DISTRICT FIVE REGIONAL TRANSPORTATION MANAGEMENT CENTER STANDARD OPERATING GUIDELINES

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List of Acronyms

AAM ..... Active Arterial Management

ADMS ..... Arterial Dynamic Message Sign

AM ..... Asset Maintenance

AMS ..... Arterial Management System

ATMS ..... Advanced Traffic Management System

AUA ..... Acceptable Use Agreement

AVI ..... Automated Vehicle Identification

AVL ..... Automated Vehicle Location

BOS ..... Blank Out Signs

C2C ..... Center-to- Center

CCTV ..... Closed Circuit Television

CFX ..... Central Florida Expressway

CJIS ..... Criminal Justice Information System

CMS ..... Central Management Software

CMS ..... Changeable Message Signs

CO ..... Central Office

COIN ..... Central Office Incident Notification

COOP ..... Continuity of Operations Plan

CSAR ..... Computer Security Access Request

D5 ..... District Five

DEP ..... Department of Environmental Protection

DMS ..... Dynamic Message Sign

DTOE ..... District Traffic Operations Engineer

EL ..... Express Lanes

EM ..... Event Management

EMS ..... Emergency Medical Services

EOC ..... Emergency Operations Center

ERS ..... Event Reporting System

ESF ..... Emergency Support Function

ETA ..... Estimated Time of Arrival

ETO ..... Emergency Transportation Operations

EVT ..... Event

FCC ..... Federal Communications Commission

FDLE ..... Florida Department of Law Enforcement

FDOT ..... Florida Department of Transportation

FEMA ..... Federal Emergency Management Agency

FHP ..... Florida Highway Patrol

FHWA ..... Federal Highway Administration

FLATIS ..... Florida's Advanced Traveler Information System

FMCSA ..... Federal Motor Carrier Safety Administration

FMS ..... Freeway Management System

FTE ..... Florida's Turnpike Enterprise

FWC ..... Fish and Wildlife Commission

GIS ..... Geographic Information System

GPS ..... Global Positioning System

GUI ..... Graphic User Interface

HAR ..... Highway Advisory Radio

HOS ..... Hours of Service

ICS ..... Incident Command System

ICM ..... Integrated Corridor Management

IDS ..... Incident Detection Subsystem

IIS ..... Internet Information Services

IMC ..... Intersection Movement Count

IMS ..... Inventory and Maintenance Subsystem

ITS ..... Intelligent Transportation System

IVEDDS ..... Interagency Video Event Data Distribution System

IVR ..... Interactive Voice Recognition

JCS ..... Jorgensen Contract Services

JTF ..... Joint Task Force

LEO ..... Law Enforcement Officer

MAS ..... Message Arbitration Subsystem

MCI ..... Mass Casualty Incident

MMA ..... Maintenance Mobile Application

MIMS ..... Maintenance and Inventory Management System

MOT ..... Maintenance of Traffic

MUTCD ..... Manual on Uniform Traffic Control Devices

MVDS ..... Microwave Vehicle Detection System

NUG ..... National Unified Goal

NIMS ..... National Incident Management System

NTP ..... Notice to Proceed

NWS ..... National Weather Service

OPD ..... Orlando Police Department

OTM ..... Operations Task Manager

PCMS ..... Portable Changeable Message Signs

PD ..... Police Department

PDF ..... Portable Document Format

PIO ..... Public Information Officer

PPP ..... Public Private Partnership

PSA ..... Public Safety Announcement

PTI ..... Planning Time Index

PTSU ..... Part Time Shoulder Use

PTT ..... Push-To-Talk

QA ..... Quality Assurance

QC ..... Quality Control

QWS.....Queue Warning System

RCC ..... Regional Communications Center

RISC..... Rapid Incident Scene Clearance

RPG ..... Response Plan Generator

RRMA ..... Road Ranger Mobile Application

RS ..... Reporting Subsystem

RTMC ..... Regional Traffic Management Center

RWIS ..... Road Weather Information System

SAR ..... Security Access Request

SAS ..... Scheduled Actions Subsystem

SELS ..... Statewide Express Lanes Software

SHRP2 ..... Strategic Highway Response Program 2

SLERS ..... State Law Enforcement Radio System

SO ..... Sheriff's Office

SOG ..... Standard Operating Guidelines

SOP ..... Standard Operating Procedures

SYS ..... System Issue

TDMS ..... Toll Dynamic Message Sign

TIM ..... Traffic Incident Management

TMC ..... Traffic Management Center

TPAS ..... Truck Parking Availability System

TRACK..... Technology Resource Awareness Certification Kit

TRS ..... TIM Reporting Service

TSM&O ..... Transportation Systems Management and Operations

TSS ..... Transportation Sensor Subsystem

TTI ..... Travel Time Index

TVT ..... Travel Time

US DOT ..... United States Department of Transportation

VDS ..... Vehicle Detection System

VS ..... Video Switching

VW ..... Videowall

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1. Introduction

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

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

This document contains standard performance measures that will be used to help the TSM&O and district office monitor the extent to which quantifiable progress is being made against pre-determined key goals associated with efficiency and effectiveness.

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

The District Five SOG is intended to be supplemented by more detailed instructions provided in SunGuide training, SOPs, and other reference material such as the Manual on Uniform Traffic Control Devices (MUTCD). These guidelines should be referenced regularly by operations staff.

Figure 1: The District Five Regional Transportation Management Center in Sanford, FL.

2. General Overview

2.1 ICM Mission Statement

To provide a safer transportation system that ensures the mobility of people and goods, enhances economic prosperity, and provides real-time traveler information and system reliability through Integrated Corridor Management (ICM) strategies.

2.2 ICM Vision Statement

ICM is defined as a collection of operational strategies and advanced technologies that allow transportation subsystems, managed by one or more transportation agencies, to operate in a coordinated and integrated manner.

The Federal Highway Administration's (FHWA's) vision of ICM is that transportation networks will realize significant improvements in the efficient movement of people and goods through institutional collaboration, integration of existing transportation infrastructure along major corridors, and management of that infrastructure as wholly multi-modal systems.

ICM Staff will implement these strategies and visions through aggressive cooperation with partner agencies coupled with proactive transportation management within the RTMC and the cohesive management of both the freeways and the arterials in District Five. By leveraging relationships and network connections between FDOT and their partners, traffic can be moved more efficiently and with a common goal in mind.

2.3 Scope of Work

The District Five RTMC is tasked with the monitoring, reporting, and management of traffic conditions on jurisdictional roadways within FDOT District Five, which includes the following nine counties: Brevard, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter and Volusia. The RTMC provides coverage for critical selected highways and arterials within District Five including, but not limited to Interstates, Toll Roads, State Roads and US Highways, as well as various key arterial roadways. The overall goal of ICM is to operate the transportation network in a balanced way that utilizes both the freeways and arterials to improve the overall safety, efficiency and reliability of the network. By combining Arterial Management with the Freeway Management System (FMS) as one transportation network, under one umbrella, the program provides District Five and its stakeholders a seamless operation.

As a part of ICM, baseline conditions have been established for each corridor. ICM staff identifies any deficiencies, monitors the corridor on a regular basis to identify any degradation of the corridor requiring corrective action, and then initiates such corrective action. Work is performed using a variety of devices, systems and software, including the SunGuide® software, which is exclusive to FDOT and utilized at Transportation Management Centers (TMC) statewide, to detect and respond to planned and unplanned events that arise on the roadways, and to mitigate their effects. Real-time incident information is also posted to Florida 511 to alert motorists. Because roadways within the District are the primary source of conveyance for goods and people, it is imperative to the economic vitality and general well-being of the region to ensure that traffic flows safely and efficiently, and can be diverted effectively if the need arises.

2.3.1 Roadway Coverage

Currently, the District Five RTMC provides real-time traffic information for:

Roadway	Counties	Coverage
Interstate 4 (SR-400)	Orange, Osceola, Seminole, Volusia	MM 58 - MM 132
I-4 Express Lanes	Orange, Seminole	MM 75-MM 95
Interstate 95 (SR-9)	Brevard, Flagler, Volusia	MM 160 - MM 298
Interstate 75 (SR-93)	Marion, Sumter	MM 307 - MM 374
SR-408 (East-West Expressway, toll)	Orange	MM 0 - MM 23
SR-414 (Maitland Blvd Ext., toll)	Orange	MM 4 - MM 9
SR-417 (Greenway, toll)	Orange	MM 5 - MM 37
SR-429 (Western Beltway, toll)	Lake, Orange	MM 8 - MM 52
SR-451 (toll)	Orange	MM 4 - US-17/92
SR-453 (toll)	Lake, Orange	MM 0 - MM 3
SR-528 (Beachline Expressway, toll)	Brevard, Orange	MM 8 - MM 31
SR-528 (Beachline)	Brevard, Orange	MM 31 - MM 55
SR-538 (Poinciana Pkwy, toll)	Osceola	MM 0 - MM 7
Arterials (State Roads, US Highways)	Brevard, Flagler, Lake, Marion, Orange, Osceola, Seminole, Sumter, Volusia	All State Roads / US Highways

Table 1: Covered Roadways

2.4 ICM Stakeholders

The coordination process within the RTMC involves several public and private sector partners, including:

- Public Safety/First Responders including:
  - Police Departments
  - Sheriff's Offices
  - Fire Departments
  - Emergency Medical Services (EMS)
  - Fish and Wildlife Commission (FWC)
  - Florida Forest Service (FFS)
  - Local Animal Control
- State and local Departments of Transportation
- State and Local Emergency Operations Centers (EOCs)
- Expressway Authority
- FDOT Central Office
- District Five FDOT Staff
- Public Information Officers
- Other District and Local TMCs
- Local City and County Agencies
- Department of Environmental Protection (DEP)
- Towing and Recovery
  - Rapid Incident Scene Clearance (RISC) Vendors
- Road Ranger Services

- Roadway Maintenance Contractors
- ITS Maintenance Contractors
- Media Outlets
- Educational Institutions
- Road users

2.5 Facility Information

2.5.1 Hours of Operation

The District Five RTMC operates seven days a week, twenty-four hours a day, and three hundred sixty-five days a year. While standard operations require ICM staffing to work within the RTMC, special events can dictate ICM staffing to report to, and operate out of, remote facilities such as Emergency Operations Centers (EOCs) and Local Agency TMC's. Staffing and operations can variate during certain situations such as hurricane season or during a pandemic. Continuity of Operations Plans (COOPs) have been developed to navigate these scenarios and are available on the District Five RTMC's network drive.

2.5.2 RTMC Layout

The RTMC is co-located with the Florida Highway Patrol (FHP) center for state law enforcement dispatch, an entity consisting of dispatchers for FHP Troop D and FWC. The RTMC consists of four "pie piece" desk groupings, a central command area and FHP/FWC Dispatch. Each desk grouping faces a videowall and the video displayed there focuses on the roadways covered by that "pie piece". When looking at the FDOT logo in the room, the videowalls are labeled 1-4 counting from left to right. Within the central command area lies space for RTMC Management and Traffic Incident Management (TIM) personnel.

2.5.3 Security and Access

The District Five RTMC Floor is a secure area and entrance requires the use of an electronic badge obtained via an FDOT facilities work order request. No badges will be issued to non-operational personnel. Lost badges shall be reported immediately to RTMC management so that the card can be deactivated. To receive a badge, one must pass both FDOT security and State Law Enforcement Radio Systems (SLERS) testing. For visitors and other personnel (contractors, consultants, etc.) to enter the RTMC, communications center or equipment rooms, they will be required to contact FDOT or the appropriate FDOT representative for access. Visitors and/or other personnel must be escorted by someone from FDOT or their designee. Appointments shall be made for all maintenance and installation work involving the equipment or communications rooms. All visitors to the equipment or communications rooms must sign in and sign out per building policy and FHP regulations.

A full background investigation completed by the Joint Task Force (JTF) for Law Enforcement us required for any personnel who will be working on the RTMC floor due to use of the SLERS and potential exposure to confidential information. A clear background check is required for employment within the RTMC. An applicant can be denied access for any of the following reasons:

- The applicant has been convicted of a felony offense.
- The applicant is currently on probation for any offense or has charges pending (felony or misdemeanor).
- The applicant has been convicted of a misdemeanor offense involving any type of theft, violence, or drug offenses within the past three years.
- The applicant's driver license is currently suspended or revoked for any reason.

Figure 2: District Five RTMC Building Layout

- The applicant has been convicted of a crime involving domestic violence or currently has a restraining order involving domestic violence or threats.
- The applicant has been arrested for any charge involving resisting arrest, battery, or assault on a law enforcement officer.
- The applicant is wanted for any criminal offense.
- The applicant is illegally residing in or is not approved to work in the United States.
- The identification of adverse intelligence information regarding the applicant.
- At the discretion of the Security Manager based on any other adverse information regarding the applicant.

In addition to the FDOT security and SLERS testing, each ICM Staff Member must also complete the Criminal Justice Information Systems (CJIS) testing. The CJIS provides a range of state of-the-art tools and services to law enforcement, national security and intelligence community partners, and the public. The purpose of the ICM Staff Member completing this training is to ensure that each employee is properly trained on appropriate behavior associated with being exposed to sensitive information that can be transmitted from FHP or other law enforcement agencies.

To obtain an electronic badge which grants access to the RTMC Floor, each employee must successfully complete all the above listed testing which is provided by RTMC management during the application process. Additional computer-based training regarding workstation and internet usage, building policies and professional etiquette is also administered.

For those working within the District Five RTMC that do not require access to the RTMC Floor, the SLERS background check is not a requirement.

2.5.4 Safety Guidelines

All staff is ultimately responsible for their own safety. RTMC personnel must abide by all federal and state laws and regulations as well as the procedures established by FDOT and the staff member's employer concerning safety. If injured on the job, it is each staff member's responsibility to promptly obtain first aid and to report the injury to RTMC and FDOT management.

All personnel should look for hazards and be aware of their surroundings. Changes to the work area may have occurred during time away from work. Be alert, use common sense and good judgment when encountering a questionable situation and do not be afraid to ask questions. Always be aware of the safety procedures for your job and follow them.

All staff must immediately report to their supervisor, manager, or a member of FDOT staff any unsafe work practices or unsafe conditions, either verbally or in writing, such as:

- Unsafe condition(s) of motor vehicle, equipment, facilities, or property owned, leased, or operated by the Department, the Department's contracted vendors/consultants, and/or other building occupants where conditions may jeopardize the safety of the employee, other employees, or the public.
- Any practice or operation being carried on by other employees which may jeopardize the safety of the employee, other employees, or the public.

2.5.5 Evacuation of the RTMC

While unlikely, if an evacuation of the RTMC is required, the ICM Staff on duty are required to follow key procedures to ensure a safe exit. For security purposes these procedures will not be made public in this document but are available in the District Five RTMC consultant SOPs.

Satellite operations are available via the District Office in DeLand, but coordination with the Department is required to initiate that response. During an evacuation it is imperative that key personnel and agencies are notified immediately so an appropriate response can be implemented quickly and efficiently. For more details on this process please see Appendix B regarding the District Five RTMC Disaster Recovery Plan.

All building occupants are required to meet in the parking lot on the north side of the building for an attendance check. You may not leave the area, via foot or vehicle, without first checking in with RTMC and FDOT management at the evacuation rendezvous point.

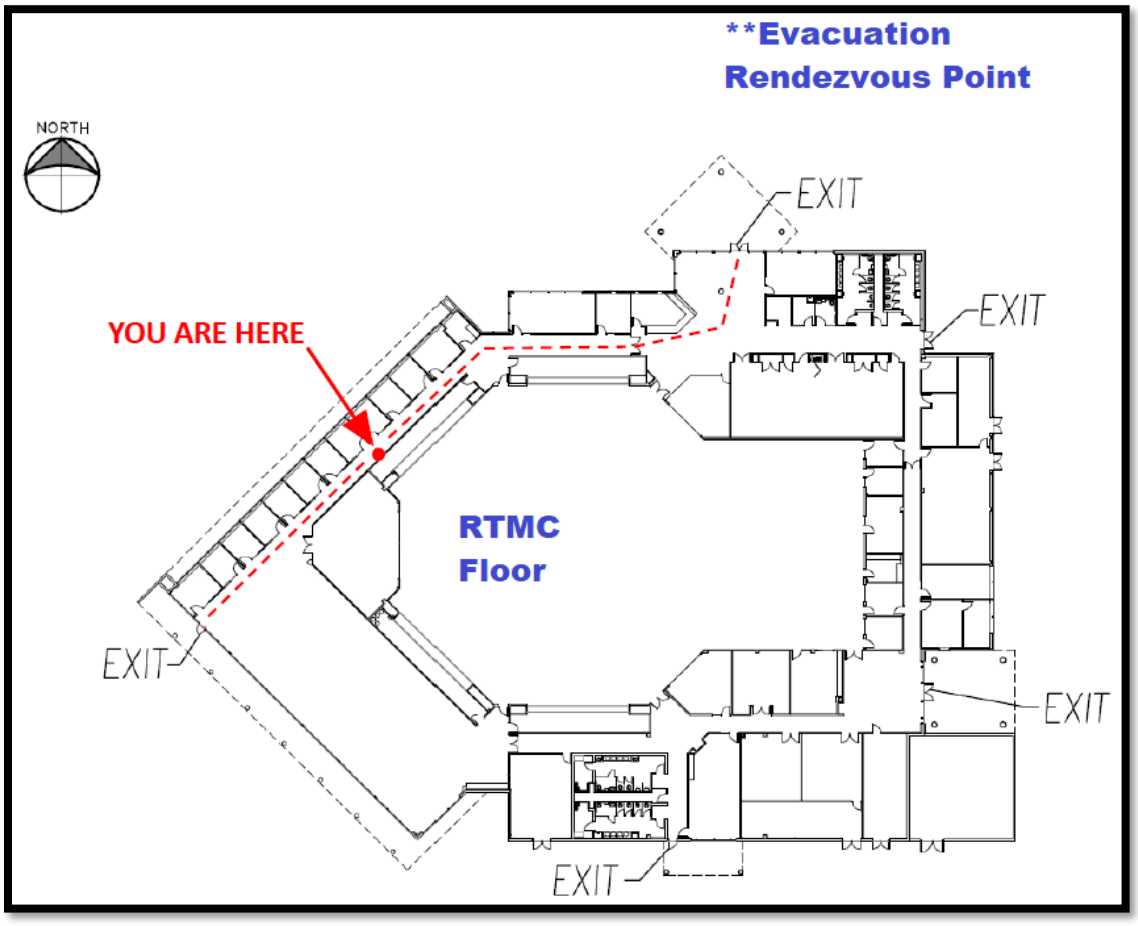


Figure 3: District Five RTMC Evacuation Map

2.5.6 FHP Regulations on RTMC / Communications Center Access

Effective January 1, 2013 an escort is required for any non-approved personnel entering the RTMC/Regional Communications Center (RCC). Those individuals who have completed the JTF Background Check and the Criminal Justice Information System (CJIS) online awareness training are considered approved personnel and do not need an escort.

If unescorted access is being requested for someone who has not completed the SLERS and CJIS prerequisites, they must be identified with credible identification and have their name run through the JTF security website by FHP personnel or other individuals with authorized access to the JTF website. When more than one person arrives together, that will stay together while in the center, only one of the persons needs to be checked. The other personnel will be considered as escorted by the person verified as approved.

Example: If someone from Activu arrives, they must be escorted because we have not performed a background check on Activu personnel, however, if the Activu person is working with a Transcore employee and the Transcore employee has been approved, the Transcore employee is permitted to escort the Activu person in the RTMC. In this situation, ALL (including the approved person) must sign the log to enter the facility.

