**Highway Attachment -ADOT Traffic Operation Center**

**Guidelines and Procedures Excerpts**

**Phoenix, Arizona**

**HWY21MH008**

(53 pages)

# Traffic Operations Center Guidelines and Procedures

***November 1st, 2019***

*This procedures and guidelines manual is a living document. It is subject to revisions and updates as necessary and will be reviewed on a yearly basis. Any revisions or updates will be documented and signed off by the by the Assistant Director over TSM&O, the Deputy State Engineer over TSM&O, or the Traffic Management Manager. Questions regarding this document should be directed to the Control Room Supervisor. The current version of the Traffic Operations Manual has been approved by:*

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*Signature and date of approval:* [redacted]

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# Table of Acronyms

| ACRONYM | MEANING |
|---|---|
| ADEQ | Arizona Department of Environmental Quality |
| ADOA | Arizona Department of Administration |
| ALERT | Arizona Local Emergency Response Team |
| AMBER | America's Missing: Broadcast Emergency Response |
| AZTech | Arizona regional traffic management partnership |
| CAD | Computer Assisted Dispatch |
| Cam-Cam | Camera Cameleon/Cameleon Client Software |
| CCTV | Closed Circuit Television |
| D-Cam | Dynamic Message Sign Cameleon/Cameleon Client Software |
| DMS | Dynamic Message Sign |
| DPS | Department of Public Safety |
| DR# | Damage Report Number |
| DTT | Dynamic Travel Time |
| EIT | Engineer in Training |
| EOC | Emergency Operations Center |
| ERS | Event Reporting System |
| FHWA | Federal Highway Administration |
| GUI | Graphical User Interface |
| HAZMAT | Hazardous Materials |
| ICM | Integrated Corridor Management |
| ID | Identification |
| IM | Incident Management |
| ITD | Intermodal Transportation Division (of ADOT) |
| ITG | Information Technology Group (of ADOT) |

| ACRONYM | MEANING |
|---|---|
| ITIS | International Traveler Information Systems |
| ITS | Intelligent Transportation Systems |
| IVR | Interactive Voice Response |
| MAG | Maricopa Association of Governments |
| MCDOT | Maricopa County Department of Transportation |
| MCSO | Maricopa County Sheriff's Office |
| MP | Mile Post |
| NAP | Notification Assistance Program |
| NNI | Notice of Necessity to Improve |
| Org | Organization (ADOT) |
| PeCoS | **PE**rformance **CO**ntrolled **S**ystem |
| PIO | Public Information Officer |
| PTZ | Pan, tilt, zoom |
| REACT | Regional Emergency Action Coordinating Team (Maricopa County) |
| ROW | Right of way |
| RWIS | Road Weather Information System |
| SAT | System Acceptance Test |
| Sit-Rep | Situation Report |
| SR | State Route |
| TMC | Traffic Management Center |
| TOC | Traffic Operations Center |
| US | United States |
| VM | Virtual machine |
| IRU | Incident Response Unit |

# Mission, Vision, Goals, and Strategies

## Arizona Department of Transportation

The Arizona Department of Transportation (ADOT) is a multi-modal transportation agency serving one of the fastest growing areas of the country. ADOT is responsible for planning, building and operating a complex highway system.

**Our Mission**
To provide a safe, efficient, cost-effective transportation system.

**Our Vision**
The standard of excellence for transportation systems and services.

**Our Goals**

- Maximize available resources to provide essential services to ADOT's Customers.
- Identify and explain the need for new, sustainable funding opportunities dedicated to multimodal transportation projects.

**Our Strategies**

- Prioritize and focus on the products and services most critical to serving the public, collecting revenue, and maintaining the transportation infrastructure.
- Align the organization structure to optimize effectiveness and reduce costs.
- Increase efficiency of service delivery processes and systems.
- Refine ADOT's performance measures.
- Research, evaluate, and explain alternative funding sources to help finance and maintain a multimodal transportation system.

**Our Values**

- Accountability: We take responsibility for our actions.
- Integrity: We hold ourselves to the highest ethical and professional standards.
- Respect: We treat everyone with respect and dignity.

