

# Annual Report SMART SunGuide TMC



## **This year...**

- **Benefit-Cost Ratio Improved**
- **Center to Center  
Communication Increased**
- **ITS Deployment Continued**


**Florida Department of Transportation, District IV  
Ft. Lauderdale, Florida**

## 2006 Achievements

The year 2006 was filled with recognition and opportunities to share lessons learned with peers. Below are the highlights of the SMART SunGuide awards and presentations for the year.

In June, the SMART<sup>SM</sup> SunGuide TMC was given its most prestigious award to date: Intelligent Transportation Society of America's 2006 Annual "Best of ITS Award," recognizing the SMART SunGuide Public Outreach Program. ITS America is a national organization with the goal to "improve the safety, security and efficiency of the nation's transportation system through the deployment of ITS."

Mid-year, the Davis Productivity Awards, a Florida tradition sponsored by Prudential Financial, were presented to the ITS Program for:

- 
  - Conducting hurricane recovery efforts in a timely manner to restore network connectivity to District IV headquarters
- Creating original incident management software to reduce congestion
- Creating original incident management process to reduce congestion

While in attendance at the annual ITS Transpo conference in November, the SMART SunGuide TMC received two state level awards recognizing outstanding achievement in 2006. Awards were given by the Intelligent Transportation Society of Florida, the state chapter of ITS America. Outstanding Achievement awards were presented for:



ITS Florida, Outstanding Achievement Awards



ITS America, 2006 "Best of ITS" for Marketing & Outreach

- Leadership in promoting ITS on a national level by SMART SunGuide TMC ITS Operations Manager, Steve Corbin
- Work done in establishing performance indicators and measurements

TMC staff presented on the following topics:

- ITS Performance Measures
- Disaster Recovery Planning for ITS Applications
- Benefit Cost Analysis of the SMART SunGuide Freeway Management Operations
- Selection of Operation Parameters of Service Patrol Programs
- Work Zone Safety Using ITS

TMC staff presented at the following venues:

- ITS America Annual Conference, Pennsylvania
- 1st International Symposium on Freeway Operations, Greece
- Transpo 2006, Florida
- ITE Southern District Meeting, Mississippi
- FHWA/New Mexico Department of Transportation, New Mexico

## A Message to Our Readers...

**W**e are pleased to present this 2006 Annual Report for the FDOT SMART SunGuide Transportation Management Center (TMC) located in Fort Lauderdale, Florida. This report, prepared by the Florida Department of Transportation (FDOT) District IV Intelligent Transportation Systems (ITS) Office, is the third consecutive effort which highlights performance, significant deployments and achievement activities during the calendar year. Motorists driving Broward County limited access facilities have received a level of quality of public service that rivals the best in the nation, as demonstrated by the awards and recognition earned by various areas of our ITS Program, as highlighted on page one of this publication.

*Our Vision:  
"Become the best TMC  
in the nation by 2010"*

The goal of the District IV ITS Program is to deliver quality services at a high return-on-investment, which our Program reflects via a Benefit/Cost (B/C) ratio. While this report covers the B/C and achievements for 2006, efforts have been made to ensure that all involved in the ITS Program are looking ahead – "Roadmap to the Future" as this year's Strategic Business Plan theme suggests. The District IV ITS Program continues as a leader in providing services that are deserving of national attention today, and it must continue to grow and plan for the needs of our motorists tomorrow.

As detailed in this year's Annual Report, the use of training, technology, innovation and commitment are all keys which have driven us to a higher level of efficiency and quality. Our ITS Program strives to be creative, accountable and focused on looking at enhancing all facets to attain the District IV ITS Vision "to become the best TMC in the nation by 2010." In short, we are committed to do our best to run our "Program" as a business, while maintaining focus on our responsibility to be of service (provide consistent, high quality level of service) to the motoring public.

While many motorists may not regularly reflect on the day-to-day operations of their local transportation agency, the ITS Program does have an immediate effect on our daily traveling lives. We, as motorists, expect that Road Rangers quickly respond to our needs; that information is disseminated in a timely manner to all services to include: 511, Dynamic Message Signs (DMS), Text Alert Messaging and websites; and that there is continued planning for the future of our traveling needs.

Each day, our managers and staff are challenged to provide better service as the volume of traffic continues to grow and to be creative and innovative to stay within the budget provided. This past year's B/C Ratio is 14.94, a 43% increase over 2005 with a 30% increase in volume of events managed on Broward County freeways. Once again, SMART SunGuide TMC programs brought significant *VALUE* to the public in 2006.

In light of the advancement of the ITS Program, motorists traveling in our District can take solace that the ITS Office will address their needs in all five counties at the same level that is currently being provided in Broward County. Be on the look out for this growth in the 2007 Annual Report.



