can be read by the lowest denominator, in this case, the motorist driving at the highest posted speed limit.

Motorists will be provided with standard real-time traffic information through the utilization of the same basic messaging structure during events with a regional impact. A consistent format will enable motorists to react more efficiently to the information displayed on the DMS. The DMS message must contain the proper information in the expected order to allow motorists to easily read and interpret the information and make rational decisions based on that information.

Placement of message elements on the wrong line or in the wrong sequence will result in driver confusion and will increase the time it takes drivers to read messages. Conversely, a consistent structure of information enhances motorist expectations and reduces the time required to read and understand messages. Figure 6 depicts the recommended messaging structure. Line 1 specifies what the problem is; Line 2 provides the approximation to the nearest exit; and Line 3 states when or the reference location. With this structure being used, if the motorist only read the first two lines of the message they will have enough information to be aware of an event ahead. Figure 7 provides an example of a message for a full closure on I-95 northbound at Commercial Blvd.

TWO RIGHT LANES
BLOCKED BEYOND
136 AVE

Figure 6 DMS Message Structure

NB 95 CLOSED
BEFORE
COMMERCIAL BLVD

Figure 7 Sample DMS Message



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Typically, the first messaging element WHAT, describes the lanes affected, which gives specific information about which lanes or on/off ramps are blocked downstream of a DMS. It helps the driver make a decision (e.g. merge into an open lane, reduce speed, leave the freeway, or use another exit ramp). The methodology provides specific guidelines for the development of DMS message sets that can be used by various TMC sign systems.



7 OTHER SHARED RESOURCES

Dependent upon internal policy and resource availability, each agency agrees to help identify and share resources during major incidents.

7.1 Road Rangers

The Road Ranger Program is one of the most visible components of ITS. It is the single portion with the most day to day interaction with motorists. It is, therefore, important that the program be managed effectively and efficiently to denote an overall seamless level of service during hours of operation within the tri-county region and eventually statewide. Emphasis is made on hours of operations since not all agencies providing Road Ranger services operate 24/7 but ultimately, that is envisioned.

Today, the state has approximately 111 Road Rangers in service responsible for monitoring approximately 1025 center-line miles. Fully equipped to help assist stranded motorists or help clear major incidents, the Road Rangers are also a useful asset for detection and verification of traffic incidents where ITS components are not available. Moreover, their use is encouraged for critical coordination of respondents and resources when managing major incidents affecting neighboring districts. Whenever possible (and if necessary), TMCs shall use this a by making a request to the respective TMC Manager, Road Ranger Project Manager, TMC Operator staff, or designated contact person (as per each TMC procedure). Refer to Appendix B – Interagency Response and Services Contact Information.

The following sections provide an overview of each agency’s Road Ranger Service Patrol program.

7.1.1 SMART SunGuide TMC

Currently, twelve service patrol vehicles operate within Broward County between 6 am and 7 pm, Monday through Friday and six service patrol vehicles between 7 pm and 6 am, Monday through Friday and on weekends. The patrolling area covers the entire I-95 corridor within Broward County, including all entrance and exit ramps; the entire I-595 corridor from I-75 to Port Everglades; the entire I-75 corridor from the Miami-Dade County line to Mile Marker 35; and other areas designated by FDOT. The weekday service area is divided into eight beats:

1	I-95: Ives Dairy Road to Davie Blvd
2	I-95: SR 84 to Cypress Creek Road
3	I-95: Commercial Blvd. To Palmetto Park Road
4	I-595: Eller Drive to 136 Ave
5	I-595: Eller Drive to 136 Ave
6	I-75: Indian Trace to Mile Marker 35 (Alligator Alley)
7	I-595/I-75: Flamingo Rd/Sunrise Blvd/Glades Rd/Griffin Rd
8	I-75: Griffin Rd to Miami Gardens Drive
D	Roaming Supervisor for All Zones

Table 6 SMART SunGuide Weekday Service Patrol Beats

The Week Night/Weekend Service Area is divided into six beats:



9	I-95: Ives Dairy Road to Davie Blvd
10	I-95: SR 84 to Cypress Creek Road
11	I-95: Commercial Blvd. To Palmetto Park Road
12	I-595: Eller Drive to SW 136 th Avenue
13	I-595/I-75: Flamingo Road to Toll Plaza and U-Turn south to Griffin Rd on I-75 (Requests for assistance on Alligator Alley are dispatched)
14	I-75: Sunrise Boulevard to Miami Gardens Drive

Table 7 SMART SunGuide Night/Weekend Service Patrol Beats

The Road Ranger program is managed from the TMC. The TMC Operators assist FHP by dispatching Service Patrol vehicles to needed locations. The Road Ranger makes one call to the TMC Operators, who in turn share information with the FHP Operator and any other agencies that need to be notified allowing the Road Ranger to immediately begin providing assistance to the motorist.