## Traffic Operations Center

The Traffic Operations Center (TOC) monitors traffic flow for more than 6,000 miles of roads across the entire state highway system. With nine traffic operators working 24 hours a day, seven days a week, ADOT TOC is now among the country's fastest, most efficient traffic operations centers.

Through the use of cameras and Dynamic Message Signs (DMS), along with collaboration from the Department of Public Safety (DPS) and other local law enforcement agencies, traffic operators monitor and update the Event Reporting System (ERS)/511 system with any potential incidents that may impact traffic to aid in providing a safe, efficient, cost-effective transportation system.

**Traffic Operations Center Mission**
To be the central point of traffic information for internal and external customers, including various law enforcement agencies and the motoring public; to reduce congestion and secondary incidents through traffic management.

**Traffic Operations Center Vision**
To be a leader in traffic and incident management nationwide, setting standards for traffic and incident monitoring, communications and management.

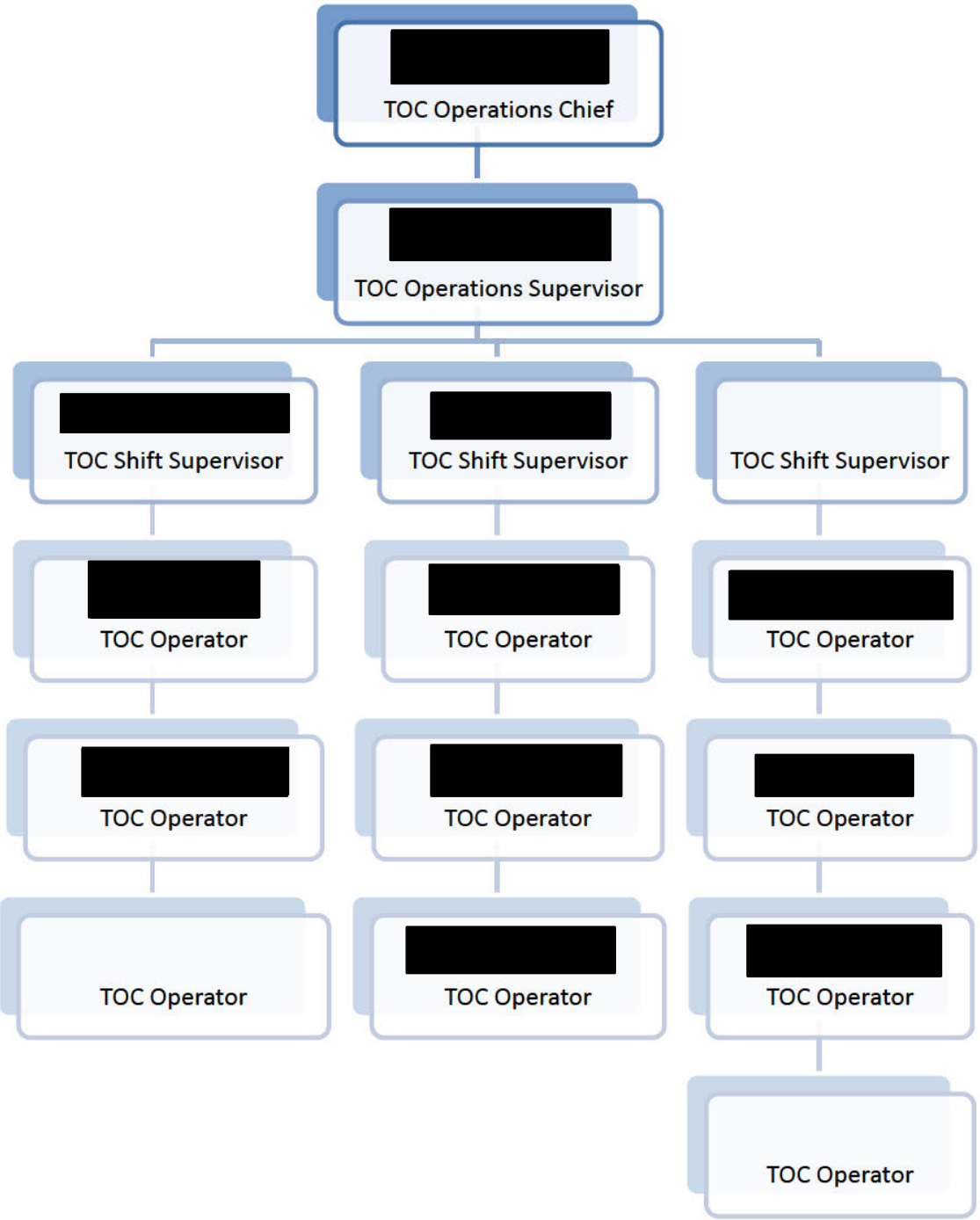
**Traffic Operations Center Goals**

- Quickly and accurately distribute information to ADOT personnel, law enforcement and the motoring public.
- Initiate and document ADOT response to unplanned incidents.
- Reduce and manage motorist travel times.
- Mitigate secondary incidents through active traffic management.

**Our Strategies**

- Utilize ADOT Intelligent Transportation Systems (ITS) to inform the public of obstructions, closures, and congestion.
- Effectively communicate with ADOT Communications and other organizations, DPS and various other law enforcement agencies.
- Actively manage traffic congestion and provide alternate routes when available.

# Traffic Operations Organizational Chart



# Traffic Operations Center Control Room

## Control Room Staff

**Control Room Operator -** Operators are responsible for simultaneously operating a multi-channel radio console, computer terminal, and multi-line telephone while also maintaining incident reports and records. They are responsible for receiving, coordinating and disseminating critical information from various sources, including AMBER (America's Missing: Broadcast Emergency Response) Alert notification to the public; creating messages to display on dynamic message signs (DMS); dispatching IRU (Incident Response Unit) members; documenting agency response and entering data into the Motorola Flex CAD system and ERS (Event Reporting System) regarding incidents, planned construction, and rush hour information, which is in turn announced on the 511 telephone for the public. Operators also actively manage traffic flow within the instrumented freeway system via a sophisticated computer-based system, including remotely controlled closed-circuit television cameras and dynamic message signs from a workstation.