Steve Corbin  
FDOT District IV  
ITS Operations Manager



# What's Inside...

Executive Summary.....	page 4
Benefit Cost Analysis.....	page 5
Performance Measures.....	page 6
TMC Programs.....	page 7
Business Plan.....	page 13
Activities and Innovations.....	page 14



SMART SunGuide TMC Control Room

The SMART SunGuide Transportation Management Center (TMC) is at the center of FDOT District IV's Intelligent Transportation System. Collocated with Broward County Traffic Engineering Division (BCTED), the center is a model for inter-agency, multi-modal transportation management. The TMC is the communication hub for traffic information along I-95, I-595, and I-75 in Broward County. The center currently operates 24 hours a day, 7 days a week to provide proactive county wide traffic incident management.

By using state-of-the-art ITS tools and resources, the SMART SunGuide TMC staff of 15 operators and supervisors coordinate with the FDOT Road Rangers, Road Watchers, Florida Highway Patrol and other TMC partners to verify incident and congestion locations. This information is then used to post the appropriate messages on Dynamic Message Signs (DMS), the 511 Interactive Voice Response Advanced Traveler Information Service (ATIS) and website (www.511SouthFlorida.com), the SMART SunGuide web site, email and text alerts. As part of the South Florida ITS Coalition, information is also shared between the FDOT District 6 SunGuide TMC, FDOT District 4 Palm Beach County Interim Traffic Management System (ITMS), and Florida's Turnpike Enterprise TMC at Pompano Beach.

## SMART SunGuide TMC Organization



\*\*Note that only Florida Department of Transportation employees' names are shown.


# Executive Summary

There were many significant achievements during 2006 in support of the SMART SunGuide TMC vision and mission.

The increased effort in collecting data to create performance measure reports has greatly benefited TMC programming. There was an improvement in nearly every category measured. A summary of the 2006 performance measures is shown below.

Adjusting the Road Ranger Service Patrol's beats is an illustration of how data has been turned into information that is used to improve processes. When performance measures showed that beats of the same length produced unequal amounts of responses, the beats were reevaluated and adjusted. This is just one example of how SMART SunGuide TMC is working

## 2006 Traffic Event and Incident Performance Measures Summary

	Traffic Events (No Lanes Blocked)	Incidents (Lanes Blocked)
Number of Events	50,269	2,427
TMC Detection* (minutes)	0.09	4.97
TMC Verification* (minutes)	2.8	3.18
TMC Response Time* (minutes)	6.14	9.01
RR Dispatch Time* (minutes)	1.28	1.66
RR Response Time* (minutes)	4.88	7.39
Roadway Clearance* (minutes)	N/A	42.5
Incident Clearance* (minutes)	15.4	70.9
# of Events with RR/SIRV	46,548	2,343
RR/SIRV Responses	47,735	3,641
RR/SIRV Activities	49,611	3,907

## Changes in Road Rangers' Patrol Beats Based on Performance Measures

Beat Lengths Based on Miles



Beat Lengths Based on % of Total Activities



*Our Mission:  
"To continuously provide outstanding ITS services to our internal and external customers"*

toward its mission every day of the year.

The continued efforts in obtaining the SMART SunGuide TMC vision of being the "best TMC in the nation by 2010" will bring new challenges. ITS Operations Improvements for 2007 include:

- VisioPaD automated video incident detection integrated into SunGuide software
- Speed/travel time DMS
- Palm Beach County ITMS integration into SunGuide software
- Arterial DMS deployment
- Broadcast traffic media Memorandums of Understanding and FDOT promotion
- "Open Roads Policy" education to future partnering agencies
- Enhanced regional/statewide center-to-center coordination, communication and outreach

\*As was done for the 2005 annual report, a 5% data smoothing technique was applied (based on the incident clearance value). Smoothing is a statistically approved method of discarding the high and low 5% of data to prevent extreme values known as "outliers" from biasing the average values obtained.

# Benefit-Cost Analysis

Since SMART SunGuide TMC services are free to motorists, the best way to estimate a return on investment is through a Benefit-Cost Analysis\*. This analysis assigns a dollar value to the benefits of services provided by the ITS Program. This is the third year that the Benefit-Cost Analysis has been calculated and it has become a great tool for year-to-year comparison. In 2006, the \$9,905,153 in annual costs for SMART SunGuide TMC was divided into the annual delay benefits of \$142,354,872, yielding a Benefit-Cost Ratio of 14.94. **This translates to almost 15 dollars in benefits being returned to the public for every dollar invested in the program.** For the first time, the TMC calculated an additional way to measure the success of the ITS Program, Net Present Value (NPV). The NPV for the ITS Program in Broward County for 2006 was \$1.2 billion. This calculation was based on a 7% interest rate and a 15 year time span.

