



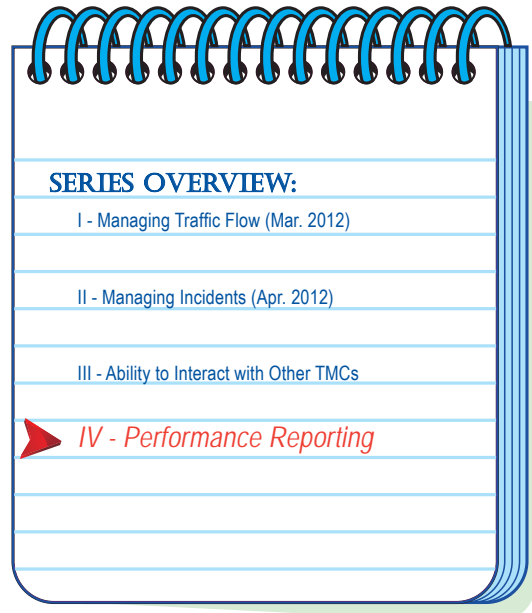
# SUNGUIDE® DISSEMINATOR

Florida Department of Transportation's Traffic Engineering and Operations Newsletter

## SunGuide® Software: Performance Reporting

By Arun Krishnamurthy, FDOT Traffic Engineering and Operations, and Clay Packard, Atkins

This is the last of the four part series on the SunGuide® software. We hope that this series has helped you gain knowledge and appreciation for the complexity and innovation within the software. In the first three parts of the series, published between March and May 2012, we discussed how SunGuide software supports transportation management centers (TMC) in detecting incidents, managing incidents, and seamlessly coordinating with other TMCs and systems. In this part of the series, we will look at how SunGuide software provides users with insight in the system by providing data analysis and on-demand performance measures reporting. This feedback allows TMC personnel to improve how effective and efficiently they operate.



SunGuide software, Florida's statewide traffic management system software, offers a dynamic operational environment to monitor traffic and manage incidents. SunGuide software stores operational data it receives in a database, allowing TMC personnel to reconstruct events and conditions. This database contains a rich repository of data, including traffic data received from vehicle sensors, messages posted on dynamic message signs, events managed by the TMC, events supported by Road Ranger service patrols, and many more. This data, if provided in a useable format, can be useful to TMC personnel as they can use quantitative analysis to understand how well the TMC operations is currently working and how it can be improved. As the saying goes, "If you cannot measure it, you cannot improve it." (*William Thomson, 1st Baron Kelvin*)

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Select Reports

Event Management

Select Report Name

Road Ranger

- Road Ranger Administration
- Select Report Name
- Beat Coverage Summary
- Road Ranger Activity Report
- Road Ranger Activity Summary 4.3
- Road Ranger Activity Details
- Road Ranger Admin Details Report
- Road Ranger Administration
- Road Ranger Administration Summary
- Road Ranger Assists
- Road Ranger Cost Savings Report
- Road Ranger Status Report
- Road Ranger Void Activity Report
- SIRV Assists
- Vehicle Location Report
- Vehicle GPS Location Report
- Select Report Name

Dynamic Message Signs

Select Report Name

Test Report

Select Report Name

Performance Measures

Select Report Name

Connected Vehicle

Select Report Name

Select Filters for Report Road Ranger Administration

Event Number: [ ] to: [ ]

Date: [ ] to: [ ]