All RTMC staff, ITS Group employees, FHP and FWC personnel have completed the background investigation and can enter the room without signing the log. All other non-RTMC/FHP/FWC personnel must log in when entering the facility even if an escort is not required.

For more detailed information regarding the signed District Five RTMC building SOP please reference Appendix A.

2.5.7 Smoking Policy

The District Five RTMC is a non-smoking facility. No one is permitted to smoke inside the center. However, a smoking patio is located outside the center. ICM Staff can smoke only during scheduled breaks and shall notify the Supervisor or Lead Operator on duty prior to leaving for a break.

2.5.8 Drug-Free Workplace

The District Five RTMC is committed to providing a safe work environment and fostering the well-being and health of its employees. That commitment is jeopardized when any RTMC employee illegally uses drugs or alcohol on the job, comes to work with these substances present in his/her body, or possesses, distributes, or sells drugs in the workplace. Therefore, it is a violation of RTMC procedures for any employee to possess, sell, trade, or offer for sale illegal drugs or otherwise engage in the illegal use of drugs, intoxicants, or alcohol on the job. It is prohibited for anyone to report to work under the influence of illegal drugs, intoxicants, alcohol, or to use prescription drugs illegally. Nothing precludes the appropriate use of legally prescribed medications. A violation of these safe work environment practices is subject to disciplinary action up to and including termination of employment.

2.6 FDOT Equipment Usage and Proprietorship

2.6.1 Department's Policy

All staff accessing Department information technology resources are expected to use good judgment and common sense to avoid abuse and inappropriate use of resources. 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.

2.6.2 Statement on External Devices

Any individual authorized to use Department computers, and who does so use a Department computer, may not insert, or connect an unapproved external device. Unapproved external devices include but are not limited to items such as USB storage devices and phone chargers. Any individual who inserts or connects an unapproved device is in violation of Department policy.

2.6.3 Computer and Internet Policy

Employees are granted use of FDOT computers and 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 only and should fall within compliance with the expectations described in the Department's security policy. Internet access is only authorized through the Department's proxy server. Usage is monitored and detailed records are maintained for use in detecting abuse or misuse of this resource without notice to employees.

For more detailed information please read through the FDOT Security Policy available on FDOT's District 5 website www.cflsmartroads.com. Also consult Appendix C, the Information Technology Policy Requirements developed and maintained statewide by Central Office.

Everyone accessing Department information technology resources is expected to use good judgment and common sense to avoid abuse and inappropriate use of resources.

2.6.4 Florida Statute 119: Florida's Public Records Law

Pursuant to Florida State Statute 119 (FSS 119):

FSS 119.01(1): It is policy of this state that all state, county, and municipal records are open for personal inspection and copying by any person. Providing access to public records is a duty of each agency.

FSS 119.011(12): "Public records" means all documents, papers, letters, maps, books, tapes, photographs, films, sound recordings, data processing software, or other material ***regardless of physical form****, characteristics, or means of transmission, made or received pursuant to law or ordinance or in connection with the transaction of official business by any agency.*

Employees of the RTMC will be using Department computers and interacting on phone lines which are recorded. It is of the utmost importance that each individual employee familiarizes themselves with the broad and sweeping public records laws of the State of Florida. Any phone contact with the co-located state law enforcement dispatch center is recorded and subject to disclosure to the public. When calling other agencies by phones, be conscious of the fact that their line may also be recorded. Files stored on Department computers become public record which must be retained by the state for inspection by the public upon demand. Emails sent using the FDOT email system are also considered public record. It is for those reasons that no personal documentation should ever be saved on a department computer or network and FDOT email should only be used for work related communication.

2.6.5 Contact with the Media and the Public

At no time is it permissible for RTMC personnel to comment to the media without the express permission of the FDOT Project Manager. All media inquiries shall be forwarded to the FDOT Project Manager.

For those individuals that do contact the RTMC, please take a message with a name and return phone number. E-mail this to the RTMC FDOT Project Manager. They will return the call.

For information relating to incidents, the RTMC will continue to contact other District Traffic Management Centers to keep each other up to date regarding incidents and resultant roadway conditions. If a TV Station or Third-Party Provider calls the RTMC requesting incident information, the RTMC is to direct them to contact the Public Information Officer for the law enforcement agency working the incident.

Contact Information	
TSM&O Contract Manager	**District Public Information Director**
Tricia Ballard	Loreen Bobo
FDOT District 5	FDOT District 5
4975 Wilson Road	719 S. Woodland Blvd
Sanford, FL 32771	Deland, FL 32720
Office: 321-257-7244	Office: 386-943-5446
tricia.Ballard@dot.state.fl.us	loreen.bobo@dot.state.fl.us

Table 2: FDOT District Five Project Manager and Public Information Officer Contacts

Most calls received directly from the public will be for Road Ranger service. When this happens, the employee should take down all pertinent information including a name and call back number, then depending on the location of the motorist, dispatch the closest Road Ranger on duty in that area or notify the appropriate operations team. If no Road Rangers are in service, refer the caller to the appropriate law enforcement agency, or state law enforcement dispatch center for assistance.

2.7 Personnel Decorum

This section describes the professionalism, ICM Staff conduct and policies to follow when working in the RTMC.

2.7.1 Appearance Guidelines

The RTMC is a professional environment, and employees are always expected to present a professional, business-like image. Acceptable personal appearance, as well as proper maintenance of work areas, is an ongoing requirement of employment at the RTMC.

ICM staff will be provided collared shirts with logos and should wear khaki or dress pants and appropriate closed-toed shoes. Jeans are permitted on Fridays, weekends, and major holidays, and shall be in respectable condition, free of holes, patches, or other blemishes. Employees are responsible for the laundering and cleanliness or his/her uniforms.

ICM staff is expected to be well-groomed and manicured. Hairstyles, wigs, moustaches, sideburns, and other grooming effects should be neat and well kept. At no time are hats permitted in the RTMC. Any employee who does not meet the standards of this guideline will be required to take corrective action, up to and including leaving the RTMC. Violations of this guideline may also result in disciplinary action.

Employees must wear their identification badges in a manner where they are always visible.

2.7.2 Behavioral Policy

The following are examples of infractions of rules of conduct that may result in disciplinary action, up to and including termination of employment. *This is not an exhaustive list.*

- Theft or any unauthorized possession, removal, or attempted removal of Consultant Firm, FDOT, Central Florida Expressway (CFX) or FHP property or the property of other employees
- Falsification of job application, resume, timesheet, or any other personnel document
- Violation of the Department or Consultant Firm's substance abuse drug free workplace policy; this includes the possession of illegal drugs on the RTMC premises
- Gambling on premises or while on working time, whether on or off RTMC premises
- Fighting or threatening violence in the workplace
- Threatening, intimidating or coercive behavior, abusive or vulgar language or any other language or conduct that interferes with the performance of other employees
- Disruptive activity in the workplace
- Violation of the policies against harassment
- Possession of a weapon or any other unauthorized item that could pose a risk to the safety of others
- Excessive tardiness or absence with or without notice or leaving during a shift and not returning to work without approval from management
- Insubordination (including, for example, any refusal to comply with instructions or to carry out work assignments) or lack of cooperation, whether in language or conduct
- Unauthorized use of Consultant Firm/ FDOT/ CFX/ FHP materials, time, equipment, or other property
- Repeated violation of Dress Code Policy
- Watching TV other than News or Weather at the RTMC
- Use of cell phones or business lines for personal use when not necessary
- Abandonment of job – The Consultant Firm is responsible for a 24/7/365 operation. The employee is required to notify his/her Supervisor or appropriate on-duty staff when a Supervisor/Lead isn't available if they are going to be late or are unable to report to work. Notice should be made 8 hours prior to their scheduled shift. Repeated disregard for proper notification is addressed as job abandonment.
- Sleeping on the job
- Racial, sexual, religious, etc., discrimination and harassment

While the foregoing list identifies activities and conduct for which ICM personnel may be terminated or disciplined, it is only representative and not inclusive. It should not be inferred that these or similar activities must be present to justify termination of employment. The expectation for all employees is always to behave in a professional manner and demonstrate respect for others.

2.7.3 ICM Staff Conduct

It is important that ICM employees always remember that they represent not only themselves, but also their firm and FDOT. Employees at the RTMC are expected to present a professional image and demeanor. Common courtesy and respect for all personnel within the building is expected of all ICM employees. Loud talking, yelling and other disruptive behaviors are not permitted at any time. Remember; the RTMC is co-located with a state law enforcement dispatch center and such disruptive behaviors can have serious implications on dispatch operations.

2.7.4 Personal Electronics Policy

Personal phone calls, text messages, personal emails, etc. shall be handled outside of the RTMC Floor area. In accordance with the FHP Communications Manual, ICM staff must refrain from personal cellular telephone usage while on the RTMC Floor. Other forms of personal electronics such as laptop computers shall not be used on the RTMC Floor. While personal cell phones are not prohibited from being on the RTMC Floor, they must have their ringer set to the vibrate/silent mode and the phone should not be answered unless an emergency occurs. Coordination with RTMC management should occur if personal phone calls are needed while on the RTMC floor.

It is prohibited for any ICM Staff to take video or pictures of the FHP or FWC dispatch consoles, the portion of the room that is assigned to FHP and FWC, or previous or current incidents. If video or still images are taken of these areas and then shared via text, email, or any other form of electronic sharing, ICM Staff are subjected to disciplinary action up to and including termination of employment.

2.7.5 Telephone System

ICM personnel will receive calls from a variety of sources including local agencies, emergency responders, FDOT personnel and, occasionally, the public. All calls will be handled in a courteous and professional manner, regardless of the content of the call or the disposition of the caller. ICM personnel have two different phone systems. One is a "soft phone" or cloud-based system for ICM operations and is referred to as the Avoxi System. The other system, provided by FDOT OIT, is the standard VOIP desktop phones.

2.7.5.1 Avoxi System

The Avoxi Phone System is designed to distribute workload across operators, provided statistical data, and allow for quality assurance reviews. The primary reason for this system is to ensure ICM stakeholders are provided the highest quality of service possible.

Phone Calls

The goal of the ICM staff member is to answer calls that come into Avoxi within 15 seconds, or within the first three rings. If the user does not answer the call within the 15-second time frame, it will be automatically transfer to the next available operator. This is to ensure those calling into the RTMC are provided a timely response. An ICM staff member should use the system any time they are making calls that are operational in nature. If the operator is unsure of what phone system to use, the default system should always be Avoxi.

Any time ICM personnel answer an incoming call, the following statement should be used "This is [name] from District Five's Traffic Management Center, how can I help you?".

When a ICM staff member makes an outbound call, they shall always start the call with the following statement "This is [name] from District Five's RTMC on a recorded line…"

Advising Callers of Recording

To ensure a satisfactory level of quality and contract compliance, calls made or received via the Avoxi Phone System are recorded. All incoming calls to the Avoxi System are prompted with a recorded notification of calls being recorded. The caller then can consent by remaining on the line or hanging up. System users placing an outgoing call via Avoxi are responsible for notifying the party that the line is being recorded. ICM Supervisors should be assigned to perform quality assurance audits to ensure all outgoing calls start with the proper

recording notice. The ICM Manager will monitor this type of error by system users and ensure corrective action is taken to ensure compliance.

Public Records Requests for the Avoxi System

The Florida Department of Transportation is committed to handling requests to review or copy public records as quickly and efficiently as possible. Requests for public records related to the RTMC Avoxi Phone System should be submitted without delay via the RTMC Jira Support System or to the RTMC/ICM Communication Admin via email. These requests will be completed in accordance with Chapter 119 of the Florida Statues and following any Florida Department of Transportation public records request policy.

2.7.5.2 FDOT Internal System

The FDOT VOIP desktop phone system is provided for internal FDOT communications which are not operational in nature.

Calls made on this system are not recorded. ICM personnel shall use a standard greeting of:

"RTMC, this is (your name). How may I help you?"

2.7.6 Attendance Policy

ICM staff should be advised that shift start and end times, as well as scheduled days, are subject to change based on business need.

ICM staff will report to the RTMC by the scheduled start of the work shift unless otherwise authorized by an appropriate supervisor.

If ICM staff cannot report by the assigned time, but will be able to report late, the employee must verbally contact his/her immediate supervisor before the start of the shift to explain the situation and to provide an estimated time of arrival. ICM Staff are expected to report for their assigned shift except when prevented by injury, illness, or an emergency. ICM staff reporting after their shifts scheduled start time will be considered "late" unless previous approval has been arranged with a manager.

Any leave of absence, with or without pay, shall be approved prior to the leave commencing unless emergency circumstances prevent such action. Leave without proper approval will be addressed by management.

2.8 Operational Account Access

All ICM Operations personnel must obtain a Windows User Profile, FDOT email account, and SunGuide® access as part of the RTMC onboarding process. In addition to completion of the previously mentioned CJIS training, the new employee will also complete a Security Access Request (SAR) Form defining the appropriate level(s) of access for their intended position.

To obtain an FDOT email account, each employee will complete the FDOT Technology Resource Awareness Certification Kit (TRACK) course. Once completed, the Transportation Technology Acceptable Use Agreement (also known as AUA) form shall be signed and submitted to FDOT's District Five Traffic Operations Department.

A Jira ticket will then be created, and the new employee's supervisor will work directly with FDOT to facilitate access to the FDOT workstations. The following items shall be included in the JIRA ticket:

- Proof of SLERS approval
- CJIS Certificate of Completion

- FDOT TRACK Certificate
- AUA document
- SAR Form

Continued training modules that are required by FDOT (or consultant equalivent) for account access include the following:

- Courses | OCM Multimedia Team (state.fl.us)
    - FDOT Fire Prevention Training
    - FDOT Ethics
    - FDOT Safety Orientation
    - FDOT Public Records
    - FDOT Equal Employment Opportunity
    - FDOT Zero Tolerance for Violence

3. Integrated Corridor Management

The vision of Integrated Corridor Management, as mentioned in Section 2: General Overview, is to leverage relationships and network connections between FDOT and local agencies to manage corridors as a multimodal system and make operational decisions that benefit those corridors as a whole. When these agencies work together, traffic can be moved more efficiently and with a common goal in mind.

3.1 Freeway Operations

The freeways covered by the RTMC provide the bulk of incidents which the RTMC will encounter during daily operations. I-4, I-95 and I-75 are all covered in some part by the RTMC, and they are the major avenues of commerce. For this reason, FDOT has invested heavily into ITS, to mitigate the effects of traffic. That ITS network consists of devices such as speed detectors, cameras, and Dynamic Message Signs (DMS).

On I-4, I-95 and I-75, detectors can be found approximately ½ to 1 mile apart. The data collected is used to calculate travel times, and provide RTMC Operators with speed, volume, and occupancy data for any given segment of interstate. There are two types of detectors currently in use, those which are cut into the ground, magnetic loop detectors, and those which are posted on the side of the road, known as radar detectors.

Cameras along the interstate highways are the primary means of monitoring active incidents and events. These cameras can pan, tilt, and zoom, making them incredibly powerful tools in incident detection and confirmation.

DMS on interstate highways are placed strategically as to allow pertinent information to reach motorists. Information ranges from travel times to road closures, public safety announcements (PSAs) and even adverse weather conditions.

By working closely to monitor conditions of the freeways, Operators can coordinate resources to respond when incidents do occur. Some incidents require the presence of Asset Maintenance (AM) staff to aid in the provision of a safe work zone at an incident scene, repairs to damaged assets along the freeway, or alternate route detours during full closures. Working together with the other key players in the RTMC can provide a unified response and aid in clearing the roadway more quickly which in turn can reduce the danger to first responders and other motorists.

3.2 Arterial Operations

Incident management along the freeway has a direct impact on surrounding arterial roadways. Arterial operations mitigate this impact with the use of diversion timing plans, which focus on shifting traffic off the impacted interstate segment to the arterial roadway network to bypass the congestion. Arterial Operators complement the efforts of the Freeway Operators by managing surface roadway traffic efficiently during an incident. To this effort, Arterial Corridor Managers utilize local agency Arterial Traffic Management System (ATMS) platforms to monitor and, under the direction of the Signal Timing Engineer, implement traffic signal patterns to best accommodate the increased demands at the impacted traffic signals during an event. This occurs via coordinated and close communications between the Managers, Operators, and the local agencies.

As with freeway operations, arterial operations can require the presence of AM personnel to aid in resolving damage to the roadway, physical re-routing of traffic and the creation of safe work zones during incidents.

3.3 Express Lanes Operations

Express lanes are optional travel lanes, located on an interstate or toll road, that customers can choose to use when they want a more predictable travel time. Customers in the express lanes pay a dynamically priced toll that increases as traffic begins to build in the express lanes and decreases as traffic reduces. Express lanes are designed with a limited number of entrance and exit points to serve longer, more regional trips. Customers must have an active and properly mounted SunPass or other interoperable transponder, as no cash or TOLL-BY-PLATE is accepted in the express lanes.

Operators shall monitor the system and provide support by documenting the health of the sytem, dispatch road rangers, deseminate traveler information by activating DMS and FL511 through EM, activate Emergency Access Gates (EAG) for first responders, modify system modes when required, and provide reports to the Department. Reports are delivered to the Department on a daily, monthly, quarterly, and annual basis.

3.4 Traffic Incident Management

According to the FHWA, Traffic Incident Management (TIM) is the planned and coordinated multi-disciplinary process to reduce the duration and impact of incidents and improve the safety of motorists, crash victims, and emergency responders.

TIM is a function of the federal Emergency Transportation Operations (ETO) program, which consists of integrated interagency communications, on-scene Traffic Incident Management operations, and regional/statewide programs and institutional coordination.

District 5's TIM program goals align with the FHWA TIM program goals of:

- Responder safety
- Safe, quick roadway clearance, whereby reducing the risk of secondary crashes
- Prompt, reliable interoperable communications

3.4.1 Benefits of TIM

3.4.1.1 Increased Driver Safety

Tens of thousands of motorists are killed in highway crashes each year. Effective implementation of TIM strategies can save the lives of drivers and emergency responders, alike, who are often killed or injured at incidents scenes by passing vehicles. On average, nearly fifty responders (including fire/rescue, law enforcement, safety service patrol, and tow truck operators) are killed each year while working in or alongside

the roadway. Countless others are injured and/or experience property damage that costs taxpayers millions of dollars.

Effective TIM measures can also reduce the occurrence of secondary crashes. The likelihood of a secondary crash occurring increases by 2.8 percent for each minute the primary incident continues to be a hazard, increasing the risk to driver and responder lives, while compounding congestion and further delaying response and recovery times.

3.4.1.2 Congestion Relief

Proper TIM practices can aid in the relief of congestion on our District's roadways. Traffic incidents account for approximately 25 percent of all congestion on US Roadways. Every minute of blockage on a freeway travel lane increases delay after the incident is cleared by a factor of four. Idling traffic costs the US trucking industry over $7.8 billing annually.

3.4.1.3 More Effective Preparation for Larger-Scale Emergencies/Disasters

TIM is scalable. The improved coordination between responder agencies for routine, roadway response activities translates to improved coordination for larger-scale incidents and emergencies, both man-made and natural.

3.4.1.4 Public Resources Go Further

Effective implementation of TIM strategies can lead to gains in efficiencies of existing resources of stakeholder agencies improving service levels and performance to the communities these agencies serve.

3.4.1.5 Reduced Emissions

Environmental benefits accrue when congestion is reduced, and less fuel is spent idling. Implementing TIM quick-clearance and ICM diversion strategies helps to minimize stops and starts by all vehicles, including tractor trailers, which produce significantly more emissions than passenger vehicles.

