**FDOT** **TSM&O**
Transportation Systems Management & Operations



# Transportation Management Center

# Standard Operating Guidelines

# January 2024

# TMC Standard Operating Guidelines

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## 1.1 Acronyms

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|---|---|
| AMBER | America's Missing Broadcast Emergency Response |
| AVL | Automatic Vehicle Locator |
| CAD | Computer Aided Dispatch |
| CB | Citizens Band |
| CCTV | Closed-Circuit Television |
| CIS | Center for Internet Security |
| CJIS | Criminal Justice Information Services |
| ConOps | Concept of Operations |
| DAT | Damage Assessment Teams |
| DEP | Department of Environmental Protection |
| DHSMV | Department of Highway Safety and Motor Vehicles |
| DMS | Dynamic Message Sign |
| DTOE | District Traffic Operations Engineer |
| DTPS | Dynamic Truck Parking Sign |
| EAS | Emergency Alert System |
| EL | Express Lanes |
| ELM | Express Lane Marker(s) |
| EM | Event Management Subsystem |
| EMS | Emergency Medical Services |
| EOC | Emergency Operations Center |
| FAC | Florida Administrative Code |
| FBI | Federal Bureau of Investigation |
| FCC | Federal Communications Commission |
| FCS | Florida Cybersecurity Standards |
| FDLE | Florida Department of Law Enforcement |
| FDOT | Florida Department of Transportation |
| FFS | Florida Forest Service |
| FHP | Florida Highway Patrol |
| FHWA | Federal Highway Administration |
| FLATIS | Florida Advanced Traveler Information System |
| FTE | Florida's Turnpike Enterprise |
| FWC | Florida Wildlife Conservation |
| GTL | General Toll Lanes |
| GUI | Graphical-User-Interface |
| GUL | General Use Lanes |
| HAR | Highway Advisory Radios |
| HazMat | Hazardous Materials |
| IDS | Incident Detection Subsystem |
| IRV | Incident Response Vehicle |
| IT | Information Technology |
| ITS | Intelligent Transportation Systems |
| LSDMS | Lane Status Dynamic Message Sign |

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|---|---|
| MDT | Mobile Data Terminal |
| MOT | Maintenance of Traffic |
| Mph | Miles per hour |
| MUTCD | Manual on Uniform Traffic Control Devices |
| NIST | National Institute of Standards and Technology |
| NTP | Notice to Proceed |
| NWS | National Weather Service |
| PIO | Public Information Office |
| PSA | Public Service Announcement |
| PTI | Planning Time Index |
| PTZ | Pan, Tilt, Zoom |
| RISC | Rapid Incident Scene Clearance |
| RITIS | Regional Integrated Transportation Information System |
| RTMC | Regional Transportation Management Center |
| SELS | Statewide Express Lanes Software |
| SEOC | State Emergency Operations Center |
| SHS | State Highway System |
| SIRV | Severe Incident Response Vehicle |
| SLERS | Statewide Law Enforcement Radio System |
| SOG | Standard Operating Guidelines |
| SOP | Standard Operating Procedures |
| STEOO | State Traffic Engineering and Operations Office |
| STIX | Southern Traffic Information eXchange |
| TADMS | Toll Amount Dynamic Message Sign |
| TAS | Toll Amount Sign |
| TD | Traffic Density |
| TEM | Traffic Engineering Manual |
| TIM | Traffic Incident Management |
| TIMP | Traffic Incident Management Program |
| TMC | Transportation Management Center |
| TOD | Time of Day |
| TRDMS | Toll Rate Dynamic Message Sign |
| TPAS | Truck Parking Availability System |
| TPS | Truck Parking Subsystem |
| TSM&O | Transportation Systems Management and Operations |
| VDS | Vehicle Detection System |
| VOIP | Voice Over Internet Protocol |
| WWD | Wrong-Way Driving |

# TMC Standard Operating Guidelines

## 2. Introduction

This document, presented by the Florida Department of Transportation (FDOT) Transportation Systems Management and Operations (TSM&O) office, contains the FDOT's official *Transportation Management Center (TMC) Standard Operating Guidelines (SOG).* Its objective is to help facilitate the proper operation of Florida's roadway transportation system by providing general guidance to TMC administrative and management personnel in the form of a strategic blueprint for success. This blueprint outlines recommended TMC stakeholder roles, functions, and regulations, and identifies desired results that are all based on a comprehensive study of the best nationwide and statewide practices.

In summary, this document describes "what is to be carried out and accomplished" from a top-down perspective. It is meant to serve as essential guidance to aid stakeholders and managers in the further development of individual TMC Standard Operating Procedures (SOP). It includes SOGs as they relate to TMC stakeholder responsibilities, intelligent transportation system (ITS) devices and tools, managing roadway events, system monitoring, and more.

This document contains standard performance measures that will be used to help the TSM&O and district offices monitor the extent to which quantifiable progress is being made against pre-determined key goals associated with efficiency and effectiveness. This document also contains guidance on how to identify gaps in meeting and conforming with this document as well as provides standards for establishing comparisons between TMCs.

Lastly, the TSM&O office intends that this becomes a living document to ensure that SOGs and performance measures remain up-to-date, accurate, and meaningful. The goal is to present opportunities for all stakeholders to provide input and feedback on this document as well as to propose new measures or revised language, as needed, to ensure that the most valuable and effective practices are in place.

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*Figure 1: The District Six Regional TMC (RTMC) located in Miami, Florida*

## 2.1 Operating Guidelines vs. Operating Procedures

When referring to TMC operations manuals, the terms SOG and SOP are often used loosely together or interchangeably. But there are key differences between the two that require clarification in order to effectively streamline the context of how the rest of this document is understood and rationalized into individual district TMC operations.

### 2.1.1 Key Differences Between Guidelines and Procedures

Guidelines are defined as the "principles intended to influence decisions and actions." They are intended to set out the strategic direction of the TMC and will typically contain statements such as "TMC staff shall" and "TMC staff shall not," but will not provide full detailed direction on how this vision or strategy is executed. Procedures, on the other hand, are defined as "a particular and specific way of doing things." They articulate the exact steps required to support and carry out a TMC guideline. In other words, procedures document a course of action accomplished in a defined order, ensuring the consistent and repetitive approach to accomplish certain activities. Other key differences between guidelines and procedures include:

1.  Guidelines are normally developed from a high managerial level and are meant to be universally applicable, whereas procedures are tailored for local level use.

2.  Guidelines are the "rules" that govern the TMC in making decisions while procedures are the steps which direct TMC staff on how to accomplish the guidelines.

3.  Guidelines focus on the what and why, whereas procedures focus on the how, when, and who.

4.  Guidelines are usually expressed in broad terms (e.g., dispatch a Road Ranger if such and such happens), whereas procedures describe processes in detail (e.g., how to dispatch a Road Ranger).

5.  Guidelines change infrequently as they are based on protracted study and experience as to what should and should not be done. Procedures are the opposite of that in which they will often evolve as new tactics and tools emerge, and thus require processes be redesigned to accommodate them.

### 2.1.2 Examples

A few examples can help illustrate the importance of clearly defining the differences between guidelines and policies.

1.  **Third-Party Notification:** Depending on the type of roadway event or situation that has been detected, TMC staff will be required to alert certain third-party responders. In this regard, SOGs will define under what circumstances a third party should be contacted in each situation, and how they are to be contacted, which is dependent on a range of unique factors present in each district. For example, the number and type of third-party responders that spend time or are embedded in a TMC

vary considerably among districts. The SOPs that are tailored for each district, in this case, provide step-by-step information as to how each agency should be contacted and the form of communication that is used, whether it be through a telephone call, an email alert, or simply having operators turning to their side and directly informing the third-party responder in person.

2. **ITS Device Capabilities:** TMCs have an assortment of ITS devices at their disposal that are used to help monitor and manage the roadway. Policies surrounding ITS devices, such as closed-circuit television (CCTV) cameras and vehicle detection systems (VDS), may differ from district to district. Hence, an SOG may require that CCTV cameras are used to monitor incidents on the roadway whereas SOPs for labeling cameras may differ from one district to the next.

3. **Unique Factors or Constraints:** TMCs may each have their own individual range of factors or constraints that need to be considered when planning for or managing roadway events. For example, a local city or county may request from a district TMC that no traffic be diverted to any of their roadways, even in the case of a major lane blocking event. Whereas SOGs may prescribe what should ideally transpire in the case of a major lane blocking event, district SOPs will detail any special factors or constraints that TMC staff need to consider when performing any of their typical duties.

### 2.1.3 Benefits of Separating Guidelines from Procedures

Ensuring that the differences between guidelines and procedures are kept separate have several benefits, including:

1. **Reducing Maintenance Time:** Unwrapping guidelines away from procedures can allow the TSM&O office to focus more on what should be done and less on the procedural content, which usually requires significant review to accommodate all seven districts and the Florida Turnpike Enterprise (FTE). Focusing on the guidelines helps to avoid procedural nuances and leaves the finer details (e.g., procedures) to individual TMCs who are more in tune with their respective systems.

2. **Enhancing Guideline Understanding and Compliance:** When procedures are mixed in with guidelines, documents detailing the guidelines can quickly become very long and complex. Focusing on guidelines and keeping procedural details separate can help TMC staff better understand guidelines and commit them to memory.

3. **Promotes Efficiency:** Separating guidelines from procedures gives individual TMCs the opportunity to create and establish their own set of procedures that best suit the TMC, based on the makeup of their district, stakeholders, and ITS tools and devices. It also gives the TMC the opportunity to experiment with procedures and continually assess how they can be improved.

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## 2.2    Document Organization

**Chapter 3 – General TMC Standard Operating Guidelines:** This chapter provides foundational TMC SOGs as they relate to day-to-day stakeholder responsibilities, ITS devices, performance measures, reporting, system upkeeping requirements, and more.

**Chapter 4 – Dynamic Message Sign (DMS) Guidelines:** This chapter aims to provide a uniform and consistent approach to the use of amber and full-color dynamic message signs for both limited and non-limited access roadways. It contains SOGs as it pertains to DMS messaging application, content, format, priorities, and prohibitions.

**Chapter 5 – Event Management:** This chapter provides SOGs that are primarily related to how roadway events are (by default) managed, in terms of how they are prepared for and officially terminated.

**Chapter 6 – Roadway Event Standard Operating Guidelines:** This chapter provides SOGs for specific roadway event types that TMCs are likely to encounter at some point.

**Chapter 7 – Managed Lanes Operation:** This chapter provides SOGs and details TMC staff operational requirements as they relate to the management of Express Lanes.

**Appendix A – ITS Networking and Cybersecurity Standards:** This appendix provides standards for cybersecurity efforts for the FDOT TMCs. These standards are intended to mitigate cybersecurity risks and give a framework for prevention, response, and recovery from an incident.

**Appendix B – Truck Parking Availability System (TPAS) SOG:** This appendix provides the official FDOT TMC TPAS SOG that is used to communicate the requirements for managing rest areas and weigh station smart parking systems so that each district can create its own SOP.

**Appendix C – Color DMS Guidelines:** This appendix contains guidelines for how color DMS can and should be used.

**Appendix D – TMC Incident Executive Notification Memorandum:** This appendix details when TMC staff must notify the Central Office about incidents or situations on the roadway along with the required email format.

**Appendix E - Florida Missing Persons and Blue Alert Plans:** This appendix provides the official guidelines and criteria for posting and managing America's Missing Broadcast Emergency Response (AMBER), Blue, and Silver Alert events.

**Appendix F - Guardrail Approach Terminal and Crash Cushion Snapshot Process:** This appendix provides the procedures for taking snapshots of any crashes that involve guardrail approach terminals or crash cushions as requested by the Maintenance Office. These snapshots are used to evaluate how the vehicle impacts the guardrail approach terminal or crash cushion.

**Appendix G – Wrong-Way Driving Event SOG:** This appendix provides the official FDOT TMC Wrong-Way Driving (WWD) event SOG. This SOG provides the framework as to how TMCs plan and manage a WWD event from the beginning to its end.

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**Appendix H – RTMC Control Plans:** This appendix provides resources for the Districts to utilize when crafting their Risk Management, Contingency Planning, Change Management Control plans.

## 3   General TMC Standard Operating Guidelines

### 3.1   Network Security and Data Requirements

> TMCs serve as the hub where transportation data is collected, stored, processed, and fused with other operational data to produce valuable information that is distributed to the traveling public, media, and other agencies. Consequently, because of its critical role in the successful operation of the transportation system, it is crucial that TMCs implement proper measures to secure information (data) and information technology (IT) resources to prevent misuse, abuse, and loss.

1. **ITS Cybersecurity:** To help mitigate cybersecurity risks and provide a dependable framework for prevention, response, and recovery from an incident, TMCs should implement the SOGs found in **Appendix A – Intelligent Transportation Systems (ITS) Networking and Cybersecurity Standards**. This document provides standards with respect to TMC Networking, System Configurations, Incident Response, Reporting, Vulnerability Management, and Disaster Recovery. It also provides TMCs with resources on formulating cybersecurity strategies.

2. **Data Confidentiality and Security:** Computer and software applications should have a multi-tier privilege-based system. The multi-tier system should identify groups based on the ability to: accept or select specific actions, input information to be disseminated, edit within certain parameters, or override an action. TMC data and IT access should be limited to individuals explicitly authorized by FDOT staff only. All data, files, and program access shall be limited to individuals with explicit authorization to view, process, or maintain such systems. This includes third-party vendors needing to access any hardware or software component in the TMC. To minimize opportunities for malicious activity, IT access restrictions are applicable but are not limited to, desktop computers, notebooks, laptops, servers, personal cell phone devices, thumb drives, or anything else that can be used to transport confidential or harmful data.

3. **Data Retention and Restoration:** Every District must document the measures it takes to proactively secure its data. These measures include its data retention requirements, how often it backs up data, and how often those backups are tested. A good place for this documentation would be in a District's Disaster Recovery Plan, since that plan must provide a clear and well-rehearsed process to restore its data. Appendix H of the TMC SOG and Sections 4.9 Disaster Recovery and 5.7 Contingency Planning of the ITS Networking and Cybersecurity Standards contain several documents and additional guidance on contingency planning.

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4. **Internet:** TMC staff must prohibit personal use of the internet and have access to a list of sites approved by the district or TMC IT Manager that they can view at their workstations. Each TMC should allow only approved websites for operations staff. Software shall be installed to identify who is attempting to access unapproved websites.



*Figure 2: The District One RTMC's Server Room*

## 3.2    TMC Operations Stakeholder Responsibilities

### 3.2.1    TMC Staff Responsibilities

TMC staff members are the backbone of TMC operations. As such, they are responsible for real-time utilization of various tools and devices to assess traffic conditions and roadway events, managing appropriate responses, and helping to mitigate any negative effects as much as possible.

1. **Collective TMC Staff Responsibilities:** At a minimum, all TMC staff shall:
   a) Maintain a consistent professional atmosphere.
   b) Maintain up-to-date knowledge of all networking and IT security rules and guidelines.
   c) Maintain up-to-date knowledge of all TMC SOGs and SOPs.
   d) Be fully trained in all TMC systems they are expected to operate.
   e) Maintain cross-training in the TMC to assist other TMC staff when they are overloaded.
   f) Facilitate event management, which includes, but is not limited to, detection, verification, response, notification, DMS activation, and reporting of planned and unplanned events.
   g) Provide quality assurance on the day-to-day activities in the TMC.
   h) Perform record keeping tasks, as required.
   i) Notify and coordinate, in a timely and effective manner, with other incident response and management agencies including Florida Highway Patrol (FHP), local public safety (sheriff and police), Road Rangers, RISC contractors, and others. FHP and local public safety notification and communication must include incident detection, verification, and management information available to the TMC staff. The FHP and local public safety notifications must also include secondary events and roadway conditions such as congestion, blocked lanes, and other conditions that are likely to result in a secondary crash.

2. **TMC Operator Responsibilities:** At a minimum, all TMC operators shall:

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a) Monitor and report equipment failures during their respective shifts.
b) Log all activities into the SunGuide database and ensure the quality of information is complete, accurate, timely, and concise. SunGuide data is used for several performance measure reports and is the primary source of data for reporting on Open Roads clearance times and secondary events and crashes.
c) Assist with the data collection for the various monthly reports, daily reports, telephone logs, operator performance reports, travel speed and travel time reports, incident reports, field equipment failures, and any other reports that are generated from the TMC.
d) Follow all applicable local, state, and national policies, such as Federal Highway Administration's (FHWA) Traffic Incident Management Gap Analysis Primer. The latest version of this policy can be found online at
https://ops.fhwa.dot.gov/publications/fhwahop15007/index.htm

3. **TMC Shift Supervisor and Manager Responsibilities:** At a minimum, all TMC managers and shift supervisors shall:
   a) Manage TMC staff administrative and personnel issues, such as scheduling, timesheets, etc.
   b) Provide support and supervision in the TMC during shifts.
   c) Have a comprehensive knowledge of all TMC staff and stakeholder responsibilities.
   d) Ensure that all aids and binders are up-to-date.
   e) Ensure that all communications comply with TMC policies and procedures.
   f) Directly supervise all communications.
   g) Perform periodic and annual updates to the TMC SOPs.
   h) Identify and develop solutions to improve TMC operations efficiency.
   i) Assist with generating daily, weekly, monthly, quarterly, and annual operations reports.
   j) Support the training of new and existing TMC staff and keep training material up-to-date.
   k) Manage the quality of TMC operations and data.

4. **TMC Staffing Requirements:** At a minimum, there must be at least one operator and shift supervisor (or position of similar or higher rank) managing the TMC control room at all times. Each District shall develop employee onboarding and offboarding procedures. Offboarding procedures must include timely termination of access to TMC facilities, systems, and programs. Each District shall conduct self-checks to ensure that there are no active credentials for former employees. This self-check shall, at a minimum be conducted on an annual basis.

5. **TMC Operator Background Checks:** TMC staff use the Statewide Law Enforcement Radio System (SLERS) to dispatch Road Rangers. This is the same radio system FHP dispatchers use to communicate with the FHP Troopers. If the TMC is collocated with FHP, all TMC personnel must submit to and pass an FBI Criminal Justice Information Services (CJIS) background check prior to employment. The CJIS background check is also required for anyone who will be using the SLERS or its radios.

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## 3.2.2   Road Ranger Service Patrol

The Road Ranger Service Patrol program plays a major role in alleviating congestion and improving traffic flow. It is one of the most effective elements of the FDOT's Traffic Incident Management (TIM) Program. With over 100 Road Ranger vehicles in the fleet statewide, covering approximately 1,025 centerline miles of Florida highways, Road Ranger Service Patrols have expanded to helping with construction zone incident management and assisting first responders with any lane blocking incident."

1. **Road Ranger Responsibilities:** At a minimum, Road Ranger responsibilities shall include:
    a) Patrolling assigned sections of the roadway to locate motorists in need of assistance.
    b) Notifying TMC staff of any events detected while on patrol.
    c) Providing roadside assistance to disabled vehicles, such as providing enough gasoline to get them to a gas station, assisting in tire changes and minor repairs, and other needs of a minor nature.
    d) Removing minor debris from the roadway, including shoulders, whether associated with an incident, reported to the Florida Highway Patrol, or detected while on patrol.
    e) Assisting in relocating vehicles from the roadway in accordance with the Move-It Law.
    f) Assisting injured persons until more qualified help arrives.
    g) Assisting other responders as needed.
    h) Providing temporary Maintenance of Traffic (MOT) devices for traffic control around an incident zone.
    i) Verifying and notifying TMC operations of event status changes as they occur.
    j) Updating event details in SunGuide, if the Road Ranger has a Mobile Data Terminal (MDT) in their vehicle.
    k) Monitoring of the freeway to detect asset damage or suspicious activity.
    l) Serving as goodwill ambassadors to the traveling public as the FDOT's point persons in the field.
    m) Additional services such as towing or relocating vehicles off of the highway system are available.

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*Figure 3: Road Ranger Service Patrol*

2. **Road Ranger Dispatching:** Road Rangers may be self-dispatched if they encounter an incident while patrolling. Road Rangers may be dispatched by TMC staff using:
   a. The Mobile Data Terminal in the Road Ranger truck.
   b. The SLERS radio system.

   If SLERS radio communication is unavailable, TMCs can also use cell phones, Voice Over Internet Protocol (VOIP), or other communication methods to dispatch Road Rangers.

3. **Road Ranger Dispatching Limitations:** Road Rangers are not to be dispatched to any events that are violent in nature or involve suspicious activity. If a Road Ranger is threatened or uncomfortable at a stop, they shall leave immediately and notify the TMC.

4. **Road Ranger Location Monitoring:** If the TMC has access to the Road Ranger Automatic Vehicle Locator (AVL) system, TMC staff shall use the AVL website and the SunGuide map in order to view the location of all Road Rangers at least once every 15 minutes. The TMC shall note and report any inconsistencies.

5. **Road Ranger Check-Up:** TMC staff shall manually contact each Road Ranger Service Patrol every time one full hour has passed without a service call or prior contact with the TMC. A log shall be created to document and track this requirement. At a minimum the log shall contain the name of the TMC staff member, road ranger identification, response status, time and date of manual contact. The log shall be kept up to date at all times. This procedure is necessary to ensure the Road Rangers are still on patrol in a safe condition; it also confirms that the Road Rangers are not sick, injured, or sleeping on patrol. The TMC shall configure the SunGuide system to alert the TMC operators when the Road Ranger has been stopped, while on patrol, for more than 15 minutes without an active event. The TMC shall configure the SunGuide system with a geo-fence to alert the TMC operators when the Road Ranger has moved outside the geo-fence.

6. **Road Ranger Safety Check:** If two attempts to contact the Road Ranger have failed, TMC staff shall immediately dispatch the nearest available Road Ranger unit to the last location given by the non-responsive Road Ranger.

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7. **Road Ranger Welfare Check:** If not visible on the CCTV camera, and contact has not been made between the Road Ranger and the TMC within 15 minutes from the initial contact of reporting an assist, TMC staff shall attempt a welfare check and contact the Road Ranger originating the assist.

8. **Road Ranger Quality Control:** TMC staff shall observe and monitor the Road Rangers during the performance of their duties, including the immediate correction of any observed Road Ranger errors.


*Figure 4: Road Ranger Assisting a Disabled Motorist*

### 3.2.3   Florida Highway Patrol

The FHP is a division of the Florida Department of Highway Safety and Motor Vehicles (DHSMV) and serves as the primary law enforcement agency charged with investigating traffic crashes and violation of criminal laws on the state's highways. The FHP enforces motor vehicle and commercial vehicle laws on the state's interstate highways and on all roadways within unincorporated areas of the state. They are often found, or are co-located in, TMCs to help assist with incident management and facilitate communication between various responders.

1. **FHP Responsibilities:** At the minimum, FHP responsibilities as they relate to TMC operations include:
   a) Patrolling limited access freeways for unreported or undetected roadway events.
   b) Providing roadside assistance to any vehicles in need that are discovered during patrols.
   c) Notifying FHP dispatch of any events detected while on patrol. FHP dispatch, in turn, notifies TMC operations of events on the interstates via phone call or SunGuide FHP Computer Aided Dispatch (CAD) Alert.
   d) Verifying event status changes as they occur.
   e) Assisting in the relocation of vehicles from the roadway in accordance with the Move-It-Law.
   f) Assisting injured persons until more qualified help arrives.
   g) Assisting other responders as needed. While Road Rangers shall not be dispatched to violent or suspicious instances, the FHP shall be notified and dispatched.

2. **FHP Event List:** The FHP is responsible for updating its Computer Aided Dispatch system with information on any incidents that they have detected, responded to, or assisted.

3. **Emergency Dispatch:** The FHP shall serve as the central dispatch for emergency services and shall be notified for all requests for emergency services such as:
   a) Emergency Medical Services (EMS).

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b) Police Activity.
c) Fire Rescue.



*Figure 5: FHP Assisting at a Scene of an Incident*

### 3.2.4   Additional TMC Operations Stakeholders

A variety of other major stakeholders in TMC operations are crucial to maintaining a safe and efficient roadway system. Each of which have unique roles in terms of how they interact with the TMC and staff.

1. **Central (TSM&O) Office:** The Central Office is responsible for the development and yearly update of this TMC SOG document and its modification as a result of the roadway system and TMC performance analysis. The Central Office is also responsible for providing additional information and guidance to the TMCs.

2. **District FDOT Staff:** District FDOT staff members are responsible for the overall organization and functionality of the TMC. In essence, FDOT staff assume the direct leadership role of the TMC and ensure that operations are conducted in accordance with this SOG document, their SOPs, and other FDOT policies.

3. **Emergency Medical Services:** EMS responds to events that have or are suspected of having injuries that require an urgent medical response, providing out-of-hospital treatment, and transport to definitive care. The FHP or EMS will notify the Medical Examiner if a fatality occurs at an incident.

4. **Emergency Operations Center (EOC):** A statewide or district EOC serves as a point of contact for local, statewide, and federal Emergency Operation Centers. They coordinate and manage FDOT resources in response to major events that pose a significant threat to public safety, such as terrorism, natural disasters, etc.

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5.  **FDOT Maintenance:** At a minimum, each district's FDOT maintenance (or contracted Asset Management) staff is responsible for responding to:
    a)  Areas where there are reports or confirmation of damage, property theft, or vandalism to State-owned infrastructure or equipment, including assets such as guardrails or barrier walls damaged in accidents.
    b)  Debris on the roadway.
    c)  Apparent hazardous materials (HazMat) spill.
    d)  Severe incidents with long-term MOT requirements (typically estimated to have greater than one hour of lane blockage).

6.  **Local Law Enforcement:** Local Law Enforcement agencies have similar responsibilities to that of the FHP. Local jurisdictions, such as those on a county (sheriffs) or city level (police), have a much smaller area of coverage. Local Law Enforcement agencies typically work closely with TMC staff on reporting and managing events only within their area of jurisdiction.

7.  **Florida Fish and Wildlife Conservation Commission (FWC):** The FWC is responsible for managing and regulating Florida's fish and wildlife resources. As relating to TMC operations, they are responsible for overseeing the removal or relocation of any endangered or protected animal species that are uncharacteristically located within the roadway's right-of-way.

8.  **Florida Forest Service (FFS):** The FFS is responsible for protecting and managing Florida's forest resources and provides a level of fire management that reduces threats to life and property, forests, and other related at-risk wildland resources. As relating to TMC operations, the FFS and the TMC coordinate together as it pertains to smoke or possible smoke affecting roadways.

9.  **Local Animal Control:** Local Animal Control is responsible for responding to events where a live animal causes a disturbance or safety hazard on state roadways.

10. **Local Fire Rescue:** Local fire rescue is responsible for preventing the spread of fires and extinguishing fires that may be present within the roadway's right-of-way. In many counties, it is common for the Local Fire Rescue to control/administer the EMS also.

11. **Media:** Media agencies are responsible for providing traffic information to the public. This includes radio announcements, television broadcasts, newspaper articles, etc.

12. **Public Information Office (PIO):** District PIOs manage all media and public inquiries about roadway events.

13. **Rapid Incident Scene Clearance (RISC) Contractors:** RISC is a highly innovative program that supports Florida's Open Roads Policy's goal of safely clearing major highway incidents, truck crashes, and debris in 90 minutes or less. RISC contractors are dispatched by the TMC and are responsible for responding to the incident within 60 minutes of the activation request at the behest of the FHP.

Once on the scene and provided with a Notice to Proceed (NTP) by the lead official on the scene, the vendor will have 90 minutes to clear the travel lanes for traffic.

14. **Towing and Recovery:** Towing and recovery contractors are responsible for responding to events where a vehicle is unable to leave on its own and needs to be towed away at the discretion of law enforcement or owner of the vehicle.

15. **Department of Environmental Protection (DEP):** The DEP is the State's lead agency for environmental management and stewardship – protecting Florida's air, water, and land. The DEP is responsible for determining if an incident could pose a hazard to the environment. The TMC notifies FHP dispatch if the TMC becomes aware of chemical or fuel spills.

16. **Local Signal Maintaining Agencies:** The FDOT constructs most of the signal systems on state roads, but local agencies maintain them. If an incident on the interstate can cause an unusual influx of traffic onto a state road facility, the TMC must contact the local signal maintaining agency to inform them of the incident. The local agency may be able to alter the signal timings at the interchange and adjacent signals to accommodate the increased traffic.

17. **Educational Institutions:** Transportation data can be shared with educational institutions, such as universities, to study traffic data.