Time: 00 : 00 to: 00 : 00

Apply time range on per-day basis

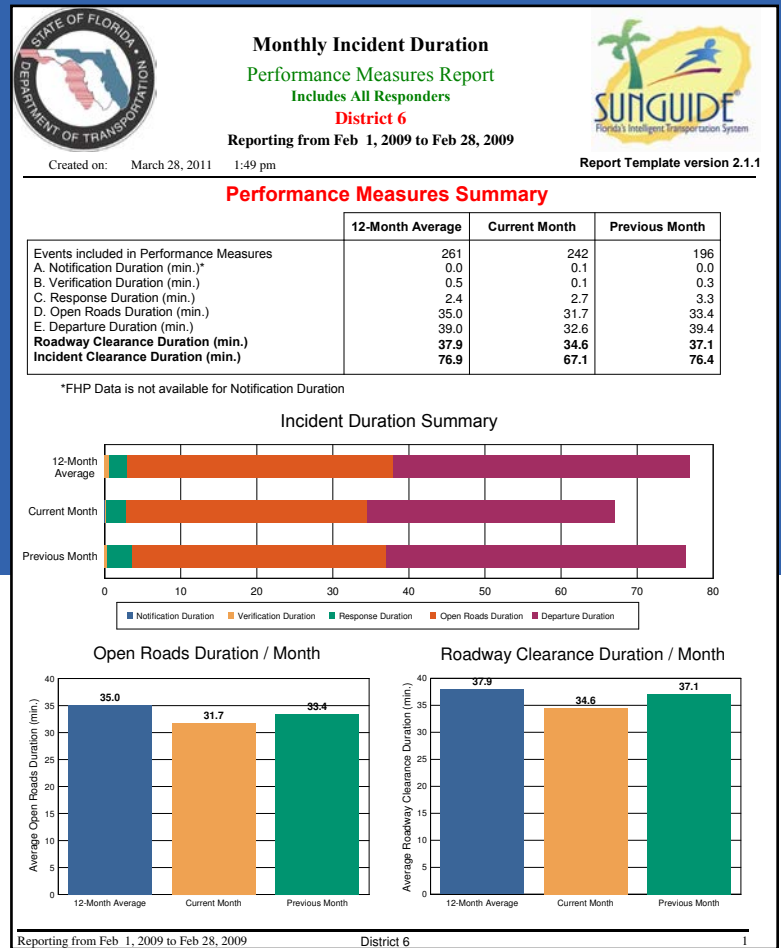
Day of Week:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

Event Type: Any

Screenshot of the software Event Management report request.

SunGuide software has a reporting feature that provides the operational data collected by TMCs in an easy to understand format, including graphical representation, charts, and tables along with textual details. These reports are designed after careful consideration to include data that is important to the TMCs and many facets of their operations. Currently, SunGuide software has over 80 reports providing information on event management, performance measures, Road Ranger service patrol, intelligent transportation systems (ITS) devices, roadway traffic condition, and software system.

Interestingly, TMCs have different user groups, with each group having interests in viewing different aspect of the information. TMC network administrators are interested in the SunGuide software system details. The Florida Department of Transportation's (FDOT) Maintenance Office is interested in the uptime of the ITS devices to identify which devices need to be replaced or serviced. TMC supervisors conduct quality control and quality assurance on work conducted by TMC operators and are interested in what messages were put on dynamic message signs and how many events were managed during the period. Senior



Monthly Incident Duration report.

management is interested in incident duration performance measures to ensure that TMC operations meets FDOT's objectives of improving mobility and safety for motorists. The software has a report for each of these user groups to meets their needs. It is important to not only offer the information, but also to offer the information in a format by which the user receives the most benefit.

These reports are designed using the Crystal Reports Designer tool; once the reports are designed, report files are added to the SunGuide software. The user does not need knowledge or access to any specialized tools, like the Crystal

Report Designer, to run reports. The reports are run from the SunGuide software user interface. All of the reports in SunGuide software are available from a single user interface, instead of having different reports available from different parts of the software. Along with this, the software categorizes the various report files in a logical manner on the screen to increase ease of access. The reports can be run in one of three different popular file formats: Adobe Acrobat, Microsoft® Word, and Microsoft Excel. As the report needs to be initially designed using Crystal Reports Designer, all users do not have the flexibility to create reports on their own. FDOT Central Office works closely with the users to understand their needs and produces reports to meet those needs. By having the reports developed at a central location, this ensures that all users have access to the same set of reports and also helps the configuration management of the report files.

In initial deployment phase of the software reporting feature in 2007, there were significant requests for modification to the report formats and for development of new reports. To expedite providing modified and new reports to users, FDOT Central Office created a process to provide these report files to users promptly. FDOT Central Office now posts developed or modified report files on the SunGuide software web site. This ensures that users do not have to wait until an official SunGuide software release for updated reports.

FDOT continues to make modifications to improve the software reporting feature. One such example is that FDOT Central Office received input from users that when they used the Microsoft Excel option to output report data, they preferred the ability to analyze the data. Currently, the reports run in Excel include charts and formatting that make it difficult for a user to analyze the data, as multiple rows and columns are merged in the spreadsheet. FDOT Central Office is making a modification that will provide data with no formatting when the Microsoft Excel option is used; this is preferred by advanced users who wish to further process and analyze the data in a specific manner.

To wrap up, SunGuide software collects operational data that can provide valuable insight to TMC personnel for improved decision-making. The SunGuide software reporting feature provides a comprehensive solution for TMC personnel to obtain information to make operational decisions and improvements. This feature not only offers on-demand access to operational data, but also offers information in an easy to understand format with graphical representations to highlight key data-points. These reports are used by all personnel in the TMCs and FDOT senior management.