3.4.2 Incident Command

The Incident Command System (ICS) is a component of the National Incident Management System (NIMS). ICS provides a nationally standardized approach to the command, control, and coordination of inter-agency emergency response operations. The standardization hierarchical structure of ICS is the foundation of the National Unified Goal (NUG) for Traffic Incident Management, which is:

- enhanced emergency responder safety;
- safe and quick clear roadway incidents; and
- prompt, reliable, interoperable communications.

The RTMC's TIM Specialists serve as the FDOT District 5 incident command, facilitating communications and coordination with the Department's incident response resources and outside emergency response partners for large-scale or complex traffic incidents, and during special events that result in significant increases of vehicular traffic. These events include music festivals, conventions, sporting events, space launches, protests, dignitary visits, hurricane evacuations, etc. Additionally, TIM Specialists make high-level decisions with regards to the utilization and dispatch of TIM resources such as Road Rangers, RISC vendors, Safe Tow vendors, etc.

3.5 ICM Staff

ICM requires a diverse group of people who are trained in different fields. The current ICM Staffing includes positions similar to the following:

- Project Manager
- RTMC Manager
- Traffic Signal Timing Engineer
- Corridor Manager
- Operations Analyst
- Supervisor
- Lead Operator
- Operator
- TIM Program Manager
- TIM Specialist
- Communications Administrator
- SunGuide Administrator

3.5.1 Project Manager

The ICM Project Manager's responsibility is to provide the ICM personnel with the resources, oversight and guidance needed to fulfill their duties as efficiently as possible, and to ensure the quality control and administration of all contract activities. This individual provides oversight of all work performed under this contract, prepares and submits monthly invoices and progress reports, tracks project budget and provides monthly updates, status of work and cost summaries, and administers a resource allocation plan, ensuring that the appropriate resources are available and provides periodic task schedules for the project. The Project Manager provides adequate staff and resources for all tasks and activities throughout the duration of the contract and ensures the operations staff has the required qualifications and all background check documentation is submitted to and approved by the FDOT before staff is hired. They establish and monitor performance management measures for the ICM staff, ensure the periodic update of this SOG and training manuals to reflect the latest operations practices, participate in monthly progress meetings with FDOT staff to discuss the current task list, and ensures that all deliverables are delivered to, reviewed, and approved by FDOT.

3.5.2 RTMC Manager

The RTMC Manager is responsible for overseeing the daily operations of the RTMC. He/she is responsible for all contract ICM staff, as well as the work necessary to provide for the general management, oversight, Quality Assurance/Quality Control (QA/QC), and administration of the contract and management support personnel. This includes such tasks as developing, reviewing, and modifying as needed various ICM operational documents, such as this SOG, a Disaster Recovery Plan, etc. The RTMC Manager is responsible for general oversight and management of all aspects of the contract. They meet with the FDOT Project Manager and other FDOT personnel regularly to discuss general progress and direction of the ICM operations and interface with representatives of other agencies/organizations on issues related to the ICM operations. It is expected that the RTMC Manager will have RTMC-related activities as a full-time task. They provide for the complete and proper employment, training, scheduling, and oversight of ICM operations staff and are responsible for project QA/QC and for all ICM staff working at the RTMC as part of this contract. The RTMC Manager maintains records and documentation as directed to support the overall ICM operations at the RTMC and attends meetings with or on behalf of the FDOT to assist in operational issues and further FDOT's mission and goals.

3.5.3 Traffic Signal Timing Engineer

The Traffic Signal Timing Engineer serves as the arterial lead for the ICM Program with responsibility for technical aspects of the project in relation to arterial operations. They manage the ICM arterial operations by directing and coordinating activities consistent with the established goals, objectives, and policies following the direction set by the FDOT Project Manager. The Traffic Signal Timing Engineer provides oversight of corridor managers, arterial analysis, and operators using and applying extensive knowledge of project management theories and practices. They attend ICM related meetings as directed by the FDOT and perform all other tasks as assigned by FDOT.

3.5.4 Corridor Manager

The Corridor Manager is responsible for executing all ICM related activities along the assigned corridors. ICM Corridor Managers are traffic signal timing specialists, experienced in the field of traffic operations, and extremely familiar with operations and issues along their corridors. They use data from various sources, as well as firsthand observations, to determine the effectiveness of current signal operations strategies and recommending and implementing improvements as necessary, working under the direction of the Traffic Signal Timing Engineer. They work to identify and resolve maintenance issues or changes in traffic patterns impacting the intended operation of the corridor and utilize advanced engineering knowledge, combined with extensive experience and training, for preparing deficiency reports and mitigation plans to improve traffic flow or safety in compliance with applicable standards or regulations. The Corridor Manager also responds to citizen complaints personally, understanding their issues, addressing as appropriate, explaining the outcomes, and documenting the communications.

3.5.5 Operations Analyst

The Operations Analyst is responsible for back office technical support of the ICM program. The Operations Analyst will be responsible for providing a wide variety of engineering support services as defined by the Traffic Signal Timing Engineer and in support of the Corridor Managers. They analyze operational data related to the ICM program, including travel time, throughput, stops and delays, and other corridor related functions. They perform cost-benefit analyses based on operational and traffic safety data analyses and establish and maintain ICM tracking logs, in conjunction with the corridor managers.

3.5.6 Supervisor

The Supervisors manage all Operators and report directly to the RTMC Manager. They assist in the development of protocols, standard operating procedures, and ensuring compliance with the FDOT and CFX guidelines and practices. The Supervisors assist Operators with incident/event management when needed and on a 24/7 basis. This requires on-call status during non-working hours, which us shared amongst the Supervisors. They facilitate operations by guiding critical ICM operation decisions, developing special events response plans, guidance during severe events and generating severe event response reports. The Supervisors present operational staff with an understanding of their role in the overall context of transportation systems and incentivize them to perform day to day tasks. They provide regular input on overall performance of the ICM staff including continuous improvement feedback from lessons learned and deal with personnel issues of the staff.

Operationally, the Supervisor accommodates the data/video needs of special agencies and third parties such as the FDOT or CFX's media partners, gathers incident information to be shared with the TIM Program staff, they're responsible for QA/QC of messages being placed on DMS and 511 for all active incidents providing input on and coordinating all other pre-planned DMS and 511 messages from FDOT/CFX/construction/other agency

coordination meetings, and monitors the FHP CAD system. The Supervisor pulls SunGuide reports to perform incident reviews and to ensure that the database of past incidents is properly maintained. They generate daily equipment/system failure logs identifying the specific device or system function that requires maintenance for CFX and the FDOT when requested. The Supervisor is responsible for overseeing all ongoing incidents and providing guidance to the Operations team when needed in accordance with the established SOG and SOPs.

3.5.7 Express Lanes Supervisor

The Express Lanes (EL) Supervisor focuses solely on express lanes operations and the staff supporting it, and they report directly to the RTMC Manager. They assist in the development of protocols, standard operating procedures, and ensure compliance with SOG and SOPs. The EL Supervisor assists EL Operators with incident management when needed and on a 24/7 basis. This requires on-call status during non-working hours. They must possess a knowledge of roadway devices, SunGuide and the Statewide Express Lanes Software (SELS)

Express Lanes Supervisor duties include, but are not limited to providing oversight for real-time incident management along the EL corridor, assisting in training, generating reports, updating/reviewing relevant documentation and daily debriefs, acting as a liaison between the RTMC, partnering agencies, the media, and the public, acting as a Quality Control Specialist to monitor personnel's performance, assisting in troubleshooting issues, maintenance, and upgrades of SELS and acting as a conduit for communicating ITS device issues.

3.5.8 Lead Operator

The ICM Lead Operator oversees operations, directing ICM Operators and assures all incidents are handled according to FDOT and CFX policies. Additionally, the Lead Operator assists Operators during busy times, checks all paperwork, checks all data entry, and verifies ITS Devices and systems are working properly. The Lead Operator is also responsible for the principal monitoring of the roadways including detecting, confirming, updating, and responding to scheduled and unscheduled traffic events, congestion, and travel time irregularities within the ICM coverage area. They also provide quality assurance on the day-to-day handling of all events in the RTMC.

Lead Operator duties include but are not limited to the following facilitating operations by guiding critical ICM operation decisions, developing special events response plans, providing guidance during severe events and generate severe event response reports. They're the primary contact for two-way communications flows with external agencies including those by voice, mail, fax, Internet, and other electronic data and they facilitate the information exchange between the ICM operators and on-site FHP staff. Lead Operators complete checklists at the beginning of each shift exchanging information with the Lead Operator he/she is relieving at the beginning of the shift as well as at the end. They alert Operators to new memorandums, procedures, policies, and special projects and requests and ensure that workers are alert and focused during their shifts and that all incidents are monitored on a continuous basis. The Lead Operators continually verifies that every RTMC DMS has the correct spelling displayed and is updated on the FL 511 system, is involved with or aware of each incident that occurs on shift, and aids in the dispatch of Road Rangers.

3.5.9 Operator

The ICM Operator is responsible for using the various roadway and ICM tools to monitor and respond to traffic conditions. The ICM Operator will create, update, and close events when appropriate, and communicate with other roadway stakeholders and partners throughout the process to ensure incidents are managed as one team. ICM Operators will generally perform one of both of the following duties depending on the shift:

Freeway Operator duties include but are not limited to operating all ITS devices in the RTMC using computer-based traffic management systems, namely SunGuide®, and employ these tools to manage traffic and incidents on roadways, provide accurate roadway information to the public, and improve the TSM&O network for all users. They enter incident information into computer systems using ICM software and dispatch Road Rangers. They must be familiar with the roadways and understand the purpose and location of each ITS device (i.e. DMS, detector stations, Closed Circuit Television (CCTV), and 511. Freeway Operators must cooperate with RTMC partners (FHP, FDOT and CFX On-Call staff, Road Rangers, Local Law Enforcement, Fire Rescue, etc.) as well as Emergency Operations Centers, adjacent TMCs and other FDOT Districts to coordinate resources for incidents. It is important that they relay incident and roadway information to other FDOT/CFX departments and coordinate with Asset Maintenance staff to respond to roadway events.

Arterial Operators monitor the status of traffic signal and system operations, corridor congestion, and traffic flow, etc. by technology tools including advanced traffic management systems, travel time monitoring, and CCTV cameras. They support the Signal Timing Engineer in identifying traffic congestion along the arterial network, based on pre-defined performance measures, while implementing pre-defined traffic mitigation measures in a timely manner. The Arterial Operators detect, confirm and track equipment faults affecting arterial operations and produce daily equipment malfunction and connectivity reports in such a way that allows for weekly, monthly, and yearly analysis. They coordinate with RTMC and other operations staff with regards to external agency communications and general control room coordination, and other staff from signal maintaining agencies to obtain a full understanding of all arterial activity status.

3.5.10 Express Lanes Operator

The EL Operator will be responsible for SELS activities and incident management along the EL corridor. These responsibilities include but are not limited to managing events and coordinating with EL Road Ranger dispatch on events within the EL, disseminating traffic information via the FL 511 system, coordinating with the TIM Program staff during incident management, and coordinating with AM if property damage occurs. EL Operators perform device checks, notifying the ITS Group and entering malfunctioning devices into the Maintenance and Inventory Management System (MIMS). They verify toll amount notifications at set intervals per segment, coordinate executive and local notifications and complete end of shift reports.

3.5.11 TIM Program Manager

The TIM Program Manager has a background in emergency response and is responsible for the development, implementation, and oversight of the District's TIM program, including the establishment of goals, performance measures, benchmarks, policies, and procedures. The TIM Manager researches and implements best practices in Traffic Incident Management to further the District's goal of safe, quick clearance, enhanced communications and responder safety, and serves as the District's liaison to emergency response partners and incident command for large-scale events such as major space launches and hurricane evacuations.

3.5.12 TIM Specialist

The TIM Specialist has a background in emergency response and serves as the District's incident command on a day-to-day basis, providing support to the District's emergency response partners and RTMC operators in the management and coordinated response of all traffic incidents and/or special events. TIM Specialists provide critical incident information such as location confirmation, vehicles types, severity of incident, fuel leaks, hazmat conditions, etc. to the appropriate responding agencies, and coordinates Road Ranger, RISC, and Safe Tow

response accordingly. Additionally, the TIM Specialists monitor contract compliance for TIM resources and assist with TIM reports, After Action Reviews (AAR), and agenda development for quarterly TIM meetings.

3.5.13 TIM Communications Administrator

District 5's Communications Administrator has a background in emergency response and computer programming. This position is responsible for the development, implementation, and maintenance of the network communications system utilized by RTMC operators, Road Rangers, and other incident responders as determined by the District. The Communications Administrator is responsible for conducting routine security and performance assessments of the network communications systems, and of system users. Additionally, the Communications Administrator assists with monitoring contract compliance, TIM reports, After Action Reviews (AAR) and agenda development for quarterly TIM meetings.

3.5.14 Mapping and Navigation Support Team

D5's Mapping and Navigation Support Team serve as liaisons to 3rd party mapping and navigation platforms such as Waze, Google, Apple, and TomTom and local stakeholders. The team is comprised of Mapping and Navigation Specialists, led by the Mapping and Navigation Support Supervisor. These individuals are responsible for making updates or corrections to base maps, as well as creating, updating, or correcting alerts for construction zones, road closures, and special event traffic. The team liases with local stakeholders to identify needs in advance of these activities and will support with real-time traffic management and alert updates, as needed.

3.5.15.5 SunGuide Administrator

The SunGuide Administrator is responsible for maintaining the current version of SunGuide utilized for RTMC Operations. They also assist in testing new versions of the software and work with operations during deployment. The SunGuide Administrator is also responsible for the configuration of new and existing devices in SunGuide providing standardization of firmware and settings for each device. They support RTMC operations, assist with SunGuide software and server errors using Microsoft Failover Cluster Manager and monitoring the SunGuide status logger, and assist with SQL database querying of the SunGuide database. The SunGuide Administrator upkeeps user logins and active user lists for ICM Operators, Road Rangers and Maintenance staff.

3.5.16 Other RTMC Staff: As Needed

3.5.16.1 Communications Specialist

Will act as the source for project related information. This position will prepare and disseminate collateral materials to the public using plain language; develop strategies, alliances and corporate partnerships; prepare and present project information for meetings; coordinate resolution of issues; maintain a database of stakeholders; prepare information for updating website(s); perform media responses by interview or in writing as needed (with collaboration with the FDOT/CFX Public Information Officer (PIO)); coordinate and staff formal and informal public meetings; and execute other duties relevant to the position.

3.5.16.2 Programmer

The programmer position will perform software upgrades/enhancements for the FDOT District 5 MIMS, Maintenance and Inventory Mobile Application (MIMA), Road Ranger Mobile Application (RRMA), Interagency Video Event Data Distribution System (IVEDDS), and SunGuide® Website Maintenance. Required experience

includes web-based programming, graphical design, Microsoft SQL Server 2008/2012, Geographic Information System (GIS), and (Internet Information Services (IIS).

3.5.16.3 Graphic Designer/Video Production Coordinator

This staff member designs collateral materials; creates templates and newsletter layouts; performs other duties relevant to the position. Under general direction, plans and facilitates studio and field-based video production, including the planning, filming, editing, sound mixing, graphic design and compression output of a wide range of products, and performs other related duties as assigned.

3.5.15.6 Webmaster

This staff member designs, develops, manages and maintains websites; examines and analyzes site traffic; provides quarterly report summarizing site usage and recommendation to maximize effectiveness; regulates and manages access rights of different users on websites; creates and modifies appearances and settings of websites; tests websites for functionality and usability; fixes links that don't work and pictures that aren't appearing properly; performs site promotion, sends out email, voicemail, newsletters, etc.; performs other duties relevant to the position and in support of the ICM mission.

3.6 Tools

FDOT District Five operates and maintains the existing freeway management system and Arterial Management System (AMS). ICM Staff operate the existing systems by using these tools:

3.6.1 Software

- SunGuide
- CFX SunGuide
- MIMS
- Avoxi
- SMLS/SELS
- EAG Software
- ITSIQA
- Mutualink
- TSS Analyzer
- BlinkLink
- CFX Toll Dynamic Message Signs
- Bluetooth Management Software
- ATMS
    - Maxview
    - Centracs
    - Tactics
    - ATMS.now
- Central Management Software (CMS)
- Gridsmart
- ATSPM
- R-ICMS
- Blank Out Signs (BOS)
- Bridge Security

- RTMC Map
- Jira
- Operations Task Manager (OTM)
- Microsoft Suite

3.6.2 Hardware

- RTMC workstations
- Videowalls
- SLERS Radios
- Push-to-Talk Cellular Phones
- RTMC Phone System

3.7 Resources

ICM Staff utilize the following resources while operating:

- RTMC Network Drives containing a multitude of electronic files
- Websites
- FDOT provided applications
- National Weather Service (NWS)
- FHP CAD
- Google Maps
- Waze
- Active Alert
- Pulse Point

4.0 ICM Software

4.1 SunGuide

SunGuide Software is the common software platform for all RTMC operations in the state of Florida. This modular system is comprised of several subsystems that are integrated to allow for incident management, data collection, field device control, travel time posting, and more. RTMC staff shall learn and become proficient with SunGuide tools and procedures such as event logging, incident management timestamping, and associating secondary events with primary events to support performance measure reporting, outcome reporting, and validation of RISC contractor milestone accomplishments. ICM Staff shall be trained and certified on the latest official version of SunGuide. For more information SunGuide Software, reference the user's manual online at SunGuide® Software - Release.

4.1.1 CCTV and Video Wall

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

- **CCTV Camera Use**: CCTV cameras and related equipment shall be used for transportation, event/incident management, asset management, and information purposes only. No one, including law enforcement, shall use the system for any other purpose.
- **Privacy for Private Property**: CCTV camera usage shall adhere to all federal and state privacy laws. For example, surveillance of private property and use of the system with the intent of invading the privacy of those individuals that could be seen through CCTV cameras is prohibited, even as a technical capability.
- **Recording Video Image**: Video images are not and shall not be recorded, and no tapes or video files shall be maintained. Snapshots may be taken for incident review, training, or research. Video may be recorded only for research purposes and only if requested and approved by the District Traffic Operations Engineer (DTOE), in advance, for specific times and dates for specific cameras.
- **Masking Camera Views**: For CCTV cameras that are next to residential locations, camera "masks" or "beards" shall be placed over the camera feeds to protect civilian privacy.
- **Default Camera Views**: CCTV cameras shall be set to the default view of watching the traffic flow. With images being used by the public and multiple agencies, it is essential that views shall be left on the traffic flow, but license plates and individuals shall not be identifiable.
- **CCTV Camera Image Restrictions**: When graphic personal injuries, fatalities, or hazardous materials spills are suspected in a traffic incident or crash, ICM Staff may need to zoom in to collect information that is needed by the FHP, EMS, FDOT, or for other information purposes. When this occurs, ICM Staff shall restrict the CCTV camera image from any external video feeds. As soon as necessary information is collected or at the request of the FDOT or FHP dispatchers, ICM Staff may zoom out the CCTV camera image so that graphic or personal image are not clearly visible on the video display wall.
- **CCTV Camera Image Restriction Verification**: Once the CCTV camera image is restricted from public view, ICM Staff shall view the CCTV camera image on the www.FL511.com website and all other external sources possible, to verify and document that the access has been restricted.

- **Video Wall Display**: During non-incident times, feeds and tours of cameras shall be streaming on the video wall from multiple regions and zones. At the minimum, the video shall display:
    - A selection of CCTV camera images including “video tours” and single camera images
    - Any active incidents
    - Video dashboards
    - Performance based dashboards
    - Meteorological sources
    - Incident notification resources
    - Workstation sharing
    - Level 3 incident timer
    - News station

4.1.1.1 Video Wall Control

Camera feeds can be changed on the video walls by using the Activu Software. Specific users are granted permissions to access Activu and control the video walls. Preloaded video layouts are established within the software and selectable by users. There are multiples tiers of users permissions.

