Arterial Management Program
Traffic Management Center
Standard Operating Guidelines

Version 1.0
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<tr>
<td>AAM</td>
<td>Active Arterial Management</td>
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</tr>
<tr>
<td>ADMS</td>
<td>Arterial Dynamic Message Sign</td>
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</tr>
<tr>
<td>AMP</td>
<td>Arterial Management Program</td>
<td></td>
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<tr>
<td>ATE</td>
<td>Active Traffic Event</td>
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</tr>
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<td>ATMS</td>
<td>Advanced Traffic Management System</td>
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<tr>
<td>AVI</td>
<td>Automatic Vehicle Identification</td>
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<td>BSO</td>
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<tr>
<td>CCTV</td>
<td>Closed Circuit Television</td>
<td></td>
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<tr>
<td>D4</td>
<td>District Four</td>
<td></td>
</tr>
<tr>
<td>FDLE</td>
<td>Florida Department of Law Enforcement</td>
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<tr>
<td>FDOT</td>
<td>Florida Department of Transportation</td>
<td></td>
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<tr>
<td>FHP</td>
<td>Florida Highway Patrol</td>
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<tr>
<td>FLATIS</td>
<td>Florida Advanced Traffic Information System</td>
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<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
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<td>MIMS</td>
<td>Maintenance Information Management System</td>
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<td>MUTCD</td>
<td>Manual on Uniform Traffic Control Devices</td>
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<td>MVDS</td>
<td>Microwave Vehicle Detection System</td>
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<td>NMS</td>
<td>Network Management System</td>
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<td>PBSO</td>
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<td>PDF</td>
<td>Portable Document Format</td>
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<td>TIM</td>
<td>Traffic Incident Management</td>
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<td>TMC</td>
<td>Traffic Management Center</td>
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<td>TSM&amp;O</td>
<td>Transportation Systems Management and Operations</td>
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<td>Travel Time System</td>
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1. Control Room Management

This manual serves as the Standard Operating Guidelines (SOG) for all Arterial Management Program (AMP) Operations in FDOT District 4. AMP staff will refer to this manual for instructions regarding position expectations and requirements. Any issues not covered by this document should be addressed to the appropriate Transportation Management Center (TMC) SOGs.

The Arterial Management Program operates from the following locations:

- Palm Beach County Vista Center TMC
  2300 N Jog Rd, West Palm Beach, FL 33411
- Broward County Smart SunGuide Regional TMC
  2300 W Commercial Blvd, Ft Lauderdale, FL 33309

The TMC control room is the focal point of each facility’s operations. This central position is subject to regular tours and meetings and warrants guidelines in order to maintain professionalism at all times. The commission or omission of any act which constitutes a violation of any of the regulations, directives, policies, or procedures contained herein will be grounds for disciplinary action.

Rules & Guidelines

- No food or drinks are allowed in the control room; only bottled water in a container with a sealed lid is permitted.
- Control room telephones are not to be used for personal phone calls, except under emergency situations.
- Personal cell phones and other electronic devices are to be used only during breaks outside the control room unless otherwise directed by a supervisor.
- During tours or meetings within the control room, the highest level of professionalism and diligence to operations is mandatory.
- Visitors are not permitted within the control room unless permitted by a supervisor, and are only permitted during break hours.
- Standard Operating Guidelines, reference materials, and equipment are to be kept neatly in place and readily available at each workstation.
- All workstations must be kept clean and organized. Any work related items that are normally stored in cabinets or drawers must be stored properly when not in use. Only work related material should be visible at each workstation.
- No profanity or foul language is permitted; proper business etiquette should be upheld at all times.
- No sleeping is allowed. If you are unable to stay awake, contact the AMP TMC Signal Operations Manager/TMC Manager Immediately.
- Unauthorized screen savers, wallpapers, and downloaded/streamed paraphernalia on workstation computers are prohibited. Only white list approved websites should be accessed.
- Removal of any panels at the workstations is prohibited. This should be handled by authorized personnel only for the purpose of maintaining computer equipment.
- Operators are required to come into work in proper uniform with a neat and professional appearance. Any deviation from the accepted attire must be approved by the AMP TMC Signal Operations Manager/TMC Manager with the approval of the DEPARTMENT.
- Use of Broward County Traffic Engineering Division (BCTED) equipment and space is not allowed without written permission from both BCTED & AMP TMC supervisors.

Shift Scheduling
The Arterial Management Program (AMP) shall provide staff for the two AMP Traffic Management Centers (TMC) within District 4. Both the Broward County and Palm Beach County AMP TMCs shall provide similar services but require different staffing levels.

Broward County AMP TMC
The following applies to the Broward County AMP TMC unless otherwise specified by the FDOT TSM&O Program Manager on a case by case, or permanent basis:
- AMP TMC shall be staffed with operators from 7:00 AM – 7:00 PM Monday – Friday.
- AMP TMC shall be staffed with management staff from 8:00 AM – 5:00 PM Monday – Friday.
- AMP TMC shall not operate during weekends or Federal Holidays.
- Operators’ schedules shall be made available with at least two weeks’ notice.
- There shall be two AMP TMC Operators scheduled during peak periods (7:00 – 11:00 AM & 3:00 – 7:00 PM).
- There shall be one AMP TMC Operator scheduled during off peak periods (11:00 AM – 3:00 PM).
- No more than two AMP TMC Operators may be scheduled at any one time.
- Outside AMP TMC hours of operations, associated equipment and services may be operated and provided at the discretion of the co-located ITS (Freeway Management) Program which operates 24/7/365, with the permission of the FDOT Project Engineer.

Breaks
- Shifts lasting over four hours will receive one 15 minute break. Shifts lasting longer than eight hours will be granted two 15 minute breaks if so desired. Shifts over 12 hours will receive three 15 minute breaks if so desired.
- In addition, lunch breaks (eight hour shifts and above only) are 30 minutes in duration and require the operator to clock out when leaving and clock back in upon returning.
- Operators are not permitted to take any breaks between the peak hours of 7:00 AM – 10:00 AM and 4:00 PM – 7:00 PM.

**Palm Beach County AMP TMC**
The following applies to the Palm Beach County AMP TMC unless otherwise specified by the FDOT TSM&O Program Manager on a case by case, or permanent basis:
- AMP TMC shall be staffed with one operator from 7:00 AM – 11:00 AM and from 3:00 PM – 7:00 PM Monday – Friday.
- AMP TMC shall be staffed with an AMP TMC Signal Operations Manager/TMC Manager from 8:00 AM – 5:00 PM Monday – Friday.
- AMP TMC shall not operate during weekends or Federal Holidays.
- Operators’ schedules shall be made available with at least two weeks’ notice.

**Schedule Adherence**
AMP TMC Operators are responsible for clocking in and out at the appropriate times. Clock in and out for the following
- Start and end of shift
- Start and end of lunch break

Operators are also responsible for accurately completing a weekly timesheet and submitting the form before 7:00 PM each Friday. Each operator should submit hard and electronic (PDF) copies of their timesheet to their supervisor.

**Reporting for Shifts**
- AMP TMC Operators will report to the control center by their scheduled start time unless otherwise authorized by their supervisor.
- If for any reason an AMP TMC Operator is running late, the AMP TMC Signal Operations Manager/TMC Manager should be notified immediately explaining the situation, and an estimated time of arrival. In the event an operator is late, the operator(s) on site may be required to remain at their workstation until they arrive.
- If for any reason an AMP TMC Operator is unable to show up for a scheduled shift, at least eight hours’ notice must be provided to the AMP TMC Signal Operations Manager/TMC Manager, whenever possible.

**Working a Shift**
- AMP TMC Operators are expected to remain for their entire shift unless excused by a supervisor.
- If an employee needs to leave before the end of their assigned shift due to illness or other circumstances, the employee must notify the AMP TMC Signal Operations Manager/TMC Manager prior to leaving.
All AMP TMC Operators are required to remain at their workstations until the end of their scheduled shift at a minimum (other than breaks).

Schedule change request should be arranged with other Operators when necessary. Once arranged, requested must be submitted on a Shift Change Request Form and submitted to a supervisor for approval.

Availability Status

- All AMP TMC Operations personnel shall provide themselves with proper cell phone service so that they can be called in to the TMC with the least possible delay, should the need arise. The AMP TMC Signal Operations Manager/TMC Manager shall be informed of these numbers, as well as any changes in address that may occur during the course of employment.
- Shifts shall be scheduled according to availability provided by AMP TMC Operators. Any change in availability must be provided with at least two weeks’ notice to the AMP TMC Signal Operations Manager/TMC Manager.
- In the even an employee is unable to work a shift according to the assigned schedule, it is the responsibility of the employee to arrange to switch with another employee and complete a shift change request and submit to the AMP TMC Signal Operations Manager/TMC Manager. If the shift falls on a time not available to the employee based on his/her latest availability, it is the responsibility of the Operators to inform the Floor Manager, who will then and only then make sure the shift is covered.

Overtime and Extra Hours

- FDOT may request hours outside normal operating hours be covered by AMP TMC Staff. This includes nights, weekends, and holidays. The TSM&O Program Manager shall provide advanced notice of such requests to the Operations Contract Manager.
- In this event AMP TMC Operators may be requested/required to work extensive hours beyond expected. Any overtime hours (40+ hours) must be approved by the AMP TMC Signal Operations Manager/TMC Manager.

Failure to Report for a Shift

- Operators who are absent without authorization or notifying a supervisor for three consecutive days shall be deemed to have resigned from their position.

Planned Leave Requests

The AMP TMC provides eligible Operators leave for a variety of reasons. The following summarizes vacation and time off policies:

- AMP TMC will attempt to grant all operators time off at the time they desire to take it; however, adequate staffing must be maintained at all times.
Time off must be scheduled in advance with prior written approval and in accordance with company policies. AMP TMC Operators must submit a request time off form within two weeks to qualify for time off. Where conflicts develop, they will be resolved as fairly as possible. With the exception of requests for time off on or near holidays, preference will generally be given to the Operator who makes the earliest request. Any requests for time off greater than one week in duration shall be submitted within one month of expected time off.

Unplanned Leave Requests
Unplanned leave is defined as an extended period of unscheduled absences resulting from unforeseen circumstances including personal illness, injury, medical quarantine, and family emergencies. AMP TMC Operators unable to report as assigned shall notify their supervisor at least 8 hours prior to the start of their shift when possible. Operators shall notify their supervisors prior to each shift missed due to an unplanned leave.

Documentation by a supervisor is required for the following:
- Unplanned absences in excess of two working days
- Any absence where more than two single non-consecutive days are taken within a two week period
- Before or after holidays and weekends
- Absence during periods where a Planned Leave Request was disapproved

Failure to notify a supervisor no later than 30 minutes after scheduled start time will be considered unexcused; excessive “no call no shows” will result in disciplinary action up to and including termination.

Control Room Staffing

Broward County
AMP TMC staff shall work together with District 4 Freeway Management Program staff and Broward County Traffic Engineering Division (BCTED) staff to effectively manage the transportation infrastructure as specified within this document.

Palm Beach County
AMP TMC staff shall work together with Palm Beach County Traffic Division staff to effectively manage the transportation infrastructure as specified within this document.
Operator Shift Start Up

Shift start-up procedures ensure that AMP TMC Operators are aware of existing traffic events, unexpected tasks to be completed during their shift, status of all equipment and systems, and any changes to AMP TMC policies and procedures.

**Broward County**

- Log into workstation computers using username and password.
- If applicable, brief with Operator being relieved regarding any change in policy and active events.
- Log into SunGuide and verify active traffic events and ADMS messages for accuracy.
- Open My Florida 511 website (http://www.FL511.com) and verify any pertinent events.
- Open the FHP Website (http://www.fhp.state.fl.us/traffic) and verify any pertinent events.
- Open the Broward County Construction Project weekly lane closures website (http://www.d4fdot.com/bcfdot/closures_index.asp) for pertinent work zones.
- Open ATMS.now using username and password and verify traffic signal system health.
- Open Solarwinds and verify network connectivity to all ITS devices.
- Verify all ITS device statuses. Report any malfunctioning devices via MIMS.
- Check business emails account. Acknowledge any changes in procedure received via email immediately.

**Palm Beach County**

- Log into workstation computers using username and password.
- If applicable, brief with Operator being relieved regarding any change in policy and active events.
- Log into Incident Management Database (IMD) and verify active traffic events for accuracy.
- Open My Florida 511 website (http://www.FL511.com) and verify any pertinent events.
- Open the FHP Website (http://www.fhp.state.fl.us/traffic) and verify any pertinent events.
- Open the Broward County Construction Project weekly lane closures website (http://www.d4fdot.com/bcfdot/closures_index.asp) for pertinent work zones.
- Open ATMS.now using username and password and verify traffic signal system health.
- Verify all ITS device statuses and report in weekly ITS Device Status Checklist.
- Check business emails account. Acknowledge any changes in procedure received via email immediately.
Operator Shift Close Out

The shut-down procedures herein ensure that AMP TMC Operators are aware of tasks to be completed at the end of their shift. In addition this procedure will provide the necessary steps required should there be a severe event ongoing at the end of their shift.

Broward County
- Verify active traffic events, ADMS messages, and FL 511 information for accuracy. Update active events to reflect their current status.
- If applicable, brief with arriving Operator regarding any change in policy and active events.
- Log out of all computer applications and systems. (SunGuide, ATMS.now, etc.)
- Log out of the computers at their workstation

Palm Beach County
- Verify active traffic events and FL 511 information for accuracy. Update active events to reflect their current status.
- If applicable, brief with arriving Operator regarding any change in policy and active events.
- Log out of all computer applications and systems. (Incident Management Database, ATMS.now, etc.)
- Log out of the computers at their workstation
- Clock out

Quality Control
Quality Control (QC) can be defined as the actions performed to ensure the desired level of quality of a product, service, or process. The goal of high quality is reached by careful planning, proper use of equipment, continued inspection, and corrective action as required. By assessing the quality errors which occur in the TMC, there lies an opportunity to eliminate steps that do not add value and to improve the efficiency of those that do.

The QC process is an essential task of AMP TMC Operations; errors which occur in day-to-day tasks need to be identified, collected, reviewed, addressed and corrected. In order to appropriately establish an effective quality control process, the TMC has developed a process to ensure the quality of services and the information provided:

Identification
Error identification within the TMC is separated into the following categories based on the overall impact to the TMC’s service level:

1. Data Entry
### Arterial Management Program TMC Standard Operating Guidelines

- Selecting the incorrect event type
- Selecting the incorrect managing TMC
- Selecting the wrong location
- Selecting the incorrect event status
- Failing to input vehicle description and tag, in conjunction with failure to enter a comment as to why the information was unavailable
- Selecting the wrong lane blockage configuration
- Failing to document any injuries and/or fatalities
- Failing to document whether the incident involved HAZMAT
- Failing to document whether the incident involved a fire (not applicable to events originally input as “Vehicle Fire” events)
- Failing to document whether the incident involved a roll over
- Failing to input the corresponding FHP Incident Number (if applicable)
- Failing to document the notification, update, and/or final follow-up with partner agencies
- Incorrectly or failing to attach a primary incident to a secondary incident and vice versa
- Failing to make the incident active within two minutes of confirmation (for unconfirmed events only)
- Failing to document CCTV ID and/or preset
- Failing to document roadway, weather, and lighting conditions
- Inputting the wrong event severity
- Failure to notify media and follow-up (if applicable)
- Failure to notify PIO and follow-up (if applicable)

#### 2. ADMS

- Failing to activate a message
- Failing to verify the device is activated or deactivated
- Selecting the wrong message
- Selecting the wrong sign(s)
- Failing to post signs for an incident which requires signing within 5 minutes of the event becoming active; or failing to comment why the device was no active within the time allotted.
- Failing to utilize all applicable signs for an incident
- Failing to update all applicable signs to reflect event changes
- Failing to include applicable comments for an event
- Failing to remove all applicable messages

#### 3. Email

- Failing to send out an email alert
- Selecting the incorrect group and/or leaving a group out of an email
- Sending out an incorrect message
o Failing to send messages for an incident within five minutes after confirmation of incident
o Failing to update email with any changes or additions
o Failure to verify that the email was sent
o Failing to send cleared message

4. FLATIS
   o Failing to send message to the FLATIS system
   o Failing to update FLATIS with current information and/or every 30 minutes throughout the incident duration
   o Failure to verify that the message is activated/deactivated on the FLATIS system
   o Failing to remove a message from the FLATIS System

5. Interagency Events
   o Failure to enter the other agency’s event number
   o Failure to enter the type of event that the other agency is monitoring
   o Failure to enter the location description into the comments field
   o Failure to document the notifier’s name

6. Miscellaneous
   o Failure to notify applicable agencies and/or managers
   o Failing to include any relevant comments regarding the event.
   o Failing to document infrastructure damage
   o Failing to notify FDOT Maintenance
   o Failure to enter the FHP HSMV number (if applicable)
   o Failure to use floodgate for extended full closures, diversions, etc.
   o Failure to remove floodgate
   o Failing to clear all emergency responders before closing an event

All errors are up for discussion. If an Operator makes comments in the event explaining why standard procedures or actions were not adhered to, then those possible errors will not be issued. If any error is corrected within five minutes of initial action, then no error will be issued. Every error given to Operators will not be discussed.

Collection
During the collection phase, the AMP TMC Signal Operations Manager/TMC Manager utilizes a variety of reports which are generated from the SunGuide system. There reports are generated and collected on a weekly basis. Overall, there are 25 reports which can be generated from the SunGuide system. Three are used during the QC process. The AMP TMC currently collects data on incident with active travel lane blockages. These have been identified as the greatest event type which have a significant impact on traffic conditions. The following reports are used to aide in QC Management.
1. Event Detail Chronology – detailed history of all incidents occurring in the specified time range
2. Event Response – response times and detailed priority level breakdown of all incidents occurring within the specified time range
3. QA – agencies response summaries with missing times of all incidents occurring in the specified time range

**Review**
During the review process, AMP TMC Signal Operations Manager/TMC Manager evaluates the previously indicated reports by assessing specific factors collected in each of the reports.

- The Event Detail Chronology report analysis is an integral part of the QC process, where the AMP TMC Signal Operations Manager/TMC Manager will review each aspect of an incident. This analysis allows the evaluator to clearly detect an error and correctly document them.
- The Event Response report shows how quickly the AMP TMC responds to an event. By comparing the event type to the total event response time, the evaluator can determine whether the incident was managed in a correct and timely fashion.
- The DMS reports depict how well the signs were utilized to manage incidents. By evaluating the number of events and messages used, the evaluator can conclude whether the AMP TMC Operator are using the devices efficiently and effectively.
- The QA report provides a snapshot view of the missing times associated with an agency’s response. The reason for the missing times is primarily a data entry error.

**Data Collection**
After the review is conducted, the AMP TMC Signal Operations Manager/TMC Manager will input errors into an MS Access Database which provides the ability to enter, query, and report specific error trends. Reports are generated on a weekly basis. The report lists the Operator(s), incident number, date, error type, and comments for the reason of error. This report includes graphs and charts to visually depict error trends within the AMP TMC.

In addition to the QC weekly reports, a monthly report is generated providing a summary review of the error rate within the past month. As with the weekly report, the monthly report is submitted with graphs and charts to visually depict error trends within the AMP TMC.