For information, please contact Mr. Krishnamurthy at (850) 410-5615 or email to [Arun.Krishnamurthy@dot.state.fl.us](mailto:Arun.Krishnamurthy@dot.state.fl.us).

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## District Four: Putting the Pieces Together for Better Performance

*By Daniel Smith, FDOT District Four*

Monitoring the constant flow of rapidly changing information in a transportation management center (TMC) is a challenge not only for TMC operators, but also for intelligent transportation systems (ITS) operations managers. The Florida Department of Transportation District Four ITS Unit has come up with a way to more efficiently manage this information flow.

Key data—everything from Level 3 crashes to ITS devices not available for operational use—are displayed on the Broward Regional TMC video wall. The numbers are broken down by county to help coordinate the appropriate response. Each county “cube” on the video wall displays six numbers. Some of the numbers change color depending on a predetermined threshold.

The top line of numbers in each cube represents the “real-time” number of active incidents, color-coded as follows:

- Level 1 incidents (impact to traffic is estimated to be less than 30 minutes with minor or no lane blockage) are displayed in yellow;



*District Four key data video wall display.*



*Displaying the “big picture” information.*

- Level 2 incidents (impact to traffic is estimated to be more than 30 minutes, but less than two hours) are displayed in orange; and
- Level 3 incidents (impact to traffic is estimated to be more than two hours or a complete road closure with significant area-wide congestion is expected) are displayed in red.

The lower left number indicates the number of emergency generators currently in use. The lower middle number shows the average year-to-date incident clearance time for the county. This number is displayed in green if it is lower than last year’s annual average clearance time and red if it is higher. The lower right number provides the number of ITS devices that are currently unavailable for operational use.

A new feature on the video wall is the district-wide average incident clearance time. This number is also displayed in green or red, based on the current status compared to last year’s number.

A large digital clock displays official SunGuide® time, while a District map shows the network fiber optic backbone and real-time status of the core router switch.

The shift from displaying camera images on the video wall to “big picture” information is expected to continue in the upcoming months as a means of providing situation awareness on the network as a whole. Each operator work station is equipped with a mini video wall that can display 81 streaming videos simultaneously.

For information, please contact Mr. Smith at (954) 847-2785 or email to [Daniel.Smith@dot.state.fl.us](mailto:Daniel.Smith@dot.state.fl.us).

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# District Six Participates in ITS America 2012

By Javier Rodriguez, FDOT District Six

The Florida Department of Transportation District Six Office participated in the Intelligent Transportation Society of America's Annual Meeting in National Harbor, Maryland, this past May. Industry experts from around the country selected three District representatives to present their work and share their findings at the national event. The works selected featured information about congestion pricing, traffic incident management technologies, and the importance of customer service in the intelligent transportation systems (ITS) industry.

Staff submitted topics in their respective areas of expertise to detail the operational experience gained by the District's deployment of traffic management projects in the south Florida area. They were given the opportunity to take part in expert panels and share their experience via interactive and special information sessions attended by event goers. The first presentation highlighted the 95 Express project's latest performance figures. It compared year-to-year performance values to identify trends in average speeds, toll amounts, and traffic volumes, especially as these related to the facility's noted increase in driver demand.

This presentation provided attendees with a thorough overview of how the operations of a managed lanes project may change as they become more widely used and accepted in the community. It highlighted the importance of remaining responsive in order to maintain the reliability and success of these projects despite changing conditions.

The second presentation focused on the importance of technology in Traffic Incident Management (TIM) Programs. Our TIM Team leader participated in a roundtable discussion that highlighted the District's software applications developed to assist the areas' incident management efforts. He shared the operational improvements derived from automating certain operator functions through the Incident Notification Application and the Road Ranger Driver Information System.

He also shared the benefits experienced by the team as a result of tracking TIM meetings through the District's Transportation Management Center Activities Tracker for improved planning and event coordination.

The District's third and final presentation was about the cultural shift the industry is experiencing due to the proliferation of managed lanes projects and the need for increased customer service. The program's Public Information



*District Six 95 Express*

Specialist discussed the District's experience with 95 Express and the resulting shift in focus from its pre-launch public awareness efforts to the day-to-day customer service support provided as part of the post-launch operations.

The District's participation in this annual meeting was part of its ongoing commitment to promote the ITS Program values via information sharing and public awareness. To date, District Six has hosted approximately 25 presentations and tours for local, national, and international agencies since the start of fiscal year 2010/2011. The District continues to plan similar efforts as part of its mission to advance ITS.

For information, please contact Mr. Rodriguez at (305) 407-5341 or e-mail to [Javier.Rodriguez2@dot.state.fl.us](mailto:Javier.Rodriguez2@dot.state.fl.us).