The RTMC video walls should be used to display video related to ongoing incidents. FHP dispatch may request to view video as well so consideration should be taken as to where video is placed on what videowall.

Sources other than video, such as informational dashboards, Road Ranger truck camera views, weather radar, and traffic maps are also available for displaying on the videowalls.

Switching video at remote locations when Activu access is available should be utilized when notable or significant incidents occur. Locations like the District Office in Deland, Brevard County Operations, and the various displays around the RTMC building itself are all available for remote video sharing.

4.1.2 Transportation Sensor Subsystem

Transportation Sensor Subsystem (TSS) provides the RTMC with real-time information on roadway traffic such as volume, occupancy, and speed. They are an invaluable part of RTMC operations as they are often one of the first sources for alerting of any congestion or roadway incidents, especially in rural areas.

4.1.3 Dynamic Message Signs

Dynamic Message Signs (DMS) are one of the most important and effective means for communicating information and recommendations to motorists regarding traffic congestion, crashes, lane closures, advance warning, and more. Thus, it is necessary that DMS provide prompt, reliable, accurate, and relevant information to be effective and provide motorists with the confidence they need to make informed decisions. FDOT’s guiding principles on posting DMS messages must conform to the Federal Highway Administration’s MUTCD.

4.1.3.1 MUTCD Guidelines

The MUTCD provides strict guidelines regarding what can be posted and how it can be posted to a DMS. Some of those are:

- No advertising messages. DMS shall display only traffic operational, regulatory, warning, and guidance information.
    - They may also be used to display safety messages, transportation-related messages, emergency homeland security messages, and America’s Missing: Broadcast Emergency Response (AMBER) alert messages. (This includes the posting of LEO, Missing Child and Silver Alert messages.)

- DMS should be limited to no more than 3 lines, with no more than 20 characters per line.
- Word messages should be composed of all upper-case letters.
- DMS shall automatically adjust their brightness under varying light conditions to maintain legibility.
- Use of newer technologies to display full-color legends (I.E. roadway shields) is encouraged for greater legibility and enhanced recognition of the message.
    - Shields should not be used unless they can be displayed in the appropriate color combinations.
- Each message on a single DMS shall not consist of more than 2-phases.
    - A phase shall consist of no more than 3 lines of text.
    - Each phase shall be understood by itself regardless of the sequence in which it is read.
    - No more than three units of information should be displayed on a phase of a message.
        - Units of information are as follows:
            - What happened? CRASH
            - Where? AHEAD 2 MILES or AT MM 285
            - What is advised? 2 RIGHT LANES BLOCKED
    - Messages shall be centered within each line of the sign.
- Techniques of message display such as fading, rapid flashing, exploding, dissolving, or moving messages shall not be used.
- The display time for a single phase shall never be less than 2-seconds or more than 8-seconds.
    - The duration between the display of two phases shall not exceed 0.3-seconds.
- All non-MUTCD signage shall be approved by the DTOE or designee.

4.1.3.2 DMS Stored Messages and Message Library

SunGuide offers the ability to configure and store messages within each DMS. All mainline DMS are stored with a configured travel time. This travel time message is set with an automated priority of 255 making it the lowest level priority message for these signs. All DMS can accept a custom message. Unless the incident demands a 2-page message, an Operator should post a single page message and allow the message to auto-merge with the sign's travel time. This allows for unique information dissemination providing a travel time and incident next/ahead message to motorists.

SunGuide also allows for a configurable DMS Message Library to house custom message templates and approved message types. These messages are configured based off the MUTCD guidelines and approved by FDOT. The Message Library should be referenced each time an Operator is sending a message to a DMS. Appropriate templates should be followed and if unique situations occur where a template is not available, the Operator should seek guidance from the Shift Supervisor. For suggested message populated via SunGuide's Response Plan Generator (RPG), the software has been configured with these guidelines in mind, but quality checking what is suggested is always required.

4.1.3.3 DMS Message Priority Levels

DMS have a feature which allows the Operator to prioritize certain messages. Only the highest priority message will display, unless a lesser priority message is merged with the high priority message, all other messages will be queued. Using the proper priority for messages makes the process much more efficient. The following table should be used as a guide on how to properly prioritize custom messages:

Message Type	SunGuide Priority Level	Notes
Unplanned Incidents w/ Lane Block	1 to 50	Crash, DAV, ESU, etc.
Visibility & Weather	1 to 50	Weather
Planned Incidents w/ Lane Block	1 to 50	Road Work
Congestion	50-99	Congestion
FDLE Alert	100-109	Use with Message Duration Feature
Safety Campaign & Other Requested Uses	110-119	Use with Message Duration Feature
Daily Safety Message	120	Changed Daily
Travel Time Message	255	Default Priority

Table 3: DMS Message Priority Levels

4.1.3.4 Event Level Severity and DMS Messaging

Depending on how severe an incident is, DMS should be activated for a preselected radius. Below is a guide that should be considered for all District Five incidents.

Event Severity		Lane Blockage	DMS Radius*
Level 1	Minor	< 50%	15-mi
Level 2/Ramp Closure	Moderate	50%	25-mi
Level 3	Severe	> 65%	50-mi

Table 4: Event Level Severity and DMS

When incidents occur near major intersecting freeways or expressways, messages should be posted on those potentially impacted roads as well.

*Any requests from neighboring TMCs, follow the above distance radius from the incident location regardless of district line.

4.1.3.5 Effective DMS Queue Management

By using different priorities on different messages, an Operator can merge custom messages together or with the stored travel time. Messages can be auto merged or manually merged. Auto-merging will only work when the travel time is the only message in the DMS queue prior to sending a one-page custom message. If there are two or more messages already in a DMS queue, then a newly sent message with the auto-merge box checked will not actually merge. This is because SunGuide does not know what existing message in the queue to merge the newest custom message with. In this scenario, a manual merge must be done if that is desired. Operators should consider event severity and message priority when selecting which messages to manually merge.

4.1.3.6 Scheduled Messages

SunGuide can schedule messages to display for selectable date ranges and time periods. When scheduled messages are posted to DMS they automatically post during the scheduled dates/times. Often these messages

are public safety related and intended to merge with travel times. When an incident occurs and the desired message is a custom message merged with a travel time, the DMS queue must be blanked before sending the custom incident message. This will remove the scheduled message and allow for the custom incident message to auto-merge (or manually be merged) with the travel time. Examples of when scheduled messages may be activated are for PSAs and special events such as launches.

4.1.3.7 DMS for Safety Campaigns, Special Events and Port Canaveral

From time to time, the RTMC will receive a request from FDOT Central Office to use DMS for safety or awareness campaigns such as Construction Work Zone Safety, Drunk Driving, or Move Over campaigns. These campaigns, when approved by Central Office, will have specific time restrictions which are typically off peak. These types of messages get displayed for a pre-determined date range and depending on the message, on specific DMS.

Certain events also require the need for specialized use of the DMS. Daytona Races, Beach Access and Capacity Levels, and Kennedy Space Center Launches are just a few examples of events which have required assistance from the District Five RTMC in the past. When events require such DMS to display information, the RTMC will be notified in advance and the RTMC Manager will develop an action plan. The action plan details time restrictions, the approved message, and other pertinent information regarding the request. The action plan is shared with all ICM Staff in advance of the event via email.

Some DMS have a specific purpose; such is the case of the Port Canaveral DMS. These DMS are integrated into a static sign which has the cruise ship port terminal designation. The Harbor Master at Port Canaveral Police Department is responsible for supplying the District Five RTMC with an updated schedule of ships in port, at which terminals and on which dates so the signs can be updated accordingly. The messages posted about Port activity are previously agreed upon messages and any new message outside of those must be approved by the District Five DTOE. These Port DMS do have the ability to be utilized for incident, special event, or Alert information if needed.

Any other special event signing plan shall be approved by the DTOE or designee.

4.1.3.8 Blank Out Signs

Daytona Event Management Blank Out Signs (BOS) are located surrounding the Daytona International Speedway. The purpose of these signs is to assist in directing motorists during large scale events in the area and/or for redirecting/detouring motorists during major incidents impacting the region. They are not dynamic, meaning they cannot accept custom messages like normal arterial dynamic message signs (ADMS) or DMS. These signs are configured to display a series of stored messages. Each sign has between one and three stored messages available. Control of the BOS is managed through a separate software outside of SunGuide called IBI SEM. Log-in credentials are required for access.

4.1.3.9 Toll Dynamic Message Signs

Toll Dynamic Message Signs (TDMS) are two lane DMS used by Central Florida Expressway Authority (CFX). These DMS are provide guidance to motorists through all toll plazas within CFX jurisdiction. These signs are also used during times when contractors perform maintenance on the toll plazas where they may block a lane. ICM Staff activate predefined messages to provide advance warning for motorists approaching the plaza. During evacuation, these DMS provide information to motorists in reference to suspended tolls due to natural disasters or special events.

4.1.3.10 Toll Amount DMS (TADMS)

TADMSs are the block insert style DMS that shows the toll amount the customer pays to reach the destination listed on the static portion of the TAS. TADMS may be used to notify the user if the express lanes are open without tolling or closed. The TADMS status message includes the following:

- CLOSED
- OPEN

4.1.3.11 Lane Status DMS (LSDMS)

LSDMSs are used to notify the user when an express lane facility is closed as well as tother warning that may be relevant priror to entering the express lane or prior to accessing a direct connect ramp. There also may be situation when the LSDMS is used to notify the user that the express lanes are open.

Event management message for the LSDMS include the following:

- EXPRESS LANE CLOSED
- EXPRESS LNS CLOSED
- EXPRESS LANES CLOSED
- TOLL ENFORCED
- CONGESTED
- EXPRESS LN OPEN
- EXPRESS LNS OPEN
- EXPRESS LANE OPEN

4.1.4 Event Management

Event Management (EM) in SunGuide is one of the fundamental tools used in day-to-day operations in the RTMC. Understanding the Event Management subsystem and its functions is an integral part of performing operations correctly.

4.1.4.1 Event Types

The majority of incidents (planned or unplanned) that the ICM Staff will respond to occur on a fairly regular basis, and because of their frequency, procedures have been put in place to ensure quick, efficient and uniform responses to these incidents. Listed below are each event type that will occur while operating in the District Five RTMC.

Abandoned Vehicle

This event type should be used for any incident that can be described as an abandoned vehicle along one of the District Five RTMC covered roadways. Typically, these are marked (or “red tagged) by Road Rangers and the event status is changed to Unresolved until the vehicle is removed from the roadway. When applicable, a camera preset is saved so that ICM Operators can periodically check the status of the abandoned vehicle. Once the vehicle has been removed from the roadway, the Operator closes the event and deletes the camera preset.

Bridge Up/Closed/Work

This event type is used when/if a bridge is impacted in any way.

Congestion

This event type should be used for any congestion that builds on a covered roadway. If the congestion is caused by an incident, then the congestion should be included in the incident’s event, whatever type it may be. Once

all responders have left the incident scene, and congestion remains, then the Operator clones the event, changes the event type to Congestion and follows the congestion until it clears.

Crash
This event type should be used for any incident that can be described as a crash involving one or more vehicles. Crashes may or may not contain lane blockage.

Debris on Roadway
This event type should be used for any debris that is present on a covered roadway. The debris may or may not contain lane blockage.

Disabled Vehicle
This event type should be used for any incident that can be described as a disabled vehicle along a covered roadway. The disabled vehicle may or may not contain lane blockage.

Emergency Vehicles
This event type should be used for any incident containing emergency vehicles out on the roadway. It can be used to describe unique incidents where more applicable event type information is not available. This event type may or may not contain lane blockage.

FDLE Alert
This event type should be used when the Florida Department of Law Enforcement (FDLE) activates any FDLE Alert. District Five will post the relevant FDLE provided sign template.

Flooding
This event type should be used when water is present on the roadway in such a way that it is causing an issue for traffic. This event type could require lane blockage, publishing to Florida's Automated Traffic Information System (FLATIS) 511, and notification to an Asset Maintenance Contractor.

Interagency Coordination
This event type should be used when an official detour is set up due to a serious crash on a covered roadway. For example, I-75 NB is closed at MM 327 due to a vehicle fire crash involving a fatality. A vehicle fire event is created for the incident. FHP informs the District Five RTMC they will close the roadway for a detour I-75 NB at MM 321. This event type should be selected as Interagency Coordination. This event type can also be used for any other districts or outside agencies requesting assistance from the RTMC.

Off Ramp Backup
This event type should be used when congestion starts on an exit ramp and backs down onto the Interstate. These types of events should stay as Off Ramp Backup until the congestion spreads across all travel lanes and/or backs up for more than a mile.

Other
This event type should be used for incidents that do not fit into any other category. For example: Test event, Plane landing, etc. A description of the event should be saved in the event's comments section.

Pedestrian
This event type should be used when there is a pedestrian walking on a covered roadway. These event types do not get published to FL511.com unless lane blockage occurs.

Police Activity
This event type should be used for incidents involving a criminal aspect. They will typically have multiple law enforcement vehicles on scene and may or may not contain lane blockage.

PSA
This event type should be used for Safety Campaigns. When posting DMS through Predefined Plans for Safety Campaigns an event type of PSA should be selected. The event location should be saved as the RTMC (International Pkwy NB at Wilson Rd). These event types do not get published to FLATIS 511.

Road Work-Emergency
This event type should be used when emergency lane closures are required to repair the roadway. If repairs continue for 24 hours, the emergency road work event shall be changed to scheduled road work.

Road Work-Scheduled
This event type should be used for scheduled road work. See www.CFLRoads.com for a list of ongoing construction projects within FDOT District Five.

Special Event
This event type should be used for events that occur related to public venues. It is likely that this event type will only be used if DMS are being activated through a predefined plan for events throughout the District. These types of DMS usage must be approved by the DTOE.

Traffic Signal Flash
This event type is used for arterial operations when a traffic signal is stuck on flash mode.

Traffic Signal Dark
This event type is used for arterial operations when a traffic signal is out.

Vehicle Fire
This event type should be used for incidents involving vehicles that are on fire.

Visibility
This event type shall only be used when smoke is causing an issue on a covered roadway. This can be from a vehicle fire, prescribed burn, or brush fire, etc.

Weather
This event type shall be used for weather related incidents (rain, fog, hurricane, tornados, etc.). This includes NWS weather alerts.

Wildfire
This event type should be used when a fire occurs in the vegetation near a covered roadway. If smoke reaches the highway, a visibility event shall be created and associated to the wildfire event.

Wildlife

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

Wrong Way Driver

This event type should be used when a wrong way driver occurs on a covered roadway. Wrong Way Drivers will typically be reported by Law Enforcement or through detection software if on applicable roadways.

4.1.4.2 Event List

The Event List window brings together several important tools which help facilitate incident management. The main Event List displays which events are active with lane blockage, active without lane blockage, unconfirmed, unresolved, closed and marked as other. Incidents can be arranged several ways, but the default settings arrange them by event number. Operators may also filter events so that only that Operator's events show in the list.

Located on the navigation bar at the top of the window are a number of features including but not limited to creating a new event, opening an event's details, opening a response plan, finding the event location on the Operator Map, locating the nearest camera, auditing the event and identifying responder status.

4.1.4.3 Event Details

SunGuide Events are the primary records for all incidents that occur along covered roadways in the District 5 RTMC. Any incident that the RTMC is made aware of has an event created for it if available reference points are saved within the SunGuide software. Reference points are continually being added to the District Five instance of SunGuide as operations expands from freeways to arterials and even into local agency TMC's operations.

Each event allows for the input of critical details such as location, lane blockage, responder timestamps, contact information, weather conditions, comments from the Operator, and more. Each event has an Event ID, a unique identifier number with which that event can exist in the system. All events are stored within a database for historical review utilized heavily in post-incident reviews and performance measuring.

Other pertinent details, Road Ranger dispatch, types of injuries, types of vehicles involved in an incident, nearest CCTV, and Primary/Secondary Events should be completed to the degree which information is available. Detailed comments with available information are especially valuable, as they may provide clarification when events are reviewed by Central Office or at TIM Meetings.

4.1.4.4 Predefined Plans

Some incidents or events happen so frequently that response to these incidents or events have become formalized. A variety of predefined plans exist which have certain response elements incorporated into them. Predefined plans can send messages to several dynamic message signs instantly once activated.

Plans can also be created and saved for easy access when events are expected to occur regularly over a period. For a list of useful predefined plans, see the Predefined Plan Manager in SunGuide.

4.1.4.5 Event Chronology Report and Audits

Events consist of critical incident details which FDOT and other agencies may want to review. At any time and for any reason, event transcripts can be pulled and reviewed. Therefore, a high degree of professionalism and detail is vital to the validity of each event. While there is a plethora of useful information contained within the predefined structures of each event (i.e. lane block, responder times, etc.), one of the most useful pieces of information is the comments from the Operator. Detailed comments provide the most useful insight into the event which helps the reviewer understand the event better. A high degree of detailed commentary is essential for major incidents; this helps to communicate strengths and weaknesses of each agency, key issues for redress, and helps to form best practices.

It is also prudent to use good judgment in what is entered into each event. While useful information and a storyline are important, it is best to refrain from frivolous or trivial commentary, or to make rash implications. Comments should be limited to matters of fact, initial and continuous reports from official and reputable sources, or other pertinent information regarding the incident. Plain language should be used so that reviewers can understand the information. Remember, SunGuide reports are documents used to formalize and perpetuate knowledge during official business by a state agency; as such they are subject to FSS 119.

4.1.4.6 Response Plan Generator

Response plans are used in SunGuide to activate the previously mentioned predefined plans, send incident notification emails, publish information to Florida's 511 system and send messages to dynamic message signs. Each SunGuide event has the option of activating a response plan to perform any combination of the actions. When initiated, SunGuide will suggest a response plan containing different items based off saved details within the event. It is the responsibility of the RTMC Operator to verify that the suggested items and contents are correct before approving the response plan for activation.

Once activated, response plans must be updated as event details change. Change in lane blockage, congestion parameters, and the time in which those conditions endure require recurring reactivation of the response plan. Once lane blockage and congestion parameters clear, the response plan should be terminated to remove, or resolve, any currently activated features. For example, if an event was published to 511 it must be removed from the system once the incident has cleared.

4.1.5 Truck Parking Availability System

While the trucking industry requires long haul drivers to rest for specified amounts of time, often the drivers face two main issues on their trips:

- Lack of safe and convenient parking options
- Lack of real-time information regarding parking availability and wayfinding

Florida experiences truck overflow parking at some rest areas while several others remain underutilized indicating lack of parking information management. To combat this problem, the Truck Parking Availability System (TPAS) was developed. Using count devices, CCTV cameras, and DMS used solely for truck parking space availability, District Five provides advanced information to allow for drivers to make informed decisions on whether to stop and rest now or later. Space availability is visible to truck drivers via TPAS DMS located 3-5 miles upstream from the parking lot location.

4.1.5.1 SunGuide's TPAS Subsystem

SunGuide's interface with the TPAS allows for Operators to easily view the posted parking space availability values and verify that information using the associated CCTV videos. It is standard procedure for these TPAS DMS to be quality checked every 4 hours to ensure the information is updated as it should as trucks enter and depart the parking lots. If the space availability needs editing, the RTMC Operator can make that change using the Truck Parking Facility Status window.