## 3.3    Guidelines for Major TMC Tools and ITS Devices

### 3.3.1    SunGuide Software

SunGuide software is the common software platform for all TMC operations in the state of Florida. This modular system is comprised of several subsystems that are integrated to allow for incident management, data collection, field device control, travel time posting, and more. TMC staff shall learn and become proficient with SunGuide tools and procedures such as event logging, incident management timestamping, and associating secondary events with primary events to support performance measure reporting, outcome reporting, and validation of RISC contractor milestone accomplishment.

1. **SunGuide Operator Training:** An internal, TMC-specific training certification program shall be established, and TMC staff shall be trained and certified on the latest official version of the *SunGuide Operator Training* document that explains how to use the software prior to working in a "live" operational environment. This document is located online at
http://sunguidesoftware.com/document-library/training?sid=94:Operator

2. **SunGuide Software User's Manual:** TMC staff shall be trained and certified on the latest official version of the *SunGuide Software User's Manual*, which is located online at
http://sunguidesoftware.com/document-library/development?sid=569:Software-Users-Manual

# TMC Standard Operating Guidelines

3. **SunGuide Data Entry and Style Guide Training:** TMC IT staff shall be trained and certified on the latest official version of the *SunGuide Data Entry and Style Guide Training* document, which is located online at http://SunGuidesoftware.com/SunGuidesoftware/documentlibrary/ReadingRoom/Etc/Data%20&%20Style%20Guide%20Training_FINAL_2010%2010%20111.ppt.

## 3.3.2   CCTV Cameras and Video Walls

CCTV cameras are used for a wide variety of purposes, including the early detection of events, incident verifications, monitoring situations that need attention, and giving support to responders on scene. CCTV images are typically displayed at operator workstations or on a matrix of television monitors used as a single display that is commonly known as a "video wall." Each individual monitor can be used to display a single image or can be used to compose part of a larger image. By using a video wall, TMC staff have the flexibility of customizing the presentation of the information as conditions warrant.

1. **CCTV Camera Use**: CCTV cameras and related equipment shall be used for traffic, Department facilities, incident management, and information purposes only. No one, including law enforcement, shall use the system for any other purpose.

2. **Privacy for Private Property:** CCTV camera usage shall adhere to all federal and State privacy laws. For example, surveillance of private property and use of the system with the intent of invading the privacy of those individuals that could be seen through CCTV cameras is prohibited, even as a demonstration of the system's technical capabilities.

3. **Recording Video Images:** Video images are not and shall not be recorded, and no tapes or video files shall be maintained. Snapshots may be taken for incident review, training, or research. Video may be recorded only for research purposes and only if requested and approved by the District Traffic Operations Engineer (DTOE), in advance, for specific times and dates for specific cameras.



*Figure 6: CCTV Camera on I-4 in Orlando*

4. **Masking Camera Views**: For CCTV cameras that are next to residential locations, camera "masks" or "beards" shall be placed over the camera feeds to protect civilian privacy.

5. **Default Camera Views:** CCTV cameras shall be set to the default view of watching the traffic flow. With images being used by the public and multiple agencies, it is essential that views shall be left on the traffic flow, but license plates and individuals shall not be identifiable.

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6. **CCTV Camera Image Restrictions:** When graphic personal injuries, fatalities, or hazardous materials spills are suspected in a traffic incident or crash, TMC staff may need to zoom in to collect information that is needed by the FHP, EMS, FDOT, or for other informational purposes. When this occurs, TMC staff shall restrict the CCTV camera image from any external video feeds. As soon as necessary information is collected or at the request of the FDOT or FHP dispatchers, TMC staff may zoom out the CCTV camera image so that graphic or personal images are not clearly visible on the video display wall.

7. **CCTV Camera Image Restriction Verification:** Once the CCTV camera image is restricted from public view, TMC staff shall view the CCTV camera image on the FL511.com website and all other external sources possible, to verify and document that the access has been restricted.

8. **Video Wall Display:** During non-incident times, feeds and tours of cameras shall be streaming on the video wall from multiple regions and zones. At the minimum, the video wall shall display:
   a) A selection of CCTV camera images including "video tours" (multiple cameras) and single-camera images.
   b) Any active incident cameras. These areas on the wall are allocated for the TMC staff to change camera images to show live traffic events for incident monitoring.
   c) Up to two screens displaying media that is pertinent to the function of the TMC.
   d) No duplicated images or blank cubes.

9. **Rest Area Displays:** New, state-of-the-art rest areas will be installed along the interstates. These areas will contain parking, building facility with restrooms, and possibly picnic pavilions. Within the building containing the restrooms, monitors shall be installed and connected to the ITS Network and back to a District RTMC. The District RTMC shall push messaging to the monitors as well as to push incidents of regional significance – such as a gas main break, wildfire, etc. Each District shall develop a procedure for identifying and evaluating regional incidents as well as geographically associating events with rest areas.

### 3.3.3   Vehicle Detection Systems

Vehicle detection systems provide TMCs with real-time information on roadway traffic such as volume, occupancy, and speed. They are an invaluable part of TMC operations as they are often one of the first sources providing alerts for congestion or roadway events, especially in rural areas.

1. **Using the SunGuide Travel Times Document:** TMC staff shall be familiarized with and adhere to the latest official version of the *Using SunGuide Travel Times* document, which is located online at http://sunguidesoftware.com/sunguidesoftware/documentlibrary/ReadingRoom/Etc/SunGuide-UTVT-3.0.pdf

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### 3.3.4   Florida Advanced Traffic Information System

The Florida Advanced Traffic Information System (FLATIS), or Statewide 511, is an FDOT traffic-management tool. It can be accessed via the phone or internet providing real-time traffic information on the majority of Florida's interstate highways, Florida's Turnpike, and major roadways in the state's metropolitan areas. FLATIS disseminates traffic information through the Statewide FLATIS website and the FL511 App. The website is the most utilized way that traveler information is provided to the public.

1. **FLATIS Use:** FLATIS shall be used for traffic and incident management information purposes only. This includes, but is not limited to, posting of messages related to emergency road conditions, routine construction messages, hazardous weather conditions, and general traffic congestion.

2. **Statewide Floodgate and Banners Protocol:** Statewide floodgate and banner messages are a special case (they affect the entire state) and need to be coordinated with the FDOT District Two RTMC, where assistance can be obtained in publishing them.

3. **Language Requirements:** All alerts, floodgates, and banner messages shall be posted in both English and Spanish.

4. **Floodgate and Banner Message Length:** A floodgate or banner message must be brief and to the point, giving a "headline" describing the issue. As a guideline, floodgate messages shall be no longer than 30 seconds, and banner messages shall take no longer than 30 seconds to read in English or Spanish.

5. **Floodgate and Banner Message Template:** The following message template may be used for both floodgate recordings and banner messages manually entered into SunGuide:



*Figure 7: FL511 Spanish Logo*

*<Roadway/Location/Area/Entity>, there is <Event/Condition> causing <Effect>. <Recommendation (if applicable)>.*

Example: *I-95 Northbound past Exit 180 there is a crash causing the left lane to be closed. Avoid the area, use an alternate route.*

### 3.3.5   Highway Advisory Radios

Highway Advisory Radios (HAR) are systems that are used to provide motorists with pertinent and up-to-the-minute travel information through their car radios. Messages are transmitted through low-power AM roadside transmitters. Drivers approaching a HAR are advised of its existence by advance highway signs, which tell motorists where to tune their AM radio dial. These signs are equipped with beacons, which can be activated when circumstances require doing so.

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1. **HAR Use:** HARs and related equipment shall be used for traffic and incident management and information purposes only. This includes, but is not limited to, posting of messages related to emergency road conditions, routine construction messages, hazardous weather conditions, general traffic congestion, and hazardous environmental conditions. No one, including FDOT staff, shall use the system for any other purpose.

2. **Default HAR Messaging:** Permanent HAR shall broadcast continuously. When there are no incidents to report, messages shall provide motorists with useful information such as upcoming construction that may affect the route or other approved messages.

3. **FCC Requirements:** Federal Communications Commission (FCC) rules require that HAR, every 30 minutes at the minimum, broadcast a short station identification message such as "You are tuned to the highway advisory radio system, broadcasting at 1660 on your AM dial, a service of the FDOT."

4. **HAR Message Length:** Since the range of a HAR system is limited, messages must convey a maximum amount of information in a minimum amount of time. Thus, all messages shall be limited to 60 seconds or less.

### 3.3.6 Miscellaneous

1. **Google Traffic:** Google Traffic is a feature on Google Maps that displays real-time traffic conditions information on major roads and highways. Google Traffic can be viewed at the Google Maps website, or by using the Google Maps application on a handheld device. TMC staff shall use Google Traffic to supplement existing TMC applications that provide alerts to potential traffic congestion or events. Google Traffic shall not, however, be solely relied on by TMC staff to determine actual roadway conditions in any case.

2. **Waze:** Waze provides traffic-related information to those who download their application. It uses its unique crowd-sourcing formula to collect data on what is happening on the roadway system and relies on users to update their database by flagging and recording updates on accidents, bottlenecks, severe weather, and traffic delays as they drive. TMC staff shall use this data for roadways not covered with ITS to enhance their ability to know what is happening in all corners of the transportation system. Waze shall not, however, be solely relied on by TMC staff to determine actual roadway conditions in any case. Departments shall partner with Waze to also receive Waze SunGuide alerts via the Incident Detection Subsystem.

3. **Other Crowd-Sourcing Applications:** A TMC may choose to utilize other crowd-sourcing applications besides Waze to collect data on what is happening on the roadway system. These additional applications have a myriad of audiences and purposes. Some may be geared towards emergency responders while others are designed around natural disasters. Regardless of the application's intended purpose, any information received must be verified before it can be acted upon. No crowd-sourced application shall be solely relied on to determine actual roadway conditions in any case.

4. **TPAS Guidelines for TMC SOPs:** TMC staff members are requested to adhere to the FDOT-approved TPAS guidelines that are found in Appendix B of this document.

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### 3.3.7   Configuration and Change Management

Unauthorized changes to the configuration of these major TMC tools and ITS devices could severely hinder a District's RTMC operations. Therefore, it is important for a District to identify its high-risk configurable production systems, tools, components, and devices in its change management processes.

Once these components are identified, the District should ensure that the appropriate documentation (baseline configurations, user manuals, default credentials, change management forms, schematics, etc.) is collected for each system, tool, component, or device. If any key piece of documentation cannot be found, it must be acquired or created.

Authorized changes must be documented. A change management form is a great control method which allows multiple stakeholders to be aware of, and prepare for, a planned system change. At a minimum, the change management form must identify:

- The system, tool, component, or device being changed
- Any other systems, tools, components, or devices that will also be affected
- Any potential security impacts
- The hours of the change/impact; these should be off-peak hours
- Contact information for the team performing the change
- Approval from RTMC leadership and other Department stakeholders such as TIM
- If (preferably when) the change was successfully tested in a non-production environment

Appendix H contains several resources that a District can use when creating its change management processes and control methodologies. Also reference sections 5.4 System Configurations and 5.5 Change Management of the ITS Networking and Cybersecurity Standards for additional information.

## 3.4   System Monitoring and Reporting

TMC staff play a critical role in the preservation and reliability of both TMC systems and ITS field infrastructure by monitoring their statuses and assessing the accuracy of any data they produce. TMC staff try to resolve issues independently when possible, before escalating matters to the appropriate FDOT or contracted personnel responsible for the upkeep of any particular piece of equipment. They also help to track and follow up on the status of repairs to ensure TMC operations continue uninhibited as much as possible. TMCs should thus establish procedures for the proactive monitoring, troubleshooting, notification, and tracking of any issues with regard to the health of TMC systems and ITS field equipment to ensure maximum uptime.

### 3.4.1   System Monitoring Procedures

TMC staff shall perform several TMC systems and ITS device checks daily to ensure elevated levels of functionality and confidence in any data that is generated. TMC staff SOGs with respect to any TMC systems and ITS device checks shall include at the minimum:

# TMC Standard Operating Guidelines

1. **TMC Systems Check:** TMC systems, such as phone systems and radio systems, shall be checked at least once a day and preferably at night. Building maintenance matters shall be logged and reported to the FDOT depending on the severity of the issue.

2. **CCTV Camera Check:** Each CCTV camera shall be checked to see if it can be panned, tilted, and zoomed (PTZ) at least once per day. After the PTZ check, the camera is returned to the home preset.

3. **Video Wall Check:** Each CCTV camera shall be checked to see that properly streaming video is projected onto the video wall at least once per day.

4. **VDS Check**: Each VDS shall be checked to see if they are functioning and providing correct data at least once a day. Detector functionality can be checked using the SunGuide status feature. Any outages shall be reported to ITS personnel.

5. **DMS Check:** Each DMS device shall be checked at least once per day as it relates to a) operational status, b) brightness, c) control mode, d) pixels, e) lamps, f) fans, g) power, and h) temperature.

6. **DMS Message Check:** DMS messages shall be checked for accuracy, typically through CCTV cameras, at least twice per day (or more often as time allows).

7. **HAR Check**: Each HAR shall be checked to determine if they are broadcasting messages as intended. This can be done by requesting that the Road Ranger tune in to the designated HAR radio station during their shifts at least once per day. The HAR's beacons shall also be checked to see if they are actually flashing at least once per day as well.

8. **FLATIS CHECK:** The FLATIS telephone service shall be checked at least twice per day to confirm that voice recordings are working and are clear enough to understand. When posting a FLATIS floodgate message, the floodgate messages shall be verified for clarity and accuracy. The FLATIS web banner shall also be checked twice per day to confirm that accurate information is displayed clearly, as well as to confirm that outdated information is not being shown.

## 3.4.2   Critical Failures

Critical failures for TMC systems and ITS devices are defined to determine the appropriate response for repair. For example, determining a critical failure will assist the TMC and ITS Maintenance staff in determining if an "emergency call" to the ITS Maintenance Contractor or TMC IT staff is needed. TMCs shall define critical failures as:

1. Any TMC SunGuide hardware or software failures.
2. When a DMS is unable to post the desired message or when a DMS does not respond to SunGuide commands to clear a message.
3. When any CCTV camera failure creates a large coverage gap or "blind spot".
4. Any dedicated express lane DMS CCTV cameras.
5. Five or more consecutive express lane detectors, or 50% of express lane detectors are down – which-ever is less.

6.  When there are any TMC building failures or maintenance concerns, such as air-conditioning or power-related issues.
7.  Other issues as determined by districts.

### 3.4.3 Failure Verification, Troubleshooting, and Reporting

TMC staff shall have at their disposal detailed procedures for logging, reporting, and verifying any failures for both TMC systems and ITS devices. This is necessary to help resolve any failures as quickly as possible so that ITS tools and devices can continue to function. TMC staff shall have procedures for the following:

1.  TMC or ITS device failure verification procedures that shall be executed first before reporting any failure(s).
2.  Corrective action procedures.
3.  Failure logging procedures.
4.  Failure reporting procedures for non-critical failures.
5.  Failure reporting procedures for critical failures.
6.  Failure tracking procedures, including timelines, required vs. realized, and when to follow up or escalate unresolved failures.



*Figure 8: Microwave vehicle detection system*

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## 3.5 Performance Measurement and Reporting

Performance measurement and reporting helps to provide insight as to how well District TMCs are managed and can quantify their value to transportation system users. They can also be used to track the uptime of various systems and provide insight on long-term roadway trends that, in turn, can be utilized for planning purposes. TMCs should thus establish procedures for collecting, sorting, storing, analyzing, and reporting data for the performance measures found in this chapter. TMCs are encouraged to also expound on the performance measures listed below or to select additional ones as determined to be beneficial.

### 3.5.1 TMC Systems and ITS Device Upkeep Performance Measures

1. **ITS Field Equipment Uptime Availability:** This performance measure demonstrates field ITS devices' uptime as a percentage and is calculated by taking the total uptime (in hours) of ITS devices and dividing it by the total number of hours during the reporting period. This shall be calculated as a whole and separately for CCTV cameras, DMS, VDSs, and other devices.

2. **ITS Communication Infrastructure and Network Uptime Availability:** This performance measure demonstrates the ITS communication and networking infrastructure's uptime as a percentage and is calculated by taking the total uptime (in hours) of ITS communication and networking infrastructure and dividing it by the total number of hours during the reporting period. This shall be calculated as a whole and separately for both limited and non-limited access roadways.

3. **TMC Equipment Uptime Availability:** This performance measure demonstrates TMC's equipment hours of uptime as a percentage and is calculated by taking the total uptime (in hours) of TMC equipment and dividing it by the number of hours during the reporting period. This shall, at the very minimum, be calculated for the SunGuide software, video wall, radios, and workstations.

### 3.5.2 TMC Staff Performance Measures

1. **Operator Data Entry Error Rate (≤ 2 percent Target):** This performance measure demonstrates the number of SunGuide events that contained any data entry errors, as a percentage, and is calculated by dividing the number of events with data entry errors by the total number of events during the reporting period.

2. **Event Confirmation Time (≤ 03:00 Minutes Target):** This performance measure demonstrates the average time it takes for the TMC staff to confirm an event from the time of the initial notification of a potential event to the time it takes to respond and visually confirm the event during the reported period.

3. **Time to Post to DMS (≤ 03:00 Minutes Target):** This performance measure demonstrates the average time it takes for the TMC staff to post a DMS message upon the confirmation of the lane blocking incident.

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4. **DMS Efficiency Rate (≥ 98 percent Target):** This performance measure demonstrates the number of DMS message postings executed correctly by the TMC staff as a percentage and is calculated by taking the total number of DMS messages posted correctly as per guidelines and determined by TMC management and dividing it by the total number of DMS messages posted during the reporting period.

5. **Road Ranger Dispatch Time (≤ 03:00 Minutes Target):** This performance measure demonstrates the average time it takes for the TMC staff to dispatch a Road Ranger to a potential event upon notification of an incident. Operators shall establish and log notification and dispatch times in the system.

6. **Third-Party Agency Notification (≤ 07:00 Minutes Target):** This performance measure demonstrates the average time from incident confirmation it takes for the TMC staff to notify the proper agencies about a potential event upon determining the need to do so during the reported period.

### 3.5.3   Roadway Trends Performance Measures

1. **Total Number of Roadway Events:** This performance measure demonstrates the number of roadway events that take place within a district during the reported period. Roadway events shall be broken out by the type and severity.

2. **Total Number of Lane Blocking Events:** This performance measure demonstrates the number of lane blocking events that take place within a district during the reported period.

3. **Secondary Crash Rate:** This performance measure demonstrates the number of secondary incidents on roadway segments managed by the TMC staff during the reported period.

4. **Peak Period 95th Percentile Planning Time Index (PTI):** This performance measure uses Regional Integrated Transportation Information System (RITIS) data to demonstrate the ratio of the 95th percentile peak period travel time to the free-flow travel time for roadway segments managed by the TMC staff during the reported period.

5. **Throughput:** This performance measure demonstrates the number of vehicles present at the start, plus those attempting to enter and successfully entering a particular roadway during the analysis period. This shall be calculated for all major roadway segments within the district.

6. **Delay:** This performance measure uses RITIS data to demonstrate the travel time (for all vehicles entering and attempting to enter the system during the analysis period) minus the theoretical travel time at the free-flow speed. This difference is divided by the number of vehicle trips to obtain the mean delay per trip. This shall be calculated for all major roadway segments within the district.

### 3.5.4   Reporting

Districts shall create and distribute both monthly and yearly reports that highlight the stated TMC performance measures listed above and the TMC's performance related to those goals. It shall also

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demonstrate month-to-month and year-over-year statistics to help illustrate TMC performance and roadway trends as a function of time.

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## 4   Dynamic Message Sign Guidelines

Dynamic message signs (DMSs) are one of the most important and effective means for communicating information and recommendations to motorists with regard to traffic congestion, crashes, lane closures, and more. Thus, it is necessary that DMSs provide prompt, reliable, accurate, and relevant information to be effective and provide motorists with the confidence they need to make informed decisions.

### 4.1   National and State Policies

The TMC DMS operations and policies shall adhere to national and State standards, including:

1.  Manual on Uniform Traffic Control Devices (MUTCD).

2.  Displaying Messages on Dynamic Message Sign Permanently Mounted on the State Highway System, Topic No. 000-750-015-e September 19, 2017.
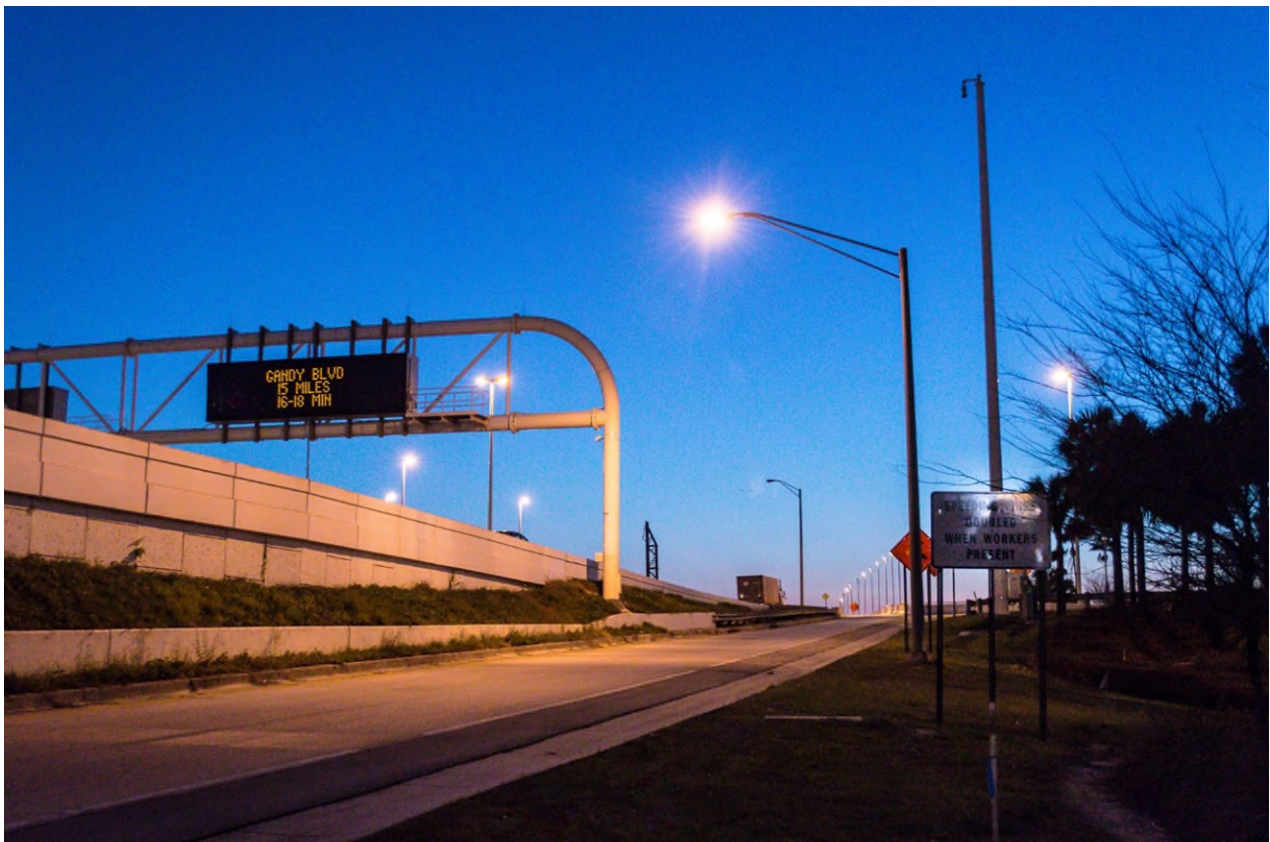


*Figure 9: DMS Displaying Travel Times in Tampa, Florida*

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## 4.2 Operational Policies

### 4.2.1 General DMS Message Operational Guidelines

TMC staff shall adhere to the following DMS operations guidelines at all times:

1. DMS messages are displayed for all verified lane blocking incidents that occur on a roadway with a DMS upstream of the event. The messages, at a minimum, shall include the location of the event and the number of lanes closed.

2. Information concerning verified minor incidents and lane closures shall be displayed for incidents occurring up to 10 miles downstream from a DMS, if information about the location and effects to the motorist (e.g., amount of delay, number of lanes closed, etc.) can also be given.

3. Information concerning lane blocking incidents that occur on an intersecting freeway is to be displayed on DMSs that are located upstream of the interchange with the freeway, depending on the location, severity, and duration of the incident. The message shall include the location of the incident and the effects to motorists (e.g., amount of delay, number of lanes closed, etc.).

4. Messages recommending that motorists divert to specific roadways or local streets that are not within the jurisdiction of the FDOT are not advised unless severe conditions exist, and the appropriate agencies are involved. Messages supporting preplanned diversion routes are always permitted.

5. When DMS messages are used for route diversions, messages are to be displayed far enough in advance of the diversion to allow motorists sufficient opportunity to perform necessary lane changes safely, adjust speed, and exit the highway.

6. DMS messages are not to be used to divert motorists to specific alternative routes unless positive guidance is available along the alternative route.

7. During daily peak-traffic periods, messages are used to advise motorists of unusual conditions (e.g., accidents, lane blockages, etc.; see Section 4.2.2 for guidelines on displaying travel time messages).

8. DMSs located on freeways leading to other states may display messages concerning verified major incidents in the neighboring state (e.g., all lanes blocked or closed, a truck overturned, etc.).

### 4.2.2 Message Displays for Traffic Conditions and Travel Time

It is the policy of the FDOT that the "default display on Dynamic Message Signs shall be travel time display." The DMS provides travel time and freeway conditions to downstream on-freeway destinations at various interchanges along the freeway. Travel time in a range, as shown in the following template, is considered appropriate to avoid a loss in credibility with travelers:

**Template:**

```
DESTINATION
DISTANCE
TIME RANGE
```

**Example:**

```
US-27
7 MILES
8 - 10 MINUTES
```

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## 4.2.3   Color DMS Usage

TMC staff shall adhere to the guidelines for color DMS usage found in the **Appendix C** document.

## 4.2.4   Prohibited DMS Messages

1. **Advertisements**: It is FDOT policy to prohibit the use of any type of DMS to display advertisements. This includes messages related to any commercial product or service, or promotion of a political party or candidate. This also includes messages that give the appearance of promoting a special event.

    See the following example below:
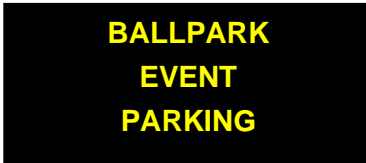
    **Acceptable:**                                            **Prohibited:**

    

2. **Vague Messages**: DMS messages shall communicate to motorists what to expect or what actions need to be taken. For example, a DMS message that simply states "Wrong-Way Driver Detected" does not give a motorist enough information about the location of the wrong-way driver relative to their location.

3. **Routine Congestion Message**: Generic descriptors of daily or normal peak-traffic congestion shall not be used to advise motorists. Travel Time messages are permitted.