**Feedback**
After the review is conducted, the AMP TMC Signal Operations Manager/TMC Manager will group the errors by AMP TMC Operator. This list of incident reports should be reviewed with each AMP TMC Operator that generated the errors. This list is determined by a trend level, where once a trend has been detected, the AMP TMC Signal Operations Manager/TMC Manager intervenes and provides a direct training solution to the error. A QC error trend is
considered to be a consistent number of errors which occur in the same category and specific error type.

**Correction**
Some errors mentioned above are correctable. These particular errors do not have an impact on the AMP TMC response time or service level, but are considered as procedural errors. These can be correct by using the Audit menu item located in SunGuide and by reopening events to correct the data. The following is a list of errors that are corrected and the utility used to correct the error (errors are corrected only by the AMP TMC Manager based on information provided by the Operator):

- Data Entry
  - Even Location and Congestion: Audit
  - Event Status: Audit
  - Event Type: Audit
  - Lane Blockage: Audit
  - Responder Times: Audit
  - Vehicles Involved: Audit
  - Notification Agency and Contacts: Audit
  - Vehicle Dispatch: Audit (not applicable to AMP TMC Operations)

**Security Requirements**
Prior to September 11, 2001, the United States had been mostly spared from terrorist attacks, although problems related to vandalism, the deliberate spreading of computer viruses, and disgruntled employees were not uncommon. Today, transportation agencies are addressing the need for threat and vulnerability assessments, and are re-examining how existing emergency management plans will play out during an emergency such as an attack on homeland security.

It is the policy of the Department of Transportation (Department) to treat information and information technology (IT) resources as strategic assets and to protect those assets from misuse, abuse, and loss through the management of a comprehensive IT resources security program. IT resources include computer hardware, software, networks, connections, applications (including web based and email), and data.

The DOT Chief Information Officer (CIO) is responsible for administering the Department’s data and IT resources program. The Secretary will designate an Information Security Manager (ISM) to assist the CIO in administering the IT resources security program. All offices within the Department that develop computer systems shall coordinate required security efforts with the ISM. Offices may designate computer security coordinators to work with the ISM on security efforts.
The Department’s IT resources security program is defined by the following areas:

- Confidentiality of information and data
- Control of IT resources
  - Email
  - Internet
  - Social media sites
  - Hardware and software
- Physical security and access to data processing facilities
- Logical and data access controls
- Network security
- Protection against loss
- Compliance

This policy applies to all Department owned information systems that access, process, or have custody of data. This includes all owned, leased, and contracted services involving mainframe, microcomputer, distributed processing, and networking environments. Department IT resources are intended to be used for Department business.

Each individual accessing Department information technology resources is expected to use good judgment and common sense to avoid abuse and inappropriate use of resources. For example, it is inappropriate to use any resource in a manner which will: interfere with the timely performance of an individual’s normal work duties; cast disrespect or adverse reflection upon the Department; reduce public confidence; support a personal business; support political or religious activities; or detract from the Department’s routine functions. Furthermore, employees shall not access, send, store, create, or display inappropriate materials including, but not limited to, gambling, any illegal activity, sexually explicit materials, or materials that include profane, obscene, or inappropriate language, or discriminatory racial or ethnic content.

Each individual with authorized access to Department information technology resources shall be responsible for appropriately maintaining systems security. All users are required to comply with all controls established by information technology resource owners and custodians, for protecting confidential information against unauthorized disclosure, and for protecting the Department from unauthorized access to information resources, including physical connections to the Department network.

Each individual is required to comply with the terms and conditions of any license or copyright that applies to the use of any software used for Department business.

Each individual that has been granted privileged or specialized security authorizations considered to be in a position with trusted security requirements. This includes, but is not limited to, individuals that grant security authorizations, administer networks and servers, use voice and telecommunications diagnostic equipment, use remote control software, migrate
software and code from test to production environments, or perform other security-related activities deemed critical by their manager or supervisor.

All users are required to immediately report any breach of security to the Information Security Manager and Chief Information Officer, including, but are not limited to, unlawful accesses, suspected intrusions, theft, or other actions that compromise the security of an information technology resource. Additionally, the CIO or ISM must report all major information security incidents to the State Office of Information Security.

Each individual with authenticated access to the Department’s information technology resources must follow this policy and all information security standards and procedures. Any request for a change or exception to this policy may be submitted via e-mail to the Chief Information Officer.

Misuse or abuse of any information technology resource, including e-mail, Internet access, and social media sites, may result in access being revoked and disciplinary action for Department employees, up to and including dismissal. Misuse or abuse of Department information technology resources by contractors, consultants, or other persons may result in revocation of access, termination of contracts, or other legal action. All users are on notice that state or federal law may impose criminal penalties for certain computer related acts that may also constitute violations of this policy.

Confidentiality of Information and Data
Information systems access shall be limited to individuals having an authorized need to use the information. Data file and program access will be limited to those individuals authorized to view, process, or maintain particular systems.

Confidential information or confidential data is information not subject to inspection by the general public under state or federal law, rule, or regulation. Confidential information and data must be made readily identifiable by the owner and treated as confidential in its entirety.

“Sensitive” agency-produced software is those portions of data processing software, including the specifications and documentation, which are used to:

- Collect, process, store, and retrieve information that is exempt from s. 119.07(1)
- Collect, process, store, and retrieve financial management information of the agency, such as payroll and accounting records; or
- Control and direct access authorizations and security measures for automated systems. A sufficiently complete history of transactions associated with the use of sensitive software will be maintained, as determined by risk analysis and technical feasibility, to permit an audit of the use of the software.

Confidential data of information must be encrypted before being transmitted over a network. Additionally, encryption must be enabled on information technology resources to include but
not be limited to desktop computers, notebooks/laptops, servers, PDAs, Blackberries, thumb drives, etc. that store or are used to transport confidential data and/or information.

While the Department expects users to adhere to the requirements regarding confidential data and information, users should have no expectation of privacy since the data they create or receive on the state network system is the property of the State of Florida and is subject to the requirements of *Chapter 119, Florida Statutes, Public Records.*

**Internet**

Employees are granted use of the Internet to carry out the mission of the Department and to promote efficiency and improved communications with our internal and external customers. The Internet should be used for business purposes. Any personal use of the Internet must be brief, infrequent, and in compliance with the expectations described previously. Internet access is only authorized through the Department’s proxy server unless specifically approved and documented by the Information Security Manager.

The Office of Information Systems will maintain detailed records of all Internet usage for use in detecting abuse or misuse of this resource without notice to employees.

The AMP TMC will utilize a Web Protection software on all workstations, approved by the Department, that will provide continuous protection against malware and inappropriate websites. The TMC Network Manager will manage the WHITELIST of approved sites that staff can view at each workstation. Sites that are not on the WHITELIST will not be accessible. If a TMC employee comes across a site that is blocked but would improve the TMC’s performance that website should be submitted to the TMC Manager and TMC Network Manager for approval. All sites on the WHITELIST are strictly work related.

Each week a Supervisor or Network Manager will run a report at each work station to review the Account Activity Report. The URL Requests will be logged for each workstation for the previous week including date/time, content category and URL. The Management staff member will look for any non-WHITELIST URLs. If any are located the employee at that work station for that time period will be identified and disciplinary action will be taken and logged. The Network Manager will add that site to the BLACKLIST and investigate how the WHITELIST was breached. The TMC Manager will file all reports and provide them to the FDOT Project Manager and the FDOT ITS Engineer when requested.

**Whitelist of Approved Websites**

- FL511.com
- Here.com
- 511ga.com
- 511southflorida.com
- cctvtraffic.net
- cjisonline.com
- cosharepoint.dot.state.fl.us
- emilms.fema.gov
- flhmsv.gov
- floridadisaster.com
- floridawebeoc.com
- floridaturnpike.com
- gac-smarttraffic.com
- imwx.com
- metriceng.com
- oracle.com
- smartsunguide.com
- trafficcast.com
- training.fema.gov
- twimg.com
- twitter.com/MyFDOT
- twitter.com/fl511_northeast
- wxug.com
- FHP District 4 - http://www.flhsmv.gov/fhp/traffic/crs_h302.htm
- GMail--
  https://mail.google.com/mail/u/0/?shva=1#inbox?compose=13ad69b12925066e
- DOT Mile Markers-
- MetricEmail-
  https://mail.metriceng.com/owa/auth/logon.aspx?replaceCurrent=1&url=https%3a%2f%2fmail.metriceng.com%2fowa%2f
- Deltek - https://acctappsrv.metriceng.com/VisionClient/
- Google Maps- http://maps.google.com
- Wunderground- www.wunderground.com
- Weather.com- www.weather.com
- Google- www.google.com
- Managed Lanes- http://www.95express.com/
- Educate 511- http://www.educate.fl511.com/
Social Media Sites
The Department’s Public Information Office is responsible for administering the Department’s social media outreach program and establishing the Department’s social media accounts.

Access to social media sites such as YouTube, Facebook, and Twitter is provided for business purposes. No employee may post content related to Department business except through Department approved accounts and subscription logon credentials.

Any personal use of social media sites must utilize personal account credentials that are not affiliated with the Department. Access to personal accounts must be brief, infrequent, and in compliance with the expectations described previously.

Hardware and Software
All computer hardware and software used by Department personnel in the performance of their duties for the Department will be Department owned or leased. Exceptions for special circumstances may be approved with an Information Resource Request, Form No. 325-005-01 in accordance with Procedure No. 325-080-001, Acquiring Information Technology Resources.

If an exception is approved, it is the responsibility of the equipment owner to implement appropriate security controls to safeguard their equipment. The Department will not provide support for non-Department owned or leased hardware or software and will not be liable any damage resulting from connectivity to Department information technology resources.

Only authorized personnel will use software that allows observation or control of a remote computer. Remote control will be used for the sole purposes of testing, systems maintenance, troubleshooting, and user support. This software must provide an “acceptance” or “notification” mechanism to a remote user, informing them that their computer is under remote control.

A user may not install personal hardware or software on Department equipment unless it is specifically approved with an Information Resource Request, Form No. 325-005-01, in accordance with Procedure No. 325-080-001, Acquiring Information Technology Resources. Exporting software, technical information, encryption software or technology in violation of international or regional export control laws is illegal.

Under no circumstances will game or entertainment software be used on Department owned or leased machines unless it is specifically approved with an Information Resource Request, Form No. 325-005-01, in accordance with Procedure No. 325-080-001, Acquiring Information Technology Resources.
Technology Resources. Games are not to be used for training. All game and entertainment portions of an authorized software package must be removed immediately.

When it is beneficial to the State and approved in advance by the employee's supervisor or higher management, Department owned or leased personal computers may be used for educational and training purposes for the following programs or related courses:

- Certified Public Manager (CPM)
- Educational Leave With Pay (ELWP); and 001-325-060-e
- Any course that meets a work-related need as determined by the supervisor, including courses taught by or for the Department. This does not include tuition waiver courses taken by employees at a state university on a space available basis.

This policy shall not be construed to prohibit the authorized evaluation of hardware, software, or new technologies.

Physical Security and Access to Data Processing Facilities
Information shall be created and maintained in a secure environment. The cost of security shall be commensurate with the value of the information, considering value to both Department and to a potential intruder. Measures with respect to the creation and maintenance of information will be taken to ensure against the unauthorized modification, destruction, or disclosure of information by any person at any location, whether accidental or intentional. Safeguards will be established to ensure the integrity and accuracy of Department information that supports critical functions of the Department, and for which processing capabilities must be provided in the case of a disaster.

Logical and Data Access Controls
Access to and use of the Department’s information technology resources is authorized for a specific individual and must be used exclusively by that individual. This access is managed by assigning authentication controls, a unique user id and password, to each authorized individual who needs access to the Department’s information technology resources.

Access passwords must not be shared or entered by any automatic means, such as with macros. It is the user’s responsibility to protect all of his or her passwords from being disclosed and to refuse identification of any other user’s password.

Passwords which prevent workstations from booting or powering up shall not be used on any Department owned or leased microcomputers or workstations without specific Office of Information Systems (OIS) approval, documentation and control.

Controls shall be established to maximize the accuracy and completeness of data.

Adequate separation of functions must be maintained to help prevent fraud or other unauthorized activity. Test functions shall be kept either physically or logically separate from
production functions. Copies of production data shall not be used for testing unless the data has been desensitized or unless all personnel involved in testing are otherwise authorized access to the data.

After a new system has been placed in operation, all program changes shall be approved before implementation to determine whether they have been authorized, tested, and documented.

**Network Security**
Computer hardware shall not establish simultaneous network connections between a DOT network and any other non-DOT network unless it is specifically approved with an Information Resource Request, Form No. 325-005-01, in accordance with Procedure No. 325-080-001, Acquiring Information Technology Resources. Unauthenticated access is prohibited.

Any request to connect an external network to the Department’s data communications network must be documented and approved by the Chief Information Officer. Before connecting, appropriate security controls, such as firewalls, must be implemented to protect the Department’s network from unauthorized access.

Only individuals authorized by a District Information Systems Manager (DISM), the Manager of the Computer Services Office (CSO), the Manager of the District Information Systems Office (DISO), the Office of Inspector General (OIG), or the Chief Information Officer (CIO) can use voice and data telecommunications diagnostic hardware and software, such as communications line monitors. Use is restricted to testing, monitoring, and troubleshooting, unless specifically authorized in writing for other business related activities by the CIO.

**Protection Against Loss**
Where technology permits, all Department-owned, leased or managed microcomputers, servers and mobile computing devices must have an anti-virus software program installed, operating, and appropriately updated at all times. The Department provides software for this purpose and distributes updates. Appropriate configurations include real-time protection to support ongoing or background scans whenever a “create, open, move, copy or run” command is performed. This configuration should not be altered by any user. The anti-virus software is identified in the Information Technology Resource Standards, Topic No. 325-080-050, available on the Department’s intranet (Infonet). Only outside electronic data, software, or documents that have been approved for use by the Department are permitted. In all instances, electronic data, software, or documents must be scanned for viruses before being used on a Department computer. It is the responsibility of vendors, consultants, or contractors to ensure that electronic media provided to the Department is not infected. Infected electronic media will be returned and will not be accepted by the Department.

Data and software essential to the continued operation of critical agency functions shall be backed up. The security controls over the backup resources shall be as stringent as the protection required of the primary resources.
All information resources identified as critical to the continuity of governmental operations shall have written and cost effective contingency plans to provide for the prompt and effective continuation of critical state missions in the event of a disaster, and these contingency plans shall be tested at least annually.
2. Documentation and Reporting

Aides and Binders
There are many useful aides and binders that help assist the AMP TMC Operators with their day-to-day activities. The following is a list of aides with information on their purpose and use.

AMP TMC Console Directory
Located at each Operator console, there is a main directory which contains the following:

- AMP TMC Operations Schedule
- FDOT Telephone Directory
- Broward County Telephone Directory
- Palm Beach County Telephone Directory
- Frequently used numbers
- Exit number and state road number reference for all major roadways within Broward, Dade, and Palm Beach County, and the Treasure Coast, including the Turnpike.
- ADMS locations with CCTV presets
- Map of District 4
- Emergency Notification/Procedure Reference

ADMS Message Library
Located at each Operator Console, there is a binder which contains the general formatting for all ADMS messages. This is a hard copy of all messages currently used and their reference ID in SunGuide and is a good resource for when manual ADMS messages must be used.

Maps
Located at each workstation, there are a series of maps which detail the AMP TMC coverage areas. These maps are separated by County.

Shift Reports
Shift Reports are one of the essential reports the AMP TMC uses. It is the one report that communicates all relevant details of the shift completed for the upcoming shift. It is the responsibility of the AMP TMC Operators to continuously update and maintain the accuracy of their shift reports.

There are seven main sections to the shift report:

- Active Traffic Events (ATE)
  - This section summarizes active events at the time of the shift change. This area should reference the Event ID and relevant details regarding the status of the event(s).
- **Shift Change Information**
  - On many occasions, the AMP TMC Operator will be asked to relay miscellaneous information to the upcoming shift. This area of the report should be updated to reflect any relevant shift change information.

- **Event History with ADMS Usage**
  - The event history area simply lists events with ADMS sign usage. The Event ID, event type, location, and lane blockage is specifically noted.

- **Event History with Active Signal Timing Adjustments**
  - The event history area simply lists events which warranted the adjustment of one or more traffic signals. The Event ID, event type, location, and lane blockage is specifically noted.

- **Helpdesk Tickets Opened/Closed**
  - Supervisors are responsible for providing additional information for anything greater than 30 days.

- **MIMS Tickets Opened/Closed**
  - Supervisors are responsible for providing additional information for anything greater than 30 days.

- **Other**
  - The Other section is used for other areas that need to be documented, but do not necessarily fall into one of the above categories.

At the start of each shift, the AMP TMC Operator is required to review all areas of the shift report and discuss any discrepancies with the Operator they are relieving. Likewise, at the end of each shift, the AMP TMC Operator is required to review all areas of the shift report and discuss any areas that may require clarification with the AMP TMC Operator coming to relieve them.

All shift reports should be emailed to the AMP TMC Signal Operations Manager/TMC Manager before the Operator leaves the TMC.

In addition to the Shift Report, throughout the day AMP TMC Operators shall be required to accumulate and log data from multiple sources for the purposes of performance evaluation, archiving, and system upkeep. FDOT and its contractors will discuss the effectiveness and feasibility of the program’s reports to ensure they are obtaining the maximum value.

**Weekly Reports**

Weekly Reports should be generated by the AMP TMC Signal Operations Manager/TMC Manager and submitted by close of business on the following Monday. Each report should summarize the information submitted within each Operator’s Shift Reports. At a minimum, each Weekly Report should also include the following:
ATMS.now System Health
ATMS.now is advanced traffic signal management software held and maintained by both County Traffic Engineering Departments. To aid the counties in monitoring their own system, and to manage the effects of system malfunctions to traffic conditions, AMP TMC Operators shall monitor and log information from the software daily. All information shall be logged within the weekly ATMS.now System Health Report (Appendix C).

Signal Controller Field Alarms
- AMP TMC Operators shall log all critical field alarms that occur during their shift. Each alarm should be documented using the time, duration, controller name and/or ID number, and alarm type.
- Critical Alarms are as follows:
  o Signals in flash
  o Signals out of synchronization
  o Stuck Pedestrian Call Buttons
  o Malfunctioning detectors

Signal Controller Preemption Calls
- AMP TMC Operators shall log all controller preemption calls that occur during their shift. Each call should be documented using the time, duration, controller name and/or ID number, and preemption type.

Signal Controller Uptime
- AMP TMC Operators shall log the total operational controller count at 7:00 AM and 7:00 PM. Operator should take the Total Controller count from the top right of the ATMS.now home screen and subtract the devices that are not online yet, this provides the total online controllers. Operators should then sort the status column and total up the failed devices and subtracts that from the online controller count to provide the Operational Controller count.

Signal Timing Adjustments
- AMP TMC Operators should track and log any signal timing adjustments made by County Engineers. The information can be retrieved from the “Transactions” report generated by ATMS.now. Controller ID/name, time, and associated event ID should be logged.

Operator Call Log
All calls made and received by TSM&O Operators should be recorded within each week’s Operator Call Log. At a minimum the operator should log the date, time, agency, and call details.
Managed Event Benefits Data Sheets
To aid in the tracking of event response and benefits calculations, the AMP TMC Signal Operations Manager/TMC Manager shall fill out an Event Data Sheet from the provided template (see Appendix D) for all events which warrant signal timing adjustments.