4.1.6 Incident Detection

4.1.6.1 Speed Detection

Vehicle Detection Systems (VDS) provide TMCs with real-time information on roadway traffic such as volume, occupancy, and speed. They are an invaluable part of RTMC operations as they are often one of the first sources for alerting of any congestion or roadway events, especially in rural areas. These devices are constantly

measuring important data which is used in a variety of ways to supplement operator capabilities. In one method, data collected from detectors is compared to established thresholds, when those thresholds are exceeded; an alert is generated which the operator must respond to. These are known as TSS Alerts. When thresholds are exceeded, the operator may also notice a change in color on their SunGuide Operator Map; this is another tool to help gauge traffic conditions. In another method, detector data is collected and analyzed by SunGuide, and is then formed into a travel time for a specific link. These travel times are then posted to dynamic message signs. Travel times are updated every minute.

Detectors collect three types of important data:

- Speed – Detectors can measure vehicle speeds by lane. Clicking on a detector icon will open that detectors' TSS Status information panel. Using cameras to determine speed is deceiving, in this regard, Operators should use detector data when attempting to determine speeds.
- Occupancy – This is defined as the percentage of time that vehicles are in the detection zone. Occupancy rates in the 10% to 15% range are good indicators that congestion is building. Close attention is required in these sections to ensure a timely response. Traffic can very quickly change from traveling at the posted speed limit to stop-and-go conditions.
- Volume – This is the number of vehicles traveling in the lane during the last 30 seconds.

District Five has a combination of radar and loop detectors along its freeways. Microwave vehicle detection system (MVDS) are the flat panel boxes seen up on poles along the freeways. These shoot radar down at the travel lanes and are configured to bring that data back into SunGuide. Inductive loops are also used throughout the District and are made up of pieces of wire buried in the asphalt that collect data as vehicles drive over top of them.

4.1.6.2 FHP Alerts

SunGuide receives events from external sources such as Florida Highway Patrol. Alerts help facilitate incident detection in a timely fashion so that ICM Operators may respond to incidents appropriately. These alerts are pulled directly from the FHP Computer Aided Dispatch (CAD) software. SunGuide configuration limits the alerts so that only FHP CAD incidents logged on selected roadways will appear within the SunGuide system. FHP Alerts have valuable information associated with them, such as trooper dispatch and arrival times, dispatcher comments, and incident location. Because FHP Alerts operate off GPS coordinates, creating events directly from these alerts can result in incorrect direction or reference point (usually by 1 or 2 miles). In this respect, it is always recommended that the ICM Operator check for accuracy with events created directly from FHP Alerts.

4.1.6.3 Road Ranger Geofence Alerts

Road Ranger Geofence Alerts are configured in SunGuide as a safety tool to monitor current location of patrolling Road Rangers. Geofences have been configured to trigger an alarm should a Road Ranger's automated vehicle locating (AVL) device travel farther than one mile from the interstate in which that truck is assigned to.

4.1.6.4 Weather Alerts

SunGuide can receive alerts regarding current weather conditions. When these alerts are configured to populate in SunGuide, it is the responsibility of the ICM Operator to verify conditions via camera. In areas where camera coverage is limited or non-existent, alternate resources should be utilized to confirm current conditions. Alternate resources could be law enforcement agencies patrolling the affected area, Road Rangers, AM contractors, etc. If there are no alternate resources, no response shall be taken due to the inability to confirm when the conditions have cleared.

While weather alerts are not currently in use in District Five's instance of SunGuide, the ICM Operators are responsible for monitoring current weather conditions and responding accordingly when visibility or roadway conditions are impacted to the point where safety for motorists and emergency responders are affected.

SunGuide also receives warnings from the NWS such as hurricane, tornado, flood, etc. When these type of alerts are received, Operators shall create events and activate floodgates for the counties affected.

4.1.6.5 WAZE Alerts

Waze is a web-based navigation application that utilizes crowdsourced data to alert motorists of roadway incidents and provide travel time information and alternate routing options. FDOT was one of the first ten partners in the world (a group called the "W10") to enter into a data-sharing agreement with Waze. The day-to-day data-sharing occurs automatically via a portal between SunGuide and Waze, managed through FDOT's Central Office. Central Office, in partnership with the local districts and Waze, determines what level of information sharing occurs on a statewide basis.

District Five RTMC also partners with Waze for management of large-scale events such as the Daytona 500 and space shuttle launches in Brevard County. TIM personnel coordinate with Waze representatives to provide real-time information such as event-specific road closures and available parking.

SunGuide can receive Alerts for Waze incidents. If configured, the Operator Map will display the icons with a visual Waze indicator to allow ICM Operators to clearly see which event icons are for Waze incidents and which are not. Waze incidents are assigned a confidence level as Wazers confirm or deny the continued presence of a reported incident. The confidence level rating is 0-5. Anything with a confidence level of 0-3 are filtered out and not sent to SunGuide. This assures that the Waze Alerts that do populate in SunGuide have a higher likelihood of being present at the reported location. Events associated with SunGuide are sent out to our navigation partners via direct connection feeds.

4.1.6.6 Wrong Way Driver Alerts

Wrong Way Driver (WWD) equipment is deployed at various ramps along the District Five roadway network. This WWD equipment is designed with 2 sets of detection devices located at the bottom of an exit ramp (near the surface street) and at the top (near the expressway). When the first set of devices are triggered an alert is sent to the monitoring software and a set of red flashing WRONG WAY signs are activated on the affected ramp. These alerts are often caused by maintenance personnel, traffic on the ramp, vehicles being detected on the surface street, and vehicles that self-correct. When the second set of devices are triggered another alert is sent to the monitoring software causing an audible alarm to sound alerting the ICM Operator that immediate attention is required. These alerts are typically caused by vehicles that have indeed driven the incorrect direction on the ramp in question and have failed to self-correct their direction of travel after the first set of devices. The triggering of this second threshold of detection devices is what produces the WWD Alert in SunGuide for which the ICM Operator must then manage.

4.1.7 Road Weather Information System

The Road Weather Information System (RWIS) reports on conditions that could impact roadway safety such as air and visibility, pavement, precipitation, temperature, and wind. This subsystem allows for ICM Operators to monitor wind speed and direction, levels of precipitation and whether that is causing things like flooding or ice on the roadway, current temperatures and the dew point, and visibility. Thresholds can be configured for each of these detections categories so that alarms will populate triggering a needed response from ICM Operators.

Monitoring these types of conditions aid in decision-making when considering safety of responders and motorists. For example, when winds reach a certain speed, warnings are put out to responders and in some cases those responders are removed from the roadway until conditions improve. Bridges can also be closed if wind produces unsafe driving conditions at the height of the roadway. By monitoring visibility, fog and smoke can be identified more easily and again warnings can be put out to responders and motorists, and roadways can be closed if conditions merit that type of response.

4.1.8 Reports

SunGuide offers a plethora of report types for all the different subsystems contained within the software. Traffic speed and volume, event chronology, responder times, DMS messages, and performance measures are just a few of the many report templates available. Each report allows for general or more granular searching with selectable filter fields. SunGuide permissions are granted to higher level ICM Operations staff giving them the ability to run reports.

4.1.9 Center to Center

The Center-to-center (C2C) Publisher is an existing SunGuide software component responsible for publishing information to external systems via the C2C infrastructure. C2C Publisher will request and subscribe to information from databus, package it in the C2C XML structure, and publish it to a C2C provider. C2C also provides the ability for ICM Staff to publish floodgates (statewide and local) and banner alerts for any major (level 3) event to www.FL511.com. C2C has other functionalities within SunGuide for subsystems such as CCTV, DMS, RWIS and more.

4.1.10 Florida's 511 Advanced Traveler Information System

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

4.1.10.1 FL511's Website

FL511.com is essentially the Florida 511 System available via an internet browser. This allows motorists to plan ahead before leaving home by checking the website. The focal point of the website is a map which displays all published events as well as estimated travel speeds similar to the speed map on the SunGuide Operator Map. The map is configurable to show only items of which interest the individual user.

FL511.com also allows visitors to see snapshots of camera feeds via a Camera List, an Incidents List and Message Signs List are also available with real time information giving motorists all the tools they need to plan ahead.

For motorists who want a customized report every time they use the service, there is the option to create their own user account. This option allows registered users to access customized routes and alert settings. Users can specify which routes they want to hear information for and set alert preferences such as text message or email alerts. Users can also register their mobile or land-line phone number and hear customized reports while calling from that number.

4.1.10.2 FL511 Application for Mobile Users

Available in both the iTunes and Google Play stores, the Florida 511 app is downloadable to a motorist's smart phone. Again, here they can customize their routes and alert settings making it easier for users to plan ahead.

The Florida 511 app also includes text to speech read outs of incident information to allow for a hands-free usage while traveling.

4.1.10.3 Floodgate/Banner Messages

Floodgate/Banner messages are a feature in SunGuide which help get urgent messages out to motorists through FL511.com and via text subscription. Publishing a floodgate message has broader capabilities, allowing for the dissemination of more and broader information. Floodgate messages are used for several reasons, some of which are detailed below:

- Incidents with all lanes blocked
- Incidents with complete ramp blockage
- Incidents with all lanes blocked, but traffic gets by on the shoulder
- To disseminate detour routes when the roadway is closed
- Amber/Silver/Missing Child/LEO Alerts issued for District Five or Statewide
- Coordinated or Planned Complete Road Closures
- During major events

4.1.10.4 Event Reporting System

When SunGuide lacks reference points to input an event for publishing to the 511 system, an alternative web-based Event Reporting System (ERS) is available for those with appropriate user accounts. The ERS allows ICM Operators, Cities, Counties, or other municipal regions to efficiently manage relevant traveler information, such as incidents, construction, special events and manage the dissemination of information to partner agencies and the 511-public website.

Access is gained via the FL511 website and users can add, edit, or delete events as needed. This system gets used more frequently for arterial roadways when they're impacted due to special events, incidents, natural disasters, etc.

4.1.11 Highway Advisory Radio

The Highway Advisory Radio (HAR) system is used to provide motorists with pertinent and up-to-the-minute travel information through their car radios. Messages are transmitted through low power AM roadside transmitters. Drivers approaching a HAR are advised of its existence by advance warning signs, which tell motorists where to tune their AM radio dial. These signs are equipped with beacons, which can be activated when circumstances require doing so. While FDOT District Five does not have any HAR devices deployed, these are utilized in the region by Florida's Turnpike Enterprise (FTE).

4.2 Maintenance and Inventory Management System

The Maintenance and Inventory Management System (MIMS) Software was developed by IBI Group to provide users the ability to create and manage an extensive inventory and all associated scheduled and unscheduled maintenance activities. It allows for the creation of, tracking, and reporting on all inventory and maintenance activities throughout their lifecycles.

The primary purpose of the MIMS user interface is to allow authorized users to manage Trouble Tickets, Maintenance Services and Tickets, and Inventory. It also allows authorized users to generate a multitude of reports on various aspects of the system. The MIMS interface is a web-based application which facilitates access, maintenance, and upgrades.

4.3 Advanced Traffic Management System

ATMS software allows the centralized monitoring and control of traffic signals within each maintaining agency limits. One of the objectives of the ICM program is to use the available ATMS software to operate and manage the effects of traffic conditions and to identify traffic signal equipment malfunctions. Examples of ATMS software are:

- Maxview
- Tactics
- Centracs

4.4 Central Management Software

Central Management Software (CMS) is used in the management, configuration and reporting of Opticom systems which are used in the preemption of signals for emergency vehicles (high priority) and transit vehicles (low priority).

4.5 Bluetooth Management Software

Bluetooth Management software allows ICM Operators to access real-time traffic information collected by the Bluetooth devices along the ICM corridors. ICM Operators can generate various reports and monitor device functionality. ICM Corridor Managers can receive accurate data and analytics to make sound decision during the implementation process and can generate various reports such as travel time reliability, Origin-Destination analysis, traffic trends, and automobile dwell times. They use this software for before-after evaluations, to see how travel times have changed over time.

4.6 Intersection Movement Count Software

Intersection Movement Count (IMC) software connects to the vehicle detection cameras which are deployed in the field. The software can be used to collect data (turning movement counts for example) and make configuration changes in the field devices.

4.7 Automated Traffic Signal Performance Measures

Automated traffic signal performance measures (ATSPM) is a software which uses the high-resolution data collected by signal controllers to provide signal performance metrics on the historical and real time performance of signalized intersections.

5.0 ICM Operations

5.1 Freeway Operations

Managing traffic and controlling traffic are the key components of overall freeway operations. Event/Incident management is one of the main focuses of ICM Operators. Below are the processes defined from start to finish.

5.1.1 Incident Management Process

Incidents are reported to the District Five RTMC through various ways. Once this information is gathered, the incident management process begins, starting with verification.

5.1.1.1 Verification

Verification of an incident occurs by alternate means. Oftentimes it is via an ICM Operator locating the reported incident on a CCTV camera. Other times it is due to an emergency responder's report of scene arrival. Regardless of the means of verification, once an incident has been verified, the ICM Operator would change the status of their SunGuide event from *Unconfirmed* to *Active*. The time it takes from event creation to changing the status to *Active* equals the Incident Verification Time. If an incident is verified before event creation, then the SunGuide event should be created with a status of *Active*. In this scenario, the incident verification time would equal zero.

5.1.1.2 Notifications

Stakeholder Notifications

The District Five RTMC is responsible for communication and coordinating with multiple different agencies across a few different platforms when managing incidents. Some examples of the different stakeholders in District Five are FDOT District Five Personnel, Asset Maintenance Contractors, Construction Projects, Road Rangers, ITS Maintenance Contractors, etc.

Email Notifications

The District Five RTMC is responsible for sending out email notifications for certain types of incidents. This is to inform different agencies of road closures, ITS issues, maintenance needed, etc. It is proper procedure to email out when an incident occurs, is changed, or has ended.

The RTMC currently uses SunGuide's Response Plan Generator to send traffic incident related notifications and the FDOT email system to send ITS related notifications. The RTMC is equipped with a main email account and each individual ICM Operator is provided their own email account as well. Both email accounts are configured to receive updates regarding several different items (construction updates, Alert information, procedural changes, feedback, etc.).

It is common procedure that all ICM Operators log into their personal email accounts upon the start of their shift. Each Operator should check for any new correspondence related to operations and respond accordingly. Each Operator should also monitor the D5 RTMC Inbox as well periodically checking for new information and to ensure that incident notifications are up to date.

Available Distribution Lists

The District Five RTMC uses specific distribution lists when sending out incident and ITS related emails. All RTMC distribution lists begin with the following heading: *D5-RTMC…* When searching for the appropriate distribution list, that can be used to filter and find a desired email group.

TIM and SYS Emails

When sending a notification email, the RTMC will choose from one of two categories: Traffic Incident Management or System Issues. Respectively, these categories are often referred to as TIM or SYS. One of these two acronyms will be the subject line of all email notifications an ICM Operator sends regarding incident information or system issues. Below is a breakdown of the two different types.

- TIM = Traffic Incident Management = Any time an incident occurs with lane blockage, a TIM email will be sent by the responding ICM Operator via a SunGuide response plan. This email will be sent at the start of the incident, as the incident changes (more or fewer lanes blocked), and as the incident is cleared.
    - For lengthy incidents with no changes, the responding ICM Operator is responsible for sending an update email stating that the incident is still ongoing every 1-1.5 hours.

- SYS = System Issues = Any time there is an issue with SunGuide, the ITS network, RTMC hardware, ITS devices, etc., the ICM Operator is responsible for sending a notification email to the appropriate distribution list explaining the issue. This email should be sent at the start of the issue, when updates are made available, and when the issue has been resolved.

Executive Level Incident Notification

FDOT Central Office developed an executive level notification process for specific types of Mass Casualty and High Impact Incidents. If one of these incidents meets a predetermined set of criteria, an email is generated by the on-duty Shift Supervisor or Lead Operator. An email template exists that requires specific details to be input into data fields along with the inclusion of a screen shot of the incident if available. These Central Office Incident Notification, or COIN as the District Five RTMC refers to them as, emails must be sent within an hour of the start time of the incident meeting the listed criteria. These emails are received by high level FDOT and FHWA personnel so accurate information and timely execution are extremely important. The specific details and procedure for this type of notification are available on the District Five RTMC network drive.

District Level Incident Notification

District Five personnel are notified via email regarding significant incidents as they occur. These notifications are not to be confused with the aforementioned TIM emails. They are intended for a smaller audience to provide situational awareness for District leadership and decision makers. The contents of these emails vary but can include roadway facility and mile marker or cross street, lane blockage, incident details, damage to roadway, and already made notifications. Whatever information that will assist the decision makers in providing a better response should be included.

5.1.1.3 Coordination

Emergency Responders

The District Five RTMC receives calls daily from local law enforcement agencies to assist in a variety of capacities. Often, motorists with a disabled vehicle may call 911 or a non-emergency line and receive a local police department or county sheriff; this is the nature of the bulk of law enforcement calls. Law enforcement agencies also request Road Ranger assistance for maintenance of traffic (MOT) at accident scenes.

The ICM Operator is also responsible for notifying law enforcement agencies and/or fire departments when incidents occur that require a police or emergency responder presence. When members of the TIM Team are present, this communication is funneled through them because of video sharing resources utilized on behalf of the TIM Specialist. However, if members of the TIM Team are not available to assist, the ICM Operator is expected to contact the appropriate law enforcement agency via telephone.

The District Five RTMC will at times receive calls from, or make calls to, a county or municipal fire rescue department. When contacting a fire rescue line, the ICM Operator should be prepared as it will likely be an emergency line. All pertinent information should be written down and ready to disseminate to the dispatcher or call taker. If an ICM Operator is calling because they saw an incident occur, or because a Road Ranger requested assistance from fire rescue, it is necessary to explain that circumstance. ICM Operators seeking information about an incident should NOT call a fire rescue line, instead they should call a county sheriff or municipal police non-emergency line, and in most cases these entities operate joint dispatch centers.

Again, when members of the TIM Team are present, this communication is funneled through them because of video sharing resources utilized on behalf of the TIM Specialist. However, if members of the TIM Team are not available to assist, the ICM Operator is expected to contact the appropriate agency via telephone.

Asset Maintenance

Many incidents will require the notification of asset maintenance (AM) contractors, whether they are required to provide MOT, assist in closing the roadways to detour traffic, or to repair the roadway. It is the responsibility of the District Five RTMC to notify them. When notifying these contractors, extra care should be taken to ensure that the correct contractor is being notified, some roadways have multiple contractors for different segments. It is also necessary to have all information ready to be disseminated to the contractor.

When a roadway needs to be shut down, it is necessary to inform the appropriate AM contractor where the road is to be shut down, and any ramps that may need to be shut down to prohibit access to an incident scene. Failure to communicate such information can prolong incidents and closure times.

AM should be immediately notified for incidents that are likely to last more than 30 minutes and where a Road Ranger is on scene or when roadway damage has occurred. The purpose of this is to relieve the Road Ranger so they can continue to patrol the interstate and assist other motorists.

State and Local Emergency Operations Centers

Traffic incidents are managed by the District Five RTMC much like emergencies are managed by Emergency Management Offices and Operations Centers. When large scale incidents occur, such as wildfires, hurricanes, hazmat incidents, and severe traffic crashes, the Emergency Operations Center (EOC) of that jurisdiction may be activated. EOCs are a focal point where resource coordination and incident/event management occur. Each county and city within District Five have their own EOC.

EOCs activate according to the severity of an incident. When a hurricane strikes, all emergency support functions (ESFs) are activated. ESFs are groups of like categories, such as fire rescue, EMS, public works, FDOT and Lynx. Each department or agency which has a stake in that jurisdiction sends a designee to the EOC during activation. That designee handles all requests for their respective departments and makes requests of other departments, effectively; incident/event management and resource coordination are facilitated here.

The District Five RTMC may not have much contact with EOCs during standard operations. However, during full activations, or partial activations with regards to roadways monitored by the District Five RTMC, communication with the activating EOC may be frequent. The District Five RTMC regularly receives emails in the D5 RTMC email account regarding such events so it is important for the ICM Operators to periodically check the email account for such information.