*Figure 10: Color Dynamic Message Sign in Orlando, Florida*

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## 4.2.5 Key Issues

TMC staff shall determine the messaging objective and consider which DMS or DMS group is to be used to address a particular incident or location. Issues to consider include those listed below.

| Number | Issue | Key Points |
|---|---|---|
| 1 | **Problem Being Addressed** | TMC staff considers not only the basic type of problem (i.e., accident, congestion, etc.) but also the following:<br>a) Location of the problem, as in its position relative to other roadways or major interchanges.<br>b) Duration of the problem; the extent of impacts, in terms of the number of lanes affected, traffic constraints, etc. |
| 2 | **Audience** | TMC staff considers the objective and audience of the DMS message. In some instances, the DMS message may apply to all motorists or is just intended for those traveling a considerable distance downstream. |
| 3 | **Desired Motorists Response** | Before any DMS message is posted, TMC staff first determines the desired motorist response. Encouraging specific motorist actions is an effective way of using DMSs. |
| 4 | **Location of Desired Motorists Response** | It is important to know *where* the desired motorist's response needs to take place. For example, simply cautioning motorists of abrupt stops ahead can be counterproductive if the information on how far downstream to expect abrupt stops is not provided. |
| 5 | **Degree of Desired Response** | TMC staff considers how the DMS message affects the desired motorist degree of response. For example, if a DMS message is advising motorists to use an alternative route, how much traffic shall divert before canceling this message? |
| 6 | **Proximity of DMS to Problem** | The DMS selected for a message reaches the appropriate audience for the message to be displayed. TMC staff considers the expected duration of the incident or lane closure to make sure it is longer than the travel time from the DMS to the location of the incident or lane closure. |

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## 4.2.6   Message Priorities

Foremost, DMSs shall provide motorists with real-time information relevant to their trips, whether it be related to traffic congestion, incidents, hazards, etc. In terms of secondary responsibilities, DMSs provide motorists with information relevant to future trips, such as future roadwork or a special event that is expected to cause delays. DMSs can also be used to display various safety messages or any other alerts when there are no other higher-priority road user messages to display.

| Priority | Message Type | Description |
|---|---|---|
| **Default Display** | Travel Time and Travel Conditions | Traffic conditions, including travel time information, are shown on the DMS. |
| **Priority 1** | Emergencies | Information about mandatory evacuations, major security warnings, and, if specific to the area of the DMS, major National Weather Service (NWS) alerts, such as a flash flood warning, take precedence over all other incidents or events.<br>In the case of a lane blocking incident occurring simultaneously near a specific DMS, two phases may be used for alternating Priority 1 and Priority 2 messages. |
| **Priority 2** | Lane Blocking or Hazardous Incidents | Lane-blocking traffic incidents and unexpected roadway conditions such as major crashes, closures and diversions, flooding, brush fires, etc., are always communicated to motorists, even during an emergency or evacuation. |
| **Priority 3** | Congestion within 10-Mile Radius of the DMS | This is only for non-recurring, unexpected traffic congestion and does not include typical morning rush-hour congestion. |
| **Priority 4** | AMBER, Silver, Purple, and Blue Alerts | AMBER, Silver, Purple, and Blue Alerts may also be an even higher priority depending on the seriousness of the situation. |
| **Priority 5** | Non-Lane Blocking and Non-Hazardous Incidents | This refers to incidents that are not blocking lanes and are not posing hazards to motorists, but motorists need to be aware of conditions downstream from their locations. |
| **Priority 6** | Special Event Messages | This refers to messages that direct motorists to the location of a special event venue or its parking and includes any advance notices. |
| **Priority 7** | Advance Notice of Special Events or Roadwork | Planned special events and roadwork or lane closures that are expected to have an impact on traffic shall be posted six days in advance. |
| **Priority 8** | Public Safety Messages (PSA) Messages | Approved safety messages as found on the Department's Highway Signing Program Website. |

## 4.2.7   Before Congestion Clears

Once the event or incident has been removed from the scene, it is important to note that the TMC staff's DMS responsibilities are not finished until the congestion associated with the event is over. DMS messages shall be used to inform motorists that congestion is still present.

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## 4.3 DMS Message Design Guidelines

If DMS messages are to be received and processed effectively by motorists, the messages must be delivered in a way that makes it easy for the drivers to read while driving; that is when there is limited exposure time available at high speed. Otherwise, if the message is confusing, ambiguous, too long to be read in time, or not displayed long enough, the operational effects of the DMS will diminish. Hence, this chapter provides guidelines for the design of DMS messages that help to enhance motorists' understanding and help present them in a consistent, standardized way throughout the State.

The design of DMS messages can be divided according to four design principles:

- Message Content
- Message Capacity and Configuration
- Message Timing and Limits
- Message Abbreviations

### 4.3.1 Message Content

Foremost, motorists are concerned with knowing or learning about information that will affect any of their current or future trips and what actions, if any, may need to be taken to avoid the incidents or delays. If there is an event or incident that is being communicated via a DMS, motorists' primary concern would be to know a) its exact location and b) its effects. For example, a DMS message simply stating, "CRASH 5 MILES AHEAD" gives little information about what motorists can or should expect and whether they should attempt to alter their route. Even if an estimate of the initial delay is unavailable, information on the number of lanes that are closed (or open) implies that some level of delay can be expected. These DMS messages shall also present "advice" or alternative route guidance to provide motorists with information to make informed decisions on avoiding incidents or delay.

Each DMS message must also be understandable by both locals and visitors alike. Visitors will typically have a very limited background about a city other than the interstate route numbers, let alone the distance to other routes, while most locals will recognize the names of intersections and parallel streets. For example, a DMS message simply stating, "NO REPORTED INCIDENTS TO US-1" gives little information to tourists as to how close US-1 is. Similarly, abbreviations for well-used landmarks, bridges, and recreational facilities may not be understood by visitors.

Color DMS messages policies must adhere to MUTCD and State guidelines. See Appendix C for color DMS guidelines.

### 4.3.2 Message Capacity and Configuration

The maximum length of a DMS message is limited by the number of MUTCD approved characters that can fit on the DMS display and the time the motorists have available to read the message. Basically, the entire message must be short enough to allow motorists to glance quickly at the sign and understand it while driving.

Occasionally, DMS messages may be too long to be displayed in just one phase and require that they are split. The MUTCD, Section 2E.21, states, "A three-line changeable message sign (DMS) shall be limited to not more than two messages." "Two messages" is meant to be understood as "two phases."

# TMC Standard Operating Guidelines

Additional principles for splitting messages include:

- Research has shown that at speeds of 55 mph or more, motorists can read an eight-word message (excluding prepositions such as "TO" and "AT"). Longer messages shall thus be avoided to prevent motorists from having to reduce their speeds to read the messages.

- No more than three lines of information shall be displayed per phase; research has shown that motorists can comfortably process four to five units of information at a speed of around 35 mph. This also ensures that motorists have enough time to view and understand a message in the time it takes to approach the DMS when traveling the speed limit.

- Each phase must be understood by itself. When a DMS message is displayed over two phases, each phase must be able to stand alone. In other words, a driver seeing only one frame should understand its meaning. Each phase should also make sense regardless of which phase appears to the motorist first.

- Compatible units of information shall go together in each phase. Units of information unrelated to each other shall not be placed in the same phase.

- It is preferable to use days of the week rather than calendar dates. For example, "TUES TO FRI" is preferable over "NOV 5 – NOV 8".

- Arterial DMSs may not be capable of displaying larger messages compared to freeway DMSs. When combining arterial DMSs and freeway DMSs with the same messages, the TMC operator must be aware of the arterial message capacity when creating messages.

- If a DMS message that needs to be communicated to motorists exceeds the maximum number of units of information that shall be displayed, the TMC staff shall reassess the message to determine what elements of it can be omitted.

### 4.3.3   Message Timing and Limits
Principles for freeway and arterial DMS message timing and limits include:

- **Reading Time:** Research has shown that most motorists can begin reading 18-inch characters from about 600 feet away, where reading time is approximately one word per second, excluding prepositions such as "TO" and "AT."

- **Length of Time:** Message length of time, which is directly related to reading time, shall never be less than the time it takes for motorists to read the message and shall preferably be greater. Thus, each DMS message phase shall be displayed for at least two to four seconds.

- **Message Length:** Longer messages shall be avoided to circumvent motorists reducing their speed to read the messages. Ideally, for speeds of 55 mph, eight words shall be limited to each DMS message phase, seven words per phase at 65 mph, and six words per phase at 70 mph.

# TMC Standard Operating Guidelines

- **Font Size:** Per the MUTCD, DMS message letters shall all be capital letters whose height shall preferably be 18 inches and no smaller than 10.6 inches.

## 4.3.4   Message Abbreviations

It is always preferable that words be spelled out in DMS messages, whenever possible, to reduce chances for confusion from the many types of motorists who may understand abbreviations differently or with differing skill. Because DMS displays can typically handle no more than 18 characters per line and three lines total, the TMC staff may be limited in what they can display in full and may need to rely on abbreviations to convey the needed information.

It is important to consider, however, that not all motorists may understand all abbreviations in the same manner. In certain cases, abbreviations can imply multiple things and should thus be carefully selected and used across the state with consistency to reduce motorist confusion. Some abbreviations are more meaningful when accompanied by a "prompt" word. Below is a list of approved abbreviations that can be presented to motorists per Section 1A.14 of the MUTCD:

| Word | Abbreviation | Prompt Required | Typical Prompt Format |
|---|---|---|---|
| Access | ACCS | Yes | ACCS (Road) |
| Afternoon/Evening | PM | | |
| Ahead | AHD | Yes | (ACCIDENT) AHD |
| Alternate | ALT | | |
| Avenue | AVE, AV | | |
| Bicycle | BIKE | | |
| Blocked | BLKD | Yes | (LANE) BLKD |
| Boulevard | BLVD | | |
| Bridge | BRDG | Yes | (BRIDGE NAME) BRDG |
| Center | CNTR | | |
| Chemical | CHEM | Yes | CHEM (SPILL) |
| Circle | CIR | | |
| Clear | CLR | | |
| Condition | COND | Yes | (TRAFFIC) COND |
| Congestion | CONG | Yes | (TRAFFIC) CONG |
| Construction | CONST | Yes | CONST (AHEAD) |
| Court | CT | | |
| Crossing | XING | | |
| Delay | DLY | | |
| Downtown | DWNTN | Yes | DWNTN (TRAFFIC) |
| Drive | DR | | |
| East | E or EB | Yes | E (street name) |
| Eastbound | EB or E-BND | | |
| Emergency | EMERG or EMER | | |
| Enter, Entrance | ENTR | | |
| Exit | EXT | Yes | (NEXT) EXT |
| Express | EXP | Yes | EXP (LANE) |
| Expressway | EXPWY | | |

# TMC Standard Operating Guidelines

| Word | Abbreviation | Prompt Required | Typical Prompt Format |
|---|---|---|---|
| Freeway | FWY | | |
| Friday | FRI | | |
| Hazardous | HAZ | Yes | HAZ (DRIVING) |
| Hazardous Material | HAZMAT | | |
| High Occupancy Vehicle | HOV | | |
| Highway | HWY | | |
| Information | INFO | | |
| Lane | LN | | |
| Left | LFT | | |
| Maintenance | MAINT | | |
| Major | MAJ | Yes | MAJ (ACCIDENT) |
| Mile(s) | MI | Yes | (number) MI |
| Miles Per Hour | MPH | Yes | (number) MPH |
| Minor | MNR | Yes | MNR (ACCIDENT) |
| Minute(s) | MIN | Yes | (number) MIN |
| Monday | MON | | |
| Morning/Late Night | AM | | |
| North | N | Yes | N (street name) |
| Northbound | NB, North, or N-BND | | |
| Parking | PRKG or PKING | | |
| Parkway | PKWY | | |
| Pedestrian | PED | | |
| Right | RHT | | |
| Road | RD | | |
| Roadwork | RDWK | Yes | RDWK (AHEAD) |
| Route | RTE | | |
| Saturday | SAT | | |
| Service | SERV | | |
| Shoulder | SHLDR | Yes | (ON) SHOULDER |
| South | S | Yes | S (street name) |
| Southbound | SB, South, or S-BND | | |
| Street | ST | | |
| Sunday | SUN | | |
| Temporary | TEMP | | |
| Thursday | THURS | | |
| Traffic | TRAF | | |
| Travelers | TRAVLRS | | |
| Tuesday | TUES | | |
| U.S. Numbered Route | US | | |
| Vehicle(s) | VEH | Yes | (DISABLED) VEH |
| Warning | WARN | | |
| Wednesday | WED | | |
| West | W | | |
| Westbound | WB, WEST, or W-BND | | |

# TMC Standard Operating Guidelines

## 5   Event Management

### 5.1   Operational Policies

The FDOT has adopted numerous policies to help reduce events and clearance times. These policies contain guidelines for reopening roadways as soon as possible to restore a safe and orderly flow of traffic following events on Florida's roadways. These guidelines have been reviewed and endorsed by all pertinent stakeholders and shall be adhered to by TMC staff at all times.

1. **Highway Safety Smoke Management Interagency Agreement:** This policy is an agreement reached between the FFS, FDOT, and the FHP. The purpose of this agreement is to facilitate proper coordination and implementation to warn the Florida public concerning roadway visibility hazards resulting from wildfires and prescribed burning.

2. **Spill Mitigation Guidelines:** This policy contains guidelines for early responders to motor vehicle crashes to reduce the confusion and subsequent delays in reopening roadways when spilled vehicle fluids are involved. These guidelines were developed by the multi-agency Florida Statewide Traffic Incident Management Program (TIMP) to clarify the goals, objectives, and processes for clearing the highway of spilled motor vehicle fluids resulting from crashes and other vehicle incidents. The guidelines were reviewed and endorsed by the FDOT, Florida Department of Environmental Protection, and the FHP. The latest version of this policy can be found online at
 http://www.floridatim.com/documents/Training/Spill%20Mitigation%20Guidelines.pdf.

3. **Open Roads Policy:** The "Open Roads Policy" is an agreement between the FHP and the FDOT to expedite the removal of vehicles, cargo, and debris from the roadways on the SHS to restore a safe and orderly flow of traffic following incidents on Florida's roadways. The specific goal is to clear the travel lanes of roadways within 90 minutes of the arrival of the first responding FHP officer. The latest version of this policy can be found online at
 http://www.floridatim.com/documents/Training/Open%20Roads%20Policy.pdf.

# TMC Standard Operating Guidelines

## 5.2 Proactive Detection and Monitoring

TMCs should have procedures that ensure roadway events or adverse traffic conditions are detected or anticipated as early as possible. This is because the sooner that incidents or events are detected and responded to, the less likely that secondary incidents will occur and the greater the likelihood delays can be minimized and driver costs reduced. To illustrate this point, the FHWA estimates that each minute of travel-lane blockage due to an incident creates on average four minutes of delay for every vehicle affected. Another study found that an estimated $2,000 is lost just in travel time for each minute of incident duration. Thus, the TMC staff should pay purposeful attention to any number of systems and applications that can help detect events as quickly as possible, as well as concentrating on areas that have historical bottlenecks, such as ramps and construction zones.

| Instrument | Guidelines |
|---|---|
| **Road Ranger Radios** | The TMC staff shall monitor and respond to Road Ranger radio traffic promptly and evaluate the priority of the radio traffic before handling any other activity. |
| **FHP CAD System** | The TMC staff shall check the FHP CAD website for incident information at least every five minutes. |
| **CCTV Cameras and Video Walls** | The TMC staff shall at least once per hour, or more often as time permits, scan the entire roadway's right-of-way for events using CCTV cameras. |
| | Using CCTV cameras, the TMC staff shall look for: <br> a) Vehicles stopped in the travel lanes due to a crash or mechanical failure. <br> b) Slow-moving or stopped traffic. <br> c) Objects in the roadway that may affect traffic. <br> d) Animals on or near the roadway that may affect traffic. <br> e) Weather conditions that may affect traffic, such as heavy fog or flooding. <br> f) Signals stuck in flash or signs of arterial detector malfunctions. <br> g) Anything out of the ordinary on or near the roadway. |
| | While performing the CCTV camera scans, the TMC staff shall also look for anything suspicious or out of the ordinary about the department's roadway and ITS equipment and infrastructure, including damage to guardrails, lighting poles, ITS poles, ITS structures, potholes, spills, or debris on the roadway, and even theft. |
| | The TMC staff shall preset CCTVs to view areas where traffic queues or problems typically build up, including at bottlenecks, ramps, and construction work zones and display the images on designated areas of the video wall. |
| | When a traffic flow abnormality or disturbance is detected, the TMC staff shall monitor that location through CCTV cameras to determine the cause(s) as well as the location downstream of the event to quickly detect any secondary incidents in the queue. |
| **Televised Media** | The TMC staff shall be able to monitor weather and news stations to detect incidents that have not previously been detected. |

# TMC Standard Operating Guidelines

| Instrument | Guidelines |
|---|---|
| Roadway Detectors | The TMC staff shall configure SunGuide to produce alerts when detector data shows a 10% decrease in typical speed for a roadway section by the time of day. |
| | The TMC staff shall configure SunGuide to produce alerts when detector data shows a 10% increase in typical lane volume or occupancy for any roadway section by the time of day. |
| | The TMC staff shall always monitor the SunGuide map that displays detector data for any signs of traffic slowdowns or events. |
| FLATIS | The TMC staff shall check the FL511.com website every 15 minutes for incidents (in neighboring districts) and statewide floodgate and banner messages for events that may be affecting the entire State. |
| Secondary Websites | For any type of roadway that does not have ITS device coverage, the TMC staff shall use secondary traffic information sources such as Google Maps or Waze for congestion verification and as an incident confirmation tool. |
| Email | The TMC staff shall continually monitor for emails that may provide notice of events or alerts. |
| Telephones | The TMC staff shall monitor and promptly answer all telephone calls from the FHP, local law enforcement, other TMCs, local agencies, and motorists advising of a possible event. |



*Figure 11: TMC Operator Monitoring Live Traffic Conditions*

# TMC Standard Operating Guidelines

## 5.3  Event Confirmation and Evaluation

TMC staff should always try to confirm and properly evaluate events to decide the most proper response. That's because incorrect or deficient event evaluations can lead to wasted efforts by the personnel dispatched improperly to the scene as well as increased event durations. More importantly, it can make the difference between life and death in more serious events or situations.

| Facet | Guidelines |
|---|---|
| **Event Confirmation** | Once an event has been reported or confirmed, via FHP, Road Rangers, SunGuide, or other means, the TMC staff shall verify it using CCTV cameras when available. |
| | For all incidents, no matter how large or small, the TMC staff shall attempt confirmation using CCTV cameras, as close as possible to the location. |
| | Once a detector shows that there is an unusual traffic slowdown on the SunGuide map, the TMC staff shall use a CCTV camera to find the cause of the decreased speed. |
| | If a CCTV camera cannot see the event, the TMC staff shall dispatch a Road Ranger to the scene to confirm the event and provide details. |
| | If one or more indicators of a traffic event are present, but the potential incident cannot be located using a CCTV camera, the TMC staff shall more thoroughly investigate using information from the FHP, Road Rangers, approved traffic related websites, other agency cameras, and television station traffic reports. |
| | If a CCTV camera or Road Ranger cannot provide confirmation of the event, the TMC staff shall note the event in SunGuide and request that the FHP or local law enforcement attempt to confirm the event. |



*Figure 12: A Crash Closes EB I-4 Lanes on March 6, 2018 near Tampa, Florida*

# TMC Standard Operating Guidelines

| Facet | Guidelines |
|---|---|
| **Event Evaluation** | When an event is detected or reported, the TMC staff shall collect the following information:<br>a) Type, location, and direction of the incident (e.g., cross street).<br>b) Road name.<br>c) Proximity to exit.<br>d) Lane closure information.<br>e) Congestion head and tail.<br>f) More information (injuries, HazMat, fire, vehicle description, etc.).<br>g) FHP incident number (if available at the time). |
| | If injuries are associated with an event, the TMC operator can expect additional first responder resources at the incident scene as well as frequently changing lane closures as the severity of the incident increases. The TMC staff shall assume injuries have occurred at an event if:<br>a) A vehicle has rolled over or is flipped.<br>b) A vehicle is on fire.<br>c) The passenger compartment is crushed or dented.<br>d) A pedestrian or bicyclist has been hit.<br>e) A passenger has been thrown from the vehicle.<br>f) A passenger is bleeding.<br>g) Any passengers have not left the vehicle or are not moving.<br>h) The vehicle pulls over and the driver appears to be in medical distress.<br>i) A pedestrian is on the freeway walking in a travel lane without regard for his or her safety. |
| | The TMC staff shall assume that there is a risk to public safety if:<br>a) An individual is attempting to repair a vehicle in a travel lane without an emergency vehicle's warning lights on or an equivalent level of protection.<br>b) An individual is attempting to cross a freeway.<br>c) A bicyclist is on a freeway.<br>d) A stopped or slow-moving vehicle is on the freeway needing other motorists to stop suddenly or swerve to avoid it.<br>e) A stopped vehicle is in a location where it is known that there is insufficient stopping or passing-sight distance under the conditions at the time.<br>f) A vehicle is entering the wrong direction, including excessive speed, or with frequent, non-signaled lane changes.<br>g) A vehicle roadside fire is visible.<br>h) Fluid is leaking from a vehicle following an accident that could be considered hazardous.<br>i) A tanker truck is leaking its contents.<br>j) The incident is located on a bridge, inside a construction zone, or around a horizontal or vertical curve. |
| | Once an event has been detected, confirmed, and the personal injuries and public risk have been assessed, the TMC staff shall classify all events into one of the following levels:<br>a) Level 1 - Minor events where the impact to roadway travel is estimated to be less than 30 minutes with no blockage, or impact to the traveled roadway is estimated |

| Facet | Guidelines |
|---|---|
| | to be less than 30 minutes with minor lane blockage. |
| | b) Level 2 - Intermediate events where the impact to roadway travel is estimated to be more than 30 minutes but less than two hours, with lane blockages but not a full closure of the roadway. |
| | c) Level 3 – A major event that is estimated to affect the roadway for more than two hours, the roadway is fully closed in one direction of travel, or a wrong way driver event. |

Once an event has been confirmed and evaluated, the TMC staff must inform the proper agencies to ensure correct information is given to them so that they can dispatch suitable resources to the event. The TMC staff must also inform the public so that they too can make informed decisions on how to best respond, including the use of alternative routes to their destinations.

## 5.4   Event Notification and Response

| Instrument/ Party | Guidelines |
|---|---|
| Road Rangers | TMC staff shall notify Road Rangers of all events where there is a motorist in need of assistance, blocked lanes, need of MOT, and any other kind of traffic control activities. |
| | TMC staff shall dispatch a secondary Road Ranger at locations where the primary Road Ranger may be exposed to an unsafe situation or when the following criteria are met:<br>a) In a downslope of an overpass.<br>b) In a travel lane.<br>c) On a dangerous curve.<br>d) In poor sightlines.<br>a) On a bridge or ramp. |
| FHP | The FHP serves as central dispatch for emergency services and shall be notified for all requests for emergency services, such as:<br>a) EMS.<br>b) Police Activity (crash investigation, fatalities, etc.).<br>c) Fire Rescue.<br>d) Hazardous Materials (HazMat). |
| | The FHP shall be notified for all lane blockage events, crashes, and requests for tows. The FHP requires the TMC staff to make a follow-up notification to FHP Dispatch for all events detected by the FHP. |
| Central Office | TMC staff shall adhere to the guidelines found in Appendix D that dictate which events TMC staff shall notify the Central Office Executive Committee about through email. |
| FDOT Staff | TMC staff shall contact the District EOC for the following events:<br>a) Incidents that are expected or estimated to have lanes blocked more than two hours.<br>b) All lanes blocked for any amount of time, simultaneously on two separate facilities.<br>c) If there will be an evacuation or implementation of the diversion route. |

# TMC Standard Operating Guidelines

| Instrument/ Party | Guidelines |
|---|---|
| | TMC supervisory staff shall notify District FDOT staff at once upon detection or being notified of:<br>a) Natural disasters.<br>b) Terrorist activity.<br>c) Suicide attempts. |
| **FDOT Maintenance** | TMC staff shall notify the FDOT Maintenance staff on any:<br>a) Damage, property theft, or vandalism to State or local government-owned infrastructure or equipment.<br>b) Debris on the roadway.<br>c) Apparent hazardous materials spill.<br>d) Severe incidents with long-term MOT requirements (typically estimated to have greater than one hour of lane blockage). |
| **Local Law Enforcement** | TMC staff shall notify local law enforcement of all events located within their jurisdiction, including unconfirmed events having an elevated level of confidence. |
| **PIO** | TMC staff shall coordinate with the District public information officer (PIO) with the method of notification and the threshold of when to notify the PIO of major events. |
| **Regional RTMC** | TMC staff shall coordinate with other District TMCs or Florida's Turnpike Enterprise RTMC for incidents that affect their region. |
| **DMS** | TMC staff shall use DMSs for all events with blocked travel lanes. (See Chapter 4 for details on DMS usage). |
| | If a WWD event is reported in an area where DMS are present, the WWD event shall be pushed immediately to the DMS. If TMC staff cannot find the WWD after five minutes, the DMS message shall be removed until a responder can confirm the event. |
| | TMC staff shall determine if vehicles blocking the lanes will be removed immediately. If it is determined that the incident will take more than three minutes to clear, the TMC staff shall begin displaying messages on DMS upstream of the incident. |
| **FLATIS** | TMC staff shall publish to FLATIS all verified roadway events that are blocking lanes. |
| | TMC staff shall publish roadway events without lane blockage to FLATIS if:<br>a) If it is in an area that is dark or has limited lighting.<br>b) If weather conditions are causing drivers to slow down considerably.<br>c) If it is located on a bridge or has limited sight distance.<br>d) If it poses a safety risk to motorists. |
| | TMC staff shall post to FLATIS unconfirmed events if there is high confidence there are lanes blocked; however, the TMC staff shall remove the event from FLATIS if it is still unconfirmed after 10 minutes with no further sign of the event. |
| | TMC staff shall publish (or request from the District Two RTMC) a floodgate or banner message regarding all issues affecting an area (e.g., state, region, entire roadway, etc.) such as a major weather event, major special event, major crash, bridge collapse, etc. |
| **HAR** | TMC staff shall publish to HAR all verified roadway events that are blocking lanes. |

# TMC Standard Operating Guidelines

| Instrument/ Party | Guidelines |
|---|---|
| | TMC staff shall publish to HAR all issues that affect an area (e.g., state, region, entire roadway, etc.) such as a major weather event, major special event, major crash, bridge collapse, etc. |
| E-mail | TMC staff shall create e-mail notification groups through the SunGuide software or FDOT e-mail servers that notify appropriate personnel of major incidents. |
| STIX | The Southern Traffic Information eXchange is a source of coordinating incidents that are in close proximity of state borders. The districts along the northern Florida border may need multi-jurisdictional incident response to handle situations efficiently and safely. |
| CB Radio Advisory System | The FDOT maintains a statewide system of traveler information stations, which are commonly called CB (Citizens Band) Wizard stations. These traveler information stations provide messages directing the traveling public with CB radios to Channel 19. The CB Wizard system is used in case of emergency situations, such as a hurricane, fire, contraflow, or other serious traffic conditions. |

## 5.5   Event Monitoring and Closure

It is imperative that events are continuously checked and updated to reflect real-time conditions. When the status of an event has changed or a notifying or responding agency has informed the TMC staff of any changes, the TMC staff should at once update the information within SunGuide and update notification systems such as DMSs and the FL511 system to provide up-to-date and prompt information to motorists and other agencies.

1. **Event Notification Verification:** TMC staff shall verify all response plan items are functioning. Several methods of response plan verification include:
   a) Verifying DMS messages with a CCTV camera or asking that a Road Ranger confirm the message is working if no CCTV cameras are available.
   b) Asking that Road Rangers tune in and confirm HAR messages are audible and correct.
   c) Checking the FL511.com website for the accuracy of the event information posted.
   d) Calling 511 to verify a FLATIS message is correct.

2. **Event Notification Updates:** TMC staff shall update all public facing event (DMS, FLATIS, HAR, etc.) notifications within three minutes after confirming pertinent event changes.

3. **Event Responders Updates:** TMC staff shall update all event responders within five minutes after updated incident information becomes available.

4. **Event Monitoring:** TMC staff shall use CCTV cameras to view the incident scene and responders on the scene (if any). This helps reduce response time if the Road Ranger is in an unsafe situation and allows the TMC and the FHP to decide if more help needs to be dispatched to the scene of the call.

5. **MOT Assessments:** All long-term MOT assessments shall be made within 10-30 minutes from the event verification or upon Road Ranger arrival.

# TMC Standard Operating Guidelines

6. **Road Ranger Follow Up:** TMC staff shall contact all Road Ranger Service Patrol operators at active assists every 15 minutes to ensure that the Road Rangers are safe and to receive updated incident information.

7. **FLATIS Updates:** All published floodgates and banners, except for road work and planned special events, must be republished every 30 minutes (or as event details such as congestion or lane blockage change) until the conclusion of the event.

8. **Event Documentation:** TMC staff shall record all pertinent details into SunGuide, such as responder arrival and departure times, Road Ranger dispatches, weather conditions, types of injuries, types of vehicles involved in an incident, the nearest CCTV camera, and linked events. The event documentation shall be completed to the degree in which information is available. Many of these documentations are standard when the operator completes the SunGuide event. Operators shall also manually enter comments to better document the specifics of the incident. Detailed comments with available information are especially valuable, as they may give clarification when the Central Office reviews events or at Traffic Incident Management (TIM) meetings.

9. **Event Closure:** TMC staff shall monitor the event and not deem it closed or over until:
   a) All vehicles or all those involved in the event itself have left the scene.
   b) All applicable agencies have been notified.
   c) All responders on the scene have departed.

10. **Event Closure:** TMC staff shall verify that all response plan items have been cleared including DMS messages, HAR messages, FL511 messages, warning gates, and all others.

# TMC Standard Operating Guidelines



*Figure 13: Dynamic Message Sign in Pensacola, Florida*

## 5.6 Prioritizing Multiple Events

Occasionally, a substantial number of events will take place simultaneously or the TMC staff will have to perform the same activity for two or more different events in close proximity to each other. These kinds of situations will force the TMC staff to prioritize events and operational activities to ensure the best service is provided to the public and incident responders.

1. **Injury Priority**: The FHP and other stakeholders are notified of events with the most serious injuries first.