Monthly Dashboard
Dashboards are an accepted vernacular for reports that include all relevant information for a particular initiative, summarized into an easily understandable and brief format. FDOT District 4 has accepted a format for the AMP; a sample of this report and the methodology used to calculate some of the values can be found in Appendix E. These reports are to be prepared and submitted to the FDOT TSM&O Program Manager by the fifth business day of each month for the previous month.
3. Computer Applications and ITS

The following systems and applications are at the disposal of the AMP TMC staff to support their efforts in Active Arterial Management. The following policies should be applied when using these tools.

Broward County

SunGuide

The Broward County AMP TMC uses SunGuide, the statewide ITS software platform, as the primary means of collecting, storing, and disseminating information about events on the arterial and freeway networks. SunGuide is a modular system comprised of several subsystems that are integrated to allow for event management, data collection, and field device control.

The main objectives of SunGuide are:

- Traffic Event and Incident Management
- Dispatch Road Rangers and Severe Incident Response Vehicles (not yet available to arterials)
- Reporting and Tracking Impacts on Roadways
- Event Email Alert Notifications
- Posting ADMS & DMS where applicable
- Posting FLATIS Notifications

AMP TMC Operators should refer to Appendix A for Operator Training Slides for SunGuide v5.1.9.

AMP TMC Administrators should refer to Appendix B for Administrative Training Slides for SunGuide v5.1.9.

The following is a breakdown of the various subsystems that comprise the SunGuide System.

**AVLRR**

The Automated Vehicle Locator/Road Ranger subsystem is primarily used as a means to track Road Rangers and SIRV vehicle activity. The AVL subsystem is not available at this time.

**C2C**

The Center to Center subsystem is currently used to communicate with the 511 FL-ATIS and TrafficCast BlueTOAD systems. Both incident data and Floodgate recording files are sent via the C2C Module, as well as data collected by the BlueTOAD system.

The C2C subsystem may also be used to share data between TMCs. The extent of this capability is not yet defined.
CCTV
The Closed Circuit Television subsystem allows for control of CCTV cameras on AMP TMC corridors.

DMS
The Dynamic Message Sign subsystem allows for control of the ADMS devices on AMP TMC corridors.

EM
The Event Manager subsystem controls the main graphic user interface for AMP TMC Operators to use SunGuide.

GUI Prefs
The Graphic User Interface Preferences subsystem collects data regarding each AMP TMC Operators’ SunGuide display preferences.

HAR
The Highway Advisory Radio subsystem provides motorist with pertinent and current traveler information through their AM radios. The HAR subsystem is not available at this time.

IDS
The Incident Detection System subsystem coordinates systems for event/incident detection within SunGuide. This automated system compares real-time data to established thresholds to detect potential disruptions to traffic conditions.

MAS
The Message Arbitration System subsystem organizes incident information to be posted on ADMS signs.

RS
The Report System subsystem allows incident and device data to be retrieved using a variety of different filters and queries such as dates, times, and device types.

TSS
The Transportation Sensor System subsystem collects and organizes data from vehicle detection sensors on AMP TMC corridors.

TVT
The Travel Time subsystem coordinates and calculates the creation of travel times which are posted on ADMS based on TSS data.

VS
The Video Switching subsystem allows for control of CCTV video on AMP TMC monitors through the V-Brick System. The VS subsystem is currently unavailable.
VW
The Video Wall subsystem coordinates control of the TMC Video Wall inside the TMC control room. The VW subsystem is currently unavailable as the AMP’s H.264 video feeds are not compatible with the existing BARCO video wall.

ITS Devices
AMP TMC Operators use SunGuide Subsystems for CCTV cameras, ADMS, and TSS to detect, monitor and disseminate event information to the public.

Closed Circuit Television
To increase real-time monitoring, surveillance and first hand incident detection directly from the AMP TMC, FDOT has installed high tech Vicon Surveyor CCTV cameras throughout the AMP Corridors.

As part of the day-to-day operational procedures, AMP TMC Operators are required to turn the CCTV Cameras frequently for increased panoramic view and coverage of the roadway. Through the SunGuide interface, the Surveyor Direct Control Software allows Operators to also perform tours based on preset camera views. Presets are used to complement the Operator’s physical and routine manipulation of the cameras.

Proactive use of CCTV cameras helps to improve the AMP TMC’s incident management productivity, dispatch, response times, and performance measures by providing early detection, incident verification, and increased visual coverage.

By using the SunGuide Camera Control and Video Switching (not currently available), AMP TMC Operators can move a camera, check the operational status of the camera, store presets, and lock the camera preventing others from using the camera.

<table>
<thead>
<tr>
<th>SunGuide ID</th>
<th>Roadway</th>
<th>Cross Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-01</td>
<td>SR 816/Oakland Park Blvd</td>
<td>SR 817/University Dr</td>
</tr>
<tr>
<td>C-02</td>
<td>SR 816/Oakland Park Blvd</td>
<td>SR 817/University Dr</td>
</tr>
<tr>
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<td>SR 5/Federal Hwy</td>
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<td>SR 817/University Dr</td>
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<td>I-95 NB on ramp</td>
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<td>SR 5/Federal Hwy</td>
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</tr>
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<td>C-55</td>
<td>SR 7/US 441</td>
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<tr>
<td>C-56</td>
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<td>NW 6th Ct</td>
</tr>
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</table>
Arterial Dynamic Message Signs

Motorists need to be informed of real-time incidents and confirmed lane blockage, such as crashes, disabled vehicles, and work zones so that they can consider alternate routes to avoid delays. Daktronics full matrix ADMS are strategically located throughout the AMP TMC to disseminate information to motorists.

The messaging matrix is based on two main criteria: structure and content. It is critical to develop and use consistent messaging that will allow quicker recognition by passing motorists over time. Structure and content are based on what can be read by the lowest denominator, in this case, the motorist driving at the highest rate of speed.

The structure and content of the developed library matrix was based on using the ADMS for dual phase messaging. The message content must contain enough information that enables the motorist to make an informed decision, while still fitting on the sign.

<table>
<thead>
<tr>
<th>SunGuide ID</th>
<th>Roadway</th>
<th>Cross Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-01</td>
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<td>NW 46th Ave</td>
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<tr>
<td>D-02</td>
<td>SR 816/Oakland Park Blvd</td>
<td>Oakland Shores Dr</td>
</tr>
<tr>
<td>D-03</td>
<td>SR 838/Sunrise Blvd</td>
<td>NW 12th Ave</td>
</tr>
<tr>
<td>D-04</td>
<td>SR 838/Sunrise Blvd</td>
<td>NE 17th Ave</td>
</tr>
<tr>
<td>D-05</td>
<td>SR 842/Broward Blvd</td>
<td>West of C-12 Canal</td>
</tr>
<tr>
<td>D-06</td>
<td>SR 7/US 441</td>
<td>SW 3rd St</td>
</tr>
<tr>
<td>D-07</td>
<td>SR 7/US 441</td>
<td>NW 46th St</td>
</tr>
<tr>
<td>D-08</td>
<td>SR 817/University Dr</td>
<td>South of Oakland Park Blvd</td>
</tr>
<tr>
<td>D-09</td>
<td>SR 842/Broward Blvd</td>
<td>NW 32nd Ave</td>
</tr>
<tr>
<td>D-10</td>
<td>SR 842/Broward Blvd</td>
<td>Florida's Turnpike</td>
</tr>
</tbody>
</table>

Table 1 – Broward County AMP TMC CCTV List

Table 2 – Broward County AMP TMC ADMS List
**Arterial Management Program TMC Standard Operating Guidelines**

**Transportation Sensor Subsystem**

FDOT District 4 has deployed above ground roadway detectors. These detectors are strategically placed based on type and detection radius throughout the AMP Corridors to detect incidents and variations in traffic conditions.

SunGuide allows AMP TMC Operators to view real-time average roadway speed and occupancy on the SunGuide Operator Map by translating data collected by the sensors into colored bands on the corresponding roadways. The operator may view the current traffic conditions for a specific link by double clicking on a link in the SunGuide Operator Map. The TSS Details panel will open and display the appropriate information for that particular device “link.” The TSS Subsystem collects and stores this data and in conjunction with the TVT subsystem, provides travel time information.

The three types of devices deployed are as follows:

**Microwave Vehicle Detection Systems**

MVDS use constant microwaves to determine speed and occupancy within a programmed detection zone for up to eight lanes. Within the TSS Details panel for MVDS, the top number represents the “rolling average” and the bottom number represents the most recent value from the detector.

<table>
<thead>
<tr>
<th>SunGuide ID</th>
<th>Roadway</th>
<th>Cross Street</th>
</tr>
</thead>
<tbody>
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<td>SR 817/University Dr</td>
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<td>M-02</td>
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<td>SR 816/Oakland Park Blvd</td>
<td>Oakland Shores Dr</td>
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<td>NW 6th Ave</td>
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<td>SR 816/Oakland Park Blvd</td>
<td>NE 4th Ave</td>
</tr>
<tr>
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</tr>
<tr>
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<td>East of CBR Park</td>
</tr>
<tr>
<td>M-10</td>
<td>SR 838/Sunrise Blvd</td>
<td>NW 29th Terr</td>
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<td>NE 8th Ave</td>
</tr>
<tr>
<td>M-15</td>
<td>SR 838/Sunrise Blvd</td>
<td>NE 17th Ave</td>
</tr>
<tr>
<td>M-16</td>
<td>SR 5/Federal Hwy</td>
<td>NE 17th Ct</td>
</tr>
<tr>
<td>M-17</td>
<td>SR 842/Broward Blvd</td>
<td>NW 38th Way</td>
</tr>
<tr>
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<td>SR 842/Broward Blvd</td>
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<td>M-21</td>
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<td>NW 6th Ave</td>
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**Arterial Management Program TMC Standard Operating Guidelines**

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<thead>
<tr>
<th>M-22</th>
<th>SR 5/Federal Hwy</th>
<th>NE 5th St</th>
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<td>M-24</td>
<td>SR 7/US 441</td>
<td>NW 19th St</td>
</tr>
<tr>
<td>M-25</td>
<td>SR 817/University Dr</td>
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</tr>
<tr>
<td>M-26</td>
<td>SR 817/University Dr</td>
<td>South of Cleary Blvd</td>
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<td>M-27</td>
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</tr>
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<td>M-33</td>
<td>SR 7/US 441</td>
<td>South of Commercial Blvd</td>
</tr>
</tbody>
</table>

**Table 3 – Broward County AMP TMC MVDS List**

**Automatic Vehicle Identification**

AVI calculate average speeds based on toll road readers within vehicles. As a vehicle passes under one sensor and makes it to the next down the road, it calculates the speed required to do so.

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<th>Roadway</th>
<th>Cross Street</th>
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</thead>
<tbody>
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<td>NW 29th St</td>
</tr>
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</table>

**Table 4 – Broward County AMP TMC AVI List**

**BlueToad**
BlueTOAD readers work exactly the same as the AVI, but instead of a toll road reader, works off of select Bluetooth activated devices within the vehicle.

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<td>SR 7/US 441</td>
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<td>I-95 SB off ramp</td>
</tr>
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<td>B-08</td>
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<td>I-95 NB on ramp</td>
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</tr>
<tr>
<td>B-32</td>
<td>SR 817/University Dr</td>
<td>SR 838/Sunrise Blvd</td>
</tr>
<tr>
<td>B-33</td>
<td>SR 7/US 441</td>
<td>NW 46th St</td>
</tr>
<tr>
<td>B-34</td>
<td>SR 7/US 441</td>
<td>NW 29th St</td>
</tr>
<tr>
<td>B-35</td>
<td>SR 7/US 441</td>
<td>NW 11th St</td>
</tr>
<tr>
<td>B-36</td>
<td>SR 7/US 441</td>
<td>SW 3rd St</td>
</tr>
<tr>
<td>B-37</td>
<td>SR 5/Federal Hwy</td>
<td>NE 16th St</td>
</tr>
<tr>
<td>B-38</td>
<td>SR 5/Federal Hwy</td>
<td>NE 9th St</td>
</tr>
</tbody>
</table>
RTMC Video Wall
AMP TMC Operators and Managers will not have access to the current video wall at the Broward County TMC. The video wall does not support the H.264 video format of the AMP CCTVs.

Websites
The AMP TMC uses various websites to assist with day to day activities within the control room. Each of these sites provides useful information which enables the AMP TMC Operators to effectively manage their responsibilities. The following websites are utilized within the AMP TMC:

**Smart SunGuide RTMC**
The SMART SunGuide RTMC main website contains many areas that are useful to the motoring public and participating agencies, such as real-time traffic information, useful information on road rangers, Traffic Incident Management (TIM) Teams, and South East Florida Regional TMC Operations Committee (SEFRTOC), and performance measures of the TMC.

- [www.smartsunguide.com](http://www.smartsunguide.com)

**IntraSMART**
IntraSMART is the TMC’s internal website or Intranet. Through this portal, users can access the SunGuide Event Management System, useful links to websites, important internal links, such as the employee calendar, department schedules, Help Desk Portal, MIMS, and Webmail.

- [http://intrasmart/](http://intrasmart/)

**My Florida 511**
The My Florida 511 site is an essential resource of the AMP TMC. By periodically checking this site, the AMP TMC Operators can check on live traffic alerts and information on the interstates surrounding the AMP corridors.

- [http://intrasmart/](http://intrasmart/) Located under website – side menu

**FHP Event List**
The FHP Event list provides useful information on incidents that were responded to and assisted by the Florida Highway Patrol. The main purpose of the site is to inform Operators of possible events and to obtain the FHP Incident Number of these incidents.

- [http://intrasmart/](http://intrasmart/) Located under website – side menu
**IVEDDS**
The Interagency Video and Data Distribution System (IVEDDS) site allows AMP TMC partner agencies to view active traffic events. Since this site mirrors the AMP TMC event list, it is crucial that the quality of the data being presented is entered correctly and checked regularly. The AMP TMC Operator should ensure that dispatch times, comments, and general specifics associated with an event are completely accurate at all times.

- Website varies for each partnering agency.

**TrafficCast – BlueTOAD**
The TrafficCast BlueTOAD website allows AMP TMC Operators to access traffic information collected by the BlueTOAD subsystem outside of SunGuide. It allows operators to generate reports, monitor device functionality, and create new content (nodes, pairs, OD studies, etc.)

**INRIX – I 95 Corridor Coalition**
The INRIX I 95 Corridor Coalition website publishes traffic conditions and events similar to the SunGuide interface. The system reads real-time travel time information from various probe vehicles along major roadways.

- [https://i95.inrix.com/](https://i95.inrix.com/)

**MIMS**
The Maintenance and Inventory Management Systems is used to automate, centralize and streamline the maintenance of ITS devices and respective AMP subsystems. MIMS was designed to facilitate the highest levels of system uptime and to be the liaison between operations and maintenance staff.

Upon detection of a new ITS Device failure, a MIMS Trouble Ticket will be created through the Intra-Smart website. In the top panel of icons on the IntraSmart website, click on the MIMS icon, and then log in using your Operator username and password information from SunGuide. Operators will click on the MIMS tab to view current MIMS tickets, check ticket status, and or “Create a Trouble Ticket.”

In the Create Trouble Ticket Screen you will have the choice of selecting:

- Device Type
- Device Name
- Description
- Additional Comments
- Weather Conditions and Comments
- Device Not Operational
Voiding a Ticket
MIMS now allows operations staff to void a trouble ticket if mistakes were made upon entry or a device becomes functional again. The creator of the ticket can void the ticket before it has been verified – when the ticket is still in the ‘unconfirmed’ state and has not yet been moved to the ‘unresolved’ state.

- Within the Unconfirmed Trouble Tickets list, the Void Ticket option will be available on the right hand side of all Trouble Tickets the user has created.
- Selecting ‘Void Ticket’ will display the ‘Void Trouble Ticket’ panel.
- To void the relevant ticket, select an appropriate comment from the ‘Status Change Description’ drop down menu, add any additional comments within the ‘Additional Comments’ text box and select ‘Void.’
- To close the ‘Void Trouble Ticket’ panel without voiding the ticket, select ‘Cancel.’

ITS Field Device Damage
In the event a field device is hit by a vehicle or is damaged by other means, making the device inoperable, the AMP TMC Operator should notify FDOT Maintenance immediately.

Motorist Call
This section of the MIMS page is utilized to document any motorists’ calls about events, such as disabled vehicles, crashes, pedestrians walking, etc. After entering all the appropriate fields in this section, the AMP TMC Operator can create a new event within SunGuide. All calls should be logged within each day’s Shift Report.

Documentation
After a MIMS ticket is created or closed in SunGuide, the information must also be logged in the Shift Report.

ATMS.now
The ATMS.now advanced signal software is used by Broward County to monitor and operate their extensive signal system from the TMC. The software allows Traffic Division staff to actively monitor all online signals’ status and implement timing patterns remotely. A Memorandum of Understanding (MOU) has been developed to grant AMP TMC staff varying levels of access to the software to aide BCTED staff in monitoring the signal system.

Solarwinds
The SolarWinds network management software (NMS) was procured by FDOT to monitor ITS Device connectivity and network performance health. The software periodically (user definable) pings all network addresses to verify system communications are operational. AMP TMC Staff shall program alarms within then software to alert them of any device, fiber optic, and/or power failures. (For more information on how to program and use these alarms, refer to the Solarwinds Administrator Guide and Evaluation Guide – Appendices F & G.)
Palm Beach County

Incident Management Database (IMD)
Instead of using SunGuide for incident tracking and updating, a web-based database has been developed through FDOT contracts to serve as an event management software similar to SunGuide in its stead. The software functions similarly to the SunGuide event list and should be used with the same protocols.

ITS Devices
AMP TMC Operators use vendor operations software for CCTV cameras and TSS to detect, monitor and disseminate incident information to the public.

Closed Circuit Television
To increase real-time monitoring, surveillance and first hand incident detection directly from the AMP TMC, Palm Beach County Traffic and FDOT have installed high tech Vicon Surveyor and Bosch CCTV cameras throughout the AMP Corridors.

As part of the day-to-day operational procedures, AMP TMC Operators are required to turn the CCTV Cameras frequently for increased panoramic view and coverage of the roadway. The Watchdog and Bosch Video Client CCTV control software allow Operators to also perform tours based on preset camera views. Presets are used to complement the Operator’s physical and routine manipulation of the cameras.

Proactive use of CCTV cameras helps to improve the AMP TMC’s incident management productivity, dispatch, response times, and performance measures by providing early detection, incident verification, and increased visual coverage.