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## ITS Florida Awards and Scholarships

By Sandy Beck, ITS Florida

### ITS Florida Awards

It's time to consider nominations for the ITS Florida Awards, which will be presented at the Transpo2012 banquet on October 30, 2012, at the Regency Hyatt Bonita Springs! The official call for nominations will go out some time in the August timeframe, but feel free to submit your nominations now.

The awards may be given to both individuals and/or organizations. The award categories include the following:

- ITS Florida Member of the Year – recognizes outstanding achievement as an organization. The primary criteria for nomination and selection are that the work:
  1. Is operational or about to be operational;
  2. Has major significance in improving transportation in Florida;
  3. Is a major innovation in any aspect of intelligent transportation system (ITS); or
  4. Has state or national significance.
- ITS Professional of the Year – recognizes an ITS Florida organizational member's representative for outstanding achievement. This award is to recognize that person, who has contributed significantly to the ITS community during the past year.
- ITS Florida President's Award – recognizes an ITS Florida organizational member who has sustained superior service to ITS Florida.
- ITS Champion – recognizes any proponent of ITS for outstanding service in promoting ITS in the state of Florida.
- Certificate of Outstanding Achievement – may be awarded to an organization or individual for outstanding accomplishments worthy of recognition by ITS Florida.

Recommendations for annual awards should be emailed to [ITSFlorida@ITSFlorida.org](mailto:ITSFlorida@ITSFlorida.org) with the subject line: ITS FL Awards. You may nominate an individual including yourself, an organization, or both. The deadline for submission is September 1st, 2012.

### Scholarships

The call is underway for students to apply for the ITS Florida Anne Brewer Scholarship! Students of ITS Florida member universities are encouraged to apply for one of the two available \$2,000 scholarships. The recipients will also be urged to attend Transpo2012 to participate in the conference and banquet. The deadline for submission is August 24th. Scholarship forms are available at the university or by contacting [ITSFlorida@ITSFlorida.org](mailto:ITSFlorida@ITSFlorida.org) for additional information.

### Announcing the ITS Florida Web Site Makeover

The ITS Florida web site is currently undergoing a makeover. New designs are in progress for a new look, feel, and functionality. ITS Florida's current web site has very limited capability due to some changes in the site hosting. There are some issues uploading documents as well as others. These issues will not be a problem once the new web site is deployed. The new site is being expedited due to the seriousness of these issues, so please bear with us during this transition. If you need any information not available on the current web site, please contact [ITSFlorida@ITSFlorida.org](mailto:ITSFlorida@ITSFlorida.org).

If you have any questions or wish to provide an article to ITS Florida, please contact Sandy Beck at [itsflorida@itsflorida.com](mailto:itsflorida@itsflorida.com).

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# Assessing the Road Ranger Program

By Heather Nelson, Atkins

The Statewide Road Ranger Survey for Incident Responders is conducted with the primary goal of assessing the Florida Department of Transportation's (FDOT) Road Ranger service patrol program from the perspective of FDOT's response partners. Road Ranger service patrols are FDOT's front line traffic incident management service since they regularly patrol the most highly traveled interstate corridors in the state, assisting responders and motorists.

This survey measures two types of areas with questions pertaining to the program and personnel. The program-oriented questions focus on topics, such as response times, training, and the Road Ranger vehicles. The personnel-oriented questions are designed to provide information regarding how Road Ranger service patrol performed in the field. In addition to the structured questions, FDOT obtained excellent data and feedback from the additional comments provided within the open-response areas.

The program area of the survey received an overall average score of 4.34 based on scores ranging from a numerical value of 1 for "Strongly Disagree" to 5 for "Strongly Agree." The program area receiving the highest average score of 4.58 determined that the presence of Road Ranger service patrol continues to improve on-scene safety for responders, which is a primary function for the Road Ranger. The program area receiving the lowest average score was "satisfaction with response times," with an average total score of 4.13, an improvement from last year's score of 3.98.

Response times are a very important measurement for the Road Ranger program. For each one-minute of lane blockage, drivers behind the incident can experience up to four minutes of delay; the risk of a secondary crash increases incrementally. Enhanced communications between the Road Ranger and the on-scene responder who requested their assistance is one factor that could positively influence the response time satisfaction level. This could be accomplished through more efficient use of existing equipment, such as the Statewide Law Enforcement Radio System, or better communication of estimated arrival time from the transportation management centers and regional communications centers.