2. **Event Severity**: The more severe the event, the higher priority (for example, Level 3 incidents shall be handled before Level 1 incidents).

3. **Surrounding Event Traffic Speed**: Events at locations with higher posted vehicle speeds take precedence over events at locations with lower posted speeds.

4. **Surrounding Event Traffic Volume**: Events at locations with higher traffic volumes take precedence over events at locations with lower traffic volumes.

5. Roadway Geometry: Events at locations such a curves or bottoms of hills create a potential for secondary and/or multicar crashes. This should be considered when assigning priority.

6. **Road Ranger Dispatch Priority**: The TMC staff shall dispatch a Road Ranger according to the following event priority:
   a) Injury crash.
   b) Non-Injury crash blocking travel lanes.
   c) Disabled vehicle blocking travel lanes.
   d) Abandoned vehicle blocking travel lanes.
   e) Emergency traffic-control operations.
   f) Debris blocking one or more travel lanes.
   g) Non-injury crash not blocking a travel lane.
   h) Disabled vehicle not blocking a travel lane.
   i) Abandoned vehicle not blocking a travel lane but is in a questionable location.

7. **DMS Location Priority**: When two lane blocking incidents are occurring simultaneously, the TMC staff shall post messages for both incidents. Each event response plan shall display a one-phase message and the messages shall be merged together in the SunGuide software to display a two-phase message on the DMS.

## 5.7   Miscellaneous Event Management Issues

1. **Hurricane Preparedness:** TMCs shall each have in place a Hurricane Response Action Plan intended to establish procedural guidelines for hurricane preparations and operational activities prior to, during, and after a storm. The TMC staff will have assigned roles which will be managed by the RTMC Manager with approval of the FDOT Project Manager, who will communicate with District Headquarters, the District EOC, County EOCs, District Damage Assessment Teams (DATs), other districts, and the State EOC (SEOC) in Tallahassee.

2. **Media Questions:** All media questions shall be directed to the district PIO. TMC staff members are prohibited from communicating with the media with regards to the specifics, causes, or estimated duration of an incident and are prohibited from making statements to media outlets that will be aired on television, radio, the internet, or published in printed material such as newspapers and websites.

3. **Railroad Agency Notification:** While conducting routine CCTV camera scans, railroad agencies shall be notified at once of the following:
   a) Any event directly on the railroad tracks.
   b) Any event within the limits of the crossing gates.
   c) Malfunctions of, or damages to, at-grade crossing infrastructure (gates, lights, etc.).
   d) Suspicious activity or vandalism to tracks and other infrastructure.

# TMC Standard Operating Guidelines

4. **Transit Authority Notification:** The proper transit authority for each county shall be notified at the beginning and end of any Level 2 or Level 3 events detected along any arterial corridors.

5. **Complaints:** Complaints from the public or other agencies must be handled in a fair, consistent, and polite manner. When a complaint is received, TMC staff shall record the name, work telephone, home telephone, and details such as date, time, place, and allegations and give them to the District TSM&O Program Engineer.

## 6 Roadway Event Standard Operating Guidelines

This chapter provides an overview of situations or events that TMC staff members are likely to deal with regularly. The goal of this chapter is to lay out a vision of TMC staff and stakeholder responsibilities and actions regarding, but not limited to, the planning, monitoring, creating, managing, and ending of each event type. The guidelines are based on studies of both statewide and national best practices such as the open roads and quick clearance programs discussed in Chapter 5.

SOGs that are exclusive to specific roadway events are included in their own section in this chapter. For example, the actions needed on the part of TMC staff during a wildfire event would be covered in Section 6.3. The standard activities or protocols that are typically executed for nearly all event types (such as verifying a Waze alert) are not repeated and have been covered in Chapter 5 of this document.

Events covered include:

1. Abandoned Vehicle, Disabled Vehicle, and Vehicle Fires
2. AMBER, Silver, Purple, and Blue Alerts
3. Brushfire and Wildfire
4. Congestion, Crash, and Off-Ramp Backups
5. Debris
6. Emergency and Scheduled Roadwork
7. Pedestrian
8. Public Service Announcements
9. Special Events
10. Weather, Flooding, and Visibility
11. Wildlife
12. Wrong-Way Driving

# TMC Standard Operating Guidelines

## 6.1 Abandoned Vehicle, Disabled Vehicle, and Vehicle Fire Events

Many roadway events managed by TMC staff involve abandoned or disabled vehicles, which include both lane-blocking and non-lane-blocking vehicles. TMC staff also occasionally manage vehicle fires that emit heavy smoke that, consequently, can obscure motorists' view of the roadway.

### 6.1.1 Active Event Planning, Monitoring, and Detection

1. **Monitoring:** TMC staff shall look for abandoned vehicles, disabled vehicles, and vehicle fire events during their routine hourly CCTV camera views. They pay especially close attention for any that may not readily come into focus, such as those located at interchanges, ramps, beneath overpasses, etc.

2. **Evaluation:** FDOT Maintenance, the FHP, local law enforcement, Road Rangers, and TMC staff shall evaluate for the following, in order, at the abandoned vehicle, disabled vehicle, or vehicle fire event:
   a) Injured, sick, or incapacitated individuals as well as individuals within roadway proximity.
   b) Hazards posed to emergency services and motorists.
   c) Anything of a suspicious nature, such as a broken door or window.
   d) Smoke or fire.
   e) Strong odors indicative of toxic chemicals.
   f) Presence of dangerous or hazardous cargo.
   g) Spilled fluids or cargo.
   h) Obvious vehicle defects or issues, such as a blown tire.



*Figure 14: Vehicle on Fire in Manatee County Closes an Off-Ramp*

### 6.1.2 Event Notification and Response

1. **Road Ranger Dispatching:** TMC staff shall dispatch a Road Ranger to any abandoned vehicle, disabled vehicle, and vehicle fire, except for any that are stolen, wanted, or appear conspicuously a part of criminal activity. For vehicles implicated in criminal activity or that appear suspicious, TMC

staff shall evaluate the situation to determine if a Road Ranger may safely deploy MOT or provide support to the FHP or law enforcement.

2. **Red-Tag Authorization Notice:** Once having received notice of or detecting an abandoned vehicle and determining its legal status, the FHP shall notify TMC staff if the abandoned vehicle in question is stolen or wanted and if Road Rangers are authorized to "Red-Tag" the abandoned vehicle.

3. **Red-Tagging Vehicles:** The FHP requires the make, model, tag, and location to "Red-Tag". Road Rangers do not "Red-Tag" an abandoned vehicle until TMC staff has confirmed that the FHP has given permission to do so. Road Rangers shall also note the exact time that they did so and share this information with TMC staff who record the information.

4. **Abandoned Vehicle Relocation:** TMC staff shall request that Road Rangers promptly relocate an abandoned vehicle in the case that it poses a major safety hazard to motorists, such as those that may be located on or near the mouth of a ramp. This shall only be done at times when a tow truck or the FHP will need a significant amount of time before being able to relocate the vehicle, or the event poses a serious danger to motorists. Before moving the vehicle, the TMC shall contact the FHP or local law enforcement to make them aware of the abandoned vehicle. Once the vehicle is relocated the Road Ranger shall promptly notify TMC staff with the make, model, tag, and location of the relocated vehicle. TMC staff shall promptly notify FHP dispatch with the relocated vehicle information so the FHP can assist the owner to find the vehicle.

5. **Motorists DMS Notification:** TMC staff shall notify motorists within five miles upstream of vehicles stopped on limited-access roadway shoulders, in areas of poor lighting or visibility, or in a dangerous location. This may be especially necessary at times in roadway sections with narrow shoulders. The following DMS message format below shall be used:

**Template:**

```
EVENT TYPE
LOCATION
BLOCKAGE
```

**Example:**

```
DISABLED VEHICLE
BEFORE FOWLER AVE
LEFT LANE BLOCKED
```

6. **FDOT Maintenance Notification:** Vehicle fires can damage the roadway infrastructure in many ways, from damaging the pavement, concrete bridge joints, and guardrail posts, to more subtle ways. TMC staff shall thus notify FDOT Maintenance of all vehicle fire events so they may assess any potential infrastructure damage.

### 6.1.3 Event Management Closure

1. **FDOT Maintenance Go-Ahead:** Only after FDOT Maintenance has investigated roadway infrastructure damage and deemed the roadway safe to travel, shall any blocked travel lanes or shoulders that the vehicle fire closed be reopened once it has been removed from the scene.

# TMC Standard Operating Guidelines

2. **FHP Abandoned Vehicle Removal Responsibility:** The FHP is responsible for overseeing the removal of any abandoned vehicles and ensures they are removed from the roadway's right-of-way within six hours after they have been "Red-Tagged" by a Road Ranger.

3. **Abandoned Vehicle Status Check:** TMC staff shall check the status of non-hazardous abandoned vehicles every 24 hours to note if they have left the scene or if there has been any other change to its original location or state. If no visual is available, TMC staff shall request that Road Rangers provide updates on the vehicle when passing through its last-known location.

4. **FHP Reminders:** TMC staff shall inform the FHP when an abandoned vehicle has not been removed from the roadway's right-of-way within a 72-hour timeframe, even if it is not posing a safety hazard as the vehicle can be distracting to motorists and be susceptible to criminal activity.

5. **Abandoned Vehicle Event Termination:** TMC staff shall first visually confirm that an abandoned vehicle is no longer on the scene before they terminate the event. In the case that no visual from a CCTV camera is available, TMC staff shall request that a Road Ranger confirm that the vehicle has left the scene whenever passing through the area during their regular patrols.
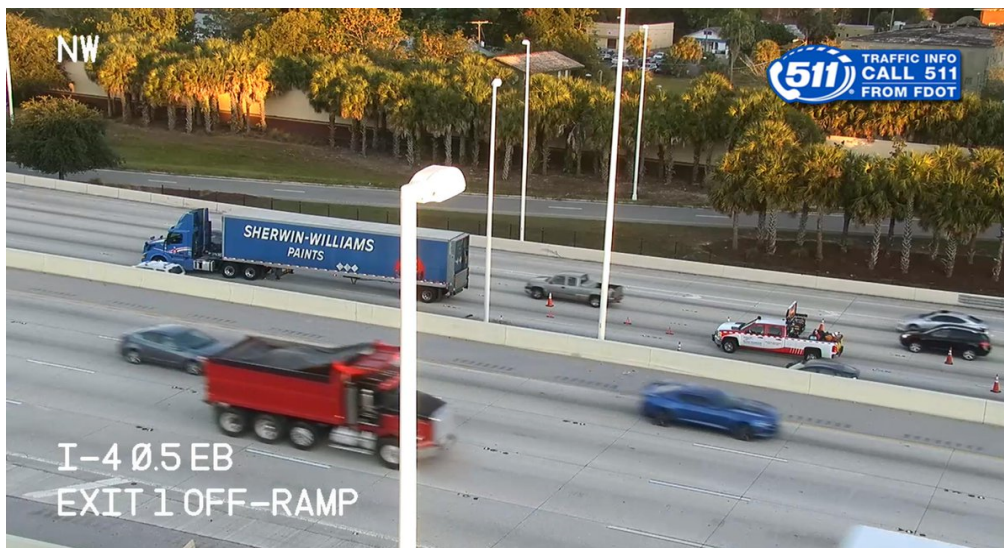


*Figure 15: Disabled Truck Blocking Lanes on I-4*

# TMC Standard Operating Guidelines

## 6.2    AMBER, Silver, Purple, and Blue Alert Events

The Florida Department of Law Enforcement (FDLE), in conjunction with the FDOT and the FHP, established the Florida Silver Alert plan and the Florida Blue Alert plan. The purpose of the Silver Alert plan is to broadcast critical information about a person who is clinically diagnosed with dementia, or any other condition that may cause the person to become confused or disoriented and is reported missing and believed to be driving a vehicle. The Blue Alert plan is used to notify the public of critical information when a Law Enforcement officer is killed, suffered serious bodily injury, or is missing while in the line of duty and the suspect, who is considered to pose an imminent threat to the public, is still at large.

The FDLE is also responsible for activating the AMBER Alert system if a child under the age of 18 is abducted and the make, model, and tag number is known about the vehicle used in the abduction.

All FDLE alert requests go through the District Five RTMC, who in turn determines which districts activate the alert and what DMS message should be posted. Once the signs are activated, motorists can be on the lookout for the vehicles. The public is instructed to report information by immediately dialing *FHP (*347) to provide the location and any other useful details if the wanted or missing vehicle is spotted.

### 6.2.1    Active Event Planning, Monitoring, and Detection

1.  **Florida Missing Persons and Blue Alert Plans**: The FDLE, District Five RTMC, and all district TMCs shall be familiarized with the criteria and standards outlined in Appendix E for requesting, activating, and managing an AMBER, Silver, Purple, or Blue Alert. This helps to minimize errors in how alerts are requested and published and helps to deliver consistency across the entire state.

2.  **Alert Activation Request**: The FDLE is the only entity that can request the District Five RTMC to publish AMBER, Silver, Purple, or Blue Alert DMS messages on limited-access roadways. No other agency or government department can directly request an AMBER, Silver, Purple, or Blue Alert message, regardless if all other criteria are met.

3.  **Alert Request Verification:** District Five RTMC staff shall evaluate the validity of all FDLE alert requests and seek further clarification on any anomalies or incomplete information to help ensure that no incorrect information is posted to the FL511.com website and to DMSs.

4.  **District Alert Distribution:** The FDLE and District Five RTMC staff shall determine together which districts shall display the alert messages to ensure maximum effective message distribution, based on their knowledge of the missing or the wanted person and the roadway network.

5.  **Individual District Alert Request:** Only the District Five RTMC can request from another district's TMCs to publish an AMBER, Silver, Purple, or Blue Alert DMS message along with the required message content. The FDLE locally situated in a district cannot make a request for the alert, even if one is in fact expected to be issued by the District Five RTMC.
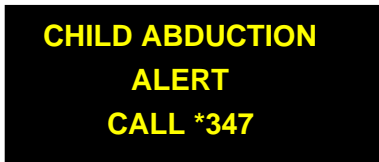
# TMC Standard Operating Guidelines

6. **Alert Request Monitoring:** TMC staff shall monitor emails for District Five RTMC AMBER, Silver, Purple, or Blue Alert requests at all times, to help ensure that alert DMS messages are posted as soon as possible. Posting the alert DMS messages promptly can make the difference in finding the missing or wanted person.

7. **Alert Request Acknowledgement:** TMC staff shall acknowledge receipt of all District Five RTMC Alert requests as soon as they have received the email messages. In the case that no acknowledgment was received, the District Five RTMC shall contact the unresponsive TMC by telephone to inform them of the email that requests that a specific DMS alert message be posted.

## 6.2.2  Event Notification and Response

1. **Central Office Notification:** The District Five RTMC staff shall notify the Central Office through email of all AMBER, Silver, Purple, or Blue Alert requests. This is to ensure that the Central Office is cognizant of any alerts that may be receiving significant media attention.

2. **Alert Anomalies Authentication:** TMC staff shall always analyze the District Five RTMC AMBER, Silver, Purple, or Blue Alert email for any anomalies or missing information to ensure that it is adhering to the general alert criteria.

3. **Alert Anomaly Deference:** If an alert email contains missing or unusual information, TMC staff shall contact the District Five RTMC first to confirm that the information received is in fact correct. If the anomalies or missing information was in fact intended, TMCs shall defer judgment to the District Five RTMC and post the DMS message exactly as requested.

4. **Alert FL511 Publishing:** The District Five RTMC is solely responsible for publishing AMBER, Silver, Purple, or Blue Alerts to the FL511.com website and publishing floodgate messages. This helps to avoid having multiple TMCs post identical or duplicate information to the website.

5. **AMBER Alert DMS Message Format:** All TMCs shall only use the following AMBER Alert DMS message format below:

**Phase 1:**

> **CHILD ABDUCTION**
> **ALERT**
> **CALL \*347**

**Phase 2:**

> **RED 2002**
> **FORD MUSTANG**
> **FL TAG ABC 193**

6.      **Blue Alert DMS Message Format:** All TMCs shall only use the following Blue Alert DMS message format below:

# TMC Standard Operating Guidelines

**Phase 1**:

```
BLUE ALERT


CALL *347
```

**Phase 2**:

```
BLUE 2002
FORD MUSTANG
FL TAG ABC 193
```

7. **Silver Alert DMS Message Format:** All TMCs shall only use the following Silver Alert DMS message format below:

**Phase 1:**

```
SILVER ALERT


CALL *347
```

**Phase 2:**

```
BLUE 2002
FORD MUSTANG
FL TAG ABC 193
```

### 6.2.3   Event Management and Closure

1. **Alert Notice Publication Time:** All TMCs shall update the AMBER, Silver, Purple, or Blue Alert if additional vehicle information is obtained or if reissued; the messages shall be displayed for no more than six hours or until the alert is officially terminated, whichever occurs first.

2. **Alert Time Extensions:** If the FDLE requests an extension, two hours will be added to the remaining alert display time per the District Five RTMC discretion.

3. **Alert Updates:** TMC staff shall make updates as needed, such as a new color, make, or model of the vehicle, or license plate information; any DMS previously activated with the alert shall be updated with the additional information. If the update is within the first three hours, the message will continue to be activated for the original six-hour period. If the update occurs after the first three hours of the alert, the updated message will extend an additional three hours beyond the original six-hour period.

4. **AMBER, Silver, Purple, and Blue Alert Time Extensions:** A time extension beyond the six-hour rule may be granted if the FDLE sends a formal request for a time extension. The District Five RTMC will then notify the appropriate districts of the time extension.

5. **Alert Closure Confirmation:** District Five RTMC staff members are solely responsible for confirming to district TMCs that an AMBER, Silver, Purple, or Blue Alert has been canceled. News reports or other sources shall not be relied on.

# TMC Standard Operating Guidelines

## 6.3 Brushfire and Wildfire Events

Brush fires can produce heavy smoke that can occasionally impact roadway conditions. TMC staff manage traffic during these events by using DMS messages warning motorists of fire and smoke conditions.

In Florida, the wildfire season lasts from December until June, with May being the season peak. Occasionally, wildfires are large enough to force closures of sections of the roadway. TMC staff play a vital role in disseminating information to motorists by informing motorists of the unexpected closures regionally.

### 6.3.1 Active Event Planning, Monitoring, and Detection

1. **Florida Forest Service Communications:** TMC staff shall communicate with the FFS to learn about local fire conditions so that they may become prepared (or be on the alert) for unplanned brush or wildfires.

2. **Planned Burn Notification:** The FFS shall notify TMC staff at least 48 hours in advance of all planned prescribed burns so that they may be on the alert, monitor wind direction, and plan traffic management and signing accordingly for the smoke that may create visibility issues on the roadway.

3. **Fire Event Monitoring:** TMC staff shall look for any signs of smoke or fire within or near the roadway's right-of-way during their routine hourly CCTV camera views, especially in more rural areas when local fire conditions are rated very high.

4. **Fire Event Evaluation:** FDOT Maintenance, the FFS, FHP, law enforcement, Road Rangers, and TMC staff evaluate at a brush fire or wildfire event for the following:
   a) Distance from the roadway.
   b) Windspeed and direction.
   c) Visibility impact to drivers on the roadway.
   d) Size.
   e) Severity.

### 6.3.2 Event Notification and Response

1. **Fire Event Notification Requirements:** TMC staff shall notify the FFS and FHP of any brush fires, wildfires, or smoke found within or near the roadway's right-of-way.

2. **Road Ranger Dispatch:** TMC staff shall dispatch Road Rangers to the brushfire or wildfire event (if safe to do so) to help set up MOT if needed, and report on ground conditions. TMC staff shall provide Road Rangers with up-to-date information on all fires, with the Road Rangers prioritizing safety first and foremost for themselves and the motorists.

3. **FDOT Maintenance Notification:** TMC staff shall notify FDOT Maintenance of any brush fire or wildfire events that are within or near the roadway's right-of-way. FDOT Maintenance needs to be

made aware of any fires that pose threats to the roadway infrastructure and thus shall plan accordingly to enforce safeguards.

### 6.3.3    Event Management and Closure

1.  **Fire Event Monitoring:** TMC staff visually monitor the brush fire or wildfire event until it is under control or no longer expected to affect the roadway. TMC staff must consistently and continuously monitor the fire so that FDOT Maintenance, the FHP, Road Rangers, and any other responders have up-to-date information on the fire.

2.  **FFS Updates:** The FFS shall provide TMC staff with up-to-date information on the fire if it is expected to change or worsen so that the TMC can continually update all other third-party responders. In particular, FFS shall provide TMC staff with information on the fire's projected direction and whether it is expected to affect or impact additional roadway sections.

3.  **Fire Event Termination:** TMC staff terminates the event only when Road Rangers or the FHP have confirmed onsite that the brush fire or wildfire has subsided and there no longer any lingering effects to the roadway. Lingering smoke or ash may create choking hazards for motorists and thus, needs to be monitored.



*Figure 16: An Off Highway Brushfire Closes US-1 Southbound in 2021*

# TMC Standard Operating Guidelines

## 6.4    Congestion, Crash, and Off-Ramp Backup Events

Congestion and crashes can occur due to recurring traffic patterns during peak hours, incidents, inclement weather, or planned or unplanned roadwork. To reduce the occurrences of secondary incidents, motorists are notified of any congestion or crashes ahead so that they can continue cautiously as they approach the tail of the event where traffic begins to slow down or is stopped. The tail of the queue grows backwards, toward the oncoming traffic, so early warning is of significant value.

Congestion can also build up on off-ramps and back up onto the freeway travel lanes. The congestion could be from an incident on the off-ramp, an incident on the interchange cross street, congestion on the interchange cross street, or poor signal timing on the off-ramp signal. Repeating congestion points require monitoring and, when necessary and available, messaging.

### 6.4.1    Active Event Planning, Monitoring, and Detection

1. **Pre-Defined Response Plans for Recurring Congestion and Crashes:** TMC staff shall create generic predefined response plans for managing recurring congestion and crash zones. Response plans include:
   a) Congestion (or delay) parameters that need response plans to activate. For example, how much potential delay is the crash going to cause at this time of day (9 a.m. and 9 p.m. may have very different response plans) or what recurring roadway conditions typically precipitate serious congestion and need a warning message?
   b) Detours.
   c) Stakeholder identification and communication.
   d) Response measures such as DMS message plans, signal timing adjustments, ramp meter rates, etc.
   e) Other.

2. **Pre-Defined Response Plans for Non-Recurring Congestion and Crashes:** TMC staff shall create predefined plans for managing critical non-recurring congestion and crash zones. Plans include:
   a) Congestion parameters (i.e., how much congestion warrants notifying drivers of alternative routes?).
   b) Detours available based on each exit.
   c) Stakeholder notice and identification.
   d) Response plans.
   e) Diversion routes.
   f) Other.

3. **Pre-Defined Response Plans for Recurring Hot-Spots:** TMC staff shall create predefined plans for managing recurring and non-recurring off-ramp and merging area backup events. Plans include:
   a) Critical off-ramp backup parameters that call for a response. For example, depending on the site distance on the ramp, a hidden, minor off-ramp backup may be more dangerous than a visible

major backup. Both situations might occur at the same ramp at dissimilar stages of queue development.

b) Critical on-ramp and merge area backups.

c) Response plans that include DMS messages, signal-timing adjustments, or requests, etc. This would entail, for example, knowing when to start or request a signal-timing change or warning about the off-ramp backup.

4. **CCTV Camera Schedules:** TMC staff sets schedules of when to keep CCTV camera coverage for roadway off-ramps that have a historical tendency of spillage onto the limited access-roadway. It is important that recurring off-ramp backups are continually watched for incidents, as well as to decide when to initiate and deactivate response plans.

## 6.4.2 Event Notification and Response

1. **Congestion Notification Requirements:** During daily peak traffic periods, messages shall be used to tell motorists of unusual conditions (e.g., accidents, lane blockages, etc.) and shall not be used to tell motorists of the normal daily peak-period traffic-congestion conditions.

2. **Freeways as Alternate Routes:** The freeway system is the preferred alternate route, when practical. An alternate freeway route shall be suggested when incidents or congestion on the primary route cause delays lasting more than 30 minutes.

3. **Surface Street Pre-Approval:** Only pre-approved surface streets are referenced when traffic diversion or detouring is necessary.



*Figure 17: I-4 Congestion in Orlando, Florida*

4. **Alternative Route Condition:** a) TMC staff must have current and continuously-updated knowledge of the traffic conditions on the alternative route and b) the alternative route must result in significant savings in time for the diverted motorists.

5. **Congestion Zone DMS Notification:** TMC staff may utilize the following message format below for DMSs 10 miles upstream of the congestion zone if speeds of 45 mph or less are detected on the limited access roadway:

```
CONGESTION AHEAD

BEFORE EXIT 45

CLEARS PAST EXIT 52
```

# TMC Standard Operating Guidelines

6. **Proactive Crash DMS Notification:** TMC staff updates the DMS when traffic conditions that typically precipitate a crash or secondary crash event are detected; the following message format is used for the DMS directly upstream (but within five miles) and within the zone used:

```
USE CAUTION
HEAVY TRAFFIC
AHEAD
```

7. **DMS Diversion Message:** TMC staff may use this DMS message when a crash has been verified, and

```
CRASH
BEYOND EXIT 50
USE US-1
```

a soft diversion may be preferable:

8. **Crash DMS Notification Message:** TMC staff may use this DMS message when a crash and lane

```
CRASH
BEYOND EXIT 50
LEFT LANE CLOSED
```

blockage has occurred, but no alternate routes have been verified:

9. **Traffic Delay DMS Notification Message:** TMC staff may use this DMS message when a crash has

```
CRASH
BEYOND EXIT 50
EXPECT DELAYS
```

been verified, and traffic delays are expected:

10. **Off-Ramp Backup Event Monitoring:** TMC staff shall continually check and manage off-ramp backup events until queues have dissipated or are no longer posing hazards to motorists.

11. **Off-Ramp Backup DMS Notification:** TMC staff uses the following message format for the DMS directly upstream (but within five miles) from the off-ramp backup event:

```
PREPARE TO STOP
HEAVY CONGESTION
AT EXIT 260 OFF RAMP
```

# TMC Standard Operating Guidelines

### 6.4.3    Event Management and Closure

1. **Event Monitoring:** TMC staff maintains a visual of all congestion, crash, and off-ramp backup events until the event has been terminated.

2. **Congestion Event Termination Criteria:** TMC staff terminates the congestion event once travel speeds and volumes have returned to pre-event or normal speed levels.

3. **Off-Ramp Backup Event Termination:** TMC staff terminates the off-ramp backup event once queues have cleared, vehicles are no longer spilling onto the limited-access roadway, and there are no longer any hazards to motorists.
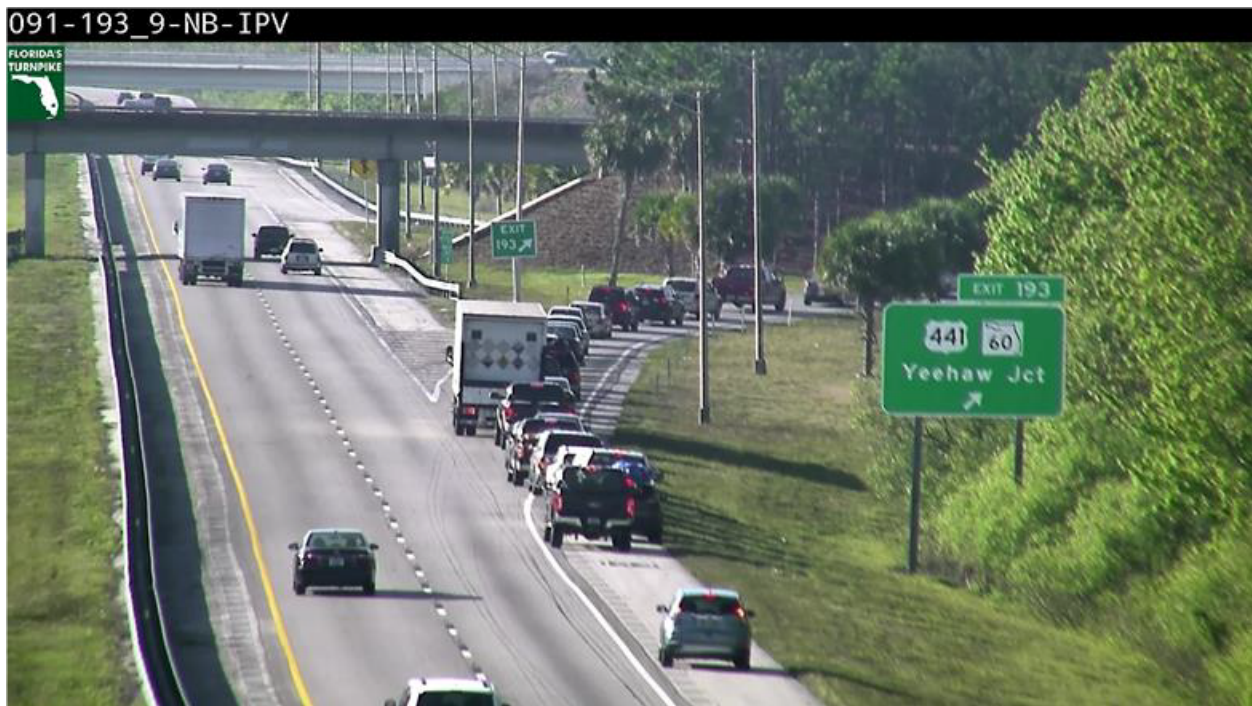

*Figure 18: Off-Ramp Backup on the Florida Turnpike*

## 6.5    Debris Events

Debris on the shoulder and in travel lanes can pose a hazard to motorists and should be removed as soon as possible. TMC staff helps to detect the debris and coordinate its removal to ensure that roadways are safe for travel.