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Model</th>
<th>Roadway</th>
<th>Cross Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>185</td>
<td>Vicon</td>
<td>Palm Beach Lakes Blvd</td>
<td>I 95</td>
</tr>
<tr>
<td>190</td>
<td>Vicon</td>
<td>Palm Beach Lakes Blvd</td>
<td>Congress Ave</td>
</tr>
<tr>
<td>195</td>
<td>Vicon</td>
<td>Palm Beach Lakes Blvd</td>
<td>Australian Ave</td>
</tr>
<tr>
<td>196</td>
<td>Bosch</td>
<td>Palm Beach Lakes Blvd</td>
<td>SR 5/Dixie Hwy</td>
</tr>
<tr>
<td>198</td>
<td>Vicon</td>
<td>Banyan Blvd</td>
<td>Tamarind Ave/Parker Ave</td>
</tr>
<tr>
<td>199</td>
<td>Bosch</td>
<td>Banyan Blvd</td>
<td>Quadrille Blvd</td>
</tr>
<tr>
<td>205</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>SR 7/US 441</td>
</tr>
<tr>
<td>210</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Sansbury Way</td>
</tr>
<tr>
<td>215</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Golden Lakes Blvd</td>
</tr>
<tr>
<td>220</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Florida's Turnpike</td>
</tr>
<tr>
<td>222</td>
<td>Bosch</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Jog Rd</td>
</tr>
<tr>
<td>223</td>
<td>Bosch</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Haverhill Rd</td>
</tr>
<tr>
<td>225</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>SR 809/Military Trail</td>
</tr>
<tr>
<td>230</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Palm Beach Lakes Blvd</td>
</tr>
<tr>
<td>235</td>
<td>Vicon</td>
<td>SR 704/Okeechobee Blvd</td>
<td>Congress Ave</td>
</tr>
</tbody>
</table>
Table 6 – Palm Beach County AMP TMC CCTV List

**Transportation Sensor Subsystem**

FDOT District 4 has deployed 36 above ground roadway detectors. These detectors are strategically placed based on type and detection radius throughout the AMP Corridors to detect incidents and variations in traffic conditions.

Vendor software allows AMP TMC Operators to view real-time average roadway speed and occupancy on the GUI Map by translating data collected by the sensors into colored bands on the corresponding roadways. The operator may view the current traffic conditions for a specific link by clicking on a link in each GUI Map.

The three types of devices deployed are as follows:

**SpeedInfo Doppler Radar**
Doppler use radio waves to determine active speed and occupancy within a programmed detection zone.

- [http://map.speedinfo.com/usa/Florida/WestPalmBeach/](http://map.speedinfo.com/usa/Florida/WestPalmBeach/)

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Cross Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Palm Beach Lakes Blvd</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>West of I 95</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>East of I 95</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>West of Congress Ave</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>West of I 95</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>East of I 95</td>
</tr>
</tbody>
</table>

Table 7 – Palm Beach County AMP TMC Doppler List

**BlueTOAD**

BlueTOAD works off of select Bluetooth activated devices within a vehicle traveling from one device’s detection zone to another which are paired together.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Cross Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>SR 7/US 441</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Jog Rd</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>SR 809/Military Trail</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Palm Beach Lakes Blvd</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>I 95 SB off ramp</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Tamarind Ave/Parker Ave</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Rosemary Ave</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Quadrille Blvd</td>
</tr>
<tr>
<td>SR 704/Okeechobee Blvd</td>
<td>Flagler Dr</td>
</tr>
<tr>
<td>Belvedere Rd</td>
<td>SR 7/US 441</td>
</tr>
<tr>
<td>Belvedere Rd</td>
<td>Jog Rd</td>
</tr>
<tr>
<td>Belvedere Rd</td>
<td>SR 809/Military Trail</td>
</tr>
<tr>
<td>Belvedere Rd</td>
<td>I 95</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>SR 7/US 441</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>Sunshine Rd (East of SR 7)</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>Jog Rd</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>East of Jog Rd</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>SR 809/Military Trail</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>East of Military Trail</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>I 95</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>SR 805/Dixie Hwy</td>
</tr>
<tr>
<td>SR 80/Southern Blvd</td>
<td>Flagler Dr</td>
</tr>
</tbody>
</table>
TMC Video Wall
To gain access to the Palm Beach County Traffic Video Wall, AMP TMC Operators should consult with the County Network Administrator for privileges and credentials.

Websites
The AMP TMC uses various websites to assist with day to day activities within the control room. Each of these sites provides useful information which enables the AMP TMC Operators to effectively manage their responsibilities. The following websites are utilized within the AMP TMC:

*Smart SunGuide RTMC*
The SMART SunGuide RTMC main website contains many areas that are useful to the motoring public and participating agencies, such as real-time traffic information, useful information on road rangers, Traffic Incident Management (TIM) Teams, and South East Florida Regional TMC Operations Committee (SEFRTOC), and performance measures of the TMC.

  - www.smartsunguide.com

*FHP Event List*
The FHP Event list provides useful information on incidents that were responded to and assisted by the Florida Highway Patrol. The main purpose of the site is to inform Operators of possible events and to obtain the FHP Incident Number of these incidents.

  -

*TrafficCast – BlueTOAD*
The TrafficCast BlueTOAD website allows AMP TMC Operators to access traffic information collected by the BlueTOAD subsystem outside of SunGuide. It allows operators to generate reports, monitor device functionality, and create new content (nodes, pairs, OD studies, etc.)

  - https://bluetoad.trafficcast.com/
INRIX – I 95 Corridor Coalition
The INRIX I 95 Corridor Coalition website publishes traffic conditions and events similar to the SunGuide interface. The system reads real-time travel time information from various probe vehicles along major roadways.

- https://i95.inrix.com/

ATMS.now
The ATMS.now advanced signal software is used by Broward County to monitor and operate their extensive signal system from the TMC. The software allows Traffic Division staff to actively monitor all online signals’ status and implement timing patterns remotely. A Memorandum of Understanding (MOU) has been developed to grant AMP TMC staff varying levels of access to the software to aide BCTED staff in monitoring the signal system.

System Review
To ensure adequate functionality, it is the responsibility of all AMP TMCS operators to conduct a complete system review of all software and hardware at the start of their shift. Any system malfunction must be reported in the Help Desk Portal and Equipment (Helpdesk/MIMS Tickets) section of the Shift Report. Operators should note the date & time, system and/or device, error, notified personnel and any general comments.

If the malfunction(s) is a system wide issue, notify the AMP TMC Signal Operations Manager/TMC Manager immediately and continue operations normally to the full extent possible.
4. Detection & Monitoring Plan

The following procedures ensure that the AMP TMC Operator is aware of traffic events, conditions, and device statuses. AMP TMC Operators are expected to remain at their workstations throughout the duration of their shift unless on break. During this time Operators shall spend time monitoring the following computer applications and systems:

Broward County

CCTVs

CCTV cameras are to be used to determine the details of traffic events along AMP corridors. In addition, they are a useful tool for detecting and verifying incidents and damage to the roadway. When monitoring CCTV camera feeds, care must be taken to comply with the Protection of Privacy Act.

The following are guidelines for CCTV traffic monitoring:

- For routine monitoring, use the predefined presets which have been identified as the ideal tour views.
- At least twice per hour during the Peak periods and once per hour during off peak, the AMP TMC Operator(s) is required to scan the complete coverage area for events/incidents.
- Whenever cameras are not being used for scanning, they should be returned to a relevant preset position.
- Look for the following visual clues indicating a traffic event:
  - Very light flow or no flow, at locations and times when heavy traffic is expected.
  - All of most vehicles changing lanes at a particular location.
  - Vehicles slowing or stopping at an unorthodox location.
- Increase attention should be given to areas where queues typically build up, including bottlenecks, busy on ramps, and construction work zones.

**ITS Field Device Security Monitoring**

There are dozens of ITS field cabinets with thousands of dollars’ worth of communications equipment along the AMP corridors monitored by the TMC. Additionally, copper wire thefts have been prevalent along FDOT right-of-way. Maintaining physical and electronic security is part of the ITS Devices’ responsibilities to keep equipment operational at all times. If an intrusion or suspicious situation is detected, TMC Operations staff will assist in the process to notify the appropriate staff and/or law enforcement to investigate.

If at any time suspicious activity is detect by CCTV, follow the proceeding steps:

1. Contact local police to respond
2. Notify the AMP Maintenance Contractor and the AMP TMC Signal Operations Manager/TMC Manager.
3. Continue monitoring until given the all clear by Maintenance, law enforcement, or a supervisor.

Road Watcher Program & Other Motorist Calls
The Road Watcher Program consists of trained commuters that will act as advisers for the purpose of collecting real-time information regarding traffic conditions on their travel routes. A pilot program was conducted for a 6 month period to evaluate the use of advisers for this program; currently only a limited number of volunteers continue to serve the program.

During their commute, Road Watchers are asked to look for the following:

- Vehicle crashes
- Disabled vehicles
- Debris in the roadway

An event reported by a Road Watcher or other motorist requires the AMP TMC Operator to collect and log specific information into SunGuide. This information is critical to incident management, specifically for information dissemination.

- AMP TMC Operators should write down all information received from the Road Watcher.
- The information that is collected should be as follows:
  - Name of caller
  - Type of incident
  - Location
  - Direction
  - Lane closure information
  - Vehicle information
  - Additional information (fire, hazmat, etc.)
- AMP TMC Operators should never directly advise any caller of actions they should take regarding any incident.
- Enter the “Unconfirmed” event information into SunGuide. (The status of any event notified via phone shall be logged as “unconfirmed” until the event is viewed via CCTV, or a responder verifies the event.)
- Attempt to locate the event using CCTVs and collect further information and details of the incident to document in SunGuide.
- Follow standard incident management procedures.
Travel Time Subsystems (TTS)

All travel time subsystems are used to collect real-time traffic information, including speed, travel time, and occupancy. AMP TMC Operators should use the SunGuide Operator Map and programmed alarms to promote incident detection. AMP TMC Operators should look for the following signs of incidents:

- Sudden decrease in speed and/or occupancy
- Rise in occupancy accompanied by a decline in speed

All conditions and/or alarms should be verified via CCTV before logging any information into SunGuide.

TrafficCast Speed Map

Due to the density of TTS devices deployed along the AMP corridors, Operators will have the TrafficCast BlueTOAD speed map (http://10.10.90.35) open for better access to the speed pairs and reporting functionalities of this technology.

INRIX

A third party traffic information provider, INRIX provides a visual representation of traffic conditions similar to the SunGuide Operator Map. The software has various layers and methods to reading data, and should be utilized to aide in reading traffic conditions.

TTS Alerts

SunGuide generates alarms based on established thresholds programmed for TTS devices to alert Operators of potential incidents. Located on the right hand side of the Event List in SunGuide, there is a section which is used for system alerts. When a threshold has been met, the system alerts section will display a blinking alert and emitting an audio sound. The system will list in chronological order from top to bottom, and how many minutes have lapsed since the initial detection.

When an alert is selected within the Alert Display, a pop up window will appear. This pop up window will contain the detected information and options to do the following:

- Create New Event
- Create Secondary Event
- Set Responder Arrival
- Dismiss as Already Detected
- Dismiss as False Alarm

Once an event has been handled with one of the above options, the event will be removed from the SunGuide system alerts section.
SolarWinds Network Management Software
The network management software (NMS) is responsible for testing and verifying connectivity to all network devices on the AMP corridors. The software has reporting capabilities which shall be utilized to notify AMP TMC Operators of any disruptions in network communications. Any loss of communication and/or other functionality to any ITS device detected by Solarwinds or other means should be submitted into MIMS for diagnostics.

Fiber Cuts
Any time a series of multiple devices loses connectivity is generally indicative of a large power outage or a physical cut to the communication infrastructure. In the event of a sudden loss of connectivity to multiple devices in series occurs AMP TMC Operators should check for any power outages in the area using the FPL website (http://www.fplmaps.com/). If no outages are displayed, notify FDOT Maintenance immediately if connectivity is not reestablished after one hour.

ATMS.now Signal Management Software
To aide BCTED in monitoring the health of their signal system and to mitigate the effects of signal system malfunctions on traffic conditions, AMP TMC Operators should monitor the signal system to the extent of their access limitations. Operators should look for the following alarms along the AMP Corridors:

- Signal Flash
- Loss of signal communication
- Loss of signal coordination
- Stuck pedestrian call buttons
- Detector malfunctions
- Preemption calls
  - Emergency
  - Rail
  - Bridge openings

Upon detecting one of the above issues AMP TMC Operators should notify?

Palm Beach County
CCTVs
CCTV cameras are to be used to determine the details of traffic events along AMP corridors. In addition, they are a useful tool for detecting and verifying incidents and damage to the roadway. When monitoring CCTV camera feeds, care must be taken to comply with the Protection of Privacy Act.
The following are guidelines for CCTV traffic monitoring:

- For routine monitoring, use the predefined presets which have been identified as the ideal tour views.
- At least twice per hour, the AMP TMC Operator(s) is required to scan the complete coverage area for events/incidents.
- Whenever cameras are not being used for scanning, they should be returned to a relevant preset position.
- Look for the following visual clues indicating a traffic event:
  - Very light flow or no flow, at locations and times when heavy traffic is expected.
  - All of most vehicles changing lanes at a particular location.
  - Vehicles slowing or stopping at an unorthodox location.
- Increase attention should be given to areas where queues typically build up, including bottlenecks, busy on ramps, and construction work zones.

**Broward County RTMC**
RTMC Operators will call the Palm Beach County TMC in the event of a major accident or blockage on any I 95 on/off ramps. Upon receiving a call from the RTMC, AMP TMC Operators should check CCTV feeds in the area and notify Palm Beach County Traffic Engineers of any significant queues affecting the arterial roadways. All incidents surrounding the AMP TMCs should be logged accordingly into the Incident Management Database.

**Travel Time Subsystems (TTS)**
All travel time subsystems are used to collect real-time traffic information, including speed and travel time. AMP TMC Operators should use each web-based vendor software and programmed alarms to promote incident detection. AMP TMC Operators should look for the following signs of incidents:

- Sudden decrease in speed and/or occupancy
- Rise in occupancy accompanied by a decline in speed

All conditions and/or alarms should be verified via CCTV before logging any information into the Incident Management Database.

**TrafficCast Speed Map**
Due to the density of TTS devices deployed along the AMP corridors, Operators will have the TrafficCast BlueTOAD speed map (https://bluetoad.trafficcast.com/map) open for better access to the speed pairs and reporting functions of this technology.

In late 2013 TrafficCast developed programmable alarms into their system. These alarms are programmable for each link based on collected speed and time of day. Alarms should be programmed for extreme conditions so that there is no delay in responding to the potential incident.
Arterial Management Program TMC Standard Operating Guidelines

**INRIX**
A third party traffic information provider, INRIX provides a visual representation of traffic conditions similar to the SunGuide Operator Map. The software has various layers and methods to reading data, and should be utilized to aide in reading traffic conditions.

**ATMS.now Signal Management Software**
To aide Palm Beach County Traffic in monitoring the health of their signal system and to mitigate the effects of failures on traffic conditions, AMP TMC Operators should monitor the signal system to the extent of their access limitations. Operators should look for the following alarms along the AMP Corridors:

- Signal Flash
- Loss of signal communication
- Loss of signal coordination
- Stuck pedestrian call buttons
- Detector malfunctions
- Preemption calls
  - Emergency
  - Rail
  - Bridge openings

As Palm Beach County does not currently have network management software, ATMS.now must serve in its place to detect significant losses of communication that could be indicative of a physical cut to the fiber optic infrastructure. Any sudden loss of communications to multiple signals in close proximity should be treated with top priority. AMP TMC Operators should check the FPL Power Map for the area to investigate any power outages in the area. If no power outages exist, AMP TMC Operators should notify Palm Beach County staff immediately.

**5. Event Evaluation**
The first step in managing an active traffic event (ATE) detected on the AMP TMC corridors is to determine the severity of the event.

**Personal Injury or Public Safety Concerns**
The most critical thing to determine when evaluating event severity is whether there is personal injury or risk to public safety, so that the appropriate emergency agencies are advised. In practice, it is not always possible to thoroughly and accurately evaluate event severity. In the event that personal injuries or public risk are suspected but cannot be confirmed, proceed as if they had been confirmed, advising the emergency agencies that are contacted of any assumptions that have been reported to the TMC.

The following are indications to look for when evaluating the severity of an event:
Arterial Management Program TMC Standard Operating Guidelines

**Personal Injuries**
When a vehicle has evidently just been involved in an accident, assume there is a personal injury if:

- The vehicle has rolled
- An occupied vehicle is on fire
- The passenger compartment is crushed or dented
- A pedestrian or cyclist has been hit
- A passenger has been thrown from the vehicle
- A passenger is obviously bleeding
- Any passengers have not left the vehicle, and one or more are not moving
- Someone appears to be trying to help or move a passenger

For an occupied vehicle which does not appear to have been in an accident, assume a medical emergency if:

- The vehicle pulls over or stops erratically and the driver appears to be in medical distress.

**Risk to Public Safety**
Consider any of the following on-street situations a risk to public safety.

- An individual in a dangerous position outside of a vehicle, such as:
  - Attempting to repair a vehicle in a travel lane
  - An individual walking in the road (not crossing the street)
- A hazard to other road users
  - A stopped vehicle or object in a travel lane
  - A vehicle that is being operated in an unsafe manner
  - A vehicle or roadside fire
- Spills of hazardous materials
  - Fluid leaked from a vehicle following an accident that could be considered hazardous
  - If a tanker truck is leaking its contents, look for identification of the substance written on the vehicle. Refer to the Emergency Response Guidebook located at each Operator station to identify the placard on the side of the truck.
- Other circumstances which pose an immediate risk to public safety.

**Severity Levels**
Some events will involve person injury, risk to the public safety or extensive lane blockage, and will warrant the assistance of multiple agencies, such as local police and fire and rescue. There are three classification levels used in the AMP TMC. When assigning a severity level
classification, it is important to take into consideration the total number of travel lanes at the location of the incident. (The SunGuide software automatically generates the Incident Severity depending on the impact to traffic or the total number of travel lanes affected.)

**Level 1 – Minor**
A Level 1 severity event is categorized as minor impact to a roadway. The AMP TMC does not send email Incident Notification for Level 1 severity events. There is no need to alert AMP TMC Management of a Level 1 Incident. Examples are:

- A disabled vehicle located out of the travel lanes
- An incident detected in travel lanes, but is in the process of moving out of the roadway.

**Level 2 – Intermediate**
A Level 2 severity event is categorized as impact to the traveled roadway which is estimated to be less than 2 hours with lane blockages, but not a full closure of the roadway. Examples are:

- Vehicle crash in a travel lane(s)
- An event involving injuries

**Level 3 - Major**
A Level 3 severity event is categorized as impact to the traveled roadway which is estimated to be more than 2 hours and/or the roadway is fully closed in any single direction. The main distinction of a Level 3 event is the likeliness of significant area-wide congestion. Examples are:

- An event with a fatality
- An event involving a Hazmat spill
- An event with full roadway blockage

On many occasions the level of severity of an incident will escalate to the next level; however, incidents can never decrease in severity. In the event an Operator is unsure regarding the severity of an event, seek the judgment of the AMP TMC Signal Operations Manager/TMC Manager.

**Within SunGuide**
Within SunGuide, an event’s severity is computed automatically by the system and cannot be modified by an operator. Severity is determined by:

- Minor – lane blockage less than ½ hour
- Intermediate – lane blockage between ½ hour and 2 hours
- Major – lane blockage over 2 hours or a full closure
Unique and Unusual Incidents

Unique or unusual events are defined as events which are not typical in characteristic to common incidents documented in the AMP TMC. Due to the infrequency of these types of occurrences, it is of the utmost importance that the Operator notifies the TMC Management immediately upon detection or being notified of an incident that falls under this scope. Examples are:

- Natural disaster
- Terrorist activity
- Suicide attempts

Whether or not an event is determined after the evaluation to fit this guideline, two criteria should be involved: whether there is a person injury and/or a public safety risk. In these instances, immediately contact the first available TMC Management Official and provide the following information:

- Date and time event was detected/reported and verified
- Type of event
- Location
- Lane blockage
- What is involved (vehicles, buildings, bridges, ships, trains)
- Emergency vehicles on scene
- Estimation of event duration
- Who was contacted and/or notified
- External devices currently available and being used for the event
  - Any CCTVs currently locked for this event should be unlocked

After contacting management, the Operator may be asked to contact FDOT District 4 Public Information Office with the same information.