7.1.2 Florida's Turnpike Enterprise

The Turnpike Enterprise's 16 State Farm Safety Patrol/Road Rangers provide service to the entire Mainline, the Sawgrass Expressway, 365 days a year 6 a.m. to 10 p.m. Road Ranger service is also provided on the Toll 589/Veterans Expressway via a single Road Ranger from 6 a.m. to 10 a.m. and 4 p.m. to 8 p.m. daily. The Turnpike has recently added a tow-capable Road Ranger specifically for the Orange County Widening Project (Orlando area).



Figure 8 Florida's Turnpike Enterprise State Farm Safety Patrol/Road Ranger Vehicle



7.1.3 MDX

Currently, eight service patrol vehicles operate on Miami-Dade Expressway roadways between 6 am and 7 pm, Monday through Friday and six service patrol vehicles between 7 pm and 6 am, Monday through Friday and on weekends. The patrolling area covers all sanctioned Miami-Dade Expressway roadways. The weekday service area is divided by the following beats:

87810	SR 878: US 1 to Kendall Drive
87410	SR 874: SW 24 TH ST to US 1
11210	SR 112: NW 42 nd Ave – Biscayne Blvd
11211	SR 112: NW 42 nd Ave – Biscayne Blvd
83610	SR 836: NW 87 th Ave – NW 137 th Ave
83611	SR 836: NW 45 th St – NW 107 th Ave
83612	SR 836: NW 57 th Ave – Biscayne Blvd
92410	SR 836: NW 32 nd Ave – NW 138 th St

Table 8: Miami-Dade Expressway Weekday Service Patrol Beats

8781	SR 878: US 1 to Kendall Drive
8741	SR 874: SW 24 TH ST to US 1
8361	SR 836: NW 72 nd Ave – Biscayne Blvd
8362	SR 836: NW 137 th Ave – NW 57 th Ave
1121	SR 112: NW 42 nd Ave – Biscayne Blvd
9241	SR 924: NW 32 nd Ave – 138 th St

Table 9: Miami-Dade Expressway Weeknight/Weekend Service Patrol Beats

The Road Ranger program is managed from the Traffic Management Center. The free services provided include but are not limited to patrolling the designated roadways, clearing disabled vehicles from travel lanes, providing motorists' assistance, removing minor non-hazardous spills and debris from the highway and assisting FHP and other responders during incidents.



Figure 9 Florida's MDX Road Ranger Vehicle



7.1.4 Palm Beach County ITMS

Currently, 7 service patrol vehicles operate from the Broward County line north into Martin County between 6 am and 7 pm, Monday through Friday and 5 service patrol vehicles between 7 pm and 6 am, Monday through Friday and on weekends. The patrolling area covers the entire I-95 corridor within Palm Beach County including all entrance and exit ramps. Martin, St. Lucie, and Indian River Counties are not currently patrolled, but Road Rangers may be dispatched to these counties with FDOT approval. The weekday service area is divided into seven beats:

1	I-95: Hillsboro Blvd to Atlantic Ave
2	I-95: Linton Blvd to Hypoluxo
3	I-95: Gateway Blvd to Forest Hill
4	I-95: 10 th Ave North to 45 th St
5	I-95: PB Lakes to Donald Ross Rd
6	I-95: PGA to SR 708 (Hobe Sound)
7	I-95: Construction Areas

Table 10 Palm Beach County ITMS Weekday Service Patrol Beats

The weeknight/weekend service area is divided into five beats:

11	I-95: Hillsboro Blvd to Boynton Beach Blvd
12	I-95: Atlantic Ave to Southern Blvd
13	I-95: 10 th Ave to PGA Blvd
14	I-95: Northlake Blvd to SR 708 (Hobe Sound)
15	I-95: Construction areas in Palm Beach County

Table 11 Palm Beach County ITMS Night/Weekend Service Patrol Beats

The Road Ranger program is managed from the TMC. The TMC Operators assist FHP by dispatching Service Patrol vehicles to needed locations. The Road Ranger makes one call to the TMC Operators, who in turn share information with the FHP Operator and any other agencies that need to be notified allowing the Road Ranger to immediately begin providing assistance to the motorist.