### 6.5.1    Active Event Planning, Monitoring, and Detection

1. **Debris Event Criteria:** FDOT Maintenance, the FHP, local law enforcement, Road Rangers, and TMC staff shall create an event or report debris when an object is found within the roadway's right-of-

way, and is distracting motorists, causing vehicles to slow down, change lanes, or swerve (even slightly) within their travel lanes.

## 6.5.2   Event Notification and Response

1. **Debris Removal:** If on the scene, FDOT Maintenance, the FHP, local law enforcement, and Road Rangers attempt to remove the debris or temporarily set up MOT until it can be removed or relocated off the roadway.

2. **Debris Notification:** FDOT Maintenance, the FHP, local law enforcement, and Road Rangers notify TMC staff of any debris within the roadway's right-of-way that needs to be removed or has been removed and if any MOT will be needed. They shall also make a note to TMC staff as to what kind of debris has been found and if any other responders will be needed to remove or clean it up.

3. **Road Ranger Dispatching:** TMC staff shall at once dispatch a Road Ranger to any location where debris has been detected on the roadway to either remove it, move it, or temporarily set up MOT, as needed. TMC staff shall, however, evaluate the debris from the CCTV camera to figure out if additional assistance will be required in removing it as soon as possible.

4. **Debris Removal Request:** If the TMC staff is notified by the FHP, local law enforcement, or a Road Ranger that debris is on the scene and they are unable to remove it, the TMC staff shall contact FDOT Maintenance or maintenance contractor to respond and remove the debris.

## 6.5.3   Event Management and Closure

1. **Guardrail Approach Terminal and Crash Cushion Snapshot Process:** For crashes involving guardrail approach terminals or crash cushions, TMC staff members are requested to adhere to the procedures found in Appendix G as requested by the FDOT Maintenance office.

2. **FDOT Maintenance Debris Coordination:** TMC staff coordinates with the FDOT Maintenance office on the disposal of any large debris picked up by a Road Ranger or any debris that is part of the roadway infrastructure, such as a loose piece of a guardrail.

3. **Debris Removal Responsibility:** The FDOT Maintenance office oversees the removal of any debris temporarily moved within the roadway's right-of-way. Even if the debris is not directly affecting traffic, it is important that the debris does not present distraction or cause rubbernecking delays.

4. **Debris Status Checks:** TMC staff checks the status of debris that has been moved to the side of the roadway every 24 hours. If no CCTV visual is available, TMC staff requests Road Rangers give updates when passing through the last known area of the debris. It is recommended to do so to avoid having debris lingering within the roadway's right-of-way.

5. **FDOT Maintenance Reminders:** TMC staff notifies FDOT Maintenance when debris has not been removed from the roadway's right-of-way within a 72-hour timeframe, to ensure prompt removal of all debris from within the roadway's right-of-way.

6. **Debris Event Termination:** TMC staff visually confirms by CCTV that the debris is no longer present before terminating the event. If visual confirmation is not possible, TMC staff requests Road Rangers confirm that the debris has been removed when passing through the area during their regular patrols.



*Figure 19: Spilled Truck Debris on I-75*

## 6.6 Emergency and Scheduled Roadwork Events

Scheduled roadwork occurs due to roadway construction or maintenance activities and TMC staff are given prior notice of its scheduled time, date, location, and extent of activities. Emergency roadwork might be needed due to damage to the pavement or roadway infrastructure that creates unsafe travel conditions for motorists. TMCs have a critical role in managing these events to ensure motorist safety and minimize travel delays.

### 6.6.1 Active Event Planning, Monitoring, and Detection

1. **Advance Construction Work Notice:** The FDOT Maintenance office notifies TMC staff at least two weeks in advance of all major scheduled roadwork and gives details about any lane closures. This allows TMC staff to plan and assess the impacts of any lane closures and inform motorists in advance so that they may also plan ahead.

2. **Portable DMS Plan Review:** FDOT Maintenance submits scheduled roadwork portable DMS message plans



*Figure 20: Road Work Ahead Sign*

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for TMC staff's review and approval. This is so that TMC staff can ensure that the portable DMS plans complement or do not cause conflicts with the permanent DMS locations. TMC staff shall review the scheduled roadwork portable DMS message plans and give comments and suggestions within 48 hours of receiving them.

3. **Infrastructure Deficiency Monitoring:** TMC staff looks for any infrastructure deficiencies within the roadway's right-of-way during their routine hourly CCTV camera views. FDOT Maintenance, the FHP, local law enforcement, and Road Rangers also evaluate all potential infrastructure issues met during their regular duties or patrols.

## 6.6.2 Event Notification and Response

1. **Roadwork DMS Message Uses:** DMS messages can be used for a wide variety of temporary work zone applications. Example situations include, but are not limited to, the following:
   a) Lane or shoulder closures.
   b) Lane width restriction.
   c) Roadway or ramp closures.
   d) Areas of significant queuing or delays.
   e) Changes in roadway alignment or surface conditions.
   f) Changes in traffic patterns.
   g) Detours and alternate routes.

2. **Alternative Route Criterion:** TMC staff is responsible for ensuring that DMS messages do not divert motorists to specific alternative routes unless helpful direction is available along the alternative route in the form of a) guide signs or trailblazers to the major destination, or b) law enforcement or traffic control personnel are positioned at critical locations along the alternative route to control and guide traffic.

3. **Advance Roadwork Notice:** Displaying an advance notice of roadwork or other potential impacts to a roadway is acceptable; however, the advance notice shall not be displayed more than six days before the roadwork or other events.

4. **Regulatory Speed Limit DMS Notification:** Regulatory Speed Limit messages may be displayed on the DMS when the new speed limit is temporarily below the normal speed limit posted for the roadway.

5. **Long-Term Construction Zone DMS Notification:** For long-term construction, permanent DMSs shall only be used for the first three days of the work period to maintain the effectiveness of the DMS. After that time, static signing or portable DMSs shall be used for the duration of the period. If necessary, permanent DMSs can be used for temporary lane closures that may occur within a long-term construction project.

6. **Emergency Roadwork Notification:** FDOT Maintenance shall always notify TMC staff of all impending emergency roadwork and provide details on information about any lane closures.

7. **CCTV Camera Positioning:** TMC staff shall position CCTV cameras to the site of the scheduled (short-term) roadwork one hour before the projected start time and stay positioned in that manner for the

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duration of the job. TMC staff shall also position CCTV cameras to the site of the emergency roadwork for the duration of the job.

8. **Advance Roadwork DMS Message Notification:** TMC staff shall notify motorists within 10 miles upstream of the scheduled road or lane closures with the following DMS message:

**Template:**                                                    **Example:**

> **ROADWAY TO CLOSE**
>
> **DAY TO AND FROM**
>
> **TIME TO AND FROM**

> **EXIT 75 TO CLOSE**
>
> **MON TO THUR**
>
> **10:00 PM TO 5:00 AM**

# TMC Standard Operating Guidelines

### 6.6.3    Event Management and Closure

1. **Long-Term Construction FLATIS Updates:** For long-term (typically continuous) scheduled roadwork, TMC staff updates the event in the FLATIS every four hours or as needed.

2. **Emergency Roadwork Updates:** FDOT Maintenance shall give one-hour updates to TMC staff on the status of any emergency roadwork that is closing lanes. TMC staff need to be aware of how long lane closures can be expected, especially if it is during or near the time for peak period traffic.

3. **Roadwork Event Termination**: TMC staff visually confirms construction workers and responders have left the scene before terminating the event. In the case of no visual, TMC staff requests FDOT Maintenance to confirm that the roadwork has been completed and all construction personnel have left the scene.



*Figure 21: FLATIS Construction Update for Fort Myers, Florida*

## 6.7    Pedestrian Events

Often, after vehicles break down, the vehicle occupants will simply walk to the next exit for a ride or to obtain help. Other pedestrians might also purposely enter the freeway right-of-way to traverse to their destination. Even if the pedestrian is not in the travel lanes, the presence of a pedestrian within the right-of-way of a limited access facility can distract motorists.

### 6.7.1    Active Event Planning, Monitoring, and Detection

1. **Pedestrian Monitoring:** TMC staff, while doing their routine monitoring of CCTV camera views, shall investigate for any pedestrians found within the roadway's right-of-way.

2. **Pedestrian Event Evaluation:** FDOT Maintenance, the FHP, local law enforcement, Road Rangers, and TMC staff evaluates the following factors at pedestrian events:
   a) Erratic or drunken behavior.
   b) Distance to the edge of the roadway's pavement.
   c) Approximate age.
   d) Gender.
   e) Ethnicity.
   f) Attire.
   g) The direction of travel.
   h) Location in relation to the nearest exit.

### 6.7.2    Event Notification and Response

1. **FHP Notification:** TMC staff notifies the FHP or local law enforcement of any pedestrians that are acting erratic, drunk, or appears to be under the age of 18 within the limited-access roadway right-of-way.

2. **Road Ranger Dispatch:** TMC staff dispatches a Road Ranger to the location of all pedestrian events to offer assistance.

3. **Pedestrian Event Tracking:** FDOT Maintenance, the FHP, local law enforcement, Road Rangers, and TMC staff shall vigilantly track the location of all pedestrians that have been discovered and continually update all responders to the pedestrian's location and movements.

4. **Pedestrian Event DMS Message Notification:** If a pedestrian is on or near the roadway edge of the pavement, TMC staff posts the following DMS message format at once for the DMS upstream of the pedestrian in both directions and within 10 miles:

```
CAUTION

INCIDENT

5 MILES AHEAD
```

### 6.7.3    Event Management and Closure

1. **Pedestrian Response Notification:** The Road Ranger notifies TMC staff of the pedestrian's response for help and notes the reason he or she is located within the roadway's right-of-way.

2. **FHP Notification:** For pedestrian events not yet reported to the FHP, if the pedestrian refuses help or is behaving suspiciously, TMC staff alerts the FHP.

3. **Pedestrian Event Termination**: TMC staff closes the pedestrian event once the pedestrian has been removed from the right-of-way, or there has been no sign of the pedestrian for at least 15 minutes.



*Figure 22: Deadly Truck vs. Pedestrian Accident in Jacksonville, Florida*

## 6.8    Public Service Announcement (PSA) Events

The FDOT Central Office mandates that PSA messages are to be displayed on limited-access roadway or adjacent arterial roadway DMSs throughout the state. These PSA messages are used to remind motorists of various safety issues such as seatbelt use, texting while driving, and drunk driving. The FDOT Central Office mandates the PSA messages' text, length, and time of display.

### 6.8.1    Active Event Planning, Monitoring, and Detection

1. **Central Office Approved Messages:** The FDOT Central Office distributes an approved list of PSAs on DMS messages for use on limited-access roadways or adjacent arterial roadways.

2. **Pedestrian Event Evaluation:** TMC staff shall request approvals from Central Office to use internally-developed PSA DMS messages prior to posting them.

3. **PSA Message Campaigns:** PSA messages shall be displayed as supplements to national or statewide traffic and driver safety campaigns on the same topic (i.e., drunk driving) and to coincide during the same time as national or statewide campaigns.



4. **PSA Message Length:** A PSA shall be limited to no more than eight words (about four to eight characters per word), excluding prepositions.

*Figure 23: Drunk Driving PSA Message*

5. **Air Quality PSA Messages:** Messages related to air quality or alternative transportation options may be displayed during the 24-hour period preceding an air quality alert day as decided by the FDOT or its designated representative.

## 6.8.2   Event Management and Closure

1. **PSA Message Timeframe:** TMC staff publishes PSA messages only between the times of 9 a.m. to 3 p.m. on weekdays and any time on weekends.

2. **PSA Message Time Length:** The total duration of any PSA message shall not exceed two hours per day at any DMS location and shall not be displayed during peak travel periods.

A complete list of approved DMS PSA messages can be found at:
https://www.fdot.gov/traffic/trafficservices/DMS.shtm

## 6.9   Special Events

Periodically, special events, such as concerts or sporting events, create a sudden influx of traffic and cause congestion. Without careful planning and coordination, this influx of traffic can become a cause of major delays to normal traffic patterns. Typically, TMCs are made aware of special events in advance and create a DMS plan that will notify TMC staff of the scheduled time, date, and planned DMS messages associated with the special event.

During special events, TMC staff are responsible for directing motorists to the appropriate exits to guide motorists to parking areas that have adequate capacity. TMC staff also play a critical role in managing the congestion associated with the special event.

# TMC Standard Operating Guidelines

## 6.9.1 Active Event Planning, Monitoring, and Detection

1. **Advance Notice:** Private entities, local government(s), and others shall notify TMC staff at least one month in advance of all major special events. It is important that this type of relationship is developed as it gives TMC staff enough time to schedule staff, develop a response plan, and coordinate with third-party agencies with regard to any roadway closures or similar ongoing special events.

2. **Roadway Closures Verification:** TMC staff coordinates with the FDOT Maintenance office to ensure that there are no planned construction projects or roadway closures scheduled to occur on the day of the special event; or to inform them about one that may be taking place at a certain date and time.

3. **Planning:** TMC staff sets up formal processes for developing, coordinating, and confirming special event plans among all stakeholders, which includes the FHP, local law enforcement, local government officials, Road Rangers, etc.

4. **Traffic Control Plans:** TMC staff shall prepare traffic control plans to provide route guidance for venue ingress and egress traffic in coordination with all stakeholders.

5. **Contingency Plans:** TMC staff prepare contingency plans for the evacuation of the special event venue. This shall be carefully planned in conjunction with stakeholders to help eliminate risks and ensure the safety and well-being of special event attendees. In the unlikely event that an evacuation of the special event is needed, chaos can ensue, grid-locking traffic in the entire area and preventing a timely evacuation.

## 6.9.2 Event Notification and Response

1. **DMS Usage:** DMS shall be used only for future special events that are expected to have a negative impact on traffic and that will start within six days or less. In addition, the message shall include the date and time the special event will start. The use of individual days of the week (e.g, Monday, Tuesday) is preferred over calendar dates.

2. **Park-and-Ride Lots:** Messages referencing transit or park-and-ride lots shall be used during large special events (such as a Super Bowl) to help mitigate congestion resulting from attendees.

3. **FLATIS:** TMC staff publishes the event to FLATIS to alert motorists of traffic conditions in the area likely to be affected by the special event at least three days in advance and no more than seven days in advance.

4. **Monitoring:** TMC staff watches traffic flow and amends traffic plans on-site in real time, as necessary.

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*Figure 24: FL511 Large Special Event Notice*

### 6.9.3  Event Management and Closure

1. **Post Event Debriefing:** TMC staff schedules a post special event meeting to identify key successes and lessons learned.

2. **Third-Party Feedback:** TMC staff requests feedback from other agencies on how they worked together to plan for future special events.

3. **Performance Measures Review:** TMC staff reviews performance measures to:
   a) Identify locations with poor performance.
   b) Identify potential remedies.
   c) Identify specific areas that require improvements or enhancements for future special events.

## 6.10  Weather, Flooding, and Visibility Events

Severe weather can pose a hazard to vehicles and is often an underlying reason behind crashes or disabled vehicles. Heavy downpours due to thunderstorms can reduce visibility and cause flooding, which may stall motorists or close roadways. TMC staff manage the adverse weather events by using DMS messages to notify motorists of any locations that have reduced visibility, flooding, and congestion.

### 6.10.1  Active Event Planning, Monitoring, and Detection

1. **Planning:** TMC staff shall consult with the FHP to determine what wind, rain, and visibility parameters would necessitate the closure of any roadways or bridges within the district.

2. **Monitoring:** TMC staff continually monitors weather reports and forecasts at all times. TMC staff pay particularly close attention to expected rainfall totals, sustained winds, and any other storm side effect such as freezing rain or hail.

3. **Evaluation:** TMC staff monitors visibility reports each day and shall vigilantly monitor roadway locations that have a history of visibility issues at all times.

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*Figure 25: Central Florida Fog (Visibility) Report on November 25, 2018*

## 6.10.2 Event Notification and Response

1. **DMS Restrictions:** DMS messages shall not project expected road conditions due to expected extreme weather more than 24 hours in advance.

2. **Reporting Restrictions:** General weather reports or forecasts shall not be displayed on the DMS or reported to the FL511.com website.

3. **Reporting Restrictions:** Adverse weather messages are typically limited to unusual conditions that would catch a motorist off-guard, such as a ramp or a bridge where icy conditions may occur. Widespread area weather messages shall be avoided to maintain the effectiveness of the messages.

4. **DMS Usage Criteria:** DMSs shall be used to broadcast flash flood warnings, tornado warnings, etc., issued by the NWS.

5. **DMS Usage Criteria:** DMS shall only be used to inform drivers of adverse weather conditions that are currently affecting travel. Reliable weather reports of imminent severe weather may be displayed, such as a flash flood warning.

# TMC Standard Operating Guidelines

6. **Advance DMS Wind Advisory Message**: TMC staff notifies motorists within 10 miles upstream of areas with sustained winds of at least 30 mph (or 20 mph on bridges) or other adverse weather effects with the following DMS format:

> **HIGH WIND ADVISORY**
>
> **XX MILES AHEAD**
>
> **USE CAUTION**

7. **DMS Wind Advisory Message:** TMC staff notifies motorists within the weather-event zone with the following DMS message format:

> **HIGH WIND ADVISORY**
>
> **NEXT XX MILES**
>
> **USE CAUTION**

8. **Advanced DMS Visibility Advisory Message:** If visibility on the roadway is under two miles but more than a quarter (¼) of a mile, TMC staff notifies motorists using the following DMS message format for DMSs within 10 miles upstream of the event:

> **REDUCED VISIBILITY**
>
> **XX MILES AHEAD**
>
> **USE CAUTION**

9. **DMS Visibility Advisory Message:** If visibility on the roadway is under two miles but more than a quarter (¼) of a mile, TMC staff publishes the following DMS message format for DMSs within the reduced visibility zone:

> **REDUCED VISIBILITY**
>
> **NEXT XX MILES**
>
> **DRIVE SLOWLY**

10. **DMS Wet Pavement Advisory Message:** For roadway sections with a discernible (but still traversable) amount of water on the roadway, TMC staff publishes the following message for DMSs within the flooding event zone:

> **REDUCE SPEED**
>
> **ON WET PAVEMENT**

# TMC Standard Operating Guidelines
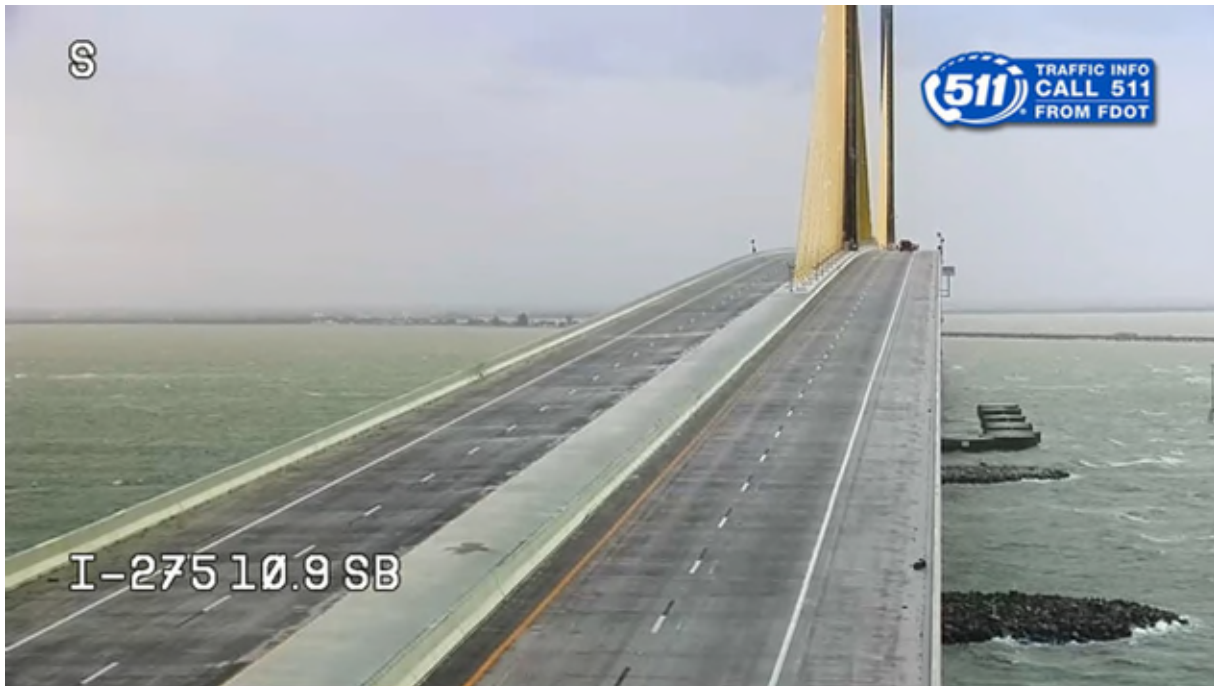


*Figure 26: Skyway Bridge in Tampa Closed to Traffic Due to High Wind on December 21, 2018*

## 6.11 Wildlife Events

> Periodically, wildlife or domesticated animals, will enter or be loose on the roadway's right-of-way and become a distraction, block travel lanes, or even worse, become struck by a vehicle. TMC staff play a critical role by coordinating with animal control to remove the animal as soon as possible from the right-of-way while simultaneously managing travel lanes and keeping motorists safe.

### 6.11.1 Active Event Planning, Monitoring, and Detection

1. **Planning:** TMC staff coordinates with the FHP on procedures for the removal or disposal of live and dead animals within the roadway's right-of-way.

2. **Planning:** TMC staff coordinates with the FWC to understand which species of wildlife they shall be contacted about when they are found within or near the roadway's right-of-way.

3. **Reporting Criteria:** Animal Control, FDOT Maintenance, the FHP, FWC, local law enforcement, Road Rangers, and TMC staff creates an event or reports the wildlife event to TMC staff when an animal is:
   a) On the roadway or in the median.
   b) Within 50 feet from the edge of the pavement.
   c) Moving erratically within the roadway's right-of-way.
   d) An endangered or threatened species.
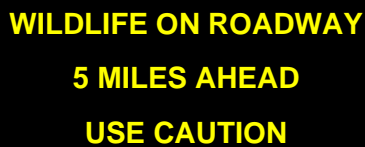
    e) Other.

4. **Event Evaluation:** Animal Control, FDOT Maintenance, the FHP, FWC, local law enforcement, Road Rangers, and TMC staff evaluates wildlife events for the following:
   a) Animal type.
   b) Aggressiveness.
   c) Distance to the edge of the pavement.

## 6.11.2  Event Notification and Response

1. **Animal Control Notification:** TMC staff coordinates with the FHP and FWC regarding wildlife or any animals found within the roadway's right-of-way.

2. **Dispatching and Notification:** TMC staff notifies the FHP and dispatches a Road Ranger to the location where live wildlife or animals have been reported or detected on or near the roadway.

3. **FDOT Maintenance Notification:** TMC staff notifies FDOT Maintenance or the asset maintenance contractor of any animal carcasses that need to be disposed of.

4. **DMS Notification:** TMC staff posts the following message format below for DMSs in both directions within 10 miles of any wildlife that may be loose on or near the roadway and posing safety concerns:

> **WILDLIFE ON ROADWAY**
>
> **5 MILES AHEAD**
>
> **USE CAUTION**

## 6.11.3  Event Management and Closure

1. **FDOT Maintenance Go-Ahead:** TMC staff ensures that procedures for the disposal of dead animal carcasses are carried out.

2. **Event Termination:** TMC staff visually confirms that the wildlife, animal, or responder is no longer on the scene before terminating the event. In the case of no visual, TMC staff requests a responder on the scene to confirm that the wildlife or animal has been removed or is no longer present on the scene.

*Figure 27: Florida Panther Crossing the Roadway in South Florida*

## 6.12 Wrong-Way Driving Events

A WWD event is when a motorist enters the roadway using an exit ramp rather than an entrance ramp, turns into a wrong lane at an intersection, turns into a wrong lane using median openings, or turns around in his/her travel lane and travels in the wrong direction, against the flow of traffic. A WWD poses extreme danger to motorists. TMC staff use ITS countermeasures (if applicable) along with CCTV cameras and DMS to quickly detect, warn motorists, and manage a WWD incident. See Appendix G for additional details on WWD procedures.

### 6.12.1 Active Event Planning, Monitoring, and Detection

1. **Planning:** TMC staff develop predefined response plans associated with each possible WWD event location. Response plans include:
   a) Naming TMC staff and stakeholder responsibilities.
   b) Which stakeholders are notified.
   c) What other countermeasures are used.

### 6.12.2 Event Notification and Response

1. **Alert Verification:** TMC staff verify all WWD alerts. If it is a verified WWD event, they at once activate the associated location response plan and make the event their highest priority.

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2. **Alert Precaution:** If TMC staff is unable to verify the validity of the WWD alert, they take precautionary measures and proceed as though it has happened.

3. **DMS Notification:** TMC staff publishes the following message format for the limited-access roadway DMS at once upstream and within 10 miles of the WWD event:

> **WRONG WAY**
> **DRIVER REPORTED**
> **USE EXTREME CAUTION**

## 6.12.3  Event Management and Closure

1. **Event Tracking:** TMC staff use CCTV cameras to either continually track the WWD or look for any sign of one if it is unconfirmed.
2. **Event Termination:** TMC staff terminates the WWD event if it has been confirmed that the driver turned around, stopped, crashed, or there has not been any sign of one for at least 10 minutes.

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## 7 Managed Lanes Operations

### 7.1 Overview

*Managed lanes* are a Transportation System Management and Operations (TSM&O) solution for highway facilities or lanes where operational strategies are proactively implemented and managed in response to changing traffic conditions. The three primary management strategies used are vehicle eligibility, separation and access control, and tolling. Managed lanes can be implemented using any combination of these strategies to fit the needs of a facility. Managed lanes that include tolling for immediate or future use are called "express lanes."

1. **Vehicle Eligibility:** Registered buses and two-axle vehicles equipped with an active SunPass or other interoperable transponder are permitted to use the express lanes. Trucks with three or more axles and passenger vehicles pulling trailers or boats are prohibited.

2. **Separation and Access Control:** Express lanes access is permitted only at the designated ingress (egress) points. Express lanes may be separated from the general use lanes (GUL) or general toll lanes (GTL) with a barrier wall, buffer with tubular markers (TMs), elevated (grade-separated), wide buffer, or pavement markings.

3. **Tolling:** Tolling uses a toll amount to maintain a performance threshold and promote free-flow travel. Per Florida Administrative Code (FAC) 14-100.003, free-flow conditions are established when vehicles can safely operate at speeds of 45 miles per hour (mph) or higher in the express lanes. No cash or TOLL-BY-PLATE payment is accepted in the express lanes.

   Three types of tolling are approved for use on Florida's express lanes.
   1. **Static:** A fixed toll amount is applied.
   2. **Time-of-Day:** A variable or fixed toll amount is applied during a certain time of day, typically during the morning and afternoon peak periods.
   3. **Dynamic:** Toll amounts are updated by Statewide Express Lanes Software (SELS) at a set interval to support free-flow conditions in the express lanes.

   **Vehicle Exemptions:** Registered van pools, public transit buses, school buses, and over-the-road buses do not pay the toll. Registration and renewal for each vehicle are required annually.

### 7.2 Express Lanes Staff Responsibilities

Express lanes operators require additional training and responsibility above the TMC Operator responsibilities. The hiring of new express lanes operators is timed to have them trained and ready for express lanes opening to traffic.