Following all pertinent notifications, the AMP TMC Operator shall input the event information into SunGuide or the Incident Management Database as an event type “Other.” After the data has been entered, the next step is to obtain approval form the same manager to create a Level 3 Incident Email Alert Notification and a High Profile Event Alert Notification. These notifications are intended to alert partnering agencies that a traffic event has occurred, and to give them the option to respond to the situation earlier than necessary.

Event Status Groups

There are six status groups in which the AMP TMC categorizes events to. It is acceptable to change the status of an event as it progresses. The six status groups are:
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**Active (with travel lane blockage)**
An active event with travel lane blockages is an event with lane blockage(s) that has been confirmed via CCTV or local responder. The AMP TMC Operator must have this confirmation from one of these sources before the event can be considered active.

**Active (without travel lane blockage)**
An active event with travel lane blockages is an event without lane blockage(s) that has been confirmed via CCTV or local responder. The AMP TMC Operator must have this confirmation from one of these sources before the event can be considered active.

**Unconfirmed**
An unconfirmed event is any event that has not been verified via CCTV or local responder.

**Unresolved**
An unresolved event is one that the AMP TMC has managed, but the vehicle remains. Once the vehicle is removed from the scene, that status should be changed to closed. Abandoned vehicles are examples of unresolved events.

**Closed**
A closed event is one that the AMP TMC has managed and all vehicles, including responders, have departed the scene. One closed, the event cannot be accessed from the Event List window (SunGuide only).

**Other**

**False Alarm**
A false alarm event is one that the AMP TMC attempted to locate, but was not found when notified by an outside source.

**Void**
A voided event is one that was created in error or the motorist did not require assistance.

**Audit (SunGuide only)**
An event in the audit status is currently being reviewed and/or amended to correct an error in the event details. This status is used primarily by Supervisors and Managers.

**Secondary Events**
A crash that occurs because of the congestion or distraction from a prior incident is referred to as a “secondary crash.” An incident is considered secondary if it occurs upstream from the primary incident as is within the duration and queue of the primary incident. Examples include:

- Queue formation at the scene of the event
- Driver distraction (rubbernecking)
Non-recurring congestion is the most common form of secondary event.

**Proactive Action**

To reduce the chance of secondary crashes, it is the responsibility of the incident response team on scene to direct traffic and removed obstructions from the area as efficiently and safely as possible. By clearing the roadway, the event will create less of a distraction to drivers.

Traveler information systems such as ADMS, 511, email and text alerts, and other websites help inform drivers of events, providing them with the opportunity to detour the affected area. It is the responsibility of the AMP TMC Operators to continually monitor the triggered traffic queues in all directions and provide regular updates for these systems.

**Creating a Secondary Event**

Secondary events of all kinds require their own event to be created and updated to reflect the appropriate information (i.e. crash vs congestion). Secondary Events should be linked to Primary Events using the appropriate fields (see Appendix A).

In SunGuide only, the “Clone Event” option streamlines this process by making an exactly duplicate of the primary event.

**Active Signal Timing Plan Adjustments**

The ATMS.now signal software allows engineers to design and implement custom timing patterns in real-time. These plans can be used to accommodate increased traffic demands for a vast variety of events. While local responders are at the event scene to clear the event in an efficient and safe manner, engineers have the ability to remotely adjust adjacent traffic signals to balance out the decreased capacity induced by lane blockages.

AMP TMC Operators should notify the AMP TMC Signal Operations Manager/TMC Manager of all Level 2 & Level 3 severity events for consideration for timing adjustments. It is up to the judgment of the AMP TMC Signal Operations Manager/TMC Manager/Timing Engineer whether or not a timing adjustment is necessary and/or beneficial to each situation. Only the AMP TMC Signal Operations Manager/TMC Manager/Timing Engineer shall have the ability (other than Broward County employees) to implement approved timing adjustments.
6. External Communication Systems

There are multiple ways to communicate incident and traffic information to the traveling public from the AMP TMC. These guidelines will ensure proper and efficient utilization of these systems to provide the most advanced and accurate information to the public. Current systems are:

**Arterial Dynamic Message Signs (Broward County only)**

The ADMS along AMP corridors display incident messages, travel time information, and general public service announcements (PAS) in line with the AMP Operations. They provide motorists with the forewarning to potentially detour lane blocking events, traffic delays, construction work zones, etc. The following procedures are in place to ensure proper usage of the ADMS subsystem within SunGuide:

**To Activate**

Basic instructions to activate ADMS signs consist of a seven step process:

1. Enter the event information into SunGuide
2. Verify the sign message in the prepared Response Plan
3. Verify which signs are chosen & that they are pertinent
4. Activate the Response Plan
5. Review the public website
6. Check the ADMS via CCTV feed(s)
7. Note any errors in the procedures above, if applicable

Whenever possible, SunGuide Response Plans must be used to generate ADMS messages. In absence of an appropriate Response Plan, messages must be selected from the approved message library, or approved by the AMP TMC Signal Operations Manager/TMC Manager. In addition, ADMS messages should be posted only for active (confirmed) traffic events.

**Monitor**

Upon activation of an ADMS message, Operators are required to regularly verify that the sign(s) are activated and consistent across the SunGuide website, SunGuide queue manager, and at the ADMS controller (CCTV view) throughout the duration of the event the sign is displaying for.

**Update**

Update event information promptly and renew the Response Plan and ADMS message(s) accordingly. The integrity and accuracy of the ADMS system relies on timely updates that reflect real-time conditions.
Message Removal

Once the AMP TMC Operator has confirmed that the event is clear, the ADMS should be cleared immediately. The ADMS message should be cleared prior to closing the event in SunGuide Event Manager. Verify across SunGuide website, queue manager, and at the sign itself that the message has been cleared.

ADMS Messaging Priority Levels

ADMS selections within the SunGuide Response Plans are determined by proximity to the event. In the event of two events on the same roadway, the ADMS should be utilized for the event closest to the sign. In the event of two events at the same locations, AMP TMC Operators should use their judgment based on events’ potential effect to traffic conditions on which event to display on ADMS messages.

In general, the priority levels for ADMS messages are as follows:

1. Full freeway closure
2. Full arterial closure
3. Multi-lane blockage on arterial
4. Single lane blockage on arterial
5. Construction Work zones
6. Special events (for appropriate time frame)
7. Travel time information
8. Public service announcements

Two Phase Messaging & Message Limits

All AMP ADMS are limited by two lines, two phases, and 13 characters across (sign pixel ratings allows for 15 but character spaces at the edge must remain blank) due to their size and MUTCD standards. In the event a message must be created outside of the ADMS Library (AMP TMC Signal Operations Manager/TMC Managers alone have this ability), the content should be clear and concise to avoid confusion.

Travel Time Messages

Whenever possible, the default display during AMP hours of operations on ADMS shall be travel time information. Travel time messages will be preempted with other messages based on MAS priority: as follows:

1. Conditions which require motorists to take action or alter their driving, such as emergency events including evacuations or closures required by FDOT, the State Emergency Operations Center, or Homeland Security.
2. Traffic incidents, hazardous and/or uncommon road conditions, severe weather conditions and work zone activities.
Travel time messages are automatically generated, updated and displayed on ADMS by SunGuide and should require no operator intervention. As with any display, is it the responsibility of the Operator to verify all information is accurate and displayed correctly.

In the event inaccurate information is detected, immediately blank the appropriate sign(s) by right clicking on the ADMS icon in the SunGuide map and selecting ‘Disable Travel Time Messages for this Device.” Wait approximately 5 minutes and reactivate the messages via the same steps. If the information is still inaccurate, disable the sign again and create a help desk ticket within MIMS.

**Troubleshooting**

- If travel times are not displayed on any signs – right click on the SunGuide map and select “Travel Times.” Confirm that the system is not disabled. If the Travel Time screen does not appear, notify a supervisor and create a detailed help desk ticket within MIMS.
- If travel times are not displaying on an individual sign – right click on the ADMS icon for the appropriate sign on the SunGuide map, click on TVT Message Generation and confirm that the travel time messages have not been disabled. If they have been disabled, select ‘On’ and confirm a message is properly displayed.

Is with all device failures, create Help Desk tickets for problems that cannot be corrected using the protocols above.

**Public Service Announcements (PSA)**

A PSA is a message that may be posted on the ADMS to promote motorist awareness and education regarding roadway safety. Only messages included in the PSA Section of the AMP ADMS Message Library may be displayed. PSAs should only be displayed outside of AMP TMC hours of operations and/or in the event of consistent inaccurate travel time information (given no other higher level priority events exist).

**ADMS Critical Errors**

An ADMS Critical error occurs when the contents of the message displayed are incorrect. Examples of critical errors are signs activated in the wrong direction/location, spelling errors, unusual characters, failing to blank the sign after event closure, and improper content being posted to the sign. When it is discovered that an ADMS is experiencing any critical errors, the following procedures should be followed:

- Immediately clear the sign message
- Notify the AMP TMC Signal Operations Manager/TMC Manager as soon as possible with a description of the error
- If the sign will not clear, notify FDOT Maintenance immediately
Documentation
When an ADMS message has been posted, Operators are required to log the usage and all relevant details in SunGuide and on the Shift Report.

SMART Alerts (Broward County only)
Smart alerts are text or email messages containing real-time SunGuide based event information. These messages are sent to partnering agencies and are available to the general public by subscription. The following are guidelines for SMART Alerts:

Notification
The AMP TMC generates the contents of the SMART Alert Notifications through the Response Plan Email editor in SunGuide. There are several fields that can be modified within the editor; all information should be verified and accurate to the highest degree before sending these alerts.

- Select the appropriate Subject from the drop-down list in SunGuide
  - Cleared
  - Congestion cleared
  - Active Level 1
  - Active Level 2
  - Active Level 3
  - Active Level 1: Update
  - Active Level 2: Update
  - Active Level 3: Update
  - [Incident Alert] AMBER Alert – do not use
  - [Incident Alert] LEO Alert – do not use
  - [Incident Alert] SILVER Alert – do not use
- The Title field should only be changed for Vehicle Alerts (AMBER, LEO, SILVER) or if the event type is Other.
- The appropriate event level must be selected from the following All E-mail Groups drop-down list in SunGuide:
  - Construction
  - Hazmat*
  - Level 2
  - Level 3
  - Vehicle Alert
  - IT Testing
  - Testing
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*For Hazmat related events, it is only required to add Hazmat email group to the initial and clearance emails.*

The email group “Public” is automatically selected for all SMART Alert emails and text messages that are sent out. The only time an Operator should remove the Public Group form the SMART Alert are for alerts that contain sensitive information (if an operator is unsure whether information is classified as ‘sensitive,’ they should check with the AMP TMC Signal Operations Manager/TMC Manager).

- Messages must be updated as significant changes occur:
  - Changes in lane blockage
  - Congestion extending to the next reference location
  - Event clearance
- Insignificant updates are unnecessary as it is more important to get real-time information out to the traveling public
- Important details should be added to the Sensitive portion of the email in order to provide additional information to internal partners and management

Each message should be reviewed for accuracy and should be rejected if incorrect. The Operator has the authority to reject any such message within SunGuide. If the Response Plan continues to generate improper messages, notify the AMP TMC Signal Operations Manager/TMC Manager and log the instance into the Shift Report.

**511 – FLATIS**

Florida’s statewide 511 phone and web based system provides information on roadway conditions such as commuter travel times, construction, lane closures, rashes, congestion and severe weather.

The system uses an Interactive Voice Response (IVR) system to recognize voice commands from callers requesting roadway information by location. The IVR then access the roadway by location and reports active incidents in that area. These reports are generated by pulling information directly from the SunGuide database and combining a bank of prerecording words that include location, event type, lane blockage, and time last updated that it then puts back together to make complete sentences, also known as “concatenated speech.” The test is then mirrored on the [www.fl511.com](http://www.fl511.com) web site by a similar procedure.

Active Level 2 and 3 events must have a 511 FLATIS message published to the IVR system and web site, and unpublished when lane blockage and congestion has cleared.

1. Data Entry
   a. Upon activation of Response Plan in SunGuide, data is sent to the FL511 website and IVR via SunGuide’s C2C communications.
b. FL 511 messages are the only content within a Response Plan which cannot be edited by AMP TMC Staff.

2. Confirmation
   a. Only confirmed (Active) incidents will have a response plan created for them and be approved to be sent to FL 511.

3. Content Management
   a. All appropriate Event Management Fields will be filled out automatically for the incident. Note that failure to fill out proper fields within SunGuide may prohibit the event data from being pushed to the FL 511 system.

4. Verification
   a. All incidents should be verified on the 511 website and IVR phone line (1-866-807-5109) when they are added or removed from the Response Plan.

5. Updates
   a. All events within SunGuide (except for long-term (> 1 day) construction) must be updated every 30 minutes in order to update the time on 511 FLATIS website and IVR. This will maintain the appearance and accuracy of current information.

**Congestion**
The AMP TMC shall be reporting both recurring and non-recurring congestion. Recurring congestion is normal everyday congestion in the morning and evening peak periods. Non-recurring congestion may be an effect of traffic incidents, traffic signal malfunctions, or roadside activity. When reporting congestion

- Non-recurring congestion should be logged with the incident location as the header and the tail to the point of first contact with the congestion. It should be linked to the primary event which should have had the necessary email/FLATIS updates sent pertaining to the event.
- Recurring congestion will be handled as above, but only FLATIS updates should be created. ADMS and email notifications should never be created for recurring congestion.

**ITS Device Access**
Travel Time segments, CCTV feeds, and ADMS messages are all accessible to the public via the 511 website and/or IVR. The following protocols must be followed to eliminate confusion and false information reaching the traveling public:

- In the event of a full road closure (Level 3 event), all travel time segments through that area must be removed.
- When sensitive information is viewable via CCTV feed, that camera feed must be removed.
- When any device is experiencing critical errors or undergoing maintenance, it should be removed.
- Operators should immediately verify any of the actions above were updated in the 511 system, and should bring all systems back online post issue resolution.
30 Minute Updates
All events in SunGuide (with the exception of long-term construction) must be updated every 30 minutes in order to update the time on the FL 511 website and the IVR. These updates include congestion events during rush hour so that information is up to date and accurate.

FDOT District 2
District 2 has operators dedicated to review all statewide feedback messages coming into FLATIS. Feedback calls are messages received from motorist; sometimes to report things that are not on the 511 system or just to voice their complaints. District 2 operators will take down the information and notify the appropriate District to inform them of the feedback. The operators will then follow up no more than ½ hour later to determine if the incident has been addressed.

District 2 is providing this service to the other districts voluntarily in order to assist and assure information is posted. The object is to capture any feedback messages that may have slipped through the cracks. This service is 24/7 with additional staff during the daylight hours on the weekdays and weekends.

If an AMP TMC Operator receives a call from District 2 about an incident not in the system, the AMP TMC Operator should look for it via CCTV. If an AMP TMC Operator receives a call from District 2 about an event that is in the system, let them know you are aware of the incident.

511 – Floodgates and Web Banners
There are times when data entry into SunGuide, and thus messages on the FL 511 systems cannot provide the level of information or sense of urgency required for certain situations. Floodgates and Web Banner messages are designed to fill this need. These messages are distinguished from incident data associated with Event Management (EM) locations by the fact that they impact a larger area such as an entire roadway, county, region, or the whole state and hence, may not have a specific associated EM location.

For the AMP, Floodgates and Web Banners should only be utilized for full arterial closures (Level 3 events) and should only be disseminated within the associated county (adjacent counties should be included if closure is within two miles of the county line). AMP TMC staff should coordinate with District 4 ITS Program staff to post a Floodgate and Web Banner.

Palm Beach County
Specific details on the utilization of FLATIS from the Palm Beach County TMC are not available at this time.
7. Event Management

Due to the vast variety and severity of traffic incidents that may occur on the AMP TMC corridors, it is impossible to provide strict procedures for each individual event. The following is a basic procedure to be used when managing a standard traffic incident. Please refer to these steps when managing traffic incidents.

**Incident Management Protocol**

**Broward County**

Upon incident detection:

- Collect information from the notifying source or CCTV:
- Input the information into SunGuide
- Upon verification of the incident, make the event Active within SunGuide if not already so
- Enter the camera number and preset into the system
- Notify appropriate local emergency responders
- Verify all information for accuracy
- Generate Response Plan
- Check ADMS, Email, and 511 FLATIS
- Activate Response Plan
- If necessary, notify Engineering staff for timing adjustment consideration
- Update and confirm information and Response Plan to be consistent with real-time conditions.

Once lane blockage has been confirmed clear:

- Update information in SunGuide
- Generate Response Plan
- Check ADMS, Email, and 511 FLATIS
- Activate Response Plan
- Monitor secondary incidents/congestion

*For more information regarding SunGuide input and Response Plans, please refer to Appendix A.*

**Palm Beach County**

Upon incident detection:

- Collect information from the notifying source or CCTV:
- Input the information into the Incident Management Database (IMD)
- Upon verification of the incident, make the event Active if not already so
- Notify appropriate local emergency responders
- Verify all information for accuracy
- Publish information to 511 FLATIS
- If necessary, notify Engineering staff for timing adjustment consideration
  - If timing changes are made, the Operator should select the “Signal Timing Changes” box within the incident log in the IMD.
- Update and confirm information and FLATIS to be consistent with real-time conditions.

Once lane blockage has been confirmed clear:

- Update information in the IMD
- Verify all information for accuracy
- Publish information to 511 FLATIS
- Monitor secondary incidents/congestion

*For more information regarding SunGuide input and Response Plans, please refer to Appendix A.

**Prioritizing Multiple Events**

There may be times when multiple events will require the attention of one or more operators. Therefore, a need to prioritize activities and handle each task in turn exists. The below consideration and order will enable the Operator to prioritize multiple Active Traffic Events (ATE) and make the correct judgment on handling ongoing incidents.

There are five (5) main considerations when prioritizing traffic incidents:

- Personal injury and risk to the public
- Severity of the Event (Level 1, 2, & 3)
- Proximity
- Impact on traffic in any direction
- Significance of incident changes

The following priority scheme has been established for handling types of traffic management tasks in an order that is most consistent with the AMP TMC objectives:

1. Assess the degree of risk to public safety and advise emergency agencies.
   a. Investigate detected and reported events promptly, and immediately assess whether the incident involves personal injury or public risk.
2. Report these to the appropriate emergency agency immediately.
   a. Evaluate event severity.
   b. Send messages using the appropriate systems for closures.
3. Detect and send messages for changes in event severity.
4. Detect and send messages for new lane blocking incidents and congestion
5. Detect and send messages for significant changes to traffic incidents.
   a. Always place a cancellation call with the appropriate emergency agencies if an incident clears before emergency services arrive on scene.
6. Detect and send messages for any other traffic incidents and traffic event changes.

When two incidents are occurring simultaneously, the Operator shall sign for the geographically closest event first, unless the second event has a full roadway closure in close proximity to the AMP Corridors.

If signing for a Vehicle Alert or pre-messaging for a construction work zone, a current lane closure will take precedence. It is important to be aware of the priorities of the ADMS message in relation to what other messages are in the MAS queue to insure that the most relevant messages are displayed correctly.