FDLE Missing Persons

The Florida Department of Law Enforcement issues missing and endangered persons alerts for children (AMBER or Missing Child), the elderly (Silver), suspects who have harmed law enforcement officers (LEO or Blue), and other adults (Purple). The criteria for issuing alerts are listed below:

AMBER Alert	Missing Child Alert	Silver Alert	LEO/Blue Alert	Purple Alert
Is there an abducted child whose life is in danger?	Is there a missing child whose life is in danger?	Is there a missing and endangered elderly person?	Is there a suspect wanted for severely or fatally injuring a law enforcement officer in the line of duty?	Is there a missing and endangered adult with a physical, mental, or emotional disability?
Is there a vehicle involved?				
Is there a complete vehicle description, including a license plate number?				

Table 5: FDLE Alert Criteria

It may be evident after seeing the criteria that a vehicle with a complete description must be involved for the District Five RTMC to activate an Alert. When an Alert is activated, there are several key steps to responding properly. It is key to note that the District Five RTMC is the main hub for all TMCs in the state when it comes to disseminating the Alert information, both activations and cancellations. Once received, the District Five RTMC is responsible for notifying all other TMCs in the state of Florida. In addition to disseminating the information across the state, the District Five RTMC is then responsible for posting DMS messages and potentially a 511 floodgate and banner message if needed.

Other TMCs

There is a total of seven Districts in the state of Florida, each having at least one Regional TMC located within it. Florida's Turnpike Enterprise has two of its own TMCs and a few Districts have more than one location as well. The District Five RTMC regularly communicates with the other TMCs in the state for various reasons: Alert Activations/Cancellations, incidents that occur on/near District boundaries, assistance with Floodgate/Banner posting, etc. The District Five's RTMC also communicates with the county and municipal TMCs and that communication typically revolves around traffic detours, signal timing at exit/entrance ramps, surface road incidents, etc. The different areas within our District have traffic engineering departments that can assist in such matters. They are often referred to as the county or city's names TMC, Public Works Department for the county, and/or the Traffic Engineering Department.

Other TMCs in District Five are:

- Brevard County TMC
- City of Orlando TMC
- Daytona Beach Traffic Engineering
- Marion County TMC
- Ocala TMC
- Orange County TMC
- Osceola County TMC
- Reedy Creek TMC
- Seminole County TMC
- Volusia County Traffic Engineering

Media Outlets

Several local media outlets have direct connections through District Five servers to view camera feeds. This is how they can do traffic reports while showing live camera images. This can sometimes cause news stations to call into the District Five RTMC to ask questions about incidents. Please see Section 2.6.5 should this occur.

Each District in Florida has a Public Information Officer (PIO) that is a correspondent between the Department of Transportation and the media. This individual will often send out incident information and seek updates from the District Five RTMC during major events.

5.1.1.4 Publication

The incident management process includes publication of incident details to the traveling public via FL511 and DMS. Both forms of publication should occur within three-minutes of saving any incident details that would require this action. Contributing factors that would require publication are:

- Lane blockage
- Congestion
- Hazardous conditions
- Alert information
- Public safety announcements

FL511

Informing the traveling public about current traffic conditions is a main objective for the District Five RTMC. During the incident management process, once an incident is confirmed and contributing factors such as mentioned above are saved within the SunGuide event, the information is published to the FL511 system via RPG.

The ICM Operator is responsible for updating that information every time conditions on the roadway change, such as a change in lane blockage, growth or dissipation of congestion, or incident clearance. If the incident scene remains unchanged, the ICM Operator must republish the incident information to FL511 at the thirty-minute mark to ensure updated timestamps are associated with reported incidents. This gives FL511 users a higher confidence that they are receiving the most recent information regarding an incident.

DMS

DMS are the most visible aspect of RTMC capabilities. ICM Operators use SunGuide's RPG to post messages for incidents, Alerts, PSAs, special events, and more. For incidents, the most important factor is providing advance warning to motorists so they can prepare for the roadway conditions they may encounter ahead. As conditions change, the ICM Operators must update their response plan in SunGuide and adjust DMS messaging as needed.

Section 4.1.3 details how far back DMS messages should be posted based off event severity. It also covers DMS message priorities. Because DMS have character limitations, certain abbreviations are approved to shorten message lengths.

Approved Abbreviations			
ALT	ALTERNATE	MI	MILES
AVE	AVENUE	MM	MILE MARKER
BLKD	BLOCKED	NB	NORTHBOUND
BLVD	BOULEVARD	PKWY	PARKWAY

CNTR	CENTER	RD	ROAD
DR	DRIVE	RT	RIGHT
EB	EASTBOUND	RTE	ROUTE
FL TPK	FLORIDA'S TURNPIKE	SB	SOUTHBOUND
HWY	HIGHWAY	SHLDR	SHOULDER
LFT	LEFT	ST	STREET
LN	LANE	TPK	TURNPIKE
LNS	LANES	VEH	VEHICLE
MI	MILE	WB	WESTBOUND
**Those highlighted in yellow should ALWAYS be abbreviated on DMS messages.*			

Table 6: DMS Approved Abbreviations

5.1.1.5 Termination

Once an incident has cleared, the SunGuide event termination process can begin. Scene clearance occurs when all lane blockage has cleared, resulting congestion has either cleared or has been cloned to a secondary event to be managed separately from the primary incident, and all vehicles involved and responders present have vacated the location.

If publication to FL511 or DMS occurred, then those response plan items should be terminated before event closure. SunGuide does have a feature that will automatically remove FL511 and DMS messages activated via a response plan when an event is closed, but best practice is to go through the steps of terminating a response plan prior to closing an event. This will serve as a good reminder to ICM Operators to send final notification emails, if needed, notifying recipients that lane blockage has cleared.

Events where vehicles remain abandoned on the side of the roadway are kept in an *Unresolved* status and remain in the SunGuide Event List to ensure their removal from the roadway. All other events where the incident scene is completely clear are set to a *Closed* status and the termination process is completed.

5.1.1.6 Secondary Traffic Information Resources

Google Traffic

The most popular secondary traffic information source the District Five RTMC references is Google Maps. Google Traffic as it is also commonly referred to is simply the use of Google Maps with the traffic feature enabled. This data is collected from GPS enabled Google Maps from mobile phone users. All the motorists driving send anonymous bits of data back to Google describing average speed along with a location. An ICM Operator can reference Google Traffic for congestion verification and use it as an incident confirmation tool. An ICM Operator can reference the area of a reported incident on the Google Traffic Map and if delays are building in that area, it is reasonable to assume that the reported incident is indeed present.

Google Traffic is highly utilized when attempting to monitor incidents on arterial roadways. It plays a vital role in congestion monitoring and incident verification on these roadways where ITS infrastructure and devices may not be available.

Active Alert

Active Alert is a CAD integration tool that sends alerts to the Operators from partnering agencies. Their application allow users to view and receive alerts on calls being responded to by fire departments and

emergency medical services. Not all first responder agencies in District Five subscribe to the platform, but those that do provide the District Five RTMC with additional incident notifications.

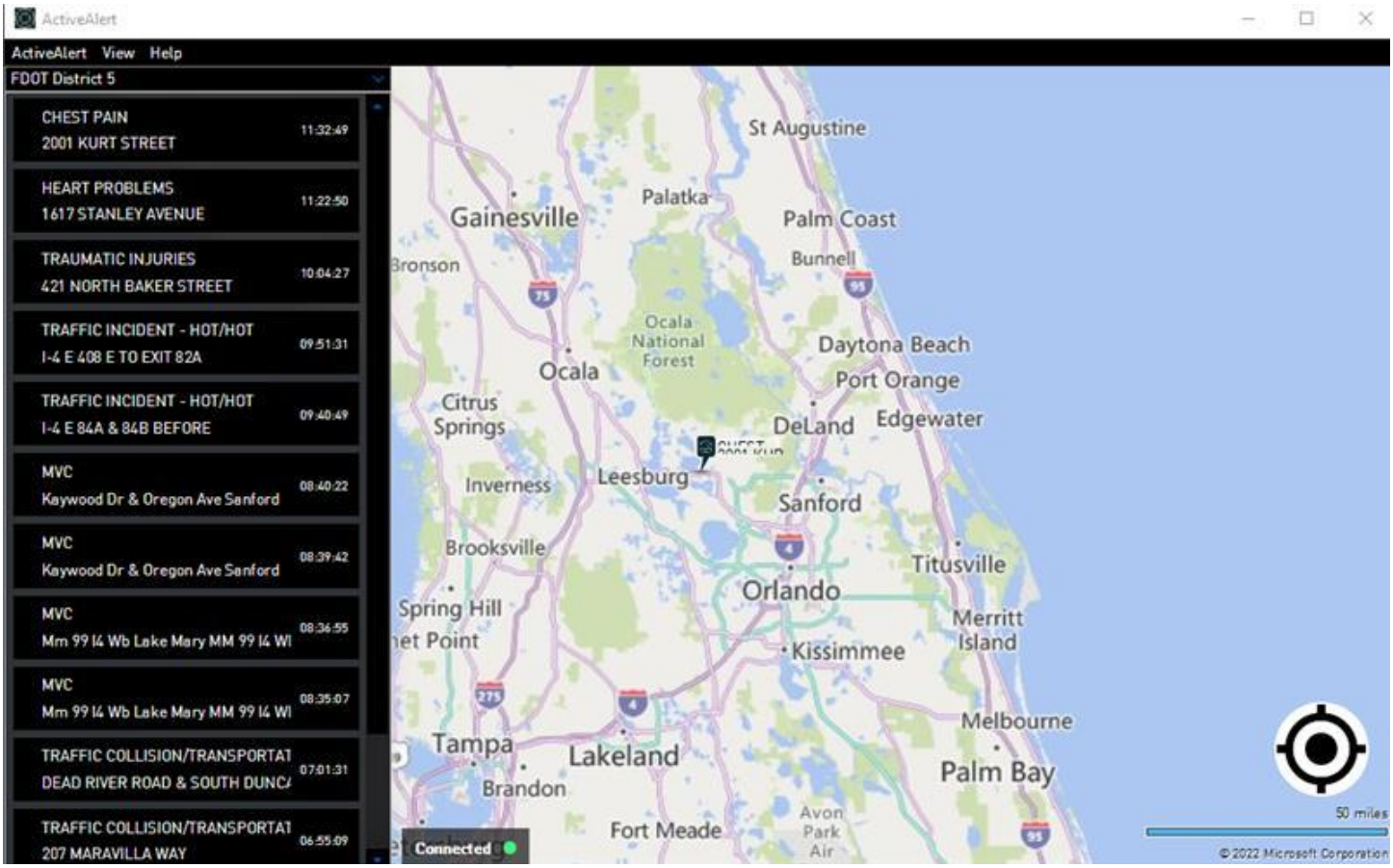


Figure 4: Active Alert Application

PulsePoint

PulsePoint is a public non-profit foundation building application that help public safety agencies inform and engage their citizens. Their website and mobile application allow users to view and receive alerts on calls being responded to by fire departments and emergency medical services. Not all first responder agencies in District Five subscribe to the PulsePoint platform, but those that do provide the District Five RTMC with additional incident notifications. ICM Operators use both the website and mobile application on the Road Ranger Push-to-Talk phones to monitor for reporting incidents on covered roadways.

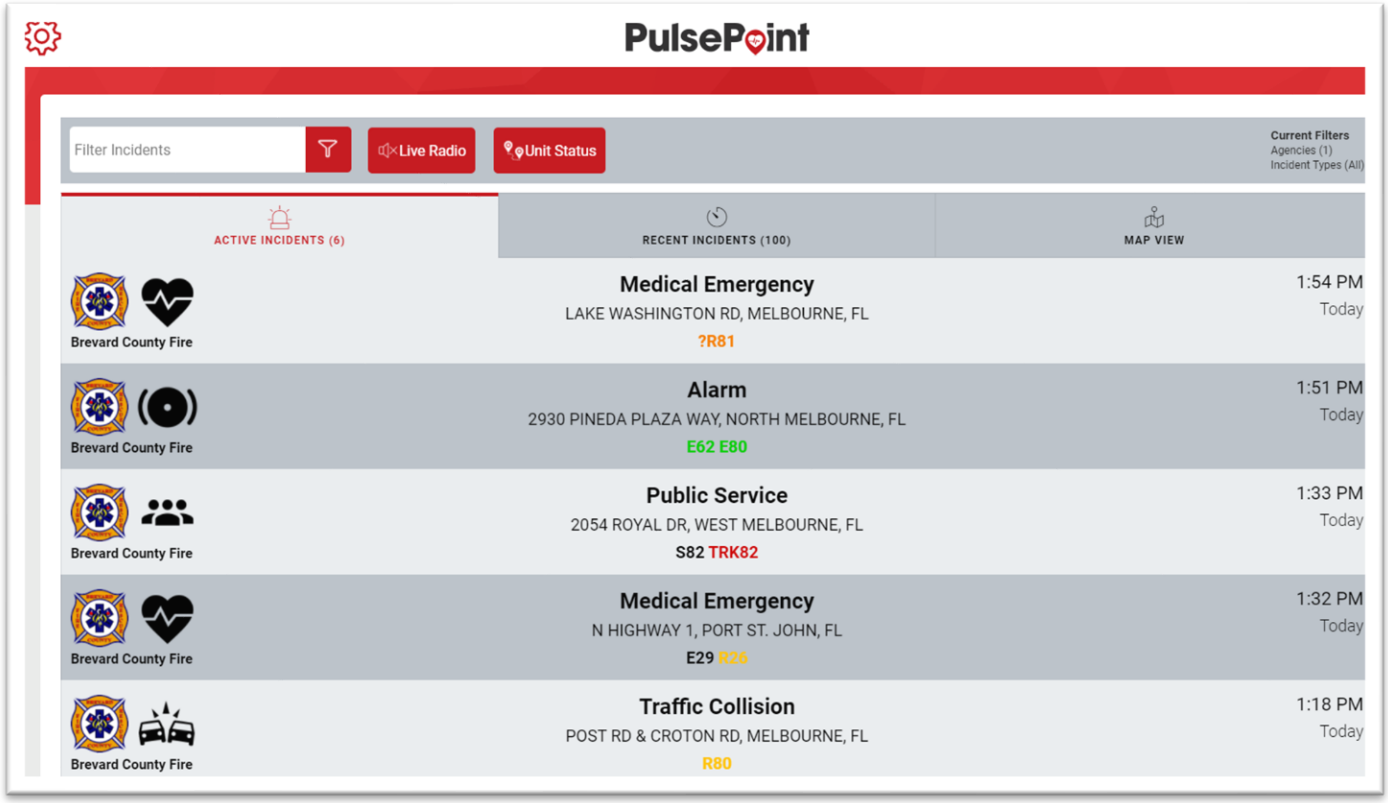
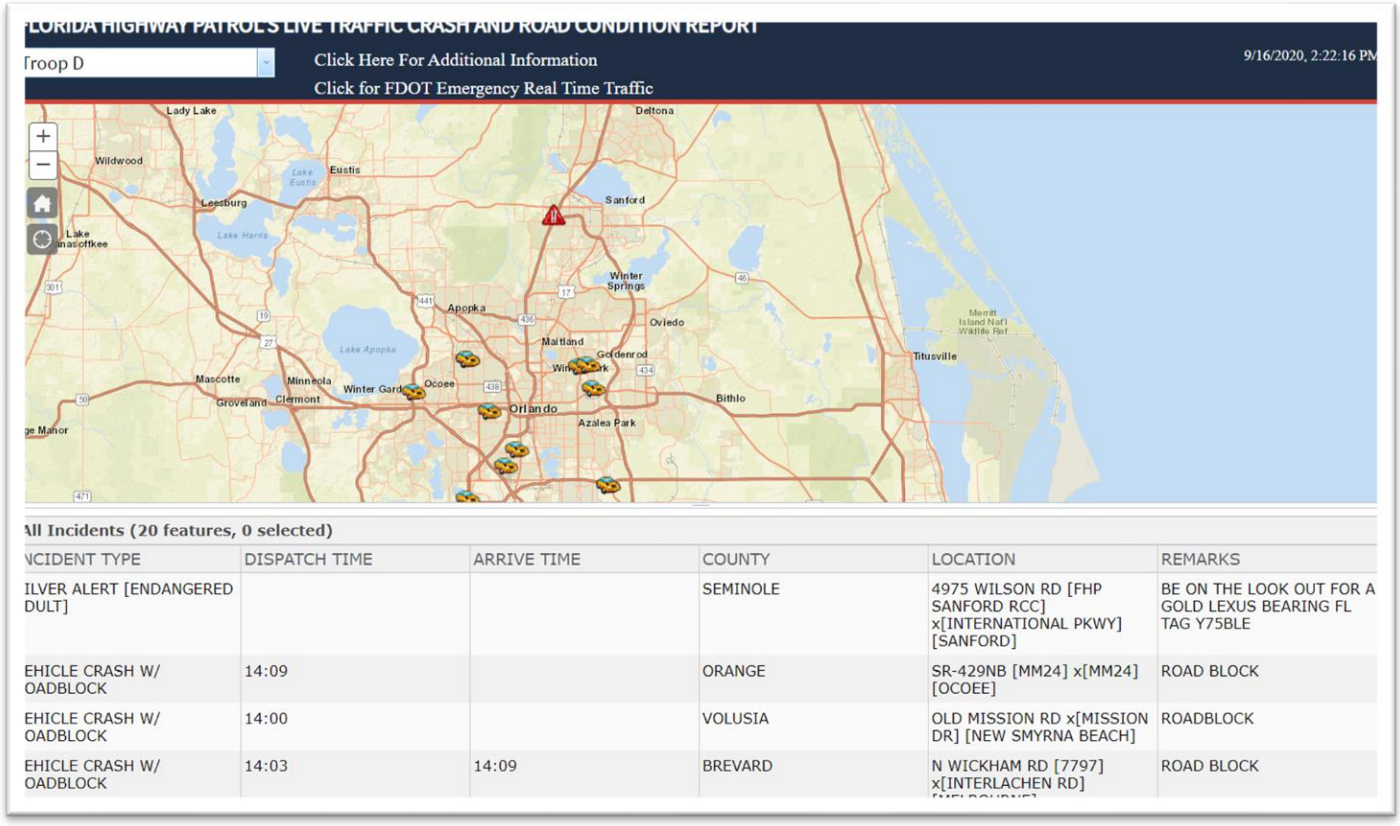


Figure 5: PulsePoint Website

Florida Highway Patrol's Live Traffic Crash and Road Condition Report

FHP has a live traffic crash and road condition website accessible by the public. It contains incident information that is pulled directly from their CAD system. The different FHP Troops can be filtered and incident type, dispatch and arrive time, location, and remarks can be seen via an interactive map or list.



NCIDENT TYPE	DISPATCH TIME	ARRIVE TIME	COUNTY	LOCATION	REMARKS
ILVER ALERT [ENDANGERED DULT]			SEMINOLE	4975 WILSON RD [FHP SANFORD RCC] x[INTERNATIONAL PKWY] [SANFORD]	BE ON THE LOOK OUT FOR A GOLD LEXUS BEARING FL TAG Y75BLE
EHICLE CRASH W/ OADBLOCK	14:09		ORANGE	SR-429NB [MM24] x[MM24] [OCOEE]	ROAD BLOCK
EHICLE CRASH W/ OADBLOCK	14:00		VOLUSIA	OLD MISSION RD x[MISSION DR] [NEW SMYRNA BEACH]	ROADBLOCK
EHICLE CRASH W/ OADBLOCK	14:03	14:09	BREVARD	N WICKHAM RD [7797] x[INTERLACHEN RD]	ROAD BLOCK

Figure 6: FHP CAD Website

WAZE

As mentioned in section 4.1.6.5, WAZE provides reported incident information by motorists utilizing the Waze mobile application during their commute. The Waze website can be used to verify reported incidents and monitor congestion.