**Express Lanes Operations Schedule:** Express lanes may operate 24 hours per day, during certain times of the day, and under seasonal hours depending on the traffic characteristics specific to the express lanes' facility. A minimum of one Express lanes operator per express lane facility is required to cover the times when tolling is in effect. A minimum of one express lanes Supervisor or Manager is staffed during weekdays, with sufficient coverage from at least one hour prior to the express lanes' stated a.m. peak period (i.e., time used for Express Lanes reports) until one hour beyond its stated p.m. peak period.

#### 7.2.1 Express Lanes Operations Staff Responsibilities

**Express Lanes Operator Responsibilities:**

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a) Operate the Statewide Express Lanes Software and SunGuide for the express lanes' facility.
b) Monitor the express lanes' facility.
c) Verify toll amounts are displayed correctly on the toll amount dynamic message sign (TADMS) after every toll amount update.
d) Verify appropriate messaging on lane status dynamic message sign (LSDMS).
e) Provide notification and verification of incidents.
f) Dispatch Road Ranger Service Patrol and/or the FHP for express lanes events.
g) Document and report on express lanes field device failures. Notification includes:
    i. Express Lanes Supervisor/Manager
    ii. TMC/ITS Maintenance
    iii. FDOT TMC/TMS&O Staff
h) Document and report on express lanes software failures. Notification includes:
    i. Express Lanes Supervisor/Manager
    ii. TMC IT Staff
    iii. FDOT TMC/TMS&O Staff
    iv. FTE
    v. FDOT Central Office TSM&O
i) Notify Express Lanes supervisors/managers and FDOT TMS&O Staff when an express lanes segment is operating below 45 mph, and when the facility returns to operating at free-flow conditions and/or above 45 mph.
j) Serve as the primary point of contact for support for other district TMCs during events in the express lanes' facility.
k) Ensure shift change report for express lanes operations is complete and accurate for each shift worked.
l) Prepare or assist with the preparation of express lanes reports.
m) Coordinate express lanes and/or facility closure activities for maintenance and repair of ITS equipment, express lane marker repair/replacement, and/or property damage repair.

**Express Lanes Operator Skill Set:** The Express lanes operator requires a skill set of understanding basic traffic flow theory and the relationship of the traffic conditions to the SELS tolling algorithm. The express lanes operator must also understand the impact that incidents and field equipment malfunctions have on the operations of the express lanes' facility.

**Express Lanes Supervisor or Manager Responsibilities:**
a) Oversee express lanes operations.
b) Evaluate and analyze performance metrics.
c) Conduct or oversee operational analyses.
d) Review and update SELS operational parameters (see Section 7.3.3 Operational Modes).
e) Conduct express lanes operations training.
f) Generate reports.
g) Assist with device troubleshooting and maintenance coordination.

h) Serve as a liaison between other district TMCs and/or other partnering agencies.

**Express Lanes Supervisor or Manager Skill Set:** The express lanes supervisor or manager requires a skill set for overseeing all express lanes operations, including advanced traffic flow theory and advanced knowledge of the SELS tolling algorithm. He/she must also possess proficient knowledge of express lanes operations guidelines and procedures.

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## 7.3 Statewide Express Lanes (SELS) Software

SELS is the Department's tolling software on the State's express lane facilities. SELS is the operational interface used by the express lanes operators. SELS also posts toll amounts to the TADMSs in the field and transmits toll amounts to Florida's Turnpike Enterprise (FTE) Toll Amount Interface. Depending upon the tolling mode, SELS will calculate a toll amount, which the express lanes operator may be required to acknowledge in SELS and verify via CCTV camera images at the TMC. Refer to the _FDOT Traffic Engineering Manual (TEM) 2.42_ for more information on signing for express lanes, including requirements for the static portion of the Toll Amount Sign (TAS) as well as the TADMS and LSDMS.

### 7.3.1 Lane Identification

A standard labeling structure and consistent naming convention for the express lanes' configuration in SELS is developed and documented to provide the express lanes operator a point of reference when describing the location of express lanes, GULs, or GTLs on one or more facilities.

### 7.3.2 Trip Tolls

Express lanes in Florida utilize trip tolling. Trip tolling promotes longer trips by enabling customers to lock in a toll amount for the entire trip upon entry into the facility. Trips are constructed by combining two or more subsequent downstream segment tolls. The sum of these segment tolls creates a trip toll. Trip tolls cannot be manually created in SELS. They are dependent on segment tolls.

### 7.3.3 Operational Modes

SELS has five modes of operation, two adjustment functionalities, and a start-up sequence available. express lanes operators are required to monitor SELS and manage the express lanes' facility in the appropriate mode.

**Modes of Operation**

1. **Dynamic:** This mode is the default operational mode for all dynamically tolled express lanes facilities. This mode is used until a situation arises that warrants a change in mode (e.g., express lanes closure). SELS calculates a toll amount based on current traffic conditions and can be configured for automatic approval.

2. **Time-of-Day (TOD):** This operational mode is used when the express lanes facility is open and dynamic mode is unavailable (e.g., when many detectors have failed, toll amounts are not calculated correctly) and traffic warrants use of the toll stored in the TOD table. The TOD mode requires express lanes operator interaction when switching from another operating mode to TOD mode. While in this mode, toll amounts are updated automatically based on the operating tolls stored in the SELS TOD table. There is a schedule in SELS that allows it to associate a different TOD table with each day of the week, and a different TOD table may be associated with all holidays. This mode can be configured to utilize automatic approval.

    i. TMC Staff analyzes, updates, and uploads TOD tables at a minimum of once per year. The analysis is typically based on the previous six months of posted toll amounts and may need to be adjusted if there are atypical conditions such as seasonal variations.

3. **Manual:** This operational mode is typically an override mode that requires express lanes operator interaction. Manual mode allows the express lanes operator to set toll amounts

manually by selecting from a predefined set of toll amounts. Toll amounts remain the same until the express lanes operator chooses a new toll or changes the operational mode.

Manual mode is used only when:
- Automated toll calculation does not produce an appropriate toll, and
- There is no reliable traffic data and the TOD toll amount is not reflective of the day and time.

4. **Closed:** This operational mode is an override mode that requires express lanes operator interaction. The closed mode is used when the express lanes' facility is closed; resulting in no toll amount (or zero additional toll when adjacent to GTL) being charged to the customer and the message "**CLOSED**" posted to all TADMSs associated with the closure. The express lanes operator changes the operational mode to Closed and adjusts the effective time of the toll amount to a configurable time (typically 10 minutes) before the express lanes operator confirmed the incident. This time is relative to either:
   i. The time at which the dialog was opened by the operator if no event is associated before submitting the request, or
   ii. The starting time of the associated event.

The operator may choose to set a different time if appropriate.  See Section 7.4.4 for additional express lanes closure guidelines.

5. **Zero Toll**: This operational mode is an override mode that requires express lanes operator interaction. Zero Toll mode is only applied during emergency evacuations when the express lanes' facility is open, but a $0.00 toll is being applied, and "**0.00**" is posted to all TADMSs associated with the evacuation route. Zero Toll mode must be associated with an event in SunGuide. Zero Toll mode sets SELS with a configurable effective time (typically 10 minutes) before the event reported time. This time is relative to either:
   i. The time at which the operator opened the dialog if no event is associated before submitting the request, or
   ii. The starting time of the associated event.

The operator may choose to set a different time if appropriate. If no event is available at the time of override, the express lanes operator selects a dummy event and provides a justification in the comment field.

Zero Toll mode is applied only:
   i. During evacuations, when the Governor of Florida has suspended tolls and/or under the direction of the FDOT or the FHP.
   ii. When the express lanes operator is notified by the TSM&O Program Engineer, TSM&O Engineer- Freeways, and/or the Emergency Operations Center (EOC) to implement Zero Toll mode.
   iii. When traffic is being directed from the GULs or GTLs to the express lanes by an on-scene law enforcement officer as a diversion around a crash or other incident.

Zero Toll Mode is **NOT** applied:
   i. During the non-tolled portions of the day on an express lanes facility that is implementing the use of "time-of-day tolling," meaning the tolls are only collected during the facility's peak period and all other times there is no toll.
   ii. To encourage the use of the express lanes.

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6.  **No EL Toll:** This operational mode is used in cases where a District wishes to only toll for select portions of the day, typically peak periods, before automatically switching into a different mode. This switching is one of the things that separates No EL Toll Mode from Time of Day Toll Mode. When in this mode, the TADMS will always reflect $0.00, and the LSDMS message will state 'OPEN', instead of 'TOLLS ENFORCED'. No EL Toll mode will be auto-approved and does not require comments or event association.

**Toll Adjustments:** Toll adjustments require express lanes operator interaction. Two forms of toll adjustment are available: (1) on-going or (2) finite. This allows the express lanes operator to go back in time (up to two hours) and change the toll amount charged to the customer. This amount is constrained to be less than the toll amount that was posted on the TADMSs.

1.  An <u>on-going adjustment</u> continuously replaces the posted toll amount with a lower toll amount while the adjustment continues.
2.  A <u>finite adjustment</u> is for a specific interval based on a defined beginning and ending time set by the express lanes operator.

Under **Florida Statutes 338.166**, a customer shall be charged the minimum toll (i.e., retroactive minimum speed toll adjustment) when the average speed along a segment is less than 40 mph. SELS is currently configured to automate this specific toll adjustment, and no additional Express lanes operator interaction is required.

**Sign failures require a finite toll adjustment**.

a)  A TADMS is stuck displaying a toll that is lower than the desired toll, and it is the last TADMS on this approach. The segment or trip toll is adjusted to the lower toll stuck on the sign.
b)  A TADMS is blank and is the only sign on an approach. Adjust the segment toll to the minimum toll.
c)  All TADMSs at an approach are blank. Adjust the segment toll to the minimum toll.
d)  The last TADMS on an approach is not displaying the toll properly and may be misinterpreted. Adjust the segment toll to the minimum toll.

A finite toll adjustment is effective prior to the time at which the problem requiring the toll adjustment is discovered. The default time proposed by SELS is used, unless it is suspected that the sign was incorrect at an earlier time. The SELS default value is the configured offset (usually 10 minutes) before the time at which the operator opened the dialog to request the adjustment. The operator may change the offset value before submitting the toll adjustment request.

**No toll adjustments are necessary when**:

a)  A TADMS is stuck displaying a toll that is higher than the desired toll.
b)  A TADMS is stuck displaying a toll that is lower than the desired toll, but a downstream sign on this same approach is displaying the correct toll.

c) A TADMS is blank, and another sign on this approach (whether upstream or downstream) is working properly.

d) A TADMS is not displaying the toll properly, and a downstream sign on this approach is properly displaying the correct toll.

**Startup:** When starting SELS, or when publishing a corridor, the TMC staff initializes the SELS software. This process allows the express lanes operator to start SELS in the correct mode, ensure the correct toll amount is being posted and charged and permits the express lanes operator to set interim toll amounts for the period when SELS was not running.

### 7.3.4 Detector Data Verification and Inclusion and Exclusion in the Calculation of the Toll Amount

Data is used to calculate the toll amount in SELS is periodically checked by TMC staff for accuracy. TMC staff compares volume data collected from field devices (i.e., traffic detectors) on any given express lanes segment to the volume data collected at the toll gantry for that segment. The FTE provides the volume data at the toll gantry, which serves as the baseline data. A percent error differential threshold (e.g., ±5.0%) is established and any detector within the segment that exceeds the established error differential threshold is "toggled off" within SELS (i.e., excluded) from use in calculating the toll amount. The device is subsequently reported to maintenance for recalibration. The device is "toggled on" once it meets (i.e., falls within) the established percent error.

### 7.3.5 Transit Time Configuration

The SELS toll amount algorithm updates at a configurable minimum frequency per SELS instance (once every 15, 10, or five minutes). Toll amounts are posted to the TADMS immediately. They are effective immediately if the new toll amount is equal to or less than the current effective toll amount. A new toll amount that is higher than a configurable transit time will delay the current effective toll. Transit times are configurable within SELS and must be calculated and configured for each segment.

**Logic for Transit Time:** The logic behind the use of transit time is based on the customer paying only the toll amount they see on the TADMS, or less. For any express lanes segment, the customer's transponder is "read" only at the toll gantry, not at their ingress location. To assure all customers entering an express lanes segment are charged what they saw on the TADMS, or less, the free-flow travel duration from the farthest location must be used.

**Determination of Transit Time:** Determine the free-flow travel duration between the closest TADMS of the farthest segment ingress (controlling ingress) to the toll gantry for that segment. Multiply the sum of the free-flow travel durations by three (3). The speed on the ingress ramp is not always the same as the segment speed on the freeway so the transit time must be the sum of travel durations instead of using the distance sum and free-flow speeds to calculate the transit time.

### 7.3.6 Express Lanes Reporting

Each district provides express lanes performance measure (PM) outputs to the Central Office TSM&O office or its designee (e.g., FTE). Specific express lanes PMs have been identified, and the district uses SELS reporting features to provide the required data. The PM outputs are provided monthly and annually for each operating express lane facility within the district.

# TMC Standard Operating Guidelines

## 7.4 Event Management

The purpose of this section is to supplement DMS guidelines and event management described previously in this document. The express lanes operator is responsible for managing events in the express lanes' facility. This requires coordination with other TMC operations staff that operate SELS and SunGuide software and the dispatching of emergency resources (e.g., the FHP and Road Rangers).

### 7.4.1 Traffic and Roadway Monitoring

The express lanes operator monitors traffic conditions using CCTV cameras. The express lanes operator also monitors traffic conditions using SELS in accordance with Section 7.3. SELS interfaces with SunGuide to obtain speed and volume data from the express lanes' detectors.

**Traffic Conditions:** The express lanes operator monitors the express lanes for significant differences in traffic conditions from one detector station to the next as these may indicate a disruption of flow. Conditions to monitor between detector stations include:
a) A greater than 20% decrease in volume.
b) A greater than 30% decrease in speed.
c) A greater than 20% increase in occupancy.

If the differences above are observed, the express lanes operator identifies if an event is involved and evaluates if action is necessary.

**Express Lanes DMS:** The express lanes operator monitors all DMSs associated with the express lanes to ensure the toll amounts are being updated and all DMS are displaying the correct message. At a minimum:
a) Once every 15 minutes during off-peak hours of operation the express lanes operator verifies the TADMS and LSDMS.
b) After each toll amount update during peak hours of operation, the express lanes operator verifies the TADMS and LSDMS.

SELS automatically presents images of TADMS and LSDMS to the express lanes operator for his/her review after each toll update. Each TADMS and LSDMS can be configured to require verification after each update or to have verification be optional. The percentage of signs that do not require verification on every update can be configured, and SELS will select that percentage of optional signs and include in each verification cycle. At a minimum, the last TADMS and LSDMS on any approach require verification on every toll amount update interval. A record of verified signs is maintained for Customer Service toll inquiries.

**Ingress and Egress:** The express lanes operator monitors traffic at express lanes ingress and egress locations to identify and verify delays due to merging traffic. If delays are observed, the express lanes operator posts "CONGESTED" on the LSDMS.

### 7.4.2 Event Monitoring

Express lanes events are continuously monitored through CCTV cameras and via communication with Road Ranger Service Patrol, incident response, or the roadway maintenance contractor. Updated information is disseminated to local law enforcement agencies, the FHP, and other agencies (e.g., FLATIS). All telephone communications are logged. CCTV cameras verify event messaging throughout the event duration.

# TMC Standard Operating Guidelines

### 7.4.3  Event Confirmation

CCTV cameras confirm events in the express lanes. If CCTV cameras are not available, the on-scene Road Ranger Service Patrol or Law Enforcement Officer must verify the event.

### 7.4.4  Event Duration Evaluation and Express Lanes Closure Implementation

Events in the express lanes are evaluated by the express lanes operator to estimate the duration of an event and determine if there is a need to initiate a closure of the facility. The event is continuously monitored during the event duration to implement an alternate type of facility closure if necessary.

**Closure Definitions:**
a)  Soft Closure is defined as utilizing appropriate DMS to post standard closed messages and dispatching road ranger service patrol to the scene.
b)  Hard Closure is defined as a physical blockage of the express lanes entrance utilizing Road Ranger Service Patrol, incident management, the FHP, roadway maintenance, a gate, or a combination thereof.

**When to Implement a Closure:** The following express lanes closure options are implemented based on the criteria listed.
a)  Normal Tolling Activities (i.e., no closure):
- Events less than 30 minutes; and,
- Event location has two or more express lanes with at least one travel lane accessible to vehicles; and,
- Event does not involve a crash, police activity, emergency vehicles, emergency roadwork, reduced visibility, or flooding.
b)  Soft Closure:
- Events anticipated to be less than 30 minutes; and,
- Event location consists of only one express lane; or
- Event involves a crash, police activity, emergency vehicles, emergency roadwork, reduced visibility, or flooding.
c)  Hard Closure:
- Event anticipated being greater than 30 minutes but less than 60 minutes.
d)  Hard Closure with Roadway Maintenance:
- Event lasting longer than 60 minutes.
- Roadway maintenance shall be notified to take over the responsibility of physically closing the express lanes; relieving the Road Rangers and/or incident responders from those duties.

**Traffic Diversion into or out of the Express Lanes Facility:** Only upon FHP request and FDOT approval will traffic be diverted into or out of the express lanes. The express lanes operator implements a hard closure and coordinates with the Road Ranger Service Patrol or roadway maintenance for the channeling of traffic.

**Express Lanes Closure Initiation:** At a minimum, the express lanes operator completes the following for any type of express lanes facility closure:
a)  Implement Closed mode in SELS. SELS posts the default standard messages to the LSDMS and TADMS.
b)  Manually post standard messages to all associated DMSs at the GUL or GTL stating the express lanes are closed.

# TMC Standard Operating Guidelines

## 7.4.5 Dissemination of Information

The SunGuide software response plan generator does not control the TADMS and LSDMS. SELS automatically posts messages to the TADMS and LSDMS related to the SELS tolling mode. Messages can be changed manually by posting a message through SunGuide or SELS. When manually posting a message, the express lanes operator only posts messages from the express lanes sub-library. Any full-matrix DMS (i.e., three-line GUL/GTL, arterial, or express lanes DMS) is operated through the SunGuide response plan generator. Once an event is identified within the express lanes' facility, the express lanes operator posts the messages as described below.

## 7.4.6 Standard Messaging Express Lanes Sub-Library

The following standard messaging options are available through the SunGuide express lanes sub-library for full-matrix DMS.

**Single Segment:** Standard messaging for all full-matrix DMS associated with express lane ingress(es) includes the following when a closure is required:

|  | Message #1 | Message #2 | Message #3 |
|---|---|---|---|
| LINE 1 | EXPRESS LANE(S) | EXPRESS LANE(S) | EXPRESS LANE(S) |
| LINE 2 | CLOSED AT | CLOSED BEFORE | CLOSED BEYOND |
| LINE 3 | <INTERCHANGE> [varies] | <INTERCHANGE> [varies] | <INTERCHANGE> [varies] |

|  | Message #1 | Message #2 | Message #3 |
|---|---|---|---|
| LINE 1 | EXPRESS LANE(S) | EXPRESS LANE(S) |  |
| LINE 2 | CLOSED | CLOSED |  |
| LINE 3 | KEEP RIGHT | KEEP RIGHT (phase 1) DO NOT ENTER (phase 2) |  |

**Multiple Segments:** Standard messaging for full-matrix DMS that are associated with express lane ingresses (or prior to egresses within the express lanes) and when an incident occurs in a downstream segment includes the following when a closure is required:

|  | Message #1 | Message #2 | Message #3 |
|---|---|---|---|
| LINE 1 | EXPRESS LANE(S) | EXPRESS LANE(S) | EXPRESS LANE(S) |
| LINE 2 | CLOSED FROM | CLOSED FROM (LOCATION) | TRAFFIC MUST |
| LINE 3 | <LOCATION>TO <LOCATION> | TO <LOCATION> | EXIT TO <LOCATION> |

**Express-to-Express Direct Connect Ramps:** Standard messaging for full-matrix DMS that are associated with express lane facility direct connect ramps are included the following when a closure is required:

|  | Message #1 | Message #2 | Message #3 |
|---|---|---|---|
| LINE 1 | EXPRESS RAMP TO | EXPRESS RAMP TO |  |
| LINE 2 | <LOCATION> | <LOCATION> CLOSED |  |
| LINE 3 | CLOSED | KEEP RIGHT (phase 1) DO NOT ENTER (phase 2) |  |

# TMC Standard Operating Guidelines

**Lane Status Dynamic Message Signs (LSDMS):** LSDMSs are used to notify the user when an express lane facility is closed as well as other warnings that may be relevant prior to entering the express lane or prior to accessing a direct connect ramp. There also may be situations when the LSDMS is used to notify the user that the express lanes are open.

Event management messages for the LSDMS include the following:
- a) EXPRESS LN CLOSED
- b) EXPRESS LNS CLOSED
- c) EXPRESS LANES CLOSED
- d) TOLLS ENFORCED
- e) CONGESTED
- f) EXPRESS LN OPEN
- g) EXPRESS LNS OPEN
- h) EXPRESS LANES OPEN

**Toll Amount Dynamic Message Signs (TADMS):** TADMSs are the block insert style DMS that shows the toll amount the customer pays to reach the destination listed on the static portion of the TAS. The TADMS may be used to notify the user if the express lanes are open without tolling or closed.
The TADMS status messages include the following:
- a) CLOSED
- b) OPEN

## 7.4.7 Congestion Management

Express lanes are monitored using EL speed graphs within SELS to identify congestion. Congestion in the express lanes is verified by CCTV cameras or a Road Ranger Service Patrol. Congestion in the express lanes is documented and managed as a congestion event in SunGuide and SELS. The threshold to create a congestion event is based on a calculated traffic density (TD) determined by the District Traffic Operations Engineer. SELS automatically requests the congestion message once TD is 32 or greater.

> **LSDMS Messaging:** Standard messaging for congestion is utilized. LSDMS shows "CONGESTED" during a congestion-related event. Once congestion has reduced (i.e., TD lower than the threshold), all LSDMS show "TOLLS ENFORCED."

## 7.4.8 Special-Event Traffic

Excess traffic congestion in the express lanes may occur due to special-event traffic. This congestion is not a common occurrence and may be attributed to police motorcades or escorts or special events within the region. Procedures are developed to manage special event traffic. The ITS Operations Manager or higher may be authorized to coordinate and implement a special event in the express lanes.

## 7.5 Traffic Incident Management (TIM)

The purpose of this section is to describe the supplemental road ranger service patrol and incident response coordination guidelines set forth in a previous chapter. The TMC Operating Guidelines for TIM in the express lanes are influenced by separation type (e.g., buffer separation) and the TIM instituted by each TMC.

# TMC Standard Operating Guidelines

## 7.5.1 TIM Programs

Districts create incident management plans during the planning process for express lanes, typically upon completion of the facility's Concept of Operations (ConOps). Districts identify TIM programs early in this process for budgeting and resource allocation. TMC staff may require additional training dependent on the TIM program deployed. Districts choose a combination of programs to ensure safe and rapid clearance of express lanes facilities.

Current TIM programs include:

**Road Ranger Service Patrol:** Additional Road Ranger Service Patrol is programmed as dedicated resources for each express lanes' facility. At a minimum, a Road Ranger Service Patrol provides a "first on scene" emergency resource to assist TMC staff in assessing the event and coordination with emergency responders.

**FHP:** Dedicated FHP is programmed for each express lanes' facility. A contract between the district and the FHP is established with the local FHP Troop to provide additional dedicated FHP officers to patrol the express lanes. The FHP also provides enforcement within the facility (e.g., speeding, crossing over Tubular Markers, and vehicle occupancy).

**Incident Response Vehicle (IRV):** Also known as the Severe Incident Response Vehicle (SIRV) program, this is a TIM program implemented by a district to provide specially trained staff in specially equipped vehicles who act on the district's behalf as an incident command at the scene. IRV personnel have police, firefighter, or EMS backgrounds and experience, and possess the training and skills above that of a Road Ranger Service Patrol. Training includes:
a) Incident command.
b) Advanced management of traffic.
c) Incident clearance.
d) Severe incident documentation.
e) Emergency vehicle operation.
f) First responder functions and responsibilities.
g) Spill mitigation.
h) State Law Enforcement Radio System radio communication.

## 7.5.2 Incident Clearance

TMC staff coordinates with the Road Ranger Service Patrol, the FHP, and incident response personnel to provide quick clearance of express lanes facilities. As part of each facility's incident management plan, the district identifies safe and secure locations to relocate disabled vehicles from express lanes, GULs/GTLs, and shoulders. Examples include:
a) Accident investigation sites.
b) GUL/GTL off-ramp shoulders.
c) Park-and-Ride lots.

## 7.5.3 TIM Vehicle Staging Areas

As part of each facility's incident management plan, the district identifies safe and secure locations to stage dedicated express lane TIM vehicles. These locations are upstream of an ingress location with proper distance to safely merge from the staging area to the express lanes' facility. Shoulders within the express lanes may also be used provided they are standard width and do not create sight distance issues for motorists (i.e., along horizontal or vertical curves).

# TMC Standard Operating Guidelines

### 7.5.4   TIM Team

Each TMC participates in meetings with the FHP, Road Ranger Service Patrol, local emergency responders, and other agencies and stakeholders involved with the operations and maintenance of the express lanes. Meetings include discussion of the following:

a)  Incident clearance procedures.
b)  Team building.
c)  Post-event assessment.
d)  Lessons                                                                                          learned.

**TMC Standard Operating Guidelines**

ITS Networking and Cybersecurity
Standards


Appendix A

For security the latest ITS Networking and Cybersecurity Standards are located on an internal FDOT site. To view them, please click here while connected to an FDOT network. This document is not subject to public disclosure.

# Truck Parking Availability System Standard Operating Guidelines

# Appendix B

# Truck Parking Availability System (TPAS) Guidelines for RTMC Standard Operating Guidelines (SOG)

## Definitions

Guidance: Include applicable definitions of the TPAS in the SOP.

Sample Definition 1: Truck Parking Availability System (TPAS) provides safe truck parking information to commercial vehicle operators. Truck parking on Florida's Interstate roadways can overflow onto rest area ramps, freeway ramps and shoulders, and adjacent roads. This overflow creates safety concerns for other motorists and for the commercial vehicle operators along the corridor. Expansion of the rest areas to accommodate the need for more truck parking is costly. The FDOT has deployed a project to provide for more efficient use of existing spaces along the corridor through notification of parking available to the trucking community.

Sample Definition 2: Dynamic truck parking signs (DTPS). The truck parking availability information is shown on DTPS. DTPS are static signs with three brick embedded dynamic message signs (DMS) to display the number of available truck parking spaces. The information is also disseminated over the FL511.com webpage and mobile application, and through third-party data feeds.

Sample Definition 3: TPAS Sensors. The TPAS includes sensors to monitor truck parking availability at public welcome centers, rest areas, and weigh stations. TPAS sensors are of two types: vehicle presence detection sensors for individual parking spaces at the welcome centers and rest areas, and vehicle detection sensors deployed on the entrance and exit of the weigh station parking locations.

Sample Definition 4: SunGuide® Truck Parking Subsystem (TPS) is the name of the TPAS module within the SunGuide software. SunGuide TPS automatically generates parking availability messages on the DTPS and FL511 from parking sensors.

## Introduction

Guidance: Explain the purpose of this SOP.

Sample Introduction: This SOP describes the operator's roles and responsibilities for monitoring truck parking availability and ensuring accuracy of TPAS information provided via DTPS and FL511.

The following is a (SAMPLE) list of TPAS locations to monitor:

- I-4 Westbound (WB) Rest Area at Mile Marker 46
- I-4 Eastbound (EB) Rest Area at Mile Marker 46
- I-4 WB Weigh Station at Mile Marker 12
- I-4 EB Weigh Station at Mile Marker 12

# SunGuide TPS Operator Interface

Guidance: Provide an overview of the TPAS components of the SunGuide software and how the RTMC operator will interact with the SunGuide TPS.

Sample SunGuide Software for TPAS Overview:

The SunGuide TPS module provides situational information to the RTMC operator for each TPAS deployment within their jurisdiction. The icon used in the SunGuide map is shown below:



*Figure 28: SunGuide Map Icon*

To view the status of the TPAS site, hover the mouse pointer over the TPS icon to reveal a brief table of truck parking availability information. Below is a screenshot of a SunGuide software TPAS Site Status display.