## Benefit / Cost = Benefit-Cost Ratio

**2006: \$142,354,872 / \$9,905,153 = 14.94**

**2005: \$86,002,364 / \$8,239,397 = 10.44**

**2004: \$51,543,107 / \$6,558,081 = 7.86**



2006 SMART SunGuide TMC Costs				
Deployment	Estimated Cost	Estimated Current Operation Cost	Estimated Maintenance Cost	Annualized Cost (\$/year)
SMART SunGuide TMC	\$6,700,000	\$1,792,555	\$320,265	\$2,745,300
Software Support	\$0	\$250,000	\$0	\$250,000
General Consultant	\$0	\$400,000	\$0	\$400,000
Road Rangers	\$0	\$2,500,000	\$0	\$2,500,000
Severe Incident Response Vehicle	\$0	\$500,000	\$0	\$500,000
Dynamic Message Signs	\$11,000,000	\$22,320	\$620,000	\$2,208,720
Traffic Incident Management	\$0	\$200,000	\$0	\$200,000
CCTV and Detection System Phase I	\$2,845,462	\$0	\$254,000	\$597,277
CCTV and Detection System Phase II	\$15,520,168	\$0	\$0	\$253,856
ATIS System	\$0	\$250,000	\$0	\$250,000
				<b>TOTAL = \$9,905,153</b>

\*The Benefit-Cost Analysis for 2006 was produced by the Lehman Center for Transportation Research at Florida International University in Miami, Florida.

# Performance Measures

In 2006, District IV implemented Automated Intelligent Transportation Systems (ITS) Performance Measures Reporting. These measures go above and beyond state, national, and Federal Highway Administration (FHWA) requirements. Most of the measures are related to the SMART SunGuide TMC Operations, Severe Incident Response Vehicle and Road Rangers Service Patrol programs, as they are key in meeting the needs of the Florida Open Roads Policy, which aims to have all travel lanes cleared within 90 minutes of the arrival of the first law enforcement officer.

All weekly performance measure reports are automated today, providing many mechanisms for operational trending analysis. Not only are these measures part of the District's accountability assessment program, but they also indicate the success of the District's ITS Business Plan. Having hard numbers to show what the TMC is producing also makes it possible to perform a Benefit-Cost Analysis. For the TMC, the two most important objectives measured are roadway clearance time and incident clearance time. These reflect the performance measures that the State of Florida adopted from the Traffic Incident Management Performance Measures Focus State Initiative. Each week, performance measure reports are placed on the SMART SunGuide website, www.SMARTSunGuide.com. Knowing these measures and others can impact the following:

- Execution or content of the ITS Business Plan
- Road Ranger resource allocation
- Program evaluation and improvement
- Status within statewide measures
- Employee evaluation and training
- Cost savings analysis

SMART SunGuide TMC Roadway Clearance and Incident Clearance Times for 2006		
Reduce roadway clearance time (the time between awareness of an incident and restoration of lanes to full operational status)	▶ Time between first recordable awareness (detection/notification/verification) of incident by a responding agency and first confirmation that all lanes are available for traffic flow	▶ <b>42.5 minutes</b> 18% improvement over 2005
Reduce incident clearance time (the time between awareness for an incident and removal of all evidence of the incident, including debris or remaining assets, from shoulders as well as disabled and abandoned vehicles)	▶ Time between the first recordable awareness and the time at which the last responder has left the scene	▶ <b>70.9 minutes</b> 4% improvement over 2005



# TMC Programs

## Operations

In 2006, TMC staff had additional ITS resources to identify and monitor activities on the Broward County limited access facilities:

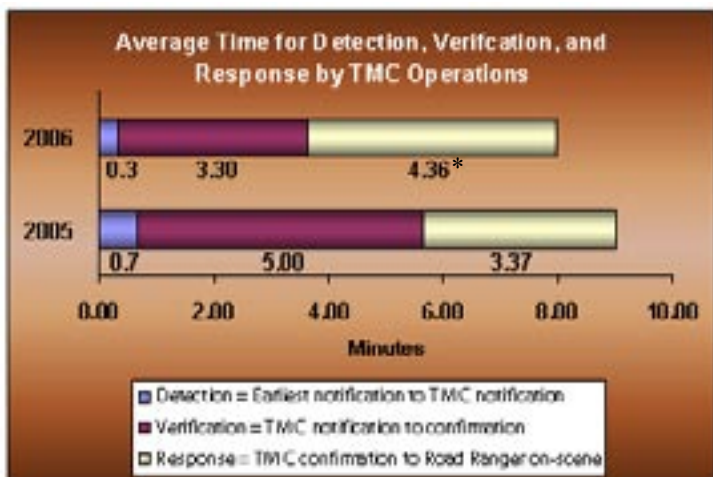
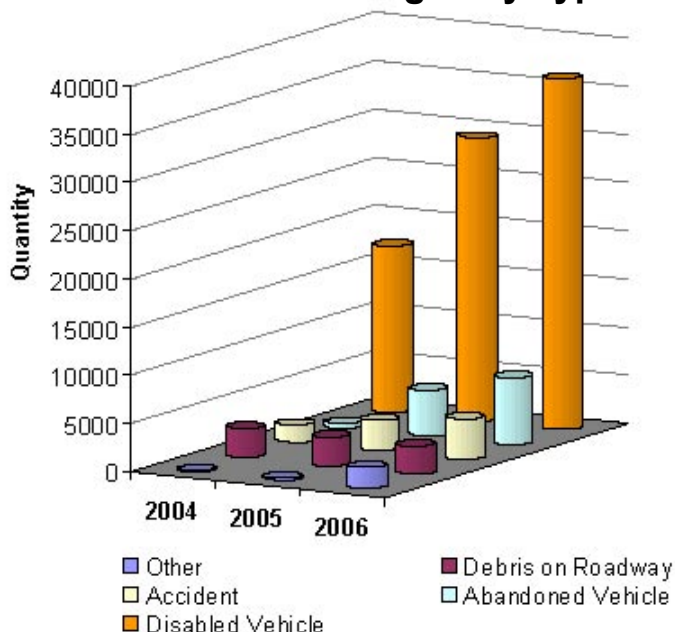
- Video wall improvements in January 2006 allowing selectable views of up to 116 CCTV images for faster detection of incidents, weather conditions and emergency responder presence
- SMART<sup>SM</sup> software (now part of SunGuide<sup>SM</sup> EMPM) for incident tracking, text alert via email and operator/system performance monitoring
- SunGuide software creates messages and selects signs dynamically based on event information entered into the system
- CCTV image sharing between FDOT Palm Beach ITMS and FDOT District 6 TMCs allowing operators the ability to monitor traffic entering and exiting Broward County
- Personalized text alert system reduces notification times to partnering agencies and the motoring public improving the quality of information on the 511 ATIS telephone and website

### Major Event Coordination

As the majority of events are disabled vehicles (see adjacent chart), the TMC continued to expand its role as a regional base for managing incidents and events that affect highway systems inside and outside of Broward County. As an example, planning and coordination began in September 2006 for the upcoming Superbowl XLI to be held at Dolphins Stadium. This event has helped develop a relationship and future coordination effort with the Department of Homeland Security and other partnering agencies.

During the annual *Toys In The Sun Run* motorcycle parade in December, the Broward County Sheriff's Office closed parts of I-95 & I-595 for 3 hours as over 25,000 motorcycles traversed 15 miles of freeway. The TMC staff enacted a pre-event messaging protocol 3-days before the event giving Sunday morning motorists accurate information about the closure.

### Total Events Managed by Type



### Center to Center Coordination

Regional and interstate travelers are impacted by extended highway closures due to major incidents and events. In coordination with the four area TMCs, the SMART SunGuide TMC staff participates in the Southeast Florida Regional TMC Operations Committee (SEFRTOC). As an example, in May 2006, brush fires closed Interstate 95 in the Cape Canaveral area of central Florida. The SMART SunGuide TMC and Palm Beach ITMS activated DMS reporting the closure, allowing motorists to make an informed decision about changing their travel route to avoid the area.

\*The increase in response time for 2006 can be attributed to the rise in using CCTV to detect and verify events (instead of having to wait for a Road Ranger to arrive at an event to visually confirm). This lowers verification time, but adds to the response time as the Ranger is still en route to the event.

### ITS Maintenance

To ensure that District IV's ITS assets are available when needed, the SMART SunGuide TMC employs an ITS maintenance contractor. The maintenance contract has performance requirements that are reviewed on a monthly basis; liquidated damages can be assessed for poor performance. These performance requirements help to avoid/minimize system downtime, reduce total cost of operation, improve effectiveness, and extend the life of ITS assets. The ITS maintenance contractor performs regularly scheduled preventive maintenance and is required to be readily available 24 hours a day, 7 days a week to resolve issues with the ITS devices.

For purposes of this report, system availability is described in terms of uptime percentage (measure of the percentage of time the system service is available).