**Control Room Shift Supervisor -** Shift supervisors are responsible for the efficient operation of the control room, including serving as a TOC operator when needed. Shift supervisors are tasked with providing and maintaining the quality assurance and control for their shift. They have responsibility for the selection and placement of messages on DMS boards during an active incident, are expected to provide answers to incident-related questions, and to make decisions for shift coverage. Shift supervisors provide input to modification of the Control Room Operations Manual and Training Manual. They also make decisions related to mediation between field personnel, TOC operators and/or other local agencies such as DPS, fire, and city and county enforcement departments.

**Operations Supervisor -** The control room supervisor is responsible for daily activities and efficient operation of the TOC control room. The Operations Supervisor has the authority to make daily operational decisions, hire and terminate TOC operators and shift supervisors, provide administrative and technical expertise to TOC personnel, and develop and maintain effective monitoring and evaluation procedures for the TOC control room. The control room supervisor will assure program conformance to established objectives and directives, work with a diverse group of technical personnel in resolving interagency and departmental operational problems, develop incident management scenarios and subsequent actions required by different governmental agencies, and prepare and present training for joint sessions of state, county, and municipal personnel.

## Control Room Layout and Equipment

The control room is a 2,100 square-foot room equipped with state-of-the-art workstations and monitoring equipment. This room serves as the central location within Arizona for any incident or congestion that may impact traffic along the more than 6,000 miles of highways served by ADOT throughout the state.

Control room operators can access any application needed to manage an incident from each workstation. Operators are able to control functions throughout the entire room, such as lighting, changing video feeds on the video wall, or granting visitors access to the TOC facility and control room.

**Video Wall**

The Video Wall is comprised of 40 individual 55-inch flat panel, zero-edge monitors, and is operated by ten controllers, one for every four monitors. The video wall has the capability of displaying up to 160 separate video feeds simultaneously. Operators may choose up to seven different display layouts, and may change the incoming feeds to the video wall through the use of Camera Cameleon (Cam-Cam), which is loaded on each workstation.