The personnel area of the survey sought information regarding the respondent's perception of the Road Ranger operator's knowledge and performance by presenting a series of questions relating to their satisfaction with Road Ranger operators. These areas include: professionalism, respectfulness, helpfulness, and competency. Respondents rated each area

with scores ranging from a numerical value of 1 for "Extremely Dissatisfied" to 5 for "Extremely Satisfied." The average for all responses in these categories was 4.44. Slight gains were achieved in the areas of professionalism and competency with slight decreases shown in respectfulness and helpfulness. A closer review of data reveals that, while all four areas received very good scores, competency received the lowest rating of 4.39; but it should also be noted that this area also increased by .06 from the previous year.

A more comprehensive review of the open-response questions yielded a wealth of information that, combined with responses from program and personnel sections, highlighted program areas needing improvements. The overall goal of the survey is to identify program areas needing improvement at the District and statewide levels.

The following information identified areas in need of program improvements, both at the District and statewide levels:

## Training

- Identify opportunities for integrated training with the Florida Highway Patrol, fire/rescue, emergency medical services, and other response agencies
- Provide periodic equipment training
- Research and identify other training needs

## Information Sharing

- Continue to emphasize the need for utilizing interoperable communications
- Research and identify how to improve communications to responders regarding estimated Road Ranger arrival times

## Equipment

- Review requirements for Road Ranger vehicle types and equipment
- Ensure safety equipment is being properly utilized in the field
- Ensure that existing vehicle lighting equipment, such as light bars and arrow boards, are FDOT-approved devices.

The Statewide Road Ranger Survey for Incident Responders provides a means to gather performance measurement information on the program from those who often do not have the opportunity to provide direct input. The survey is only successful because of the cooperation received from all of the organizations that work daily with the Road Rangers.

For information, please contact Ms. Nelson at (850) 410-5644 or e-mail to [Heather.Nelson@dot.state.fl.us](mailto:Heather.Nelson@dot.state.fl.us).

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# Editorial Corner: Transportation Systems Management and Operations Workshops

By Elizabeth Birriel, FDOT Traffic Engineering and Operations

Transportation Systems Management and Operations (TSM&O), a relatively, newly created program within the Florida Department of Transportation (FDOT) has been getting quite a bit of attention in the past few months. TSM&O is focused on making the most efficient use of FDOT's existing infrastructure assets because building new roads is becoming more and more difficult. FDOT's Executive Board endorsed TSM&O in 2010.

The TSM&O task team, which is composed of District representatives and several functional area representatives, has worked to create several deliverables that will guide the program forward. The team has developed a Strategic Plan, a Business Plan, and an Outreach Plan. Over the past several months, the Traffic Engineering and Operations Office has been conducting TSM&O Workshops in every District as part of the Outreach Plan. Workshops were held in Districts 1, 2, 3, and 5 in May, and Districts 4 and 6 and Florida's Turnpike Enterprise in June. The last workshop will take place in District 7 in September.

Several of the desired workshop outcomes were to:

- Help participants better understand TSM&O
- Introduce participants to existing TSM&O documents
- Foster understanding that all functional areas have a role in planning for and implementing TSM&O
- Identify District focus area for implementation
- Develop action items to continue TSM&O implementation

The workshops have been well attended and have been an excellent tool to further educate the Districts about TSM&O and their role in mainstreaming the program into FDOT. Due to the inherent differences between FDOT's different urban and rural Districts, the TSM&O tools or focus areas selected by individual Districts may be different. Some Districts may choose to implement managed lanes, while other Districts focus on arterial management. Regardless of the choice, TSM&O has an abundant array of options available to help mitigate Florida's congestion problems today and in the future.

For information, please contact Ms. Birriel at (850) 410-5606 or e-mail to [Elizabeth.Birriel@dot.state.fl.us](mailto:Elizabeth.Birriel@dot.state.fl.us).



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# Announcements

## Transpo2012: Mark Your Calendar Now!



Transpo2012 will be here before you know it. ITS Florida would like to invite you to Transpo2012 at the Bonita Springs Hyatt Regency Coconut Point, Bonita Springs, Florida, on October 28-31, 2012. Program and planning committees are already busy organizing an outstanding lineup of exhibits, demonstrations, and technical sessions that will build on topics driving the ITS industry. Please plan to attend this premier conference October 28 – 31, 2012.

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## Good Luck Annie!

Please join us in saying good-bye to Annie Hunter as she leaves for her new position with the Department of Environmental Protection. Annie spent the last year working in the Traffic Incident Management section and will be missed by all. Annie began her new position on July 2, 2012.

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# FDOT Traffic Engineering and Operations Mission and Vision Statements



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