Total ITS Device Availability	
2004	93.8%
2005	93.7%
2006	95.4%

In 2004, only the Dynamic Message Sign (DMS) subsystem (31 signs) was functional in Broward County with a 93.8 percent system availability average for the year. In 2005, the TMC not only managed 31 DMS throughout the year, but added 9 Closed Circuit Television (CCTV) cameras by year end. By mid-year 2006, the District's CCTV camera coverage increased to 45 units covering 40% of the Broward County freeway infrastructure.

### ITS Deployments

In order to "be the best TMC in the nation by 2010," District IV ITS has put a deployment plan in place to have 100% of Broward County centerline miles covered with DMS, CCTV, Vehicle Detector Systems (VDS) and fiber optic backbone by year-end 2007. Currently, 90% of the underground work is complete, including trenching, boring, and pullbox installations.

ITS Infrastructure Managed	2004	2005	2006	2007
				Plans
Dynamic Message Signs	31	31	31	41
Closed Circuit TV	0	9	45	95
Vehicle Detection Systems (Stations)	0	3	67	170
Fiber Optic Backbone	33 miles	33 miles	33 miles	83 miles



*Maintenance contractors at work*

### New Contract Deployments by County

#### Martin, St. Lucie, and Indian River

A deployment of conduit, fiber optic cables, telecommunication networks, CCTV, DMS, detectors and more.

#### Broward

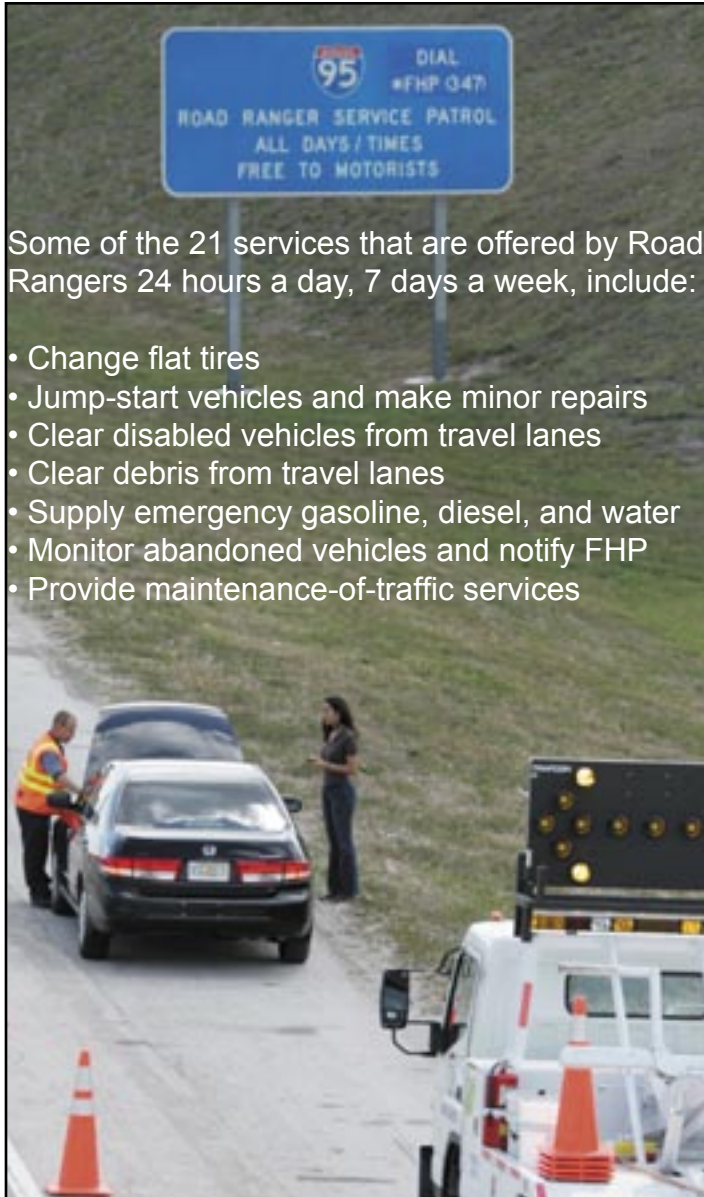
Advanced ITS Deployment of DMS to county arterials. In addition, Lane Control Systems will be deployed along I-95, I-595 and I-75.

#### Palm Beach

Deployment of CCTV, DMS, traffic detectors and fiber communication network along I-95.