7.1.5 FDOT District Six SunGuide TMC

Road Ranger Service Patrols operates 17 daytime vehicles and 11 vehicles for nighttime and weekends on over 65 centerline miles of FDOT District Six facilities on a 24 hours a day, 7 days a week, 365 days a year basis. These vehicles are inclusive of Road Ranger Service Patrol being provided as a “pilot project” along SR 5/US 1 in Miami-Dade County from 7:00 AM to 7:00 PM, 7 days a week, 365 days a year, as well as, two (2) Road Rangers patrolling I-95 in the corridor between Downtown Miami and The Broward County Line as part of the new I-95 Express Lanes project, which recently began construction.

The services that are included in the Road Ranger service patrol program include but are not limited to patrolling the designated roadways, clearing disabled vehicles from travel lanes, providing motorists’ assistance, removing minor non-hazardous spills and debris from the highway and assisting FHP and other responders during incidents. Appendix F contains Figures F.9, F.10, F. 11, and F. 12, which illustrates the FDOT D6 Road Ranger Sectors during daytime, nighttime, and weekend operations.



Figure 10 Florida’s District Six Road Ranger Vehicle



7.2 Highway Advisory Radio (HAR)

Highway Advisory Radio (HAR) complement other ITS information dissemination components. This asset is very useful where ITS deployment is not fully implemented or in suburban areas where DMS are many miles apart.

7.2.1 Florida's Turnpike

Florida's Turnpike has nine Highway Advisory Radio transmitters at strategic locations along the Turnpike roadways. There are 20 Highway Advisory signs with flashing beacons located both northbound and southbound within the range drivers can hear recorded messages on their car radios.

The Highway Advisory Radio system has a five-mile transmission range. The broadcast messages can be heard on the radio frequency 1640 AM. Highway Advisory messages provide real-time information to Turnpike customers regarding traffic delays, incidents, emergency operations, and construction, enabling them to make informed travel decisions. When not reporting incidents, the Highway Advisory Radios are used to broadcast current construction information.

The Highway Advisory Radio System is operated by the Turnpike's Traffic Management Center, 24 hours a day, seven days a week.

7.3 Portable DMS

Portable DMS fall under the same category as Dynamic Message Signs. Limitations on these devices may range anywhere from the number of characters per line to text or full matrix capabilities. A major advantage of these devices is portability as well as their capability to display graphics such as directional arrows to assist during temporary Maintenance of Traffic (MOT) for crash or incident scenes.

Portable DMS may be placed in strategic locations where DMS or other sources of traffic information are not available and used to inform motorists during major incidents. Information or message content shall be consistent with that being displayed on freeway or arterial DMS. If necessary, abbreviations adhering to Table 10 may be used. The same DMS message structure referencing the WHAT, WHERE and TRAFFIC IMPACT/WHEN/RECOMMENDED ACTION methodology should be used for portable DMS.



WORD	ABBREVIATION	WORD	ABBREVIATION
Avenue	AVE	Normal	NORM
Boulevard	BLVD	North	N
Center	CTR	Parking	PKING
Drive	DR	Right	RT
East	E	Road	RD
Emergency	EMER	Route	RTE
Entrance	ENT	Service	SERV
Expressway	EXPWY	Shoulder	SHLDR
Freeway	FRWY, FWY	Slippery	SLIP
Hazardous	HAZ	South	S
Highway	HWY	Speed	SPD
Information	INFO	Temporary	TEMP
Junction	JCT	Traffic	TRAF
Lane	LN	Travelers	TRVRS
Left	LFT	US Route	US
Maintenance	MAINT	Vehicle	VEH
Mile(s)	MI	Warning	WARN
Miles Per Hour	MPH	West	W

Table 10 Standard DMS Abbreviations

7.4 Incident Response Vehicles

7.4.1 Severe Incident Response Vehicle (SIRV) – District 4 Broward County

To help mitigate the delays caused by severe traffic incidents and to increase the safety of emergency responders, it is critical that FDOT be present on the scene as soon after an incident occurs as possible. The Severe Incident Response Vehicle (SIRV) program is intended to provide immediate FDOT presence at all severe incidents such as full highway closures, fatalities, overturned commercial vehicles, and any other incident that may last longer than two hours

The primary objective of the program is to assist all responding agencies in safely reopening the roadway as quickly as possible to meet the 90 minute goal of the State of Florida's Open Roads. SIRV has now been contracted by the Florida Department of Transportation (FDOT) District Four for 3 years after a successful 3 year pilot program.



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The Severe Incident Response Vehicles are dispatched to major incidents 24 hours a day, 7 days a week. SIRV also responds to any incident that blocks a travel lane during weekdays, 6 a.m. – 7 p.m. SIRV now deploys two trucks serving I-95, I-595 and I-75 to reduce response time during peak periods. During off-peak hours, one SIRV operator is available for calls.