If two events are occurring in the same location, the most severe incident will take precedent.

**Roadwork Event Management**

On many occasions, it will be necessary for AMP TMC staff to manage active and anticipated construction work zones. This can be done by posting to ADMS and traffic signal timing plan modifications. There are generally two types of roadwork:

- Emergency Roadwork is that which is resultant of an incident and requires physical repairs to roadway infrastructure such as median, signs, traffic signals, etc.
- Schedule Roadwork (as far as SunGuide and the IMD can interpret) is all other detected roadwork along the AMP Project Limits. It includes everything from temporary lane closures for streetlight bulb replacement to indefinite closures for roadway construction projects.

Procedures for proper Roadwork Incident Management vary depending on how the event was detected or who provided notification; for general purposes however, the following guidelines should be followed:

**Policy**

**Upon Detection:**

- Create SunGuide/IMD (Active) Event with all relevant information
- ADMS
  - Post messages with the proper location and lane blockage information
  - If a sign is located within the work zone limits, do not use it; only use signs that are located before the roadwork.
When there is an ATE beyond the roadwork, post all applicable sign(s) before the roadwork for the roadwork event, and the sign within the roadwork limits for the ATE.

- If the ATE closes all lanes, priority should be given to the ATE over the roadwork.
- If the ATE is located before the roadwork, sign for the ATE, rather than the roadwork, depending on the distance and significance of the ATE. Once the ATE clears, be sure to sign again for the roadwork incident.
- If the ATE occurs within the roadwork incident, sign for the ATE, but include lane blockages created by the roadwork.

- FLATIS
  - Select the correct CONSTRUCTION group as recipient
  - Confirm and send via the Response Plan Generator (Broward County) or the “Publish to FLATIS” switch (Palm Beach County)

- Notify appropriate agencies
  - ITS Program or FTE if the work zone exists on or near on/off ramps.

- Monitor roadwork limits and update all incident information, ADMS, and FLATIS to reflect real-time conditions.

- Once the roadwork is cleared:
  - Blank all ADMS
  - Update incident information within SunGuide/IMD
  - Send message to the CONSTRUCTION group
  - Removed 511 FLATIS information
  - Update notified agencies if applicable
  - Close event

Monitoring

Due to the potential length of some roadwork events and the likelihood of varying lane blockage conditions without sufficient notification, the following procedures must be followed to ensure proper management of any and all roadwork incidents:

- At least once every 30 minutes, Operators should visually inspect the full extent of the roadwork incident limits to confirm real-time conditions are up to date as well as to check for any secondary crashes/congestion around the limits.
- If changes have occurred since the last check, update the Incident Information, ADMS, and FLATIS accordingly.
- Continue monitoring the incident until it is completely cleared.

If the roadwork incident is an expected long term (>1 day in duration) project with long term lane closures, the incident should be left open within SunGuide/IMD. If the roadwork is long term but clears all obstructions (equipment, barricades, debris, etc.) by the end of the day from
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all roadways, shoulders, and sidewalks, the incident may be closed and reopened when blockages resume.

511 Reporting

- Operators will need to update any long term construction on a daily basis, so that the 511 website and the IVR are updated within every 24 hour period.
- Operators may simply use the republish option – right click on map, EM, republish event from drop menu. Operators should be sure to send an alert when “taking over” an event from another operator or make an update to the incident chronology.
  - If no updates are made, then the update alert will be sent based on the last time stamp entered (SunGuide/Broward County only).

Documentation

It is required to document all roadwork incident details within SunGuide/IMD; in addition, the Shift Report should include any mitigation efforts (ADMS messaging, timing adjustments, etc.) details for all roadwork incidents.

Unresolved Events

Unresolved events can be defined as events that have been responded to and managed by the TMC, however, the vehicle(s) involved have since been moved (i.e. to the shoulder or median) so as to no longer effect traffic flow and/or pose as a risk to the public. The following guidelines should be referenced when managing unresolved events:

Policy

It is important that each shift change the new Operator check on all unresolved incidents to confirm their current status. Using the saved camera and present information (SunGuide only) should assist in this process. The following guidelines will assist the Operator with prioritizing all unresolved events while reviewing:

- Begin with the event types other than “Abandoned.” These events need to be updated to reflect whether the vehicle has been abandoned or not. If the vehicle is not occupied, the event type should be changed to “Abandoned.”
- After the non-abandoned vent types are updated, continue checking the unresolved events list in chronological order from oldest to newest.
- These events should be checked at least every hour during each shift, and before and after each break and lunch has been taken.
- All unresolved disabled vehicles and accidents must be removed or should be cloned to abandoned status within 6 hours.
It is the responsibility of the AMP TMC to notify Local Police when an abandoned vehicle has been left on a roadway shoulder/median for more than 72 hours.

- Notification should not occur immediately, unless during a peak shift. If the 72 hours threshold occurs during a peak period, notify local police immediately following the peak period.
- Vehicles which have not been removed within 24 hours after notifying local police should be reported to the AMP TMC Signal Operations Manager/TMC Manager.

**Documentation**

When an unresolved event has been updated, it is required to document all details in SunGuide/IMD. All Abandoned Vehicles reported to the local police should be included within the Shift Report.

**Hurricane/Emergency Preparedness**

The hurricane season for Florida runs from June through November. During any storm, heavy winds, rain, and storm surges may leave debris in the road. Precautions must be taken before, during, and after the storm to assure the safety of the traveling public and to provide the highest level of service possible.

Since an emergency such as a hurricane shall have a regional wide effect on traffic conditions, much of the public notification responsibilities associated with preparation shall be handled by the RTMC ITS Program. AMP staff should assist other TMC staff however possible. The following are preparation and after storm procedures to be followed:

**Preseason**

Before the beginning of the Hurricane Season, the AMP TMC Signal Operations Manager/TMC Manager should complete the following:

- Ensure workstations have copies of all emergency telephone numbers.
- Email all Operators and see who would be available for pre, imminent, and post storm coverage.
- Check and restock AMP TMC food/water supplies (should be stocked for up to 3 days)

**Preparation**

Upon notification of a hurricane watch and/or warning for the area, the following steps should be taken:

- Pay attention to weather reports and patterns
- Have a current copy of all emergency telephone numbers readily available
- Make certain there are ample hurricane supplies at the AMP TMC
- Schedule additional staffing at the AMP TMC as needed
Storm Impact Imminent
As evacuations may be required for the region, FDOT may request that AMP TMC staff remain at the TMC beyond working hours up to 24/7. Regular operations will continue for as long as it is safe (until sustained winds exceed 35 mph).

After the Storm
Upon notification/verification of the redeployment, AMP TMC staff on site shall:

- Check all devices for connectivity and errors; submit trouble tickets accordingly
- Check the full project limits for debris on the roadway and notify the appropriate agencies.
- Issues detected must be disseminated in a timely fashion – potentials after the storm could include flooding and tornado activity.

Other Emergency Situations
FDOT may request similar support from the AMP Staff for other emergency situations such as wildfires and other unprecedented occurrences that are not covered within this document. In such an event, AMP TMC Staff should act to the best of their ability to serve the public with safety as the number one concern.

Vehicle Alerts
The public plays a key role in the success of Vehicle Alerts Program. Once alerted, they can be on the lookout for the subject vehicle. The public is instructed to then dial law enforcement immediately and provide the location and any other useful details.

Due to the regional effect of Vehicle Alerts and character restrictions on AMP TMC ADMS, the AMP TMC shall not partake in any Amber, LEO, or Silver alerts.

Fog Visibility Events
The extreme variability of fog, especially in its density and location, make it difficult for motorists to perceive and react quickly. Fog can affect both day and night driving conditions because light is retro-reflected and will veil objects from sight. Fog is measured by visibility in miles, and is considered severe when visibility is a quarter mile or less.

Fog advisory messages can provide motorists with useful information about a specific problem along their route. This information will allow motorists to change their speed or path in advance.
Detection
If AMP TMC Operator(s) detect what is perceived as serious fog conditions during normal CCTV monitoring, report the conditions to FHP for further action/monitoring. ADMS messages for fog will be posted only when requested by FHP. If a call is received from FHP, AMP TMC Operators are required to get the following information and record it in SunGuide/IMD.

- Name and position of person making request
- Contact Number
- Agency

*The District 4 RTMC ITS Program should be notified to advise that FHP has made a request for signing.

Verification
Verify the national weather service advisories on IntraSMART. Enter all information into SunGuide/IMD. Categorize as “Visibility” and as an “Unconfirmed” event. Utilize CCTV cameras to verify reported conditions and determine whether fog is localized or regional.

Once verified:

- Change the status of the event to “Active”
- Post ADMS messages from the predefined plan manager according to the location
- No email alert should be sent due to non-specific location

Monitoring/Updates
Fog Advisories must be monitored like any other event; as conditions change incident information and ADMS messages should be updated to reflect real-time conditions. National Weather Service advisories do not qualify as real-time information; only CCTV feeds should be used to verify real-time conditions.

Data Entry
The Broward County AMP TMC uses SunGuide, the statewide ITS software, the primary means of storing and disseminating information about incidents on the arterial networks. The Palm Beach County AMP TMC uses an Incident Management Database (IMD) developed by a separate contract to serve the same functions. Through various input screens, information about incidents is entered by AMP Operators. The following procedures should be used when inputting new and managing existing event entries.

Broward County Procedures
There are three guidelines with entering data into SunGuide: Input, Update, and Monitor:

- Input all traffic related events accurately and concisely
- Update events as conditions change
  - Notification, arrival, and departure of responders
  - Lane blockage conditions
  - Closure and termination of event
- Monitor active events regularly and frequently

To enter event information into SunGuide, the following information needs to be obtained:

- Event Type
- Notifying Agency and Contact
- Event Location
- Lane Blockages
- Event Conditions
- Specific Attributes
- Vehicle Information

Once an event has been detected and the preceding information has been obtained, being entering the data into SunGuide. The system utilizes primarily drop-down lists, sub forms, and check boxes which enable easy event data entry. Enter a new event using the following process:

- Located on the main screen, click the “Add Event.” A new window will open where the following shall be input:
  - Event Type
  - Notifying Agency
  - Notifying Contact
  - Status
- After the preceding information is entered, click the “Create this Event” button. The Operator will be directed to the Event Detail window, which will contain the specifics of the event. Enter the details in the following order:
  - Event Location
  - Lane Blockage
  - Attributes (HAZMAT, Fire, Rollover)
  - Vehicle Involved (color, make, model, tag state and ID)
  - Primary/Secondary Events (if applicable)
  - Injuries (if applicable)
  - Weather Conditions
  - Comments (Additional Event Details) – allow an Operator to record information that cannot be recorded elsewhere on the Event Details screen
    - OPERATOR: Document all Operator comments related to the event with this comment field
    - MANAGER: Operator will document any Manager related comments or instructions within this field
- **INFRASTRUCTURE DAMAGE:** Any time there is roadway/infrastructure damage recorded in an event along with details of who was contacted, etc.
- **FL 511 ERROR:** Any time an error/failure is detected on the IVR or website. For IVR issues please record the number you called from an the path you followed along with details of the error
- **AUDIT REQUESTED:** Used only when system does not properly reflect actual data that can affect Performance Measure integrity due to system problems or other uncontrollable circumstances.
  - After the preceding information is entered, click the “save” button. The Event Details window will refresh with all information logged.
  - As there are no Road Rangers or SIRV Vehicles reserved for the arterials, the “Vehicles Dispatch” sub menu will not be utilized at this time.
  - Update the Responder Table by clicking in the applicable agency row and status column. Make sure the times are accurate
  - If applicable, “Save, Get Response” to activate the Response Plan Generator for ADMS and Email Notification Alerts.
  - Generate the appropriate devices by setting a radius, then select “Get New Suggestion.” Click “Set as Response” once you determine the appropriate devices or defined plan.
  - Response Plan Editor allows the operator to add, edit, remove devices, edit or remove email, add or remove FLATIS, and add a message plan.
  - Activate Plan will activate the Response Plan
  - Throughout the duration of the event, input additional event details in the Comments section.
  - Click the “Save Changes” button each time a new event is added.

It is imperative that events are continuously monitored and updated to reflect real-time conditions. When a notifying and/or responding agency informs the TMC of changes, the Operator is required to immediately update the information within SunGuide. This ensures the accuracy of the event data and ultimately the integrity of the system.

- To modify an event in SunGuide, simply click on the event located in the Event List Window
- Make the necessary changes
- Click the “Save” button each time you make a change

Once an event has been confirmed cleared, review the Event Detail screen to ensure all required and relevant information has been entered. Before closing an event, make certain all applicable agencies have been notified and documented correctly. By ensuring the Event Detail
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is complete, the user is enabling the data to be consistent and to accurately be reflected in the TMC’s SunGuide Performance Measures.

- To change the status of an event or to close an event in SunGuide, simply click on the event located in the Event List Window
- Change the Status located under Administrative Details to reflect the current position of the event – unconfirmed, active, closed, unresolved, false alarm, void
- Review the event details. Make any necessary changes.
- Click the “Save” button.

The following are additional functions within SunGuide that the AMP TMC Operator will use on a daily basis:

**Block CCTV Images**

On some occasions, it is necessary to block a cameras’ feed from public viewing. This feature becomes a vital feature of SunGuide when the incident involves injuries and the images are sensitive to the public. To block a camera:

- Click the “CCTV” button located on the top menu bar of the Event List Window. You will be directed to a new page which lists all of the AMP Cameras.
- Located the camera that is to be blocked.
- Click the “Block” button located to the right of the camera detail.

To unblock a camera:

- Click the “Block CCTV Images” button located on the top menu bar of the Event List Window. You will be directed to a new page which lists all of the AMP Cameras.
- Located the camera that is to be unblocked.
- Click the “Unblock” button located to the right of the camera detail.

**Reports**

Located on the top menu bar of the Event List Window, there is a Report feature which offers the AMP Operator the ability to search and analyze event details and trends. Within the Report window, there are a series of filters that can be used to narrow the search parameters. There are seven categories of reports that make up a variety of report types:

- Event List
- Event Details
- Event Summary Report
- Event Chronology
- Event Response
- Agency Response Times Report
- Event Level Report
- Event Lane Blockage
There are many occasion where printing a hard copy report is required. To access a report, follow the proceeding steps:

- Click the “Reports” button located on the top menu bar of the Event List window. The user will be directed to a new page which lists all of the report types.
- Narrow the search parameters by setting filters, by the range of events, location, and event properties.
- After the filters are set, click the desired report type listed to the right of the filters.
- The user will be directed to a new window to view and/or print the report.

Audit
This section is used to modify event details. Some examples of event details that can be changed are Time Reported to the TMC, Notifying Agency/Contact, and Event Location.

Preferences
This portion of SunGuide allows the AMP TMC Operator to create page refresh preferences. The AMP TMC Operator can indicate the exact time the Event List is refreshed. In addition, the Operator can receive a warning on events that have exceeded the indicated time allowance.

*For more information on using SunGuide, please refer to Appendix A & B

Palm Beach County Procedures
There are three guidelines with entering data into the Incident Management Database (IMD): Input, Update, and Monitor:

- Input all traffic related events accurately and concisely
- Update events as conditions change
  - Notification, arrival, and departure of responders
  - Lane blockage conditions
  - Closure and termination of event
- Monitor active events regularly and frequently

To enter event information into SunGuide, the following information needs to be obtained:
Once an event has been detected and the preceding information has been obtained, begin entering the data into the IMD. The system utilizes primarily drop-down lists, sub forms, and check boxes which enable easy event data entry. Enter a new event using the following process:

- Located on the main screen, click the “Add Event.” A new window will open where the following shall be input:
  - Event Type
  - Notifying Agency
  - Notifying Contact
  - Status
- After the preceding information is entered, click the “Add Event” button. The Operator will be directed to the Event Detail window, which will contain the specifics of the event. Enter the details in the following order:
  - Event Location
  - Lane Blockage
  - ATIS Severity Level
  - Attributes (HAZMAT, Fire, Rollover)
  - Primary/Secondary Events (if applicable)
  - Injuries (if applicable)
  - Weather Conditions
  - Comments (Additional Event Details) – allow an Operator to record information that cannot be recorded elsewhere on the Event Details screen
    - OPERATOR: Document all Operator comments related to the event with this comment field
  - After the preceding information is entered, click the “save” button. The Event Details window will refresh with all information logged.
  - As there are no Road Rangers or SIRV Vehicles reserved for the arterials, the “Vehicles Dispatch” sub menu will not be utilized at this time.
  - If applicable, “Save” and “Publish to FLATIS” to generate email messages.
  - Update the Responder Table by clicking in the applicable agency row and status column. Make sure the times are accurate.
    - Similar to SunGuide’s “Audit” feature, the beneath the responder table is a “Change to Overwrite Mode” that allows Operators to adjust times if a mistake is made.
Throughout the duration of the event, input additional event details in the Comments section.

- Click the “Save” button each time a new event is added.

It is imperative that events are continuously monitored and updated to reflect real-time conditions. When a notifying and/or responding agency informs the TMC of changes, the Operator is required to immediately update the information within the IMD. This ensures the accuracy of the event data and ultimately the integrity of the system.

- To modify an event in the IMD, simply click on the event located in the Event List Window
- Make the necessary changes
- Click the “Save” button each time you make a change

If signal timing changes are made in response to a particular traffic incident, select the “Signal Timing Changed” box within the Event Details Window within the Vehicles Involved section.

Once an event has been confirmed cleared, review the Event Detail screen to ensure all required and relevant information has been entered. Before closing an event, make certain all applicable agencies have been notified and documented correctly. By ensuring the Event Detail is complete, the user is enabling the data to be consistent and to accurately be reflected in the TMC’s IMD Performance Measures.

- To change the status of an event or to close an event in the IMD, simply click on the event located in the Event List Window
- Change the Status located under Administrative Details to reflect the current position of the event – unconfirmed, active, closed, unresolved, false alarm, void
- Review the event details. Make any necessary changes.
- Click the “Save” button.

The following are additional functions within SunGuide that the AMP TMC Operator will use on a daily basis:

**Reports**
Located on the side menu bar of the Event List Window, there is a Report feature which offers the AMP Operator the ability to generate performance measure reports. This should be done on a weekly basis by the AMP TMC Signal Operations Manager/TMC Manager and filed accordingly.

**Changes in Incident Conditions**
Once an event has been detected and entered into SunGuide/IMD, it warrants constant monitoring until it has cleared completely. Different types of event changes warrant different
responses, including follow up phone call to partner agencies, event details modification, and approving and sending updated Incident information via 511, ADMS, and email alert notifications. Some examples of event changes are:

- Event clearance (when all debris, involved vehicles, and responders have cleared the incident scene)
- Changes in Location/Lane Blockage
- Arrival of Responding Agencies
- Increase in Event Severity
- Change in event type (i.e. disabled vehicle to abandoned)

Follow these standard protocols when responding to event changes:

- Modify the event details within SunGuide/IMD
- Update the ADMS Message using the Response Plan Generate (Broward County only)
- Send updated Incident Email Alert Notification (Broward County Only)
- Notify all applicable responding/surrounding agencies including local police, fire/rescue, other TMCs, etc.

Some changes to traffic events are more significant to act upon immediately than others. Traffic events with the greatest threat to public safety should be addressed first, followed by this with the greatest effect and potential effect to traffic conditions.