# TMC Programs

## Freeway Operations



Some of the 21 services that are offered by Road Rangers 24 hours a day, 7 days a week, include:

- Change flat tires
- Jump-start vehicles and make minor repairs
- Clear disabled vehicles from travel lanes
- Clear debris from travel lanes
- Supply emergency gasoline, diesel, and water
- Monitor abandoned vehicles and notify FHP
- Provide maintenance-of-traffic services

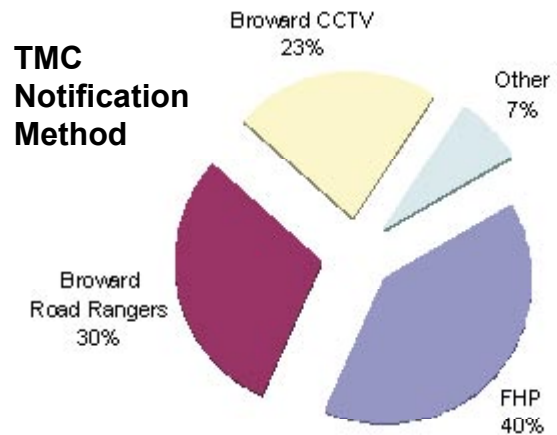
*Road Rangers offer free roadside assistance to motorists*

### Road Ranger Service Patrol

The Road Ranger Service Patrol is a free service provided by the Florida Department of Transportation. Its mission is to provide highway assistance services to reduce delay and improve safety for the motoring public and responders.

The Broward County Road Ranger Service Patrol Program has 11 vehicles during the day and 6 vehicles during the evening and weekends to cover 57.73 centerline miles, which includes sections of I-95 and I-75, and all of I-595. The Rangers continually patrol their assigned beats until they encounter an event or are dispatched to a particular location by the TMC.

In 2006, 53% of the notifications were attributed to Road Rangers and CCTV. The remaining notifications were from the Florida Highway Patrol and other sources.



### Severe Incident Response Vehicle (SIRV) Program

Each SIRV 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 individuals at incident scenes. In 2006, SIRV responded to 448 severe incidents.

When not in the field, SIRV staff coordinates 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 Service Patrol

Program and participates in the Broward County, Palm Beach County, and South Florida Regional Traffic Incident Management meetings.

In October 2006, the SIRV Program was awarded funding through 2012. The first phase of funding will provide two SIRV vehicles for Broward County and the individuals needed to run the program. The second phase will provide the same level of coverage for Palm Beach County.

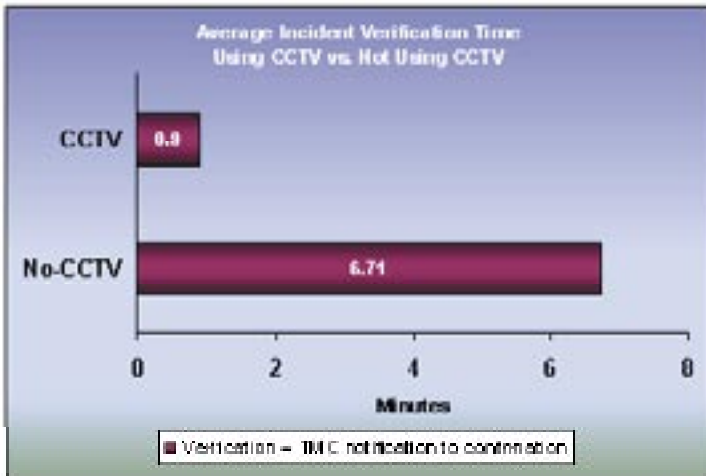
# TMC Programs

## Freeway Operations

### Traffic Incident Management Team

The Traffic Incident Management (TIM) Team is a proactive program designed to assist regional TMCs with incident management and surface transportation related activities throughout South Florida. The TIM protocol brings together various agencies responsible for responding to incidents. They address issues that arise as a result of the diverse institutional functions and individual agency goals. The multi-agency TIM partners meet bi-monthly in Broward County to provide, discuss and improve operational services related to incident management.

**TIM Self-Assessment Scores**  
2006 Broward County 79.7%  
2005 National Average 46.5%



Upon TMC notification, the Operators follow a verification process. This is done either by CCTV video to the TMC or visual confirmation from a Road Ranger. In 2006, the use of CCTV drastically improved the verification time, averaging 0.9 minutes as opposed to an average of 6.71 minutes when CCTV coverage was not available.

In 2006, there were a total of 52,696 events, with an average response time of 7.66 minutes. This is an increase from the 2005 total of 40,552 events. The 2006 increase can be attributed to the additional ITS resources deployed.



*Cooperation on scene of an incident*

In 2006, SIRV saved

# 21,503

minutes in on-scene  
emergency responder time



# TMC Programs

## Special Programs

In 2006, SMART SunGuide TMC assisted SEFRTOC partners in DMS messaging over 160 times.

In 2006, SMART SunGuide TMC messaged for 5 AMBER Alerts in Broward County.