While on the scene of an incident, the vehicle serves as an incident command station with the SIRV staff responsible for coordination and communication between incident response team members, the TMC and FDOT. In addition, the vehicle is outfitted with traffic management equipment such as cones, signs, and flares to be used for the maintenance of traffic to ensure the safety of everyone.

When not in the field, SIRV staff is responsible for coordinating with responding agencies to conduct severe incident debriefings and prepare report summaries. SIRV staff also performs Quality of Service audits and vehicle inspections for the Road Ranger Program and participates in the Broward County, Palm Beach County, and South Florida Regional Traffic Incident Management Meetings.



Figure 12 SMART SunGuide TMC Severe Incident Response Vehicle

SIRV patrols with one Ford F350 truck and two new GMC 4500 trucks fully equipped with a roof mounted arrow board, cones, flares, and spill mitigation supplies. The vehicles each include a red strobe light system and siren to facilitate emergency response. There are two telescoping high-intensity floodlights on the front of the trucks and two fixed mounted high-intensity floodlights on the rear. A computer docking station in the front seat area makes it possible for staff to use a laptop computer during incident command. There is a self-contained radio system with portable radios that are given to each responding agency's commander providing a common channel for communication



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among incident responders. In addition, the truck carries traffic management and hazardous spill equipment such as cones, signs, flares, oil dry and fuel absorbent.

In 2007, the SIRV program saved emergency response crews over 140 hours of work, freeing them up to respond to other emergencies.



8 DOCUMENTATION

8.1 Debriefing Form

Debriefings will be held via teleconference within 36 hours of major incidents requiring center-to-center device/resource coordination. Each center will provide an event report to be referenced during the debriefing.

The debrief champion is identified as the Manager or designee of the center where the incident occurred. All participants will have equal influence during debriefing. The incident response will be analyzed for communication lapses and execution errors. Results of the debriefing will be recorded and considered for future inclusion in this document and for performance measurement.

8.2 Monthly/Quarterly/Yearly Reports

Each partner is required to provide a monthly summary of incidents where DMS messages were activated for incidents that occurred in another south Florida TMC's coverage area.

The summary should include the appropriate incidents for the month and are due on the Friday of the first full week of the next month. A template is included as Appendix C.

The summaries will be used to gather Monthly/Quarterly/Yearly data for performance measurement and presentation to the South Florida ITS Coalition.

8.3 Meeting

SEFRTOC meetings are held at least every other month. The TMC Manager and/or designee from each center is responsible for attending meetings.

Meeting location and facilitator will be decided during the prior meeting. The meeting facilitator will be responsible for developing an agenda prior to each meeting, preparing, and distributing the minutes for review within seven business day after the meeting.

Meeting dates and minutes will be posted on the South Florida ITS Coalition Website.



9 PERFORMANCE MEASURES

Performance measurement will be used to determine progress toward specific committee objectives and will enable SEFRTOC to set additional goals and standards, detect and correct problems, improve processes, and document accomplishments. The mission of the committee is to facilitate regional mobility in South East Florida through coordinated TMC Operations.

Performance will be measured based on information collected during the debriefing process. The debrief champion will be responsible for summarizing the incident details onto the Post Incident Review form, Appendix D, that the following processes may be measured:

9.1 Operations Review

- Time from verification of event severity to the commencement of center-to-center communication
- Time from incident occurrence to debriefing

9.2 DMS Utilization

- Time from notification to device activation
- Number of devices utilized



10 STANDARD OPERATING GUIDELINES REVIEW PROCESS

The committee Chairperson will appoint the official record keeper of this document. This document will be reviewed and updated on an annual basis. If necessary, minor change/update addendums will be distributed on a monthly basis.

10.1 TMC Updates

SEFRTOC agencies are requested to submit updates to the record keeper on a monthly basis. The record keeper will compile all agency updates and distribute them to the members on a monthly basis. Changes to this document will be recorded on the Revision History, Appendix E

10.2 Policy

SEFRTOC policy changes require the approval of 75% of the member agencies. Policy changes must be presented to the Committee at a scheduled meeting, providing an opportunity for review and discussion. Upon approval of a policy change, the record keeper will distribute a copy of the policy change and include it in the annual updates.

10.3 Future Members

Membership to the SERFTOC is available to any agency provided they are a member of the South Florida Regional ITS Coalition and meet the criteria set forth in Section 2. New members can be admitted at any time during the year.



APPENDICES INTENTIONALLY DELETED FROM THIS DOCUMENT