**Operator Workstations**

There are four operator workstations, each equipped with eight, 23-inch flat panel monitors, one local computer, two microphones, four sets of speakers, an Extron Digital Crosspoint Matrix Switcher, two keyboards with two accompanying mouse controllers, one telephone, and a Motorola MCC 7500 Elite Dispatch Radio Console with a headset jack.

Each workstation can be electronically adjusted to meet the ergonomic needs of each individual operator, allowing for both sitting and standing positions. Each operator has also been issued a rolling cabinet, an individual keyboard with accompanying mouse, and an adjustable ergonomic rolling chair.

**Extron Digital Crosspoint Matrix Switcher**

Each workstation is divided into two virtual displays, one using six monitors for virtual machine (VM), ERS, Radio, Tunnel Software, AIPhone, and Cameleon Client Software, Motorola Flex CAD, and another using two monitors for DPS CAD. In order to allow each operator the flexibility of setting up an effective workstation to his or her needs, an Extron Digital Crosspoint Matrix

Switcher has been installed to allow operators to control the display order of each virtual monitor without impacting the setup of the physical computer.

**Printers/ Copiers**

The Control Room is equipped with two laser printers located at the end of the metro and rural workstations.

**Phone Lines**

Each operator workstation is equipped with a multi-line phone. There are two dedicated toll-free lines for anyone calling from outside of the Phoenix Metropolitan area, as well as a three line rollover system for local callers. There is a local number for DPS and two more local numbers for other Phoenix Metropolitan law enforcement agencies.

There are three additional phones in the control room; these are direct dials to Phoenix Fire, Northern Region Dispatch for DPS, and Southern Regional Dispatch for DPS; they are labeled as such. The Red Phoenix Fire phone can be located at the right end of the ”Metro One” workstation and the two DPS phones can be located at the ”Rural One” workstation.

**AIPhone IS-Software**

The TOC facility is equipped with an AIPHone IS-Software for building security. Cameras, sensors, and two-way radio boxes are located at the East and South Gates, the main exterior doors, the East and South interior doors, and both entrances to the control room. Operators have the capability of viewing the security cameras, speaking with an individual at an exterior door, and granting access to the grounds from any of the 4 operator workstations. Should there be a computer system failure, hardwired controls are located between the front two workstations and can be used to operate the radio boxes and doors.

**ADOT XPanel**

ADOT XPanel is an application on each workstation computer; there are also two physical control panels located between the metro and rural workstations. From the Xpanel an operator may control power to the video wall, audio output to the individual workstations, and lighting and various other functions throughout the room.

**Virtual Machine Software (VMWare) and Remote Desktop**

Each workstation utilizes VMWare software to access Remote Desktops allowing each operator to have his or her own "virtual computer" (VM) that may be customized to individual needs. Each virtual computer has all the capabilities of a physical computer while allowing the operator to function from any of the four workstations.

**Microsoft Office Suite**

Each virtual computer has the Microsoft Office Suite, so an operator may use any variety of applications such as Outlook, Excel, Word, and Access.

**Event Reporting Systems (ERS)**

ERS is a web-based application that can be accessed from both the VM and physical computer. This is the core system that allows ADOT to collect, process, and disseminate accurate and timely information to the 511 roadway information phone line as well as www.az511.com. Operators, ADOT construction, and ADOT maintenance organizations (orgs) all use this application to input information about both planned and unplanned incidents that may impact the highways.

**Motorola Flex CAD**

The Motorola Flex Computer Aided Dispatch (CAD) system is a modern dispatch system and has now been implemented by the ADOT Traffic Operations Center, Enforcement Compliance Division (ECD), and the Arizona Department of Public Safety. The Flex CAD system is utilized to document all incident management response and maintain status of patrol personnel in the field.

**Cameleon Client Software**

The Cameleon ITS Client Software controls the Dynamic Message Signs (DMS) as well as the closed circuit television (CCTV) cameras and acts as the decision support system to activate countermeasures in the event of a wrong way (WW) vehicle. All three systems (DMS, CCTV, WW) now function from a single client interface.

**Flux Client**

The Flux Client software handles video analytics used to detect wrong way vehicles. Additionally, each time a detection occurs the Flux system stores a 20 second video clip from the thermal camera in which the detection occurred.