### Southeast Florida Regional TMC Operations Committee (SEFRTOC)

SEFRTOC is comprised of managers from the five TMCs in southeast Florida. Through regular meetings, coordinated communication, and planned resource sharing, the committee has established a regional approach to ITS Operations and incident management. Standard Operating Guidelines clearly identify the partners and the roles and responsibilities of each with regard to inter-agency communication, DMS messaging structure, resource sharing, documentation, performance measurement, and the incident review process.



### AMBER Alerts

The AMBER Alert Program is a voluntary partnership between law enforcement, the media, and transportation agencies designed to assist in locating abducted children. DMS messages activated by the TMC are used to alert motorists to be on the look-out for suspect vehicles.

### Public Outreach Programs

As the nation's TMCs are a growing service provider, both the public and private sectors benefit from improved information and cooperative opportunities. To build ITS awareness, District IV participates in external presentations, guided tours of the TMC, and distributes informational material. In 2006, SMART SunGuide TMC visits increased by more than 50%.

The SMART SunGuide website has a feature that allows customers to sign up for freeway traffic event alerts. They can be customized to the day, time, and route that the

user prefers. The alerts are sent to traditional email addresses and as text messages to cell phones for prompt delivery. In 2006, 1.6 million alerts were sent out related to 2,427 lane-blocking events.



Event messaging on mobile phones



A student group learns about the SIRV program during a TMC tour.

In 2006, 10% of the events reported by Road Watchers were blocking travel lanes.

### Road Watchers

Road Watchers is an incident detection program that enlists volunteer FDOT commuters, traveling to and from work, who act as advisers to the TMC reporting real-time information regarding incidents and traffic conditions along their travel routes.

### SunGuide Software Highlights

In 2006, the SMART software was integrated into the statewide SunGuide software system as the Event Management and Performance Measures (EMPM) module.

This merger enables TMC Operators statewide to account for and record Road Ranger and SIRV operator activities, to provide more detailed data for analysis purposes. A few examples of data points are injury severity, lane configuration and blockage, weather conditions, secondary events, and agency response.

Collecting data creates an effective reporting system, giving TMC managers information on where the Road Rangers are most active, types of services provided and response times. All of these enhancements improve information to the public through the SMART SunGuide website.

In 2006, the SMART Viewer application was developed to aid in inter-agency data sharing. Through the SMART Viewer tool, exclusive to District IV TMC, agencies such as SunGuide 511 Traveler Information can access real-time, detailed information from the TMC CAD system to enhance the services that are offered to the motoring public.

### SMART SunGuide Website

The SMART SunGuide TMC website is a great resource for partnering agencies and the motoring public to get real-time traffic information. Highlights of the website include:

- Live traffic map, showing real-time events and Road Ranger assists as they are recorded in the SunGuide software
- DMS messages and CCTV video images viewable by moving the mouse over map icons
- TMC contact information to provide feedback regarding all services, submit information requests, and schedule tours



[www.SMARTSunGuide.com](http://www.SMARTSunGuide.com)

Improvements to the site made in 2006 include:

- SMART alerts sent via email or text message with real-time lane blockage information
- Google map available as a viewing option
- Performance measures reports posted weekly
- Public forums for the sharing of transportation related ideas
- Compliance with Americans with Disabilities Act

**16,778,000**

website hits in 2006

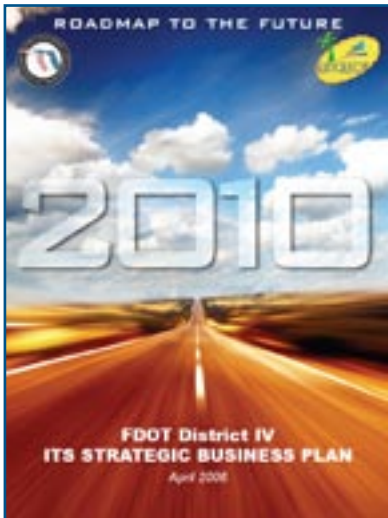
A significant increase over the 115,000 hits recorded in 2005.

### Working with 511

The same Broward County traffic information that is provided on the SMART website is given to the South Florida SunGuide 511 Traveler Information service. The 511 provider meets monthly with all South Florida TMC managers to evaluate and improve 511 content.



# Business Plan



In April 2006, the SMART SunGuide TMC published its ITS Strategic Business Plan with the focus being the vision, “to be the best TMC in the nation by 2010.” One of the main objectives of the plan was to propose a structure to achieve peer recognition in terms of presentations, publications and awards. Many of these items have been listed on the inside cover of this report. Additional presentations to peers include:

- ITS America: Center-to-Center Communication (Exhibit Booth)
- ITS World Congress: TMC Operations & Maintenance Trends
- Transportation Research Board Meeting: Disaster Planning
- ITS Florida: Super Bowl Planning – ITS/TIM Application

A report card was developed to quantify the performance of the ITS Program. Measures and metrics are listed below with the 2006 score earned in bold.