Changes in Event Type

There will be times when an event type will need to be amended (i.e. Disabled Vehicle to Abandoned Vehicle). Follow the proceeding protocols when an event type requires revision:

- Disabled Vehicle to Abandoned Vehicle – After a motorist has left the scene of a Disabled Vehicle incident, the event type should be changed to “Abandoned Vehicle” until the motorist returns or the event is cleared.
  - Abandoned Vehicles Events over 72 hours in duration or posing an immediate threat to public safety should be reported to local law enforcement.
- Crash to Abandoned Vehicle – If a vehicle involved in a crash was left without a motorist there the crash event should be cloned and changed to “Abandoned Vehicle.” Be sure to log this as a secondary event and tie it to the crash as the primary event.
- Debris on Roadway to Crash (and vice versa) – if a Debris on Roadway event causes a crash, the debris event should be cloned and the new event changed to a crash. Be sure to link the two events together with the Debris event as the primary and the crash as the secondary.
- Mistaken Event Type – for any other reason the event type needs to be changed for any event, use the “Audit” feature of SunGuide.
*the IMD utilized by the Palm Beach County AMP TMC does not feature a “cloning” function and therefore requires operators to create a new event manually any time this feature is used.

**Motorcade**

The following guidelines are established in an effort to provide consistency between the Broward RTMC, AMP TMC, and other SEFRTOC members in the management of possible roadway closures in coordination with the police-escorted motorcade for a VIP(s).

If possible, gather as much information as possible from local police and/or FHP prior to the event. Specific information regarding the location and time of any closures may be not be made public until a few hours prior, if at all for security reasons. When possible, identify where the traffic is blocked off to allow the motorcade to travel undisturbed so appropriate TMC responses can be prepared/made.

There are two types of accepted motorcade activities:

- **Rolling Road Block** – a police escort will stop or slow lanes down and intermittently block roadways to clear the way for the VIP(s) and prevent traffic from disrupting the motorcade.
- **Full Closure** – police will preemptively close off full sections of roadways often for miles to ensure the highest level of security and will hold all traffic at strategic locations to prevent traffic from entering the blocked off corridors.

Due to the geo-coded location-based SunGuide and IMD systems, it is only possible to enter Full Closures as an active traffic event. No events should be created for a Rolling Road Block, other than resulting congestion; however, the event should be reported to the AMP TMC Operations Engineer for consideration for timing adjustments.

The proceeding steps should be followed for proper management of such events:

- **Entry into SunGuide/IMD**:
  - Only full sustained closures should be entered
  - The event type should be logged as “Police Activity”
- **511 FLATIS**
  - In an effort to keep the location of the VIP confidential, messages should not include specific times nor locations of possible closures.
  - Only confirmed, sustained closures should be reported and should be reported only as “Police Activity.”
- **Consideration for Timing Changes**
  - Both rolling road blocks and full closures are technically considered Level 3 Events by the standards described previously. While only Full Closures should be submitted within SunGuide/IMD, both should be reported to the AMP TMC Engineering Operations Manager.
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- **Congestion**
  - Monitor congestion that can build up as a result of motorcade activity
  - Normal congestion data entry procedures are to be applied.

**Severe Weather**
Weather events such as Severe Thunderstorms and Tornados can have heavy impacts on traffic conditions specifically in regards to travel times and safety. Advanced warning regarding severe weather conditions allow motorists to take action, such as detouring or delaying their trip.

With the present system configuration, messages will be posted by the operator based on information obtained from weather alerts provided by the National Weather Services Mobile Decision Support Services (NWS-MDSS) [http://inws.wrh.noaa.gov](http://inws.wrh.noaa.gov)

Only weather warnings are to be posted, not weather watches. When an alert is received, take the following actions:

- Open the email alert in Microsoft Outlook and click the link for “more information.” This will open the web page with more details on the alert.
- Examine the detailed description of the alert and verify the event is in the AMP Project Corridors’ vicinity.
- Upon verification, create a weather event in SunGuide/IMD as “Weather” and select the appropriate notifier.
- Select signs in both directions for effected areas confirmed by CCTV feeds.
- Use response plans to add ADMS and select appropriate message from the library
- Remove email and FLATIS publication from the Response Plan

Notification of outside agencies for severe weather conditions isn’t necessary.

Severe weather conditions must be monitored like other events as conditions can change very quickly:

- Continually monitor conditions via weather information websites and CCTV feeds.
- As conditions change, messages should be updated.
- When the warning is no longer in effect, the messages should be removed from all ADMS.
- Any incidents that occur during severe weather conditions should not be treated as secondary incidents to the weather event.

*To receive these weather alerts, all AMP TMC Operators should subscribe to the following services at *The National Weather Services Mobile Decision Support Services* (NWS-MDSS) [http://inws.wrh.noaa.gov](http://inws.wrh.noaa.gov)
8. Notification & Incident Response Plan

Occasionally events will warrant informing local responders such as law enforcement, maintenance, and other agencies to respond to an event. The following are guidelines for reporting events to emergency agencies. Refer to the AMP TMC telephone directory for contact information for the appropriate agency.

Any and all available details about each event should be collected and verified (if possible) prior to notifying any local agencies. Only lane blockage events or events that present a threat to public safety should be reported.

Emergency Agencies

I-95, I-75, I-595, & Florida’s Turnpike
For any verified events located on any of the above and/or associated access ramps, contact the Florida Highway Patrol (FHP) and notify RTMC Freeway Management Program (FMP) Staff. Once FHP is notified they shall contact Emergency Medical Services (EMS), Fire/Rescue, and/or the Medical Examiner if necessary.

Arterial Events
For Broward County, contact the Broward County Dispatch Center; from there they shall contact the appropriate and necessary agencies to respond (does not include HAZMAT).

For Palm Beach County, contact the Palm Beach County Sherriff’s Office Dispatch center; from there they shall contact the appropriate and necessary agencies to respond (does not include HAZMAT).

Media

Broward County
The Public Information Office (PIO) handles all media and public inquiries about events on Broward County roadways. The PIO should be notified and updated of the beginning and end of all Level 3 events, including full closures, fatalities, HAZMAT, and all other Level 3 events.

Their hours of operation are 7:00 AM – 5:30 PM Monday – Friday. During after hours, leave a message with the details of the event.

Palm Beach County (and Treasure Coast)
Metro Networks provides traffic information to almost all of the media outlets in Palm Beach County, Martin County, St. Lucie County, and Indian River County. Metro Networks should be contacted at the beginning and end of all Level 3 events, including full closures, fatalities, HAZMAT, and all other Level 3 events.
Metro Traffic’s regular operating hours are from 5:00 AM to 7:00 PM Monday – Friday. Metro Traffic, along with TV stations 5 and 12, have secondary control of the Palm Beach County traffic cameras.

Emergency Operations Center (EOC)
The Emergency Operations Center (EOC) requires notification for Level 2 events ONLY if FDOT Maintenance is needed after hours and for incidents that include long term MOT and/or infrastructure damage that is not within a construction zone.

The EOC should be notified for the following Level 3 events:
- Full Closures
- Overturned tractor-trailers and busses
- HAZMAT spills

AMP TMC Management
If a severe or unusual event occurs that has a significant impact to traffic or poses a threat to public safety, it is important to bring it to the attention of the AMP TMC Signal Operations Manager/TMC Manager. In general, the AMP TMC Signal Operations Manager/TMC Manager should be notified immediately of all Level 2 and Level 3 events. If a Level 2 or Level 3 event occurs outside of the Management hours (e.g. before 8am or after 5pm) the local Signal Operations agency shall be notified first followed by the AMP TMC Signal Operations Manager/TMC Manager.

During normal business hours, when there is an unusual and/or unscheduled event that has a significant impact on the geographical coverage area, perform all necessary traffic management steps, then advise the AMP TMC Signal Operations Manager/TMC Manager with the following details:
- Time event was detected and verified
- Type of event
- Roadway and location
- Lane Blockage

Outside of normal business hours, the AMP TMC Signal Operations Manager/TMC Manager should be contacted only for High Profile Events.

High Profile Events
A High Profile Event is defined as any news worthy or unusual traffic related incident occurring on AMP Corridors; specifically, events that management should be made aware of. Some examples are: multiple fatalities, shootings, major infrastructure damage, plane crashes, evacuations, and system wide failures to name a few.
High profile vents should be managed according to standard event management protocol. Time permitting or after the event is closed, an email should be sent to the group High Profile Events with the subject line of the email as High Profile Event. The body of the email should contain the following information:

- Time and date incident occurred
- Event Number
- Short Description of Event
- Link to news story (if available)

Within 15 minutes, AMP TMC Management staff must acknowledge the event and their plan to act before being subject to penalties and/or disciplinary action.

**Signal Timing Plan Library**

To facilitate the efficiency of the Arterial Management Program’s response to severe or unexpected incidents along AMP coverage areas, a Signal Timing Plan Library is in development. The Library will allow the AMP TMC Signal Operations Manager/TMC Manager (through the use of ATMS.now) to implement appropriate timing plans to meet the demands of different events based on location, severity, and duration.

All timing plans shall be developed and approved through a combined effort of all AMP participating agencies.

Prior to the finalization of the signal timing library, AMP TMC Signal Operations Manager/TMC Managers should evaluate each event and make the appropriate changes accordingly with the permission of County Traffic Staff.

**FDOT Maintenance**

The AMP TMC Operator should notify FDOT Maintenance of all incidents involving roadway or property damage and fuel spills. AMP TMC Operators should proactively looking for roadway/property damage and not solely rely on outside sources.

From 7:00 AM – 5:00 PM AMP TMC Operators will contact the FDOT Maintenance Supervisor for all incidents involving damage to infrastructure (barriers, bridges, median, etc.), substantial fuel spills (>10 gallons), overturned tractor-trailers, damage to state property, or when traffic control/diversion equipment is need. Some examples are:

- Vehicle Fires
- Damaged Delineators
- Roadway signs and uprights
- Guardrail
- Median
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- Bridge wall or support
- Bridge damage
- Fences
- Attenuators
- Lights and poles
- Flooding
- Debris in roadway
- Open manhole covers
- Pavement damage
- Fuel spill
- Vandalism

Traffic Signals
Traffic signal equipment is the property of the county. For any damage to traffic signal infrastructure including signal cabinets, signal heads, span wire, mast arms, uprights, etc., contact the appropriate County Traffic Division.

Broward County
After 5:00 PM, the FDOT Maintenance on call service personnel should be contacted instead of the supervisor.

Palm Beach County
After 5:00 PM, the Palm Beach County Emergency Operations Center should be contacted instead of the supervisor.

Documentation & Reporting
When possible, attempt to capture a screen shot of the CCTV feed showing the damage. Pictures should be saved on the workstation.

In order to provide follow-up documentation of roadway/property damage to FDOT Maintenance, all comments relative to the damage and any notifications made must be entered in the event details using comment type – Infrastructure Damage. At a minimum, the type of damage and who was contacted and at what time should be recorded.

The AMP TMC Signal Operations Manager/TMC Manager is responsible for running the Event List Infrastructure Damage Report on a weekly basis. This report and any supporting images should be sent to the FDOT Program Manager.
External Agencies
Occasionally, events will warrant informing agencies other than those responsible for emergency response. The following are guidelines for which agencies are advised for specific types of events.

Surrounding TMC Operations
The surrounding TMC Operation Centers perform similar functions for the freeways as the AMP TMC does for arterials. The District 6 Miami SunGuide TMC, Florida’s Turnpike Enterprise (FTE), Broward SMART RTMC, and 595 Express operate on a 24-hour schedule. To assist these surrounding TMCs, the AMP TMC advises them of severe events detected on AMP roadways, which may have a traffic impact and have the potential to extend into their coverage area and monitoring range.

The appropriate TMC of those mentioned above should be contacted at the start and finish of all Level 2 events within ½ mile and Level 3 events within 1 mile of corresponding access ramps.

Railroad Agencies
While conducting routine scans of the AMP coverage area, there are numerous at grade railroad crossings visible. Due to the obvious risk to public safety and limited control over trains’ progress, Railroad agencies should be notified immediately of the following:

- Any event directly on the railroad tracks
- Any event within the limits of the crossing gates
- Malfunctions of or damages to at grade crossing infrastructure (gates, lights, etc.)
- Suspicious activity or vandalism to tracks and other infrastructure (should also notify local law enforcement dispatch)

Transit Agencies
Each county’s transit authority does what they can to provide accurate travel time and arrival information of all of their vehicles to their patrons. The appropriate transit authority for each county should be notified at the beginning and end of any Level 2 or Level 3 events detected along AMP Corridors.

Animal Control
If a stray or injured animal is seen on the roadway that may pose a risk to public safety, contact the appropriate Animal Control Agency.

If an alligator is seen on the roadway, contact the Department of Fish and Wildlife – Gator Hotline.
**Documentation**

When notifying any agency, all calls and/or notifications must be recorded within SunGuide/IMD and the Operator Daily Call Log. When entering the details into SunGuide/IMD, it is necessary to indicate whether the agency notified the TMC, or the TMC notified the agency. If there is not an area in SunGuide to indicate the AMP TMC notified a particular emergency agency, documentation should be made in the comments section.

**9. Regional Coordination**

The South East Florida Regional TMC Operations Committee (SEFRTOC) was formed in 2003 by the Fourth Florida Regional ITS Coalition, an organization that brings together municipal, county, and regional state agencies to ensure compatible implementation and operation of ITS throughout the region. The mission of SEFRTOC is to facilitate regional mobility in South East Florida through coordinated TMC Operations.

There are six agencies besides the AMP that participate in the SEFRTOC mission:

- Palm Beach SMART SunGuide TMC
- Broward County SMART SunGuide RTMC
- Miami-Dade District 6 SunGuide TMC
- Florida’s Turnpike Enterprise (FTE) – Pompano TMC
- Miami-Date Express Authority (MDX) TMC
- 595 Express LLC

These agencies along with the AMP play a vital role in regional South Florida transportation system management. The objective of SEFRTOC members is to further the objectives of the South Florida Regional ITS Coalition by leading initiatives related to day to day operations and to establish a regional approach to ITS operations and event management through coordinated communication, decision making, and planned resource sharing.

**Partner Agency DMS Notification**

During AMP TMC Operations, there will be times when it will be appropriate and necessary to contact a partner agency to request activation of their freeway DMS to assist with public awareness of an arterial event. The appropriate agency (based on location) should only be contacted for DMS Messaging based on the following criteria:

- Any full closures within three miles of a freeway access ramp.
- Any Level 3 Event within one mile of a freeway access ramp. If an event occurs within one mile of multiple freeways, contact all relevant agencies.
- Any Level 2 Event within ½ mile of a freeway access ramp.
- Any event on a freeway access ramp.

All event information should be accurate and verified prior to contacting any partnering agency TMC. Each TMC has its own priorities and traffic events and may not choose to post messages for arterial events. Regardless of their decision to post message, unless directed by that TMC, updates should be provided at least every 30 minutes to the appropriate agency and at the event conclusion.

**ADMS Messaging for Freeway Events (Broward County only)**

Partnering Agency TMCs have their own ADMS posted before access ramps to warn travelers of significant traffic events prior to accessing their freeway network(s); however, for severe freeway incidents, it would be beneficial for travelers to receive even more advanced warning through the use of the AMP’s ADMS.

If the following criteria are met, AMP TMC Operators should create an event and only post messages (no emails necessary as freeway management program shall handle) for all ADMS approaching access ramps within two miles of the associated freeway:

- Full Freeway Closure within 20 miles of the AMP Coverage Areas
- Freeway Access ramp closures on AMP Coverage Area arterials
- Any Level 3 event within 5 miles of the AMP Coverage Areas
- Any Level 2 event within 1 mile of the AMP Coverage Areas

Active arterial traffic events take precedent over all levels of freeway events. Freeway events should only be posted to ADMS in the event there are no relevant active arterial events for that particular ADMS(s) and also require the approval of the AMP TMC Signal Operations Manager/TMC Manager.

**Documentation**

Any instances of partnering agency TMC coordination should be documented within the Operator Shift Report.

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**Palm Beach SMART SunGuide TMC**

The PALM Beach SMART SunGuide TMC is a comprehensive traffic and incident management system that was designed to address the traffic impacts of the I-95 reconstruction and Tri-Rail double-track expansion throughout Palm Beach County. FDOT District 4 and the Federal Highway Administration (FHWA) sponsored the project. The mission of the Palm Beach SMART SunGuide RTMC was to provide effective incident management and traveler information within the I-95 corridor between Boca Raton and Jupiter.

The Palm Beach SMART SunGuide TMC began operations in July 2003 as the Palm Beach County Interim Traffic Management System (ITMS) as a 24/7/365 operation. A staff of 14 operators...
and supervisors coordinated all incident management and information dissemination. The operations center was co-located to the VISTA Center along with Palm Beach County Traffic Division in August 2009.

Since then, operations have been consolidated to the Broward SMART SunGuide RTMC, and the Palm Beach SMART SunGuide TMC primarily serves as a backup location to the more advanced Broward SMART SunGuide RTMC. While some staff still operate from the center on a regular basis, the center has primarily been turned over to the use of Palm Beach County Traffic Division. The site also hosts workstations for the Arterial Management Program and is now considered (partially) an AMP TMC.

**Broward SMART SunGuide TMC**

The Broward SMART SunGuide TMC serves as the primary location for the FDOT District 4 Freeway Management Program (FMP). The TMC also serves as home for the Broward County Traffic Engineering Division, and the Broward County AMP TMC. Dozens of staff from the aforementioned and other agencies occupy the center 24/7/365 to provide the following services:

- Incident Management (detection, verification, and notification) communication center for the interstates within District 4.
- Dispatch Road Ranger service patrol vehicles in coordination with Florida Highway Patrol
- Send incident text messages and e-mail alerts, generated incident reports, and update the statewide 511 system through the use of the SunGuide software.
- Notify traffic broadcast media of incidents and updates
- Collect and provide incident information to District 4 Traffic Incident Management (TIM) Teams, SEFRTOC, and other agencies.
- Real time electronic messaging on dozens of DMS along freeways and arterials

There will be many occurrences where interaction and coordination with the Broward SMART SunGuide TMC staff is necessary; the opportunity to share resources, such as posting to DMS & ADMS, shall be beneficial to the traveling public on both arterials and freeway network.

**Florida’s Turnpike Enterprise – Pompano TMC**

Florida’s Turnpike Enterprise (FTE) was originally constructed in 1957 and is responsible for all operations on every FDOT owned and operated toll road and bridge. This represents about 600 miles of roadway and 80% of all toll facilities in Florida. FTE strives to ensure every customer who travels these toll roads and bridges receives first class service on every trip.
The Turnpike Operations Center in Pompano Beach is the central facility for the monitoring, verification, dissemination and management of Turnpike traffic incidents and issues in South Florida. Team Members work closely with FHP, FDOT, and other agencies to provide accurate and timely information to Turnpike Customers.

Intelligent Transportation System (ITS) devices including CCTVs, DMS, Highway Advisory Radio (HAR) transmitters, and advisory signs are operated for the TMC for incident management and information dissemination.

Real time traffic information is provided as input into SunGuide by FTE TMC Operators via Florida’s Turnpike website – www.floridasturnpike.com.

Due to the increased limited access of Florida’s Turnpike, caution should be used in selecting ADMS to post messages to for Turnpike incidents. Only ADMS approaching Turnpike access points should be used in the event of a severe incident.