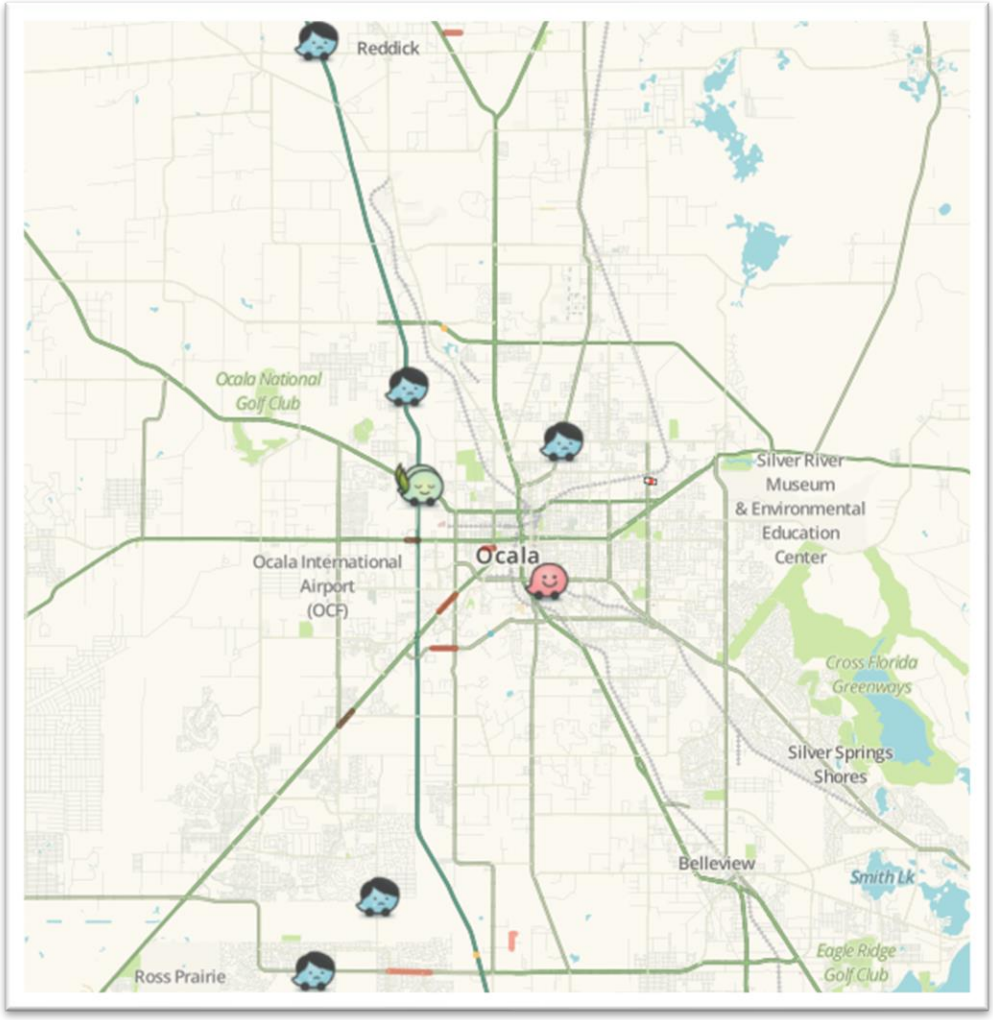


Figure 7: WAZE Website

5.1.2 Road Rangers

The role of the Road Ranger is to continuously ensure roadway safety by helping stranded motorists get back on their way, and by assisting agencies in their MOT when incidents occur. Road Rangers are dispatched by the ICM Operators as incidents are reported. When not dispatched to an incident, Road Rangers patrol predetermined segments of roadway in search of incidents.

Figure 5: FDOT District Five Road Ranger Truck

5.1.2.1 Purpose and Role

Road Rangers are a free service provided to motorists along different portions of roadways within District Five. The purpose of the Road Ranger service is to render aid to stranded motorists on these roadways. Road Rangers can help fix flat tires, make small repairs, dispense limited quantities of fuel, and help motorists who have more disabling vehicle issues to get in contact with wrecker services. Road Rangers can also transport motorists and pedestrians off their covered roadways at their discretion and with the permission of their respective governing agencies.

In addition to motorist aid, many emergency responder agencies request Road Ranger assistance at the scene of a vehicle crash, and often Road Rangers are the first to arrive. By deploying cones and activating special arrow boards on their trucks, a Road Ranger can warn approaching traffic of a hazardous situation. They can also provide initial assessment of injuries and needed responders making it easier for the appropriate agencies to respond to the scene.

5.1.2.2 Coverage

Below is a breakdown of Road Ranger covered roadways within FDOT District Five.

Road Ranger Coverage		
Roadway	**Mile Marker Coverage**	**Organization**
I-4	MM 58-MM 72 & MM 98-MM 132	FDOT
I-4	MM 72-MM 98	FDOT*
I-4 Express	MM 72-MM 98	FDOT*
SR-408	MM 0-MM 24	CFX**
SR-414	MM 4-MM 10	CFX**
SR-417	MM 5-MM 38	CFX**
SR-429	MM 11-MM 39	CFX**
SR-429	MM 39-MM 54	FDOT

SR-451	MM 0-MM 2.5	CFX**
SR-453	MM 0-MM 3	CFX**
SR-528	MM 8-MM 31	CFX**
SR-528	MM 31-MM 54	FDOT
I-95	MM 160-MM 298	FDOT
I-75	MM 306-MM 374	FDOT
Arterial	Selected SRs in Orange County	FDOT

Table 7: FDOT District Five Road Ranger Coverage

*This portion of roadway's Road Rangers are provided by I-4 Mobility Partners.
**The mile marker coverage listed here are the District Five RTMC's responsibility. The Florida's Turnpike Road Rangers patrol the remaining portions of these roadways reporting back to the Turnpike TMC.

The different Road Ranger agencies have different hours of operations and preferred contact methods.

5.1.2.3 Abuse of Service

The Road Ranger Program offers an invaluable service to stranded motorists, but on occasion, abuse of the free service does occur. Each Road Ranger has the right to refuse service to a motorist when the motorist is combative, hostile, or continually requesting assistance for the same issue.

One of the easiest ways to spot a service abuse by a motorist (such as a motorist abusing the fuel assist) is for the ICM Operator to enter the suspected vehicle's license plate number into the vehicle descriptor in a SunGuide event. If that license plate number has been entered before, a hyperlinked number will show under the "match" column. This number indicates the number of events that license plate has been associated with and clicking the link will open a dialogue box which lists the events. The ICM Operator may then click an event and open it to see the pertinent details of a call. If abuse is suspected, notification to the Road Ranger occurs along with the appropriate responding law enforcement agency if needed.

5.1.2.4 Dispatching Tools

ICM Operators can dispatch Road Rangers to events via operations software, radio, and push-to-talk cellular technology. Proper etiquette should be followed when dispatching a Road Ranger regardless of the chosen form of dispatch.

Communications via SunGuide

All Road Rangers have the ability to communicate with ICM Operators via a tablet in their truck connecting them directly with SunGuide. Each Road Ranger truck is equipped with an AVL device providing accurate Global Positioning System (GPS) locations of each truck when logged into SunGuide. Through SunGuide's Event Management subsystem an ICM Operator can create an event and dispatch the appropriate Road Ranger unit based off segment coverage and proximity to the incident. When this is done, the event information appears on said Road Ranger's tablet in his/her truck alerting him/her to a new incident. The Road Ranger is then able to perform different actions from that point on. He/She can set themselves en-route to the incident, they can arrive themselves on scene, they can save activity details and comments, and they can depart themselves when they leave the incident. All these actions can also be performed by the ICM Operator within the same SunGuide event.

Communications via State Law Enforcement Radio System

The Statewide Law Enforcement Radio System (SLERS) is a secured unified radio network which operates on the 800 MHz frequency dedicated for public safety. IT serves over 15,000 radios in the state of Florida including Road Rangers.

Operating a radio on the SLERS constitutes strict guidelines. All District Five ICM personnel undergo the SLERS background check mentioned in Section 2.5.3 because of the use of this radio system. Utilizing this radio system to communicate with the Road Rangers allows for all listeners to the specified radio channel and talk group to be aware of their peers' locations and types of calls. During emergency situations it also can function as a great coordination and communication tool providing quick response for requests of law enforcement or medical assistance.

Operating Rules and Regulations
The Federal Communications Commission (FCC) sets all two-way radio use rules. Two-way radio equipment users should be familiar with the basic rules and requirements:
● Never interrupt a distress or emergency message (FCC Rule Violation)
● Never use profane or obscene language.
● Never send false call letters or distress/emergency messages. (Federal Law Violation)
● All messages must be brief and limited to the business need.
● Never send personal messages, unless in an emergency. (FCC Rule Violation)

Communication Etiquette
● Remain professional and courteous at all times.
● Avoid unrelated subjects or information.
● Keep messages short and concise.
● Refrain from using slang terms.
● Speak clearly.
● NEVER use profanity.
● Ensure channel is clear before transmitting; wait approximately 15 to 30 seconds between each attempt to contact a mobile unit or base station unless circumstances dictate otherwise.
● Use a 1 second pause after pressing the push-to-talk button before speaking.

Table 8: SLERS Radio Guidelines

Communication via Cellular Push-To-Talk Device

The RTMC uses cellular Push-To-Talk devices as another communication tool. The cellular phones are provided by the different Road Ranger contract vendors and should be considered for Road Ranger communication use only. These cellular push-to-talk phones serve to discuss further incident information and details that may not be suitable for the FHP radio channel. Contact information for each agency's units are saved within their respective devices. For effective operations it is important that these devices are always charged and within range of their respective workstations to ensure the ICM Operator can hear the incoming calls.

Clear Speak/Plain Language

Employment at the District Five RTMC exposes one to a system of codes and signals used by law enforcement, Road Rangers, and dispatchers. It is acceptable to speak in codes and signals within the bounds of the RTMC, some codes and signals are almost necessary to know. However, when interacting with other agencies outside

of the RTMC, it is necessary to use what is known as clear speak or plain language. That is speaking without codes or signals in a plain language that anyone can understand.

The reason for using clear speak or plain language when communicating with other agencies is because there is no uniform standard for codes and signals and one code or signal used by the RTMC may mean something completely different to a local police or fire department. Clear speak or plain language is a requirement of the National Incident Management System and the Incident Command System when agencies communicate with each other.

For purposes of clarification, the code and signal system used by the RTMC is the same code and signal system used by FHP and Road Rangers.

5.2 Arterial Operations

5.2.1 Onboarding

The first step in the onboarding process is to meet with the local agency to give an overview of the ICM Program with the intent of collaboration and to support local operations. The overview topics should comprise of items such as reporting, field alarm thresholds, diversion routes, and timing adjustments.

5.2.1.1 Enabling Alarms

The four critical controller alarms that should be enabled to assist in reporting are:

- Vehicle Detector Diagnostics
- Pedestrian Detector Diagnostics
- Flashing Operation
- Uninterruptible Power Supply (UPS)

Further discussion on vehicle and ped detector diagnostics thresholds should occur with each local agency.

Additional alarms enabled through ATMS are coordination failure, manual control, and free switch input.

5.2.1.2 Gathering Intersection Information

Part of the onboarding process is gathering up as much information from the intersection as possible. Information including phasing, geometry, timings, and additional hardware information at the intersection.

5.2.1.3 Creation of Synchro and Tru-Traffic Files

When creating the Synchro and/or Tru-Traffic models, they will be based on the current or existing conditions of AM, Mid-day, and PM peak times. Similarly, the Tru-Traffic files should also follow the same logic when being created.

5.2.2 Diversion Routes

The development of diversion routes is intended to leverage traffic signal timing patterns on arterial roadways to minimize the surface street impacts of traffic being diverted from a partial or full closure along an interstate or limited access roadway.

5.2.2.1 Programming

Consecutive patterns are selected for diversion routes in ATMS when available. Assuming the local agency uses patterns 1-10 for their Time of Day operation, then diversion patterns should be programmed on pattern 11 or higher if the pattern is not being used. The patterns should provide directional and bi-directional diversion timings. Moreover, signals will be placed into flex group(s) or action set(s) to allow for a more effective execution of a diversion route.

5.2.2.2 Implementation

A *Signal Timing Implementation Guide* is developed to standardize and document traffic signal control measures to assist in incident management. This guide should provide a scenario map and diversion route scenario tables. The schematic map(s) will display all available diversion scenarios, while the diversion route scenario tables list signals applicable to diversion scenarios.

Depending on the scenario, activating a diversion signal timing plan can have differing outcomes. One scenario can require a single, isolated signal timing adjustment. While another scenario could activate an entire corridor or even multiple corridor signal timing adjustments. Every incident or event is unique and factors such as time

of day, day of week, and season of year all reflect different traffic volume demands, and the location and expected duration of an incident or event impact the strategies used.

5.2.2.3 Testing and Verification

Once the initial database programming is complete, a field test should be conducted to ensure the diversion route plans are working correctly. Field tests will then run twice per year to verify the status of diversion route timings. All programmed diversion route timings are verified monthly. Additional reporting measures to QC diversion routes and arterial corridors are discussed in Section 7.0 Quality Control.

5.2.3 ICM Operational Scenarios

5.2.3.1 Scenario 1: Normal Conditions

Daily traffic, incidents, and congestion along arterial roadways are constantly being monitored while coordinating with local maintaining agencies. In addition, field visits occur, ICM corridors are reviewed, and review and recommendation reports are prepared to include monthly and quarterly reports.

5.2.3.2 Scenario 2: Anticipated Bottleneck Due to Road Maintenance

When a bottleneck occurs due to road maintenance, efforts should be made to identify if there is a recurring increase in travel time along the corridor. Based off those results, the cause(s) for congestion should be reviewed while providing temporary signal timing adjustments. Monitoring the work zone for other events and coordination with the appropriate maintaining agency should continue throughout the course of the road maintenance activities.

5.2.3.3 Scenario 3: Traffic Demand Change Due to New Development

As soon as there is a traffic demand change, a comparison between the current travel time and historical data to measure any significance should occur. Additionally, a site review should be provided and coordination with the maintaining agency for an evaluation and/or retiming effort should follow.

5.2.3.4 Scenario 4: Major Freeway Incident Diverting Traffic to an Arterial Corridor

When a major freeway incident happens, the first step is to evaluate if a diversion route is needed. If it is determined that a diversion route would aid in the management of the freeway incident, then the diversion route timings should be implemented. This should be done in coordination with the maintaining agency. When appropriate, the return to Time-of-Day operations should occur.

5.2.3.5 Detector Failure

When a detector failure occurs, alarm logs should be reviewed, and traffic should be monitored. A report should then be provided to the maintaining agency detailing the results. Frequency of these reports and formats for reporting should be coordinated with the maintaining agency.

5.2.3.6 Citizen Complaint

When citizens make complaints regarding traffic signal performance, that information is pushed to District Five staff and then forwarded to the appropriate arterial team for investigation. All information from the complaint is logged in a tracking system. Based on the type of complaint, the impacted intersection and/or corridor will be assessed, reviewed, and monitored. If deemed necessary, a field/site review will be issued. Once complete, an evaluation of possible retiming efforts will be drafted along with coordinating any changes with the maintaining agency. After all changes are made, if any, the tracking system will update the status of the complaint to “closed”.

5.2.4 Reporting

Recurring evaluations of local agency networks are performed on a daily, weekly, monthly, and quarterly basis depending on what item is being tracked. Daily Alarms and issue tracking such as detector failures, flashing operation, and coordination failures are all reviewed based on the daily alarm report settings. Detector alarms are also dependent on detector diagnostic settings. Weekly reports are an example of how the District Five RTMC coordinates with local agencies on maintenance related issues. These types of reports include items such as the Opticom TSP/preemption report and weekly critical detection failures report. Corrective action or updates as a result of the provided reports is a responsibility of the local agency. As part of a monthly report, information on device communication uptime, travel time reliability, origin destination, volume, number of incidents, diversion(s) implemented, transit signal priority (TSP), and preemption reports are all included.

6.0 Traffic Incident Management

Effective TIM reduces the duration and impact of incidents and improves the safety of motorists, crash victims, and emergency responders. The development of guiding principles which are applied across multiple disciplines aid in these efforts.

6.1 Incident Response Guiding Principles

6.1.1 Incident Command System and the National Incident Management System

The Federal Emergency Management Agency (FEMA) Institute developed training on the Incident Command System (ICS) and the National Incident Management System (NIMS) in the 1970's during a reign of destructive wildfires in California as a way of keeping large-scale incidents manageable. Although ICS and NIMS were born from large-scale events, they have been refined over the years to become scalable. ICS and NIMS can be used for any response, no matter how large or small.

ICM Operators are responsible for being familiar with the concepts taught in the following FEMA Institute Courses:

- IS-100 Introduction to Incident Command System
- IS-200 ICS for Single Resources and Initial Action Incidents
- IS-700 National Incident Management Systems (NIMS), An Introduction
- IS-800 National Response Framework, An Introduction

These courses provide a high-level overview of incident command and response, which aid ICM Operators in understanding the structure and functionality of multi-agency and/or multi-discipline emergency response.

6.1.2 National Traffic Incident Management Responder Training

This training was developed under the second Strategic Highway Research Program (SHRP2) and is provided by the Federal Highway Administration Office of Operations. This was created by responders for responders and provides a shared understanding of the requirements for safe, quick clearance of traffic incident scenes.

SHRP2 TIM training is offered in person or online and provides unique insight as to how ICM Operators can assist and respond to improve safety and quick scene clearance for traffic incidents.

6.2 Incident Management

6.2.1 Planned vs. Unplanned

Most incidents encountered daily are quite standard. Those types of incidents have predefined procedures to ensure quick, efficient, and uniform response. These incidents can be divided into two categories: planned and unplanned.

Planned Incidents are defined as events that are known in advance and may cause congestion or abnormal traffic patterns on area roadways. Examples of planned incidents include road work, maintenance activities or events such as concerts and sporting events. If DMS messages will be displayed for a planned incident, the ICM Operators will develop a DMS plan, utilizing Department approved messages, to alert motorists of the expected change in roadway conditions.

Unplanned Incidents are defined as non-recurring events on or near the roadway that cause a reduction in roadway capacity or an abnormal increase in demand. Unplanned incidents include disabled vehicles, crashes,

spilled cargo, or emergencies. Unplanned incidents are placed into one of three classifications depending on the severity of the incident: level 1, level 2, or level 3.

- **Level 1:** Impact to the traveled roadway is estimated to be less than **30** minutes with no lane blockage – OR – impact to the traveled roadway is estimated to be less than **30** minutes with minor lane blockage (i.e. shoulder or gore blockage).
- **Level 2:** Impact to the traveled roadway is estimated to be more than **30** minutes but less than **2 hours** with lane blockage, but not a full roadway closure.
- **Level 3:** Impact to the traveled roadway is estimated to be more than **2 hours** – OR – the roadway is fully closed in any single direction. Significant area-wide congestion can be expected.

The severity and expected duration of the incident will be based on an assessment of conditions at the scene.

6.2.2 Incident Response

Responding to incidents is the primary focus of the District Five RTMC. Communicating with the many different agencies that respond to incidents on state roadways within District Five's jurisdiction allows for a coordinated response. Most agencies within District Five respond with the intent of operating under the Open Roads Policy which provides quick clearance for safety and mobility.