2006 Report Card from FDOT District IV ITS Strategic Business Plan							
Performance Measure	Metric	TMC Score	A	B	C	D	F
ITS Systems							
% Completion of Systems Build-Out	Actual # miles built per yr / planned # miles built per yr	<b>A</b> <b>97</b>	90-100	80-89	70-79	60-69	<60
ITS Operations							
Annual Benefit / Cost Ratio	BCR (Annual Report)	<b>B</b> <b>14.94</b>	>15	10-15	6-9	1-5	<1
ITS Maintenance							
System Reliability – Field Devices	% Time Operational	<b>B</b> <b>95.4</b>	>97	95-97	91-94	85-90	<85
Road Rangers							
Customer Satisfaction	% of Respondents Satisfied with Service	<b>A</b> <b>96</b>	95-100	90-94	80-89	70-79	<70
Traffic Incident Management							
Incident Clearance Time	Overall time to clear lanes after Road Ranger arrival	<b>B</b> <b>70.9</b>	<60 min	60-75 min	76-90 min	91-120 min	>120 min
ITS Systems							
System Reliability – TMC	% Time TMC systems are Operational	<b>A</b> <b>99.97</b>	>99	98-99	95-97	92-94	<92
Partnering							
Number of Public / Private Partners	# Partners Collaborating with on a Daily Basis	<b>C</b> <b>5</b>	>7	6	5	4	<3
Traveler Information							
Travel Time Reliability**	% Accuracy = Posted vs. Actual Travel Times	<b>N/A</b>	98-100	91-97	86-90	75-85	<75
Public Outreach							
Satisfaction with ITS Program	Customer Survey (Scale of 1 to 10)	<b>A</b> <b>9.3</b>	9-10	8-9	7-8	6-7	<6
New ITS Initiatives							
Number of New Initiatives	# of New Initiatives	<b>A</b> <b>5</b>	>4	3	2	1	0

\*\*Travel Time Reliability was not calculated for 2006.

## Activities & Innovations

### Public Outreach

The SMART SunGuide TMC was part of a coordinated effort to have an interactive booth at the annual ITS America conference in May 2006. The booth had TMC operators from five South Florida TMCs each remotely monitoring traffic all the way from Philadelphia. The booth included 10 large displays which showed real-time South Florida traffic conditions as well as a video that demonstrated the impact that SMART SunGuide makes with its services. In November, a scaled down version of this booth was taken to the Transpo 2006 conference held in Palm Harbor, Florida.



*Multi-agency booth effort at ITS America, 2006*

### Road Ranger Service Patrol Training

Because the Road Ranger Service Patrol contracts are bid out to various private companies and the high turn-over rate of the tow-truck industry, providing consistent and timely training throughout the state is a challenge. In 2006, SMART SunGuide created an online web-based training program. The training program consists of ten modules that were developed jointly by all of the FDOT Road Ranger Project Managers from across the state. New employees access the program from any computer with Internet access, anytime, and their test results are emailed directly to the District Project Manager and contractor for the district they service.

### State Law Enforcement Radio Integration

The State of Florida maintains the Statewide Law Enforcement Radio System (SLERS) to serve as a means of effective inter-agency communications. To increase efficiency in inter-agency communications during severe incidents, the Florida Department of Transportation obtained approval to include Road Rangers in the SLERS network. The District IV TMCs have been preparing for installation of the radio system. This tool will be incorporated into daily operations in 2007.

### Streaming Traffic Video on Mobile Phones

SMART SunGuide TMC developed and deployed a pilot project to provide access to real-time streaming video of TMC traffic cameras on mobile phones. By using a mobile phone, the total image size and resulting video stream is significantly reduced while still filling the entire screen of the mobile device. Users will see a tour of all TMC cameras. The ultimate goal is to allow users to choose which cameras to view.



*Streaming video on a smartphone*

The logo for SMART, with the letters 'S', 'M', 'A', 'R', and 'T' in a bold, white, sans-serif font. The letter 'A' is highlighted in yellow. A small 'SM' trademark symbol is located to the right of the 'T'.

**SMART**<sup>SM</sup>

SMART SunGuide TMC District IV  
2300 West Commercial Boulevard  
Fort Lauderdale, FL 33309  
954-847-2785  
[www.SMARTSunGuide.com](http://www.SMARTSunGuide.com)