*Figure 29*: *SunGuide Software TPAS Site Status*

Click the icon to open a detailed status of the facility and associated devices and cameras. Below is a figure of the SunGuide software detailed Truck Parking Facility Status.
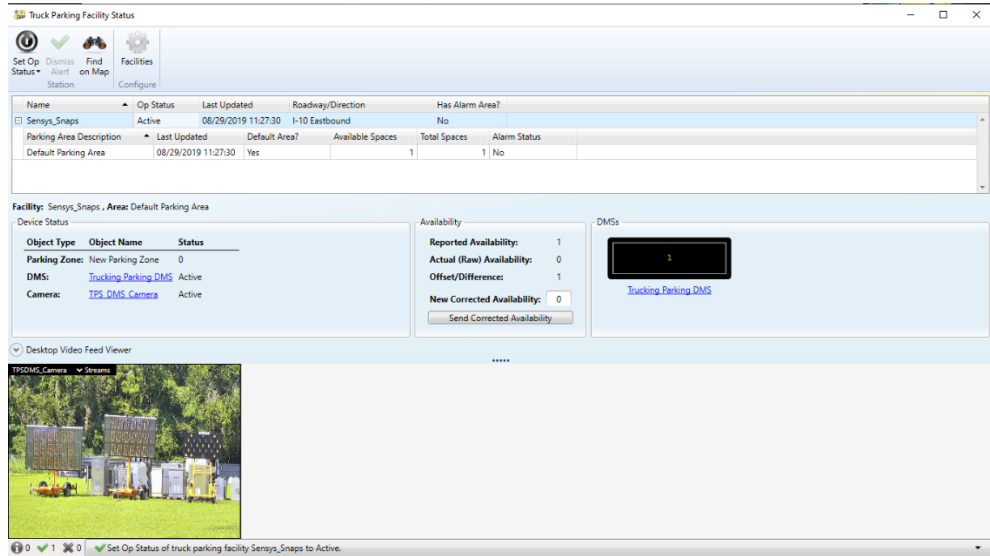


*Figure 30: SunGuide Software Detailed Truck Parking Facility Status*

## SunGuide TPS Alerts

Guidance: Provide information for SunGuide generated TPS alerts and outline the RTMC operator's roles and responsibilities in response to the TPS alert.

Sample SunGuide Alert Description:

If the number of detected available truck parking spaces falls below the configured minimum number, SunGuide will display a TPS alert on the RTMC operator's screen. This alert will show the RTMC operator the facility information. The operator will then verify the alert via CCTV camera. Below is a figure of the SunGuide® software TPS Alert.

Figure 31: SunGuide Software Truck Parking Facility Alert

<u>Sample Operator Response to TPS Alert Description</u>:

The operator must invoke the associated preset for the camera and visually verify the number of available spaces to ensure accuracy of the alert. If the number of spaces is accurate, the operator will dismiss the alert. If the number of reported spaces is inaccurate compared to what is observed via CCTV camera, the operator will correct the number reported on the DTPS. The operator can then dismiss the alert and notify the system administrator of the error.

If truck parking availability for a facility goes below the low availability alarm threshold, the operator will only be alerted with the first instance. Each facility has a recovery threshold configured by the system administrator, used to indicate how many parking spaces need to become available before the facility is considered to be recovered. Once recovered, a facility is again eligible to produce another low availability alert to the operator if the available spaces go below the low availability alarm threshold.

## TPAS System Monitoring

<u>Guidance</u>: Describe the procedure for monitoring each TPAS site to verify the accuracy of the SunGuide TPS.

<u>Sample TPAS System Monitoring Description</u>**:** At a minimum of twice per day, the RTMC operator must verify the accuracy of the SunGuide TPS. In addition, should the SunGuide TPS show wide variability in the availability of parking information (i.e. working improperly), the RTMC operator must verify the accuracy of the SunGuide TPS every four hours until the SunGuide TPS stabilizes.  The operator should open the Truck Parking status window to determine what SunGuide is reporting for the status of the TPAS site. The operator must visually verify the accuracy of the SunGuide TPS information using the TPAS site CCTV cameras. The RTMC operator must also verify that the FL511 website and the DTPS is reporting the same information as the TPS. If the operator notices a discrepancy between what the SunGuide TPS is reporting compared to what is visually verified or on the FL511 website or DTPS, the operator must manually update the DTPS or clear the DTPS, set the site as "Out of Service" in the SunGuide system, and report the issue to the system administrator.

Each RTMC operator must maintain a daily log of TPAS system monitoring and manual updates to the TPS. The daily log shall include the following, at a minimum, for each System Monitoring activity or manual update:

- Operator Name

- Date and Time of monitoring

- Facility

- Number of Calculated Spaces

- CCTV Verification of Spaces

- DTPS Verification

- FL511 Verification

- Offset

- Other actions

The daily log shall be summarized and readily available for review.

Example Log:

| Operator Name | Date/Time | Facility | Number of Calculated Spaces | CCTV Verification Amount | DTPS Accurate? | FL511 Accurate? | Offset Amount | Other Actions |
|---|---|---|---|---|---|---|---|---|
| Marie Tucker | 7/12/2021 16:36 | I-75 NB St John's County Rest Area | 25 | 27 | No | No | 2 | N/A |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

## Off-Hours TPAS Operations

Guidance: Describe the process of transferring responsibilities to another RTMC if the district's RTMC is not a 24/7 facility.

Sample Description of Transfer of Operations: If the RTMC is not a 24/7 facility, the operator must transfer monitoring responsibilities to an adjacent RTMC that is available 24/7. When operations resume, the operator must contact the RTMC that has control of the TPAS system to transfer control back to their RTMC.

**TMC Standard Operating Guidelines**

# Color Dynamic Message Signs (DMS) Guidelines

# Appendix C

## Guideline Sections for Color DMS Use

- Purpose
- Policies for Using Colors and Graphics
- Design and Development
- Management and Operations

## Purpose

The use of Color DMS is beneficial to the traveling public because of the added value it brings to existing messages.

## Policies for Using Colors and Graphics

The use of graphics, symbols, and colors on DMSs are permitted only if the DMS can replicate the appropriate color combinations, lettering style, sign/symbol size consistent with the Manual on Uniform Traffic Control Devices (MUTCD). Spacing between the message lines should be between 25 percent and 45 percent of the letter height.

The use of Color DMS shall follow the MUTCD Chapter 2L, Guidance and Requirements for Changeable Message Signs. For DMS with full-color, full-matrix capabilities, the allowable colors used for the legends and backgrounds are provided in the MUTCD, Table 2A-5.

The following sign characteristics should be followed when using Color DMS:

- Display only one message per phase.
- Graphics can be displayed either in a stand-alone fashion or as a supplement to the text.

## Design and Development

A pixel pitch equal to or less than 35 mm is required for full-color DMS, in accordance with the Standard Specifications for Road and Bridge Construction, Section 700-4.3.2.

- Message Load: MUTCD Section 2L.05 should be followed.
- Message Format
  - Flexibility is given for the graphic location; however, when the graphic is located vertically in relation to the associated text, the graphic must be vertically centered with the associated text line(s).
  - If using graphic only with no text, the graphic can be in any location.
- Message Content

- o Each message shall consist of no more than two phases. A phase shall consist of no more than three lines of text. Each phase shall be understood by itself, regardless of the sequence in which it is read.
- • Colors: Colors shall be in accordance with the MUTCD, Table 2A-5.
  - o Red is not an allowable option.
- • Fonts: Fonts should follow MUTCD guidance. Narrow fonts may be used if needed.
- • Sign Design:
  - o Sign placement may be overhead or side-mounted.
  - o Graphic size should extend the entire height of the panel if used as a standalone graphic.
  - o Graphic placement should be to the left of the text when only one graphic is being displayed on a sign panel along with the text.
  - o Borders can provide an opportunity for increased enhancement; however, the following considerations should be taken:
    - ▪ The border color should not be used when it limits the message or washes out the message during nighttime display. The message is the priority, not the use of the border.
  - o To adjust from daytime to nighttime, the sign must be configured to auto-adapt (use photocell).



*Figure 32: Color Dynamic Message Signs*

Color DMS shall NOT contain the following characteristics:

- • Flashing.
- • Animation. Non-traffic related moving graphics, such as snowflakes, are not allowed. See MUTCD Section 2L.04, paragraph 01.
- • Catchy or creative phrases that are not in the Library of Approved Safety Messages for DMS.
- • Mixed text or background colors. All text should be the same color on the same sign. Background colors should use uniformed (non-gradient) coloring on the same sign.

Approval of alternative messages will be requested from the District Traffic Operations Engineer (DTOE) with approval being granted via email from State Traffic Engineering and Operations Office (STEOO).

Special guidance and SunGuide software enhancements may be needed in the future to accommodate more advanced graphic and text configurations that are currently not possible with the existing SunGuide software.

The District TSM&O Program Engineer is responsible in each district for the compliance of posted messages with existing FDOT Policies and Procedures and should confirm that message/graphic testing was performed for legibility prior to finalization of approved graphic and color type combinations. Furthermore, messages should be verified for accuracy via upstream CCTV cameras where applicable.

# TMC Incident Executive Notification Memorandum

# Appendix D

## TMC Incident Executive Notifications

TMC Incident Executive Notifications Executive notifications shall be made for incidents meeting the following criteria:

- Any limited access highway crash involving the death of five or more persons (per Procedure 850005-001-j).
- Any fatality in an FDOT work zone or fatality or serious injury to an FDOT employee or contractor performing work along the roadway.
- Any limited-access highway crash involving multiple vehicles where fog or smoke is involved.
- Any limited-access highway crash involving more than 10 vehicles in a chain reaction collision (per 850-005-001-j).
- Any bus crashes (including school buses) with fatalities or injuries (modified 850-005-001j).
- Any incident that causes a limited-access highway to be closed for an estimated duration of more than one hour (modified 850-005-001j) in one or both directions of travel. All lanes blocked, including shoulders. We do not want notifications for ramp closures.
- All bridge failures or closures (per 850-005-001-j).
- A scheduled bridge closure that will exceed 60 minutes.
- Any System-to-System closures
- A wildfire that closes a limited-access highway. All lanes blocked including shoulders. We do not want notifications for a ramp being closed.
- Any wrong-way driving crash on a limited-access facility, including ramps.

## Executive email notifications shall be sent for:

Initial notification of the event.

A significant change in status (e.g., reopening of a travel lane for a facility that was completely closed, closure of additional travel lanes, etc.).

Requests made by FDOT Executive Leadership or the FDOT Emergency Management Watch Officer.

Send an update no more than two hours after the last Executive email notification.

For closures with an expected duration more than 24, send an update prior to the close of each business day.

Final clearance for the event.

## Executive Notification Distribution. At a minimum, notifications will be sent to:

FDOT-EMEXE@dot.state.fl.us

FDOT-EMFED@dot.state.fl.us

fred.heery@dot.state.fl.us

christine.shafik@dot.state.fl.us

shawn.kinney@dot.state.fl.us

Your District Leadership

## Executive Notification Content

Initial Notifications:

Subject Line shall read: Event Type/Description, Facility Name, Direction, At Location, County

The red portions are the portions of the email template (below) that the TMC/RTMC fills out and is editable. Other than the red portions, do not change the template except to add your district leadership, PIO, etc. into the cc: line.

If the fatality occurs in an FDOT work zone, identify the related information in the "Narrative."

If any portion of the notification template is unknown or unavailable, simply type Unknown in the associated field. The RTMC does not need to wait until all notification fields are known to send the email.

These Executive email notifications should not be sent for scheduled road work and special events.

If Executive Leadership or the FDOT Emergency Management Team needs additional information, they may request the information over the phone or request that an email notification is sent out using the template.

## Updates/Final Notifications

The Subject line will remain the same.

The distribution will remain the same.

The first text in the body of the email shall be: UPDATE.

Only the information being updated will change and shall be highlighted (See example in the template).

## Templates

Please use the following templates for Executive Notifications.

# INITIAL TEMPLATE

Time of Incident: **24-Hour Date/Time format – MM/DD/YYYY 00:00:00**

Incident Type: **Vehicle Crash**

Location: **Facility Name, Direction of Travel, SunGuide EM location of the event with qualified "At" "Beyond" "Before" and "County"**

Mile Marker: **Mile Marker Number**

Facility Status: **Closed, All travel lanes and shoulders**

Duration of Closure: **X Hour(s) Y Minute(s) or 0 Minutes if there is no closure**

Confirmed Fatalities: **Only enter the Number of Confirmed Fatalities**

Confirmed Injuries: **Only enter the Number of Confirmed Injuries**

Number of Vehicles: **Number of Vehicles**

Types of Vehicles: **Car, SUV, Bus, etc.**

Narrative and Response Action(s): **Brief general description of what happened, and response actions being taken. No unconfirmed information or personal identifying information (PII) shall be included.**

SunGuide Event Number: **XXXXXX**

Please direct all questions to: **(Point of Contact and Title)** at **(XXX) XXX-XXXX** or **(Point of Contact Email)**

## UPDATE TEMPLATE

## <mark>UPDATE</mark>

Time of Incident: **24-Hour Date/Time format – MM/DD/YYYY 00:00:00**

Incident Type: **Vehicle Crash**

Location: **Facility Name, Direction of Travel, SunGuide EM location of the event with qualified 'At" "Beyond" "Before" and "County"**

Mile Marker: **Mile Marker Number**

Facility Status: **All lanes open**

Duration of Closure: **X Hour(s) Y Minute(s) or 0 Minutes if there is no closure**

Confirmed Fatalities: **Only enter the Number of Fatalities**

Confirmed Injuries: **Only enter the Number of Injuries**

Number of Vehicles: **Number of Vehicles**

Types of Vehicles: **Car, SUV, Bus, etc.**

Narrative and Response Action(s): **Brief general description of what happened, and response actions being taken. No unconfirmed information or personal identifying information (PII) shall be included. Narrative will be in chronological order with <mark>the newest information highlighted.</mark>**

SunGuide Event Number: **XXXXXX**

Please direct all questions to **(Point of Contact Title & Name)** at **(XXX) XXX-XXXX** or

**(Point of Contact Email)**

# Florida Missing Persons and Blue Alert Programs

# Appendix E

# Florida Missing Persons and Blue Alert Plans

## AMBER, Missing Child, and Silver Alert Plans

In 2000, the Florida Department of Law Enforcement (FDLE), along with our state, local, and private partners, developed a plan to establish the Florida AMBER Alert. The AMBER Alert provides law enforcement with a tool to quickly and effectively notify the general public of critical information regarding a child who has been abducted and is endangered. It is disseminated to the public through the Emergency Alert System (EAS) by broadcasting the alert on television and radio in addition to the Florida Department of Transportation's (FDOT) highway dynamic message signs (DMS) and other highway advisory methods and/or the Department of Lottery's (DOL) lottery machines.

In 2003, as part of the Florida AMBER Plan, the FDLE also established the Missing Child Alert. This alert can be used when a child is missing and law enforcement has reason to believe that his/her life is in danger, but there is no indication that the child has been abducted.

Together these tools provide Florida's residents and visitors with information that can help to save the life of a child and keep his/her community safe.

To sign up to receive email alerts when an AMBER or Missing Child Alert is activated, visit www.missingchildrenalert.com.

In 2008, the FDLE established the Silver Alert Program Plan. The Silver Alert is a plan to help law enforcement officers rescue persons with Alzheimer's or dementia who become lost while driving in a vehicle.

To sign up to receive email alerts when a Silver Alert is activated, visit https://lists.elderaffairs.org/listmanager/listinfo/silveralert.

For more information please visit http://www.fdle.state.fl.us/MCICSearch/Index.asp or contact by phone at 1-888-356-4774.

## Blue Alert Plan

In 2011, the Florida Legislature established the Florida Blue Alert Plan. The Blue Alert utilizes the technologies employed by the Amber Alert Plan to notify the public of critical information when a law enforcement officer is killed, suffered serious bodily injury, or is missing while in the line of duty and the suspect, who is considered to pose an imminent threat to the public, is still at large. In some of these cases, additional information is available for broadcast such as a detailed description of the suspect's vehicle or other means of escape, and/or the license plate of the suspect's vehicle.

Under the Blue Alert Plan, the FDLE, in conjunction with the Florida Department of Highway Safety and Motor Vehicles' Florida Highway Patrol (FHP), the FDOT, and the DOL would immediately broadcast important information about the offender when this information would help avert further harm or assist in

the apprehension of the suspect. A Blue Alert is disseminated to the public through the EAS by broadcasting the alert on television, radio, and dynamic message signs located along the state's highways.

To sign up to receive email alerts when a Blue Alert is activated, visit https://member.everbridge.net/index/892807736727806#/signup

For more information please visit http://www.floridabluealert.com/ or contact by phone 850-410-7645.

## AMBER Alert Criteria

To activate an AMBER alert the following five (5) criteria must be met:

- The child must be under 18 years of age.
- There must be a clear indication of an abduction.
- The law enforcement agency's preliminary investigation must conclude that the child's life is in danger.
- There must be a detailed description of the child, abductor, and/or vehicle to broadcast to the public.
- The activation must be recommended by the local law enforcement agency of jurisdiction.

## Activation Process:

- The local law enforcement agency will contact the FDLE Missing Endangered Persons Information Clearinghouse (MEPIC) at 1-888-356-4774.
- The FDLE works in conjunction with the local law enforcement agency of jurisdiction to determine if the information is to be broadcast on a regional or statewide basis.
- The FDLE, working in conjunction with the local law enforcement agency of jurisdiction, prepares information for public distribution.
- The FDLE ensures, based on its content, that the information is broadcast through the EAS, DMS (requires license plate information), lottery machines, wireless emergency alert (WEA), email through http://www.missingchildrenalert.com/ and other appropriate resources.

## Available Missing Endangered Persons Information Clearinghouse (MEPIC) Resources:

- Local media outlets
- Local Crime Stoppers
- A Child is Missing, Inc. (1-888-875-2246)
- FBI National Center for the Analysis of Violent Crime (1-800-634-4097)
- National Center for Missing and Exploited Children (1-800-843-5678)
- (Florida Branch 1-561-848-1900)

## The AMBER Review Process

All AMBER Alert activations are brought before a special committee of state agency partners, law enforcement representatives, and broadcasters to ensure that the program's goals are being met and that each activation meets the criteria and is conducted in a timely manner.

## Missing Child Alert Criteria

To activate a Missing Child Alert, the following four (4) criteria must be met:

- The child must be under 18 years of age.
- The law enforcement agency's preliminary investigation must conclude that the child's life is in danger.
- Descriptive information and a photograph of the child must be available.
- The agency of jurisdiction must approve the issuance of the Missing Child Alert.

## Activation Process:

The local law enforcement agency will contact the FDLE MEPIC at 1-888-356-4774.

The FDLE, working in conjunction with the local law enforcement agency of jurisdiction, prepares information for public distribution.

The FDLE ensures, based on its content, that the information is broadcast through DMS (requires license plate information), lottery machines, email through http://www.missingchildrenalert.com/ and other appropriate resources.

## Available MEPIC Resources:

- Local media outlets
- Local Crime Stoppers
- National Center for Missing and Exploited Children (1-800-843-5678)
- (Florida Branch 1-561-848-1900)
- A Child is Missing, Inc. (1-888-875-2246)


## State Silver Alert Criteria

To activate a State Silver Alert, the following criteria must be met:
- The person must be 60 years and older; or, the person must be 18-59 and law enforcement has determined the missing person lacks the capacity to consent and that the use of dynamic message signs may be the only possible way to rescue the missing person.
- The person suffers from an irreversible deterioration of intellectual faculties (e.g., Alzheimer's disease or dementia) that has been verified by law enforcement.
- The person is driving a motor vehicle with an identified tag.
- Local law enforcement has determined that the person's disappearance poses a credible threat to his/her welfare and safety.

## Available MEPIC Resources

- Florida Department of Elder Affairs (850-414-2000)
- Media Alert (813-282-8612)
- A Child is Missing, Inc. (1-888-875-2246)
- Florida Department of Highway Safety Motor Vehicles Medical Reporting Form

## Activation Process:

- The local law enforcement agency will contact the FDLE Missing Endangered Persons Information Clearinghouse (MEPIC) at 1-888-356-4774.
- The FDLE, working in conjunction with the local law enforcement agency of jurisdiction, prepares information for public distribution.
- The FDLE ensures, based on its content that the information is broadcast through the DMS (requires license plate information), lottery machines, email through https://lists.elderaffairs.org/listmanager/listinfo/silveralert and other appropriate resources.

## Activations from Law Enforcement

The local law enforcement agency calls the FDLE Missing Endangered Persons Information Clearinghouse (MEPIC) at 1-888-356-4774.

The FDLE works in conjunction with the local law enforcement agency of jurisdiction to determine if the information is to be broadcast via radio, television, displayed on FDOT's message signs and/or DOL's LED messages on lottery machines on a regional or statewide basis.

The FDLE works in conjunction with the local law enforcement agency of jurisdiction to prepare information (i.e., child, suspect, and/or vehicle, contact information) for public distribution using approved format(s) for broadcasters, FDOT, and DOL.

The FDLE records the Amber Alert information on the EAS equipment located in the MEPIC area.

The FDOT staff (available 24-hours) ensures that the road signs are activated and canceled.

If FDLE determines that the FDOT DMSs are to be used, the FDLE contacts the Florida Highway Patrol Communications Center Shift Commander in Orlando at 407-737-2271 in order to alert duty officers and other call-takers of the AMBER Alert. The FDLE then emails all available information concerning the missing/abducted child to the FHP Communications Center in Orlando. The FHP Shift Commander in Orlando is then responsible for relaying all information via telephone and fax to the appropriate to the Shift Commander(s) at appropriate FHP Communications Center(s) in the region(s) where the activation is occurring.

If the FDLE determines the FDOT DMS and 511 System are to be used, the FDLE contacts the FDOT's Orlando Regional Transportation Management Center (RTMC) by calling 407-736-1900. The FDLE emails the actual DMS Message to the Orlando RTMC at D5.RTMC@DOT.state.fl.us, using the attached format.

The Orlando RTMC staff relays the request to appropriate RTMC staff in the state to activate the Florida Amber Plan. The FDOT displays the alert message on all requested DMS unless a traffic emergency occurs that requires an individual or group of DMS to display a motorist safety message. The FDOT will record a brief AMBER Alert message on the 511 System. The 511 System is used only while the DMS are displayed.

The FDOT displays the AMBER Alert message until the child is recovered or for a maximum of 24 hours. If the child is still missing after the maximum display hours, the FDLE will contact the FDOT to re-activate the DMS only in the specific area that law enforcement believes the child may be located.

The FDOT displays the Missing Child Alert message for a maximum of six hours. If the child is still missing after the maximum display hours, the FDLE will contact the FDOT to re-activate the DMS only in the specific area that law enforcement believes the child may be located.

The FDOT displays the Blue Alert message for a maximum of six hours. If the suspect has not been located after the maximum number of display hours, the FDLE will contact the FDOT to re-activate the DMS only in the specific area that law enforcement believes the person may be located.

The FDOT displays the Silver Alert message for a maximum of six hours. If the missing person has not been located after the maximum display hours, the FDLE will contact the FDOT to re-activate the DMS only in the specific area that law enforcement believes the person may be located.

If there are multiple alerts activated during the same time the FDOT follows this order of priority: AMBER Alert, Missing Child Alert, Blue Alert, and Silver Alert.

If there are multiple AMBER Alerts, Missing Child Alerts, or Blue Alerts activated during the same time, the FDOT will display each one on every other DMS.

The FDLE follows the same activation steps listed above if an additional activation is required containing revised vehicle information and/or broadcast area.

Once the FDLE is contacted by local law enforcement that a child has been recovered/located, the FDLE immediately contacts all partner agencies.

## Changes to the AMBER Plan Process

If the formats or tools used to activate, update, or cancel an AMBER/Missing Child Alert change, the FDLE will communicate with the broadcast partners to make the necessary adjustments.

If changes are necessary, good faith efforts should be made by the FDLE and all partners to ensure these changes do not adversely impact the AMBER/Missing Child Alert or the partners' business practices.

## Blue Alerts

The local law enforcement agency will contact the FDLE Intelligence Watch and Warning at 850-410-7645 to request activation. The on-call Special Agent Supervisor from the region will determine if the case meets the below criteria:

## Officer Killed/Injured

- A law enforcement officer has been killed, suffered serious bodily injury, or assaulted with a deadly weapon.
- The suspect has fled the scene of the offense.
- The investigating agency determined that the suspect poses an imminent threat to the public or other law enforcement officers.
- There is a detailed description of the suspect's vehicle, or other means of escape, and/or the
- license plate of the suspect's vehicle is available for broadcast.
- The dissemination of this available information to the public will help avert further harm or assist in the apprehension of the suspect.

## Officer Missing

- A law enforcement officer is missing in the line of duty.
- The officer is missing under circumstances evidencing concern for the officer's safety.
- There is information about the officer's physical description, and the description of any vehicle involved, including the license plate number or other identifying information, to be broadcast to the public and other law enforcement agencies, which could assist in locating the missing law enforcement officer.

## Alert Activations from Law Enforcement

The local law enforcement agency contacts the FDLE Intelligence Watch and Warning (IWW) at 850-410-7645 to request activation. The on-call Special Agent Supervisor from the region determines if the case meets the criteria.

The IWW will work with the investigating agency to prepare information for public release, including the suspect and/or vehicle information. This includes:

- Notifying law enforcement agencies throughout the state.
- Displaying vehicle information on DMS (requires license plate information), lottery machines, and the 511 system.
- Activating the Emergency Alert System on the radio and television in the surrounding area the event occurred.
- Emailing members of the public who have registered to receive Blue alert notifications through FloridBlueAlert.com.

For additional information, please contact the FDLE at 850-410-8585 or toll-free at 1-888-356-4774.

# STATE OF FLORIDA
### AMBER PLAN (Dynamic Message Systems)

FROM:  FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

SENT BY:  Lyndsey Pitts

AMBER ALERT NAME:  Missing Child

TO:  **ORLANDO RTMC**   Area(s) for activation:  Turnpike, Statewide
Area(s) for secondary activation: Remaining districts

FAX NUMBER:  (FHP) 407-737-2217  (DOT) 407-736-1918   DATE: 7/6/2017

| URGENT | URGENT | URGENT | URGENT | URGENT |
|---|---|---|---|---|

**REQUIRED MESSAGE**

| C | H | I | L | D |   | A | B | D | U | C | T | I | O | N |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|   |   |   |   |   | A | L | E | R | T |   |   |   |   |   |   |   |
|   |   | C | A | L | L |   | * | 3 | 4 | 7 |   |   |   |   |   |   |

| R | E | D |   | 2 | 0 | 1 | 5 |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | O | R | D |   | F | 1 | 5 | 0 |   |   |   |   |   |   |   |
| F | L |   | T | A | G |   | Y | Y | Y | Z | Z | Z |   |   |   |

# STATE OF FLORIDA
### AMBER ALERT (511 Traveler Information System)

FROM:  FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

SENT BY:  PETER WARREN

AMBER ALERT NAME:  Missing Child

TO:  **ORLANDO RTMC**   Area(s) for activation: Turnpike, Statewide

FAX NUMBER:  (DOT) 407-736-1918   DATE/TIME: 7/6/2017

| URGENT | URGENT | URGENT | URGENT | URGENT |
|---|---|---|---|---|

**RECORDED MESSAGE**

An AMBER ALERT Has Been Issued On Missing Child Out Of North Lauderdale.  Look For A 2015 Red Ford F150 Fl Tag YYYZZZ.
CALL *347.

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# STATE OF FLORIDA
### MISSING CHILD ALERT (Dynamic Message Systems)

FROM:     FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

SENT BY:    LYNDSEY PITTS

MISSING CHILD ALERT NAME:

TO:  **ORLANDO RTMC**    **Area(s) for activation:**  Statewide, Turnpike
                                       **Area(s) for secondary activation: Remaining districts**

FAX NUMBER:  (FHP) **407-737-2217**  (DOT) **407-736-1918**    DATE: 10/6/2017

| URGENT | URGENT | URGENT | URGENT | URGENT |
|---|---|---|---|---|

**REQUIRED MESSAGE**

| M | I | S | S | I | N | G | | C | H | I | L | D | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A | L | E | R | T | | | | | | |
| | | | C | A | L | L | | * | 3 | 4 | 7 | | | | |

| W | H | I | T | E | | 2 | 0 | 1 | 7 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | O | R | D | | F | 1 | 5 | 0 | | | | | | |
| F | L | | T | A | G | | W | H | G | 1 | 2 | 3 | | |

# STATE OF FLORIDA
## MISSING CHILD ALERT (511 Traveler Information System)

FROM:  FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

SENT BY:  LYNDSEY PITTS

MISSING CHILD ALERT NAME:

TO:  **ORLANDO RTMC**                **Area(s) for activation:** Statewide, Turnpike

FAX NUMBER:  (DOT) **407-736-1918**          DATE/TIME: 10/6/2017

| URGENT | URGENT | URGENT | URGENT | URGENT |
|--------|--------|--------|--------|--------|

## RECORDED MESSAGE

A Missing Child Alert has been issued for _____ from Ft. Myers, Florida. Look For A 2017 White Ford F150 Florida Tag WHG123. CALL *347.