**Miami-Dade District 6 SunGuide TMC**

The FDOT District 6 SunGuide TMC primary functions are incident management and traveler information dissemination. The FDOT District 6 SunGuide TMC coordinates incident response between FDOT, FHP, Monroe County Sheriff’s Office, fire/rescue, and other partners within the region. FDOT District 6 SunGuide Operations team primarily monitors traffic, identifies and manage incidents, dispatches Road Ranger Service Patrols, disseminates traveler information (including travel times), and operates ramp meters and the I-95 Express Lanes.

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

**Miami-Dade Expressway Authority TMC (MDX)**

The Miami-Dade Expressway Authority (MDX) is a public agency created in 1994 by the state of Florida and the Miami-Dade County Commission. MDX oversees and maintains five expressways:

1. State Road 924
2. State Road 112
3. State Road 836
4. State Road 874
5. State Road 878

The MDX TMC functions as an incident management center. The TMC coordinates incident response between Road Rangers, FDOT District 6, FHP, fire/rescue, and other partners on MDX
roadways. The TMC also assists in the coordination of Rapid Incident Scene Clearance (RISC) contractor to clear large vehicle incidents.

I-595 Express LLC

On July 31, 2009, the I-595 Express Project concessionaire, I-595 Express, LLC, assumed responsibility for the operation and maintenance of the 10.5 mile long I-595 construction corridor from west of 136th Ave to east of SR 7. This responsibility includes adhering to FDOT’s incident management SOGs. The following will be in operation 24/7 for the next 35 years.

The concessionaire will be responsible for operating and monitoring the traffic cameras in the I-595 Corridor. The I-595 Express, LLC traffic operators will work out of FDOT District 4’s Broward SMART SunGuide TMC. From the RTMC, they will monitor traffic conditions, dispatch Road Rangers, respond to traffic incidents and coordinate ITS programs on the corridor. They will provide operators and will share real-time data through the Interagency Video and Event Data Distribution Systems (iVEDDS) and 511.

The concessionaire will also coordinate with FDOT RISC contractors and coordinate the Severe Incident Response Vehicle (SIRV) team along the I-595 corridor. The SIRV program’s purpose is to provide immediate FDOT Incident Command presence at all severe incidents that are too large and/or severe for the RISC program to handle on its own.
10. Failures and Maintenance

The AMP TMC requires reliable performance of all subsystems, communications, and software. An effective failure management plan begins with a maintenance program that deals with the prevention of problems and the rapid resolution when malfunctions occur.

Maintenance is categorized as follows:

- Preventative Maintenance – scheduled actions to keep equipment in good working conditions
- Remedial Maintenance – addresses known malfunctions with low priority
- Emergency Maintenance – responds to and repairs critical system failures

System Failures

In most cases, AMP TMC Operators will notice an equipment error first, and therefore have a critical role in the maintenance of the system’s equipment. It is the AMP TMC Operators’ responsibility to report equipment failures to AMP TMC Management so that equipment downtime can be minimized.

In general, the steps for managing and reporting a system failure are:

- Evaluate the impact of the failure
  - Identify the problem
  - Date and time error occurred/was discovered
  - Note any other equipment problems that might be related
- Take corrective action
  - Follow troubleshooting procedures in place for known faults
  - For failures that significantly impair the operations, contact AMP TMC Signal Operations Manager/TMC Manager immediately (i.e. fiber cut).
- For issues dealing with ITS devices, create a MIMS Ticket in SunGuide.
- For all other issues including network connectivity, local system applications, open an Internal Help Desk Ticket by accessing the Help Desk link from the internal Intra-SMART TMC home web page: http://intrasmart/

ITS Field Devices Damage

In the event a field device is physically damaged the AMP TMC Operator should file a MIMS Ticket and notify FDOT Maintenance immediately.

Documentation

When and equipment failure has been detected and/or reported, it is required to document all details in affect events in SunGuide. In addition, the Shit Report should be updated to reflect occurrence, including error specifics, remedial action attempted, what personnel have been contacted, and the time the equipment became operational (if applicable).
SunGuide Failure

If the SunGuide software system is not operating correctly, traffic events cannot be logged, and ADMS plans and SMART Alerts will not be generated. Different circumstances can result in the system not functioning properly. These include problems with both the hardware and software.

The impact these database problems can have on operations can range in severity; entire system crashes generally require immediate notification, while system errors are usually reported via an Internal Help Desk Ticket and documented in the Shift Report.

In general the steps for managing and reporting a problem or failure within SunGuide are:

- Evaluate the impact of the failure
  - Determine whether it is the workstation or the software that is malfunctioning
  - Determine which operational function(s) and other devices are impaired
  - For minor problems that do not impair operation, log the details and continue to work on the system
- Take corrective action as appropriate
  - Follow troubleshooting procedures for known faults
  - Attempt to clear the problem by:
    - Restarting SunGuide
    - Restarting the computer
- Notify the AMP TMC Signal Operations Manager/TMC Manager of occurrence
  - Depending on the severity of the problem and time of day, the AMP TMC Signal Operations Manager/TMC Manager shall contact the appropriate personnel to ensure the issues is resolved
  - Upon direction of the AMP TMC Signal Operations Manager/TMC Manager, the Operator may be requested to open an Internal Help Desk Ticket
  - In most cases, errors which occur in SunGuide are managed by the AMP TMC Network Manager.

Documentation

When a SunGuide error has been detected and/or reported, it is required to document all details. In addition, the Shift Report should be updated to reflect the occurrence, including error specifics, remedial action attempted, what personnel have been contacted, and the time the equipment became operational (if applicable).

ITS Device Equipment Failure

Primary ITS units, such as CCTVs, DMS units, and TSS Detectors are those that are in fixed locations, generally attached to a stationary sign structure, fixed pole, or other permanent mounting system. These devices communicate across the FDOT network to interface with the
SunGuide® software system. SunGuide® maintains a communication link with these devices, and reports errors and failures, graphically and in near real-time. At the beginning of each shift change, SunGuide® operators should make a full visual examination of these subsystems via SunGuide®, and document any noted errors, system failures or other abnormal behaviors. Checks will then be done every two hours. These error reports will then be forwarded to the TMC Manager and/or Network Manager for detailed analysis and troubleshooting, if needed.

Secondary ITS units, such as mobile wireless cameras, or other non-fixed devices, may or may not connect directly to SunGuide®, and should be checked at least once at the beginning of each shift change by the TMC operators and checked every two hours subsequent to. Any issues can be logged as above, for reporting and troubleshooting purposes.

Upon discovery of a nonfunctional device, the Network Manager will begin troubleshooting the device following these steps. Failure at a step precludes further testing, and thus will require notification and communication with the appropriate FDOT maintenance teams. The Network Manager will:

- Ascertain whether there is a network or power interruption at the location.
- Check the SunGuide® Systems Logs to try to fix an incident start time, and any information that the logs may have.
- If it appears that the problem is software related, local SunGuide® troubleshooting will be attempted, with escalation to the software vendor (SWRI) if necessary.
- If the problem is in fact hardware-related, taking the unit Out Of Service in SunGuide®, and then attempting to communicate with it using vendor software (when applicable).
- Run several diagnostic exercises to test the device, and to see if the error is recoverable.
- Attempt to set device back to Active status in SunGuide®.
- If any of these steps fail, the Network Manager will coordinate with the contracted maintenance groups in order to have the unit replaced in the field. Once a replacement device is in the field, the faulty unit can either be returned to the DOT for further diagnostics, or handed over to the warranting entity for replacement.

In case of multiple simultaneous system or device failures, repair prioritization will occur in this order:

- Network Devices [Switches/ Port Servers/ etc.] (failure of communication will mean no communication with devices).
- CCTV's (ability to see the roadway is critical in identifying traffic incidents and dispatching assistance).
- DMS (ability to report major incidents to the public is critical to avoiding further delays or incidents).
- TSS Detector Devices (detection devices, when taken together, are important to detecting traffic trends across roadway zones, but are not detailed enough to show specific incident details).

**ADMS Equipment Failure**

ADMS are the most visible component of the AMP ITS system. The operational status of a sign is critical and can affect the motorists overall perception of the AMP’s operations. Various sign and message problems can be caused by the SunGuide System and/or by failures of the electrical and mechanical components of the sign.

The AMP TMC considers an ADMS operational failure critical when a message does not respond to the request of the Operators. Some examples are when an ADMS doesn’t activate, the message does not blank or clear, there is an unscheduled loss of communication to the sign, there is an unscheduled system failure, and extensive pixel failure.

In the event and Operator experiences a critical ADMS failure, follow the proceeding steps:

- Evaluate the impact of the failure. By periodically checking the GUI map, scanning the icon colors, this will help alert the operator that there is an issue with a particular sign. Refer to the icon legend for color definitions. The following determinations should be addressed in order to evaluate the impact of the failure:
  - Has control of the sign been lost, and if so has the sign reverted to an innocuous default display and/or
  - Has the software or hardware posted an incorrect message, with no apparent reason or have pixels stuck on or off making the message erroneous.
  - Have multiple signs adjacent to one another become disabled simultaneously. In this case contact a Manager immediately.
  - Determine and document which signs are affected, when it was noticed that the signs became disabled, and the number of devices involved.
- Notify the AMP TMC Signal Operations Manager/TMC Manager and take corrective action as appropriate:
  - If the color determination in the icon legend indicates an issue, go to the Detail Status section
  - If the detail status section displays the error, simply create a MIMS Trouble Ticket in SunGuide with as many details and references to the issue, including detail status information, as possible
  - If the error information is NOT in the detail status, go to the MAS Queue, look for signs with a failed status – they will be outlined in red.
  - The message indicates ‘failed’ in the MAS Queue, make certain that all signs show either failed (outlined in red) or completed (outlined in green).
The message still does not initiate, create a MIMS Trouble Ticket in SunGuide with as much detail about the issue as possible, including the unsuccessful attempt to resend the message through the MAS Queue.

- If the sign is blank but the message is indicated on the public website, notify the AMP TMC Signal Operations Manager/TMC Manager.

- Notify the AMP TMC Signal Operations Manager/TMC Manager of the occurrence when:
  - If after the above steps have been executed, a sign does not appear to be communicating with or responding to SunGuide, and a critical message cannot be displayed or an erroneous message cannot be removed.
  - Multiple signs adjacent to one another became disabled simultaneously.
  - The system does not have an appropriate message in the message library suitable for a significant traffic event such as an emergency roadway closure.

- Upon direction from the AMP TMC Management, you may be asked to create a MIMS Trouble Ticket in SunGuide.

Documentation
When an ADMS Equipment Failure has been detected and/or reported, it is required to print the MIMS Ticket Report. The Shift Report shall contain documentation as well.

CCTV Video System Equipment Failures
The CCTV video system is a critical component of the AMP ITS System. The CCTV video system includes: cameras, field equipment controlling cameras, single channel and multi-channel transmission equipment, both central hardware and software managing both the video switch and camera control system, and monitors.

CCTV is used to detect, verify, and monitor traffic incidents and congestion, and determine the severity of traffic incidents so that appropriate emergency agencies can be advised. A malfunction with the CCTV video system can range from minor to severe. An example of a minor error would be a bouncing camera whereas an example of a severe malfunction would be loss of all video images. This type of malfunction would result in the total impairment of monitoring ability.

In the event an Operator experiences a critical CCTV Video System failure, follow the proceeding steps:

- Evaluate the impact of the failure.
  - Determine the exact error. For example, a blurred video image, blank monitor, flickering, etc.
  - Determine all devices affected. Test other cameras and/or monitors.
  - For loss of camera control:
    - Determine whether another Operator is controlling the camera and note whether cameras appear to move without instruction to do so.
    - Review field maintenance activities by checking the equipment log, daily Shift Report for scheduled maintenance,
and using cameras to look for maintenance trucks near the RTMC field devices.

- Determine whether there has been a loss of electricity by using surrounding cameras to look for FPL company trucks or other power failures in the vicinity.
- Determine whether there has been damage to the RTMC field devices by using adjacent cameras.

- **IF MULTIPLE CAMERAS ARE AFFECTED BY AN ISSUE SIMULTANEOUSLY, CONTACT THE ON-CALL AMP TMC MANAGER**

- Take the correct actions listed below:
  - Notify the TMC Manager on duty of occurrence during business hours
  - Upon direction of the TMC Manager, you may be requested to create a MIMS Trouble Ticket
  - If needed, provide assistance to the attending FOOT ITS Maintenance technician by troubleshooting the malfunction equipment
  - After hours, the TMC on-call Manager should be notified if multiple cameras have been affected simultaneously

- In the event and Operator needs to reboot the camera, follow the proceeding steps:
  - **NOTE:**
  - Open the SunGuide software and check the **Operational Status** of the camera. If it shows a status other than **Active**, use the **Set Status** button to set it to active.
  - From Operator Console, use the CCTV Control to select the camera that is displaying in black and white
  - On the joystick, key in 97 and press the Shift and Preset keys. The shift key is the up arrow that is one key left and two down from the preset key. Press shift first, and while holding down shift, press the preset key (similar to using Shift on a PC keyboard to get an upper case letter).
  - The camera will now reboot. When the camera comes back up, it should be in color. If this process is performed at night, there is a possibility it will stay black and white. The procedure should then be repeated in the morning when it is brighter outside.

**Documentation**

When a CCTV video system failure has been detected and/or reported, it is required to document all details in SunGuide and on the Device Checklist. In addition, the Shift Report should be updated to reflect the occurrence, including error specifics, remedial action attempted, what personnel have been contacted, environmental conditions, and the time the equipment became operational (if applicable).
TSS Detector Failure

The Transportation Sensor Subsystem (TSS) allows the AMP TMC to view traffic conditions through data collected from Vehicle Detection Sensors (VDS) and BlueTOAD devices in the field. Types of data collected by TSS Detectors include speed, occupancy, and volume information by lane.

The AMP TMC considers a VDS/ BlueTOAD operational failure when a detector icon or lane is any color other than green, which indicates an Active Detector or Normal Lane.

In the event and Operator experiences a critical TSS failure, follow the proceeding steps:

Evaluate the impact of the failure. By periodically checking the GUI map, scanning for TSS Detector colors, this will help alert the user that there is an issue with a particular TSS Detector. Refer to the icon legend for color definitions (located under preferences).

Green – Active Detector
Grey – Out of Service Detector
Blue – Error Detector*
Red – Failed Detector

*Error Detector--If detector icon turns Blue, the detector could either change to red or green-it's in a limbo status and will not remain blue.

Similarly, AMP TMC Operators should periodically be scanning for TSS Lane colors, this will help alert the user that there is an issue one or more TSS Detector. Refer to the icon legend for color definitions (located under preferences).

Normal Lane – Green
Near-Alarm Lane – Yellow Alarmed Lane – Red
Error Lane – Blue
Failed Lane – Light Blue
Out-of-service Lane – Grey

Documentation

When a TSS Detector Failure has been detected and/or reported, it is required to print the MIMS Ticket Report. The Shift Report shall contain documentation as well.

Internet Failures

In the event the internet connection fails at any workstation, the error will likely be first recognized by the AMP TMC Operators. Upon losing connection, Operators should notify the AMP TMC IT Network Manager and the AMP TMC Signal Operations Manager/TMC Manager immediately. The following should be taken into consideration when the TMC internet connection is lost:

- Event Email Alert Notifications should not be generated.
Critical notifications will need to be made via the landline or cell phone.

When an internet failure has been detected and/or reported, AMP TMC Operators should report the conditions including duration within their Shift Report.

### 511 FLATIS Failures

Active Level 2 and Level 3 events must have a 511 FLATIS message published to the IVR and 511 website, and unpublished when lane blockage and congestion has cleared. Messages sent to the 511 system should appear no later than five minutes from publishing to the IVR and 511 website.

There are six critical processes that can potentially fail when dealing with 511 FLATIS:

1. SunGuide Response Plan Generator publish
2. SunGuide Response Plan Generator un-publish
3. Add to the IVR System
4. Remove from the IVR
5. Post to the website
6. Remove from the website

In general, the steps for managing and reporting a 511 FLATIS problem are:

- Evaluate the impact of the failure
  - Determine whether it is the SunGuide response plan generator, the IVR system, the FL511.com web site, or a combination of any of these that had failed.
  - For minor problems that do not impair operations, log the details and continue to work on the system. Major problems may need additional steps to rectify.
  - **Minor Problems:**
    - Information entered is incorrect
    - Less than 15 minute delay in posting
  - **Major Problems:**
    - IVR is not accessible (try multiple lines)
    - Information is not publishing at all
    - Properly entered information is appearing incorrectly
    - Delay in posting is greater than 15 minutes
- Take corrective action as appropriate
  - Re-publish or un-publish through the response plan generator
  - Wait 5 minutes and re-check the FL 511 website and/or IVR
  - If the system is still not functioning correctly, contact another FDOT District TMC
    - Determine whether the problem is isolated to District 4 or widespread
If problem is widespread notify the RTMC Operations Manager.

Any and all FL 511 major failures and/or malfunctions should be included within each shift report.

Failure of External Agencies’ Equipment
AMP TMC Operators will be notified or detect problems with equipment or structures that are the responsibility of a different agency. When an external agency’s equipment failure has been detected, follow the proceeding steps:

- Notify and report the following details to FDOT Maintenance
  o Any associated debris within the roadway
  o Large potholes
  o Structural damage
  o HAZMAT
  o Flooding
  o Other problems which may affect public safety or traffic conditions

- Notify and report the following details to CSX and Tri-Rail
  o Malfunctioning crossing guard rails
  o Malfunctioning signals adjacent to at grade crossings
  o Any event/debris on an at grade crossing
  o Other problems which may affect public safety or traffic conditions

- Notify and report the following details to the appropriate utility company
  o Events involving contact with a utility line/structure
  o Malfunctioning utility lines (downed power lines, flooding water mains, etc.)
  o Other problems which may affect public safety or traffic conditions

When a failure of an external agency’s equipment has been detected and reported, it is required to document all details in affected events within SunGuide/IMD. In addition, the Shift Report should be updated to reflect the occurrence, including specific details, remedial action attempted, personnel contacted, and the time the equipment became operational (if applicable).

Traffic Signal Failure
AMP TMC Operators should monitor the overall functionality and system health of the AMP Corridor’s traffic signal network. Traffic signal malfunctions include flash, loss of power, bulbs out, detector malfunctions, etc.* Traffic signal malfunctions should be relayed to the proper agency when they occur. When reporting traffic signal malfunctions, follow the proceeding steps:

- Collect appropriate information:
Arterial Management Program TMC Standard Operating Guidelines

- Intersection
- Type of malfunction/failure
- Impact to traffic conditions/public safety
- Notification source
- Date and time of detection

Evaluate the impact of the failure/malfunction
- Is all power lost to the intersection?
- Is the signal in flash?
- Does the signal appear to be collecting excessive congestion as a result?

During business hours, the corresponding county traffic division should be contacted immediately upon detection of a traffic signal malfunction or failure. For failures or malfunctions resulting in significant congestion, the AMP TMC Operations Engineer should be notified immediately.

*For more information regarding monitoring the traffic signal network, refer to previous sections detailing monitoring ATMS.*
Appendix A – SunGuide v5.1.9 Operator Training Slides
Appendix B – SunGuide v5.1.9 Administrator Training Slides
Appendix C – Sample Shift Report
Appendix D – Traffic Event Data Sheet
Appendix E – Active Arterial Management Dashboard
Appendix F – Solarwinds Administrator Guide
Appendix G – Solarwinds Evaluation Guide