6.2.2.1 Open Roads Policy

The Open Roads Policy is an agreement created between the Florida Highway Patrol and FDOT to expedite the removal of vehicles, cargo, and debris from roadways on the state highway system to restore, in and urgent manner, the safe and orderly flow of traffic following a motor vehicle crash or incident on Florida's roadways. As this agreement was established, many other agencies such as local police departments and towing companies signed on to be a part of this statewide public safety effort.

This statewide policy defines FDOT's commitment to a timely response for initial traffic control and encourages responders to work together in only closing the lanes necessary to conduct needed investigations, recovery and/or clean up. The District Five's goal is to have the roadway completely clear and open back to normal traffic flow within sixty minutes of the start of the incident, whereas the statewide goal is ninety minutes.

6.2.2.2 RTMC's Response to Incidents

Most incidents which the RTMC will respond to occur on a common basis, and because of their frequency, procedures have been put in place to ensure quick, efficient, and uniform response. SOPs have been established to define these procedures and are available for further review on the District Five's RTMC network drive.

6.2.2.3 Road Work (Scheduled and Emergency)

Road Work makes up a large part of the District Five RTMC's overnight event activities. As time progresses changes are made to the roadways to meet the needs of the motoring public, maintain the integrity of the roads themselves, and accommodate the changing geographical environment. The RTMC monitors ongoing and upcoming road work projects to provide incident management during the scheduled lane closures. Scheduled lane closures are typically posted to certain websites and email notifications are received via the District Five RTMC email account so preparation of weekly road work documents can be performed.

Unscheduled (or emergency) road work is that which occurs outside of normal road work hours and without pre-scheduled documentation. Reasons that emergency road work could occur are pothole repair, damage to

asphalt from crashes or fires, damage to bridges or retaining walls, etc. These types of road work typically result in coordination with law enforcement and the RTMC so proper TIM response can occur.

6.2.2.4 Rapid Incident Scene Clearance

Rapid Incident Scene Clearance (RISC) is a highly innovative program that supports Florida's Open Roads Policy goal of safely clearing major highway incidents in ninety minutes or less. RISC was first implemented on Florida's Turnpike Enterprise roadways and has since been expanded for statewide usage. This is an incentive-based program that requires specialized equipment and trained operators to quickly remove wreckage from the roadway where major crashes close most lanes or cause significant travel delays.

The RISC program is operationally managed at the District level. The RISC vendor has the responsibility to respond to the incident within sixty minutes of the request for activation with contractually required equipment. Once on scene, the RISC vendor is given authorization, or a Notice to Proceed (NTP), to begin work by the investigating officer or lead official. The vendor will then have ninety minutes to clear all travel lanes and restore normal traffic flow. If the required equipment arrives on scene within sixty minutes and the RISC vendor clears the travel lanes within ninety minutes, they are eligible for a performance bonus. If the travel lanes are not opened within ninety minutes, but before one-hundred and eighty minutes, the vendor receives no bonus. If the travel lanes are not opened within one-hundred and eighty minutes, the RISC vendor may be fined at a rate of $10/minute (or$600/hour) until the travel lanes are cleared.

Many times, during major commercial vehicle crashes, trailers loaded with cargo are damaged and spill their loads onto the highway or adjacent areas. The RISC contract requires the vendor to have an extensive list of equipment on hand or available twenty-four hours a day, seven days a week to respond to these major incidents. The RISC vendor can receive an additional incentive payment for the staging and/or use of this extra equipment in the incident clearance process.

6.2.2.4.1 RISC Criteria

Incident criteria for a potential RISC activation are as follows:

- Tractor-trailer combinations
- Trucks over sixteen-thousand pounds
- Motor homes and motor coaches
- Busses capable of carrying sixteen or more passengers
- Aircraft
- Large yacht-type boats

In addition, any complex or extended incident where vehicles cannot be easily towed from the scene, or are creating a hazard to traffic, may be considered for a RISC activation.

6.2.2.4.2 RISC Time Parameters

- Sixty minutes for RISC vendor to arrive on scene with two specified recovery units and recovery support vehicle
- Ninety minutes for RISC vendor to clear white line to white line once NTP is given
- One-hundred eighty minutes for RISC vendor to incur fees if all travel lanes are not cleared and normal traffic restored after NTP is given

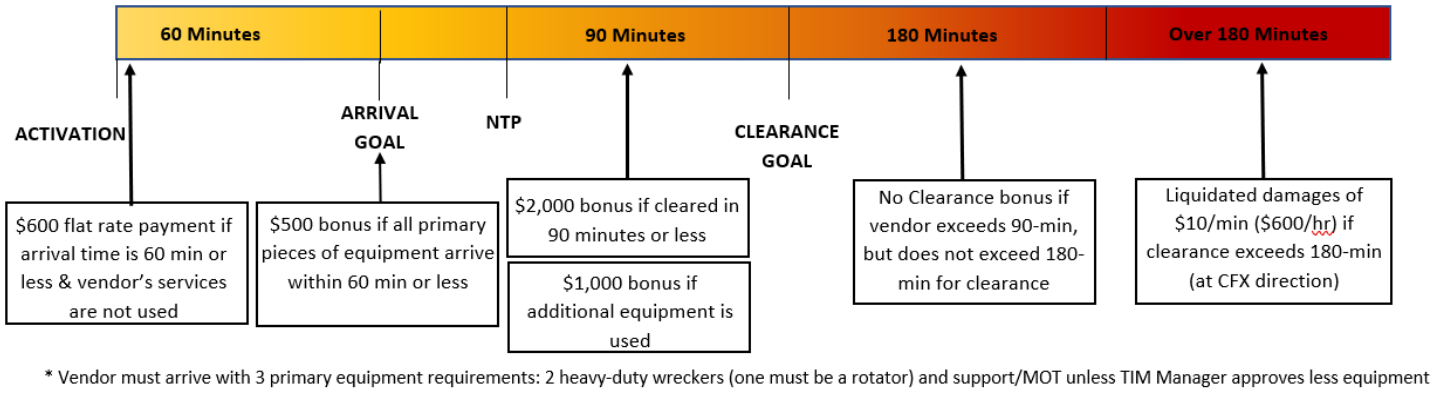


Figure 6: RISC Timeline

6.2.2.4.3 RISC Rotation

RISC vendors are assigned to zones or areas. For areas with two or more assigned vendors, a rotation list is utilized. Once a RISC vendor is used, or they decline an activation, they are rotated to the bottom of the list. This rotation list is currently in the form of a spreadsheet, which can be found on the District Five RTMC's network drive. At the decression of the TIM Program Manager or their designee, the closest tow vender can be used during peak travel times, special events, or states of emergency.

6.2.2.4.4 RISC Incident Log

The ICM Operator is to keep a timeline of the RISC event. A RISC incident log form should be completed for each activation and the following information is required documentation of eligibility for incentive payment:

- Request for RISC activation time
- Requesting agency and name of individual
- Activation time
- RISC vendor contact time along with acceptance or declination and name of individual
- Estimated time of arrival (ETA)
- Arrival times for RISC equipment
- Notice to proceed
- Start/Stop times of RISC clock
- RISC clearance time
- Note time all lanes were cleared (this could be different from RISC clearance time)
- RISC vendor clearance time
- This information should be included in the SunGuide event, as well.

6.2.2.4.5 RISC Cancellation

If law enforcement requests a RISC cancellation, the RTMC should advise the agency that the RISC vendor will be responding to the scene for arrival time tracking and will be released if not needed upon arrival. Arrival times should be tracked on the RISC incident log form and within the SunGuide event along with the reason for cancellation.

6.2.3 Special Events

Special events, as defined for RTMC operational purposes, are expected to bring large volumes of vehicular traffic to an area within the District and/or have significant impact on area roadways. These events often require

additional coordination, internally and without outside partner agencies, to determine appropriate traffic management plans. Topics such as maintenance of traffic (MOT) plans, additional road rangers, arterial signal timing for traffic management, event communications, and incident response plans are generally discussed and finalized during pre-event meetings. Following large-scale events, a debriefing is usually conducted to highlight successes and determine areas for potential improvement prior to the next event.

6.2.3.1 Daytona Races

Daytona Speedway hosts several large-scale events throughout the year, with two major NASCAR events (one in February, and one in August), which brings tens of thousands of visitors to the area. With large influxes of traffic along I-95, I-4, and local arterials around the Speedway, a higher level of coordination with local partners is required.

Before and after major Speedway events, RTMC/TIM personnel monitor traffic and coordinate with pre-staged Road Rangers, FHP, local law enforcement, Speedway personnel, and Volusia County/Daytona Beach traffic engineering personnel to facilitate safe, efficient ingress and egress for event attendees.

6.2.3.2 Space Coast

Brevard County's Space Coast is home to Kennedy Space Center, Cape Canaveral Space Force Station, and Port Canaveral.

Port Canaveral is the world's second busiest cruise port in multi-day sailings and expected to continue growing. On days of departure/arrival, District Five experiences a significant increase in vehicular traffic, especially along SR-528, which is managed via the RTMC including customized messages on overhead DMS to help guide motorists to the appropriate port terminal.

Kennedy Space Center and Cape Canaveral are homes to a significant space force for both the public and private sector. Space launches bring crowds of varying sizes to the Space Coast for those wanting to observe a launch up close. Thousands of people converge along roadways within a thirty-five mile stretch of Brevard County, often parking alongside state roads. Departure from these events typically generates significant congestion along roadways in Brevard County, and even adjacent counties. The District Five RTMC works with the responders and transportation professionals from throughout the Space Coast region to facilitate safe and efficient egress through well-coordinated event management and ICM operations.

6.2.3.3 VIP Visits

Central Florida is a regular destination for visiting dignitaries including the President and Vice President of the United States, as well as Presidential and Vice-Presidential candidates during election years. Dignitary escorts are highly coordinated security details that often include freeway closures or rolling roadblocks. The District Five RTMC works with FHP and other emergency responders to monitor roadways and provide appropriate notification to impacted motorists to provide safe and secure transport of these high-profile individuals.

6.2.3.4 Large-Scale Sporting Events

Orlando is host to several high-profile sporting events such as the NFL Pro Bowl, Wrestlemania, NCAA football bowl games, NCAA basketball playoffs, and the World Cup. These events generate significant increases in freeway and arterial traffic across the Central Florida region. The District Five RTMC utilizes event management and ICM operations to facilitate safe and efficient travel for event attendees.

6.2.3.5 Large Public Gatherings

Beyond the aforementioned events, there are a number of other occasions in which large crowds visit the Central Florida area. Each year, thousands of visitors attend music festivals in Daytona and Kissimmee and Fourth of July celebrations in Altamonte Springs. Regardless of the event, the District Five RTMC plays an integral role in coordinating with local partners to facilitate safe and efficient traffic flow in impacted areas.

6.2.4 District Five TIM Program

6.2.4.1 Incident Clearance

In compliance with Florida's Open Roads Policy, District Five is dedicated to the safe, quick clearance of all roadway incidents. This is facilitated through collaboration, coordination, and communication with the Department's TIM assets (Road Rangers, RISC, and Asset Management), as well as emergency response partners from throughout the District.

6.2.4.2 TIM Teams

District 5 has four TIM teams, which are intended to provide a unified, regional approach to Traffic Incident Management, while recognizing the differing characteristics and unique needs of each geographical area represented. The teams are:

- I-4/Metro Orlando (Lake, Orange, Osceola, and Seminole Counties)
- I-75 Area (Lake, Sumter, and Marion Counties)
- I-95 North (Flagler and Volusia Counties
- I-95 South (Brevard County)

The District's TIM Program Manager serves as the facilitator of quarterly TIM meetings for each team. Emergency response partners and transportation professionals, from the respective geographical area, meet to network and discuss a variety of topics intended to foster a collaborative environment in Traffic Incident Management. Topics for these meetings include:

- After Action Reviews (AAR) of recent incidents – lessons learned and improvement plans
- Emergency responder safety issues
- TIM training
- Best practices
- New technologies in TIM
- Roadway safety concerns
- Construction and maintenance projects that may impact incident response

Information about District 5's TIM program and meetings can be found at www.CFLTIM.com.

6.3 TIM Tools

A key component of effective TIM is communications. District Five TIM relies on several incoming and outgoing communications tools in interactions with our outside partners. TIM personnel share incident information/updates and coordinate response with outside emergency response partners via landline telephone, cell phones, email, Microsoft Teams, and third-party interoperability systems such as Mutualink.

7.0 Quality Control

7.1 At the Workstation

Providing effective QC of operations is extremely important to ensure that accurate information is provided to the traveling public. To that end, each ICM Operator is responsible for completing recurring checks of devices and incidents associated with their assigned workstation on each shift. These checks allow for identifying issues with the ITS network, software performance and ongoing management of current incidents. It is understood that the ability to complete all checks will greatly depend on workload versus available staffing. During times of high-volume workload, the on-duty senior ICM Operators will be responsible for prioritizing the steps in these checks and performing the quality control check for the ICM Operators. Items monitored during routine QC are visual checks of all displayed DMS messages, visual checks of SunGuide devices on the Operator Map, checks of the SunGuide Event List for active events and monitoring www.FL511.com.

7.2 MIMS

The Maintenance and Inventory Management System is used by FDOT, the District Five RTMC, and their ITS maintenance contractors to track all ITS device related issues. As part of this process, the ICM Operators complete recurring systemwide checks of all ITS devices creating and updating trouble tickets as needed for issues found. MIMS is also used to report network outages throughout District 5's ITS network. As the ITS maintenance contractors respond to trouble tickets and correct issues, they will contact the District Five RTMC to verify that the affected devices are now operational. If they are, the ICM Operator is responsible for marking the asset operational and placing a comment into the MIMS ticket stating the issue has been resolved.

7.3 Performance Measures

Performance measures are a useful tool in determining value of the efforts put forth by the TMC. They can evaluate the effectiveness in which the District Five RTMC is being managed and quantify the benefits of the RTMC to the traveling public. Daily, weekly, monthly, quarterly, and annual reports are generated to show these performance measures.

7.3.1 Roadway Performance

The District Five RTMC quarterly report evaluates the TSM&O strategic plan guidelines. The three main categories the report focuses on are mobility, safety, and infrastructure. Target goals are established based on twelve-month averages and performance against those goals are monitored.

7.3.2 Mobility

The mobility section focuses on the travel time index (TTI), planning time index (PTI) and traffic volumes. TTI is the ratio of the travel time at peak periods to the time required to complete the same trip at free-flow speeds. PTI represents the total travel time that should be planned when an adequate buffer time is included. The buffer time is calculated as the difference between the 95th percentile travel time and the average travel time. Volume represents the hourly traffic count. TTI, PTI and volume are examined for both morning and afternoon peak periods for all segments of freeways and expressways along with key arterial routes where data is available. The data for these metrics are sourced from SunGuide the different local agency traffic engineering software platforms.

7.3.3 Safety

Safety is emphasized by the Department's strategy and principles of the Strategic Highway Safety Plan which includes collaboration for roadway safety, safer behaviors, safer vehicles, and safer roadways. The key metrics

evaluated are number of roadway fatalities, total secondary crashes, roadway clearance time, Open Roads Policy, Road Ranger response times, and RISC clearance times. Other data reported on in this field are total number of incidents managed, number of executive level notification events, number of RISC events, and number of implemented diversion routes. The data for these metrics are sourced from SunGuide.

7.3.4 Infrastructure

Part of the District Five RTMC's responsibility is to monitor the performance of the ITS network. Device uptime, network uptime and systems uptime are evaluated for efficiency under this section. The data for these metrics are sourced from MIMS, SolarWinds, Activu, SunGuide and InService.

7.3.5 Operations Performance

The District Five RTMC Staff performance measures are set forth in the statewide Transportation Management Center Standard Operating Guidelines developed and maintained by FDOT Central Office (CO). Some of the fields to evaluate are:

- Operator Data Entry Error Rate
- Event Confirmation Time
- Time to Post to DMS
- DMS Efficiency Rate
- Road Ranger Dispatch Time
- Third-Party Agency Notification

In addition to the above fields, the following are monitored for accuracy:

- Alert Resolution Time
    - TSS Alarms
    - FHP Alerts
- FLATIS Event Publishing Efficiency Rate
- Event Management Metrics
    - Weather Conditions Updated Properly
    - Nearest CCTV Saved
    - Asset Damage Checkbox Marked
    - Asset Maintenance Contact Name Recorded
    - Incident Description Comments Recorded

Performance is tracked and compared to targets. The above data used to compile these performance measures are sourced from SunGuide and the Operations Task Manager.

7.4 Radio/Push-To-Talk Communications

Timely, accurate, professional, and reliable communications are essential to Road Ranger dispatch. District Five uses various mechanisms to evaluate the effectiveness of Radio/Push-To-Talk (PTT) communications between RTMC Operators and Road Rangers. Some of these are listed below:

- Real-time monitoring
- Response time monitoring
- Playback recordings
- System health monitoring

- Automated alerting for system or communication failures

Emergency Alert Protocol (EAP)

Any person on any two-way system can request "emergency traffic" when immediate danger to personnel is present. When emergency radio traffic is received, the RTMC operator shall devote maximum attention to that user until the emergency radio traffic is cleared. All communications, administrative or convenience transmissions and other transmissions of a lesser priority – not related to the situation, will cease.

When a unit calls with emergency traffic, the immediate response from ICM personnel will be to instruct the reporting unit to "go ahead with the emergency traffic" to ensure the unit they are being heard. ICM personnel responsible for the specific talk group involved will make other ICM staff and supervisors in the vicinity, aware of the situation to better facilitate the assistance of the emergency alert.

When advised of emergency traffic, ICM personnel shall:

1. Provide required notifications
    a) Request emergency response agencies (i.e., fire, rescue, etc.) as needed.
    b) Notify the Traffic Incident Specialist and the RTMC operator supervisor.
2. Document all transmissions and notifications via a SunGuide event, either in the relevant active event or by creating a new if there is not already an active event for the incident.
3. Check condition of the unit as frequently as possible without placing the member in further jeopardy.
4. Provide any additional assistance as needed.
4. The emergency traffic will be cleared or reduced in urgency as soon as the immediate danger to personnel has passed, or at the discretion or the direction of a TIM Specialist.

RTMC Operators, when advised of an emergency button activation shall:

1. Attempt to contact the unit and request the user's location and reason for emergency.
2. If the unit does not respond after 30 seconds, attempt to contact the user again. If no response is received the RTMC should assume the unit is in distress until advised otherwise, and request response from the appropriate emergency response agency.
    a. The RTMC shall advise FHP or the respective law enforcement agency that an emergency button was activated, the current GPS location of the unit, and any other pertinent information.
    b. The RTMC operator should continue to attempt to contact the unit even after law enforcement has been dispatched. If contact is made to the user, FHP or the respective law enforcement agency should be updated.
    c. Request emergency response agencies (i.e., fire, rescue, etc.) and additional road rangers as needed.
    d. Document all transmissions and notifications within a SunGuide event.
    e. The RTMC operator shall make every attempt to verify the unit's condition via CCTV on both accidental and active emergency button activations.
    f. Check condition from the unit as frequently as possible without placing the unit in further jeopardy and provide additional assistance as needed.

7.5 Inventory

FDOT requires tracking of all department assets including computers, Road Ranger laptops, and SLERS radios. At least once a year, the Department will conduct an inventory of these assets. All items to be inventoried have a white label with a barcode, a serial number, and a unique identifying code beginning with “HW” and followed by a 6-digit number. At no time should assets be removed from the RTMC without authorization from FDOT. District Five utilizes the TRS (TIM Reporting System) to track the location and responsible party for all TIM assets assigned to field units, such as Road Ranger laptops and SLERS radios. Anytime an asset changes location or assignment, TRS should be updated.