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## STATE OF FLORIDA
### SILVER ALERT (Dynamic Message Systems)

FROM: FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

SENT BY: LYNDSEY PITTS

SILVER ALERT NAME:

TO: **ORLANDO RTMC**  **Area(s) for activation:** Statewide, Turnpike
**Area(s) for secondary activation: Remaining districts**

FAX NUMBER: (FHP) 407-737-2217  (DOT) 407-736-1918  DATE: 10/6/2017

URGENT  URGENT  URGENT  URGENT  URGENT

### REQUIRED MESSAGE

|   |   | S | I | L | V | E | R |   | A | L | E | R | T |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|   |   |   | C | A | L | L |   | * | 3 | 4 | 7 |   |   |   |   |

| W | H | I | T | E |   | 2 | 0 | 1 | 7 |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | O | R | D |   | F | 1 | 5 | 0 |   |   |   |   |   |   |   |
| F | L |   | T | A | G |   | W | H | G | 1 | 2 | 3 |   |   |   |

I

## STATE OF FLORIDA
### SILVER ALERT (511 Traveler Information System)

FROM: FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

SENT BY: LYNDSEY PITTS

SILVER ALERT NAME:

TO: **ORLANDO RTMC**  **Area(s) for activation:** Statewide, Turnpike

FAX NUMBER: (DOT) 407-736-1918  DATE/TIME: 10/6/2017

URGENT  URGENT  URGENT  URGENT  URGENT

### RECORDED MESSAGE

A Silver Alert has been issued for _____ from Ft. Myers, Florida. Look For A 2017 White Ford F150 Florida Tag WHG123. CALL *347

## STATE OF FLORIDA
### BLUE ALERT PLAN (Dynamic Message Systems)

**FROM:** FLORIDA DEPARTMENT OF LAW ENFORCEMENT, TALLAHASSEE

**SENT BY:** FDLE Watch Desk (1-800-342-0820 or 850-410-7645)

**BLUE ALERT NAME:** NEED TO ADD Region & Date

**TO:** Orlando DOT        Area(s) for primary activation:   DOT Regions – refer to DOT map
                           Area(s) for secondary activation:  Remaining Districts

**FAX NUMBER:** (FHP) **850-921-9664**   (DOT) **407-736-1918**   **DATE/TIME:** Need to complete
**PHONE NUMBER:** (FHP) **850-245-1402**   (DOT) **407-736-1900**

URGENT          URGENT                  URGENT                  URGENT

### REQUIRED MESSAGE – First 3 lines are ALWAYS the same

| L | A | W |   | E | N | F | O | R | C | E | M | E | N | T |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|   |   |   |   |   | A | L | E | R | T |   |   |   |   |   |   |
|   |   |   |   | C | A | L | L |   | * | 3 | 4 | 7 |   |   |   |

| | | | B | L | U | E | | 1 | 9 | 9 | 5 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | F | O | R | D | | F | 1 | 5 | 0 | | | |
| | | F | L | | T | A | G | A | B | C | 1 | 2 | 3 | |

1st Line: Color & Year, 2nd Line: Make & Model 3rd Line: Tag # & State

## STATE OF FLORIDA
### BLUE ALERT (EAS Form)
### EXAMPLE

| ☐ REQUEST TONE ALERT (USE FCC CAE CODE) IN EAS AREAS | (This will be the EAS regions that you will determine based on the region within the state – select from Regions 1-12) |
|---|---|

(Attention Broadcasters: Please Read Immediately)

URGENT          URGENT                  URGENT                  URGENT

**ANNOUNCER:**
**(Sample text)**
A Florida Blue Alert has been issued regarding _____ (or individual's name if available) who is believed to have shot (or injured if appropriate) a Florida Law Enforcement officer (or deputy, etc). The individual may be driving a (description of car) with Florida tag (tag number goes here) which was last seen at (address/location goes here). If you have any information on the whereabouts of this individual or vehicle, please contact the (name of agency of the alert) at telephone number (number goes here) or call 911. Do not attempt to approach the vehicle or subject as they should be considered armed and dangerous.

# Guardrail Approach Terminal and Crash Cushion Snapshot Process

## Appendix F

# Guardrail Approach Terminal and Crash Cushion Snapshot Process

### Objective

The Office of Maintenance has requested the assistance of the RTMC operators to take a snapshot of any crash that involves guardrail approach terminals or crash cushions. The snapshot will be included in the maintenance report, which will help the Maintenance Office see how the vehicle impacted the guardrail approach terminal or crash cushion. The snapshot will also assist in evaluating how the guardrail approach terminals and crash cushions operate in the field.

### Needs

For a CCTV snapshot of the crash when the vehicle hits the guardrail approach terminal and/or crash cushions, maintenance would prefer a snapshot with the vehicle in the location of the crash.

### Procedure:

1. The RTMC operator scans the CCTVs.
2. The RTMC operator sees a crash involving a guardrail approach terminal or crash cushion.
3. The RTMC operator takes a snapshot and documents the items below:
   a. Camera location and camera name
   b. Date/Time
   c. Roadway and direction
   d. Mile Marker (if possible)
4. At the end of every shift, the RTMC operator transfers the snapshots and documented information to a computer with email access.
5. The RTMC operator sends the snapshot and documented information to the Maintenance Office via email.
   a. Send the snapshots to the following email address as it corresponds to the district where the guardrail approach terminal or crash cushion damage took place:

*D1: CO-ISPED1*

*D2: CO-ISPED2*

*D3: CO-ISPED3*

*D4: CO-ISPED4*

*D5: CO-ISPED5*

*D6: CO-ISPED6*

*D7: CO-ISPED7*

*FTE: CO-ISPED8*

**TMC Standard Operating Guidelines**

# Wrong-Way Driving Event
# Standard Operating Guidelines

# Appendix G

# Wrong-Way Driving (WWD) Standard Operating Guidelines (SOG) for Regional Transportation Management Centers (RTMCs) and Traffic Management Centers (TMCs)

**Prepared for:**

*Florida Department of Transportation*

*Traffic Engineering and Operations Office*

## Introduction

Wrong-Way Driving (WWD) occurs when a driver intentionally or unintentionally drives on the wrong side of a divided highway against the direction of traffic flow. When notifying motorists of an approaching WWD event, even a few seconds can be critical in saving lives. In many cases, the Florida Highway Patrol (FHP) will receive a call reporting a WWD event and they will notify the Regional Transportation Management Center (RTMC) or Traffic Management Center (TMC).

In some cases, the field detection device will detect a WWD event and send the notification to the RTMC or TMC. WWD detection systems, such as Wavetronix and TAPCO, send WWD alerts to the RTMC or TMC by using the SunGuide® software. The SunGuide software can communicate with WWD detection devices and can be configured to generate events and activate response plans automatically.

This document provides Standard Operating Guidelines (SOG) for the RTMC and TMC operators to utilize the intelligent transportation systems (ITS) infrastructure (where available), along with closed-circuit television (CCTV) and dynamic message signs (DMS) to detect, monitor, respond to, and manage a WWD incident.

**TMC Operator Procedure**

Upon notification of a WWD occurrence, either by a detection system or by a call from the FHP or a motorist, the RTMC and TMC operators will execute the following procedures:

*Automated e-mails*

At their discretion, districts may opt to create a configurable distribution list and send email alerts to the members of that list. SunGuide automatically sends out an email alert to a configurable distribution list upon receiving notification of a WWD occurrence from a WWD detection system.

*SunGuide Software Event Management*

The SunGuide software will be used to assist in the management of the events with the following steps:

Manage the SunGuide-generated WWD alert and take ownership of an event or manually create a new WWD event. If a notification is received outside of the SunGuide software, then manually create a WWD event and response plan.

Operators are expected to encounter the following scenarios while handling WWD events in the SunGuide software:

**Field detection device integrated with the SunGuide software**
**(Automatic Event, Manual Response)**

1. SunGuide Incident Detection Subsystem (IDS) detects a WWD incident,
2. The IDS displays the system alert.
3. If a WWD event is reported in an area where DMS are present, the WWD event shall be pushed immediately to the DMS. If TMC staff cannot find the WWD after five minutes, the DMS message shall be removed until a responder can confirm the event.
4. The operator verifies the event using the camera view generated automatically by the WWD detection system or by the SunGuide software.
5. If a false positive is verified, the operator does not create any event. If WWD is confirmed or a false positive is not confirmed, the operator creates a WWD event.
6. The operator handles the alert by clicking "Create New Event."
7. The operator requests SunGuide to generate the response plan.
8. The operator amends the response plan, including DMS selection and messaging, as needed (see Section 1.2 for details on DMS selection).
9. The operator activates the amended response plan.

**Alert is received from a detection device not integrated with SunGuide software**
**(Manual Event, Manual Response):**

1. The operator is notified.
2. The operator verifies the event using the camera view generated automatically by the WWD detection system or by the SunGuide software.
3. If a false positive is verified, the operator does not create any event. If WWD is confirmed or a false positive is not confirmed, the operator creates a WWD event.
4. The operator manually creates the event.
5. The operator creates the response plan, including DMS selection and messaging (see Section 1.2 for details on DMS selection).
6. The operator activates the response plan.
7. WWD call(s) received from law enforcement officer(s) (FHP or Road Ranger Service Patrol):
8. The operator is notified.
9. The operator manually creates the event.
10. The operator creates the response plan including DMS selection and messaging (see Section 1.2 for details on DMS selection).
11. The operator activates the response plan.

**WWD call(s) received from motorist(s) / Notified via the FHP**

1. The operator(s) simultaneously, manually creates the event and verifies the location and direction of the wrong-way vehicle.
2. The operator creates the response plan, including DMS selection and messaging (see Section 1.2 for details on DMS selection).
3. The operator activates the response plan.

For manually created response plans, initially, activate the closest 10 miles of dynamic message signs (DMS) as part of the response plan.

If the WWD is detected via a WWD detection system, only DMSs along the roadway direction of the detected WWD is activated.

Activate DMSs in both directions of the roadway if there is not sufficient confidence in the notification source of the correct direction of the roadway. For example, a WWD detected by detection device, not integrated into SunGuide, would have high confidence in the roadway direction of the WWD, while a motorist calling the FHP may not have high confidence in the direction of roadway he/she is on.

Use the following message on the roadway with the WWD detection/report on DMS with 19 or more characters in width:



Use the following message on the roadway with the WWD detection/report on DMS with less than 19 characters in width:



**Response Plan Verification**

Verify the response plan was activated correctly. Use CCTV to verify DMS messages are displaying the preconfigured message.

**Responder Coordination**

Notify Road Ranger Service Patrols and provide WWD location information.

Contact the FHP, and other agencies as necessary, to provide them with the WWD detection and location information to ensure they are aware of the alert, regardless if they are configured to receive an automated e-mail.

**Event Verification**

Ideally, WWD event verification will occur simultaneously with the event creation and response plan activation. If possible, one operator will manage the event while another verifies. The operator will use the following steps to verify the WWD event:

1. Attempt to find the WWD event on camera.
2. If a real-time video of the WWD detection is available, the operator must monitor the real-time video to determine the authenticity of the WWD detection. If the real-time video shows the WWD vehicle turns around and proceeds in the correct direction, the operator should deactivate the DMS WWD messages if the messages have already been displayed.
3. If the WWD vehicle is found, drop onto the video wall, and drop onto video for other agencies as well if managing their video walls.
4. If the WWD vehicle is not found in 10 to 15 minutes of the notification, call the FHP to verify the status of the WWD event. The time can be extended if deemed appropriate by the TMC Supervisor, i.e., if there is not optimal CCTV coverage of the area near the reported WWD detection or if the location was not clear and a larger area is being searched.
5. If the FHP confirms that the WWD was not found, blank the DMS and close the event.
6. If the vehicle is found and involved in a crash, blank the WWD DMS messages, clone the WWD event, and make the crash event secondary to the WWD event, and manage the crash as a High-Profile event with existing event management procedures.

**Event Closure**

Close the event once approved by the TMC supervisor or equivalent.

Manage secondary events to the WWD event, without keeping the WWD event open.

Wrong-Way Driver Alerts in SunGuide

The FDOT has modified its SunGuide software to alert RTMC Operators when a WWD event is detected by ITS countermeasures. When a WWD event is detected on an exit ramp by a deployed detection system, the SunGuide software can display an alert in the SunGuide System Alerts window. It is critical for the RTMC operator to respond to the SunGuide WWD alert immediately. All RTMC operations staff must act in an efficient, coordinated response to the WWD alert.
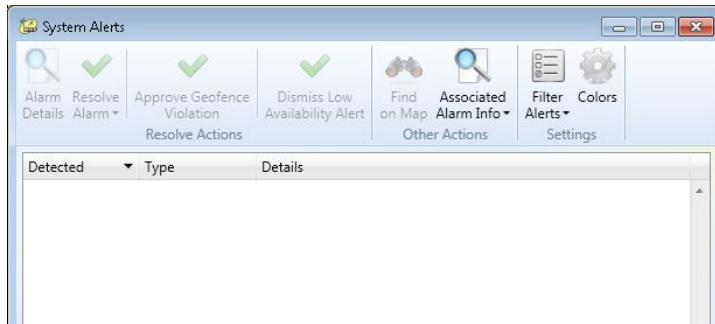
Figure 33: SunGuide System Alerts Window

**SunGuide WWD Messaging Options**

The following options, if configured beforehand and properly used, will reduce the time needed to post WWD messages. An RTMC or TMC may have its preferred method of activating DMS.

Method 1: Map-Based WWD Event Creation

Event entry for a WWD event can be used in SunGuide with a Right-click on the SunGuide map where the WWD event was reported being seen.

Select "Add New WWD Event." The nearest Event Management (EM) locations are grabbed (radially outward from where the mouse was clicked in step 1), and the signing will be posted in this local area.

The operator then selects either device linking or a radius to display the DMS messages. The signs will display for 10 miles along the freeway segment selected with device grouping or all the DMSs in SunGuide's control within the 10-mile radius will display the DMS messages. The WWD response plan is automatically activated by clicking the "Add Event" button.

The event entry will create a record in the SunGuide chronology reporting.

Document all activities in the SunGuide event accordingly to reference the actions taken and any relevant details of the event.
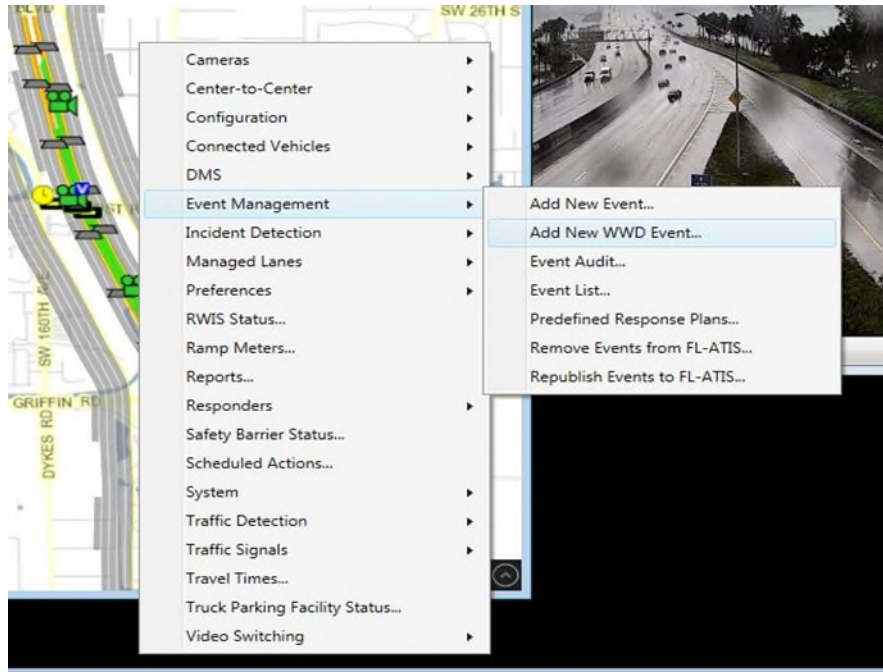
Figure 34: Event Management>Add New WWD Event



Figure 35: Add New Event Window

Method 2: Using SunGuide Scheduled Actions to Generate WWD Messages

The posting of the DMS WWD warning signs can be accomplished through the use of scheduled actions.

The Scheduled Action interface must be open and awaiting the operator to use it. When open, the operators can select the predefined zone or zones where the WWD event was reported from the lists of groups of DMS signs and activate the WWD warning messages in that zone. Operators may activate DMS on both sides of the freeway in the reported area through scheduled actions.

If possible, another operator will create a SunGuide event concurrently with the same messages for the same group of DMSs. Setting the same priority could replace the already displaying messages on selected DMSs, and this step will capture the DMS that was displayed for the chronology report.

Document all activities in the SunGuide event accordingly. Include detailed notes about the use of Scheduled Actions as the first response to the situation.
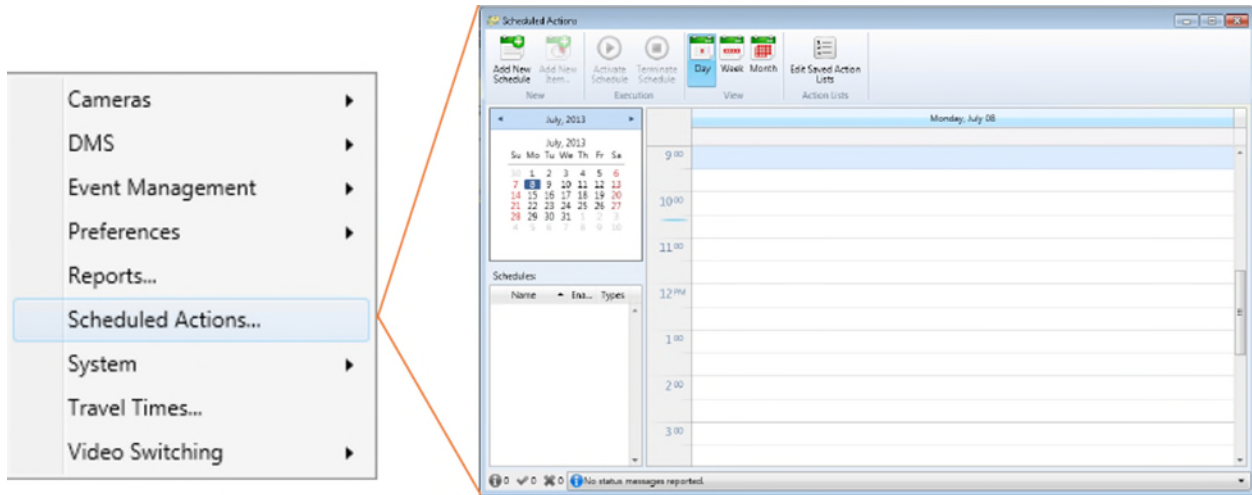


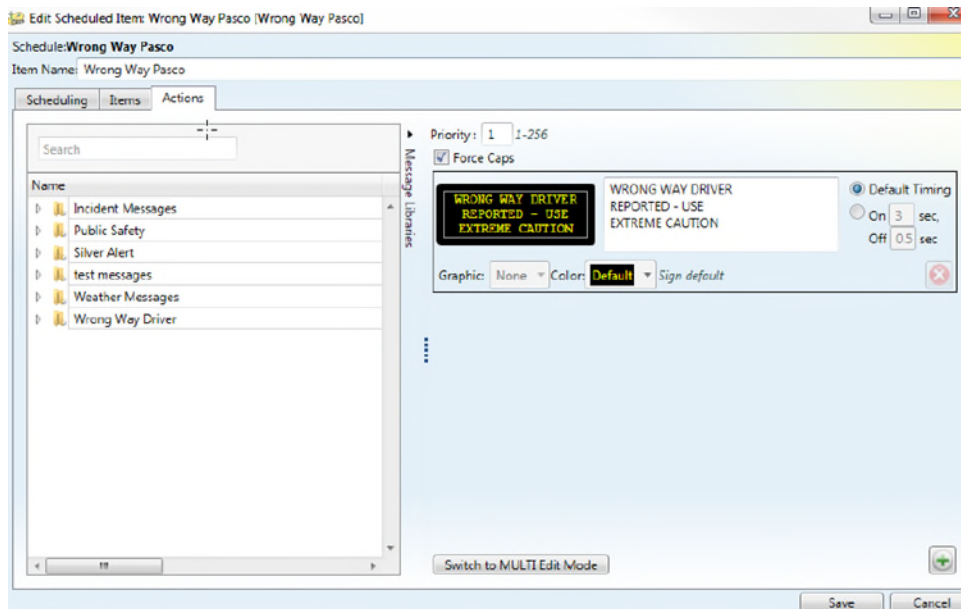Figure 36: Scheduled Actions Window



Figure 37: Edit Scheduled Item Wrong Way Pasco Window

**Standard Operating Guidelines**

RTMC Control Plans


Appendix H

# Sections for RTMC Controls Appendix

- Vulnerability and Risk Management Control
- Contingency Planning Control
- Change Management Control

## Purpose

The purpose of this appendix is to provide resources and guidance for the development of required RTMC Plans and Standard Operating Procedures.

## Vulnerability and Risk Management

Each District shall develop a Vulnerability Plan. At a minimum each plan shall address:

- Proactive Measures
    - Scheduled scans and tests
    - Prevention mechanisms and tools
- Reactive Measures
    - Points of contact for alert distribution
    - Well defined mitigation activities

## Resources

- Risk Management
    - The Florida Cybersecurity Standards (FCS) Florida Administrative Code (F.A.C.)
        - 60GG-2.001
        - 60GG-2.002
    - National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity
        - Section 1.2
        - Section 2.2
        - Section 2.3
        - Section 3.2
    - The Federal Information Security Modernization Act of 2014
        - Section 3551
        - Section 3553
        - Section 3554
        - Section 3555
        - Section 3556
        - Section 3557
        - Section 3558

- o NIST Security and Privacy Controls for Information Systems and Organizations
  - RA-3
  - Section 3.20
- o FHWA's Transportation Management Center Information Technology Security
  - Chapter 3
  - Chapter 4
  - Chapter 6
  - Chapter 9
  - Chapter 10
- Vulnerability Assessment
  - o The Florida Cybersecurity Standards (FCS) Florida Administrative Code (F.A.C.)
    - 60GG-2.004
  - o National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure Cybersecurity
    - Section 3.2
  - o The Federal Information Security Modernization Act of 2014
    - Section 3553
  - o NIST Security and Privacy Controls for Information Systems and Organizations
    - PM-14
  - o Center for Internet Security (CIS) Top 20 Controls
    - Control 2
    - Control 3
    - Control 12
  - o FHWA's Transportation Management Center Information Technology Security
    - Chapter 9
    - Chapter 10
- Vulnerability Management
  - o The Florida Cybersecurity Standards (FCS) Florida Administrative Code (F.A.C.)
    - 60GG-2.005
  - o The Federal Information Security Modernization Act of 2014
    - Section 3553
    - Section 3554
    - Section 3555
    - Section 3556

- o NIST Security and Privacy Controls for Information Systems and Organizations
  - RA-5
- o Center for Internet Security (CIS) Top 20 Controls
  - Control 3
  - Control 7
  - Control 8
  - Control 9
  - Control 12
  - Control 13
  - Control 15
  - Control 17
  - Control 18
  - Control 19
  - Control 20
- o FHWA's Transportation Management Center Information Technology Security
  - Chapter 9
  - Chapter 10
  - Appendix B

## Guidance

Below is a series of questions to guide a District through its vulnerability self-assessment as well as to provide guidance in the development of its Vulnerability Plan.

- Has a vulnerability scan been performed in the past year?
- Has penetration testing been performed?
- Are periodic scans of the information systems performed at a documented and pre-defined frequency and is there a record of these scans and their results?
- Are real-time scans of files from endpoint sources and/or network entry points performed? Is there a record of these scans and their results?
- If malicious code detected:
  - o Is it blocked? Quarantined? Under what criteria?
  - o Who is alerted? Is the Alert automated? How?
  - o What mitigation activities are performed in response?
- Are automated updates to malicious code protection mechanisms performed  to ensure the most current protection is available?
- Is there a managed process to apply updates after they are manually vetted?

## Contingency Planning Control

Each District shall develop a Disaster Recovery Plan. At a minimum each plan shall address:

- Proactive Measures
  - Disaster Recovery site details
  - Data Retention and testing policies
  - Failover procedures
- Active Measures
  - Clearly defined roles, responsibilities, and steps for managing a disaster
  - Transition to Disaster Recovery site procedures and requirements
- Restorative Measures
  - Transition from Disaster Recovery site procedures and requirements
  - Lessons learned log

## Resources

- Contingency Planning
  - The Florida Cybersecurity Standards (FCS) Florida Administrative Code (F.A.C.)
    - 60GG-2.002
  - NIST Security and Privacy Controls for Information Systems and Organizations
    - Section 3.6
  - Center for Internet Security (CIS) Top 20 Controls
    - Control 10
- Disaster Recovery
  - The Florida Cybersecurity Standards (FCS) Florida Administrative Code (F.A.C.)
    - 60GG-2.001
    - 60GG-2.003
    - 60GG-2.006
  - NIST Security and Privacy Controls for Information Systems and Organizations
    - Section 3.6
    - Section 3.8
  - Center for Internet Security (CIS) Top 20 Controls
    - Control 6
    - Control 10
  - FHWA's Transportation Management Center Information Technology Security
    - Chapter 9

## Guidance

Below is a series of questions and statements to guide a District through the development of its Disaster Recovery Plan.

- Does the Disaster Recovery Plan define roles and responsibilities?
    - Consider adding emergency contacts to the Plan.
    - Consider adding a call tree as a responsibility.
    - Consider including external contacts such as the RTMC's internet provider contact or ITS Maintenance Contractor to the Plan.
- Does the Disaster Recovery Plan separate event handling into phases or steps?
- Is the Disaster Recovery Site:
    - Physically separate from the RTMC?
    - Geographically separate from the RTMC?
    - A category 3 hurricane-rated building?
- Does the Disaster Recovery Plan include system testing?
    - Is analysis of failover testing performed?
    - Is this analysis provided to FDOT management such as the DTOE?
    - Does the analysis include a "lessons learned" section to improve failover processes?
    - Are Plan revisions made based upon test analysis?
- Is there a hardcopy of the Disaster Recovery Plan?
    - Consider keeping a hardcopy offsite as well.
- Does the Disaster Recovery Plan define:
    - Data backup destination(s)?
    - Data backup frequency?
    - Data retention requirements?
    - Data backup testing requirements?

## Change Management Control

Each District must have well documented policies in place to ensure critical systems, tools, components, or devices are not modified without notification to, and approval from, the appropriate stakeholders.

## Resources

- Control Methodology
    - The Florida Cybersecurity Standards (FCS) Florida Administrative Code (F.A.C.)
        - 60GG-2.003
    - The Federal Information Security Modernization Act of 2014
        - Section 3551

- Section 3553
- Section 3554
- Section 3555
  - o NIST Security and Privacy Controls for Information Systems and Organizations
    - AC-3
    - AC-4
    - SI-4
  - o Center for Internet Security (CIS) Top 20 Controls
    - Control 4
    - Control 5
    - Control 9
    - Control 11
    - Control 14
    - Control 15
    - Control 16
- Change Management
  - o NIST Security and Privacy Controls for Information Systems and Organizations
    - CM-9
    - SA-10
  - o Center for Internet Security (CIS) Top 20 Controls
    - Control 5
    - Control 11
  - o FHWA's Transportation Management Center Information Technology Security
    - Chapter 10

## Guidance

Below is a series of questions and statements to guide a District through the development of its Change Management Procedures.

- Has the RTMC formally identified the high-risk configurable systems, tools, components, or devices used in the production environment?
- Does the RTMC maintain a complete documentation of the base configurations for these high- risk configurable systems, tools, components, or devices used in the production environment?
  - o If not, consider interviewing key technology staff to obtain or create documentation.
- Are these configurations updated whenever a change is made?
- Are changes to high-risk systems, tools, components, or devices announced in advance? Is any sort of permission required?

- o If not, consider creating a change management process and change management form.
- o At a minimum, the change management process should be implemented when changes cause an impact to security or operations.
- o This will establish an oversight mechanism before any changes impact the production environment.
- Are changes tested in a non-production environment before authorization and implementation?
- Changes should be followed by a post-implementation review to ensure the expected outcomes were achieved without any unanticipated results.