**Notification Assistance Program (NAP)**
ADOT has seven separate districts, each with multiple maintenance organizations. The Notification Assistance Program (NAP) is used as a central location to access, update and publish the various call lists for the maintenance organizations and their individual call-out procedures.

**PageGate Graphical User Interface (GUI) Client**
PageGate is the primary notification program used to notify and request personnel of incidents on ADOT's right of way.

**PageHelperApp**
PageHelperAPP was developed by Shift Supervisor David Guagliardo and is used to assist in organizing and developing the standard format for notifications to ADOT administration and executive staff.

**Control Room Gadget**
The Control Room Gadget was developed Operator Vincent Irwin and serves as a central location for links and shortcuts to various tools. It serves as an efficient method of launching applications and accessing reference materials.

**ADOT Tunnel Software**
The Tunnel software allows operators to monitor and control various functions throughout the I-10 Deck Park Tunnel, such as lighting, activation of fans, and lane indicators to warn oncoming traffic of potential hazards and blocked lanes in the tunnel.

**Department of Public Safety Computer Aided Dispatch (CAD) System**
Operators have limited access to the Computer Aided Dispatch System (CAD) used to track dispatched calls for DPS officers located throughout the state. This information allows operators to provide quick, accurate information out to responding ADOT units and to the public. CAD also serves as a direct line of communication to DPS dispatchers allowing operators to report any otherwise unreported incidents they observe while monitoring the highway system.

**Motorola MCC 7500 Elite Dispatch Radio Console**
Each of the four operator workstations is equipped with a Motorola MCC 7500 Elite Dispatch Radio Console, complete with dedicated microphone and speakers. These radios allow for communication between the operator and other ADOT personnel throughout the state.

## Closed-Circuit Television Systems (CCTV)

Closed-Circuit Television (CCTV) cameras are located along the Phoenix and Tucson Metro highway systems. Still images from these cameras are uploaded to www.AZ511.com. Live feeds are also available to local news agencies for "Live Action Shots." The CCTV cameras are used for traffic and incident detection, traffic management, and incident verification.

**Purpose:** To utilize the ADOT CCTV cameras to their fullest extent in a manner that best assists Arizona travelers.

**Scope:** This TOC regulation is to establish guidelines for use of all ADOT CCTV highway cameras.

**Authority:** Guidelines set forth in these procedures will be upheld by shift and Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Definitions:**

- Cameleon Client – Software used to control the CCTV cameras throughout the state.
- Pan – rotation in a horizontal plane.
- Tilt – rotation in a vertical plane.
- Zoom – the adjustment of a focal length.

**General:**
Operators will use the CCTV cameras primarily for traffic management and incident detection and verification. Operators have first priority in the operation of the cameras in the Phoenix Metro District and shared priority with DPS in the Tucson District.

**Guidelines:**

Because the feeds from these cameras are supplied to www.AZ511.com and local media the following guidelines have been established:

- ADOT CCTV highway cameras will only be used to locate and monitor the traffic flow of ADOT right of way for active traffic management.

- ADOT CCTV highway cameras shall not be zoomed in on details such as license plates and/or individuals, within or outside vehicles. ADOT CCTV highway cameras shall not be zoomed in on Private Property.
- Local government agencies that have access to view the ADOT CCTV highway cameras may request assistance from TOC operators when attempting to view incidents on arterial streets but must follow the guidelines set forth in these procedures.

**Quality Assurance:**

Shift supervisors and/or the designated operator for each shift will monitor the CCTV cameras to provide quality assurance and to ensure compliance with the guidelines set forth in these procedures.

## AZTech Guidelines for Requesting ADOT CCTV Highway Cameras/Feed

AZTech is a regional traffic management partnership within the Phoenix Metropolitan Area. All of the major governmental transportation agencies in the region are members as well as public safety agencies and several private technology and media companies.

This coalition, led by the Maricopa County Department of Transportation (MCDOT) and ADOT, along with several collaborating committees, guides the application of ITS technologies for managing regional traffic. The AZTech website is at http://www.aztech.org/trafmgmt/rog.aspx.

**Purpose:** To utilize the ADOT CCTV cameras to their fullest extent in a manner that best assists Arizona travelers.

**Scope:** To establish guidelines for all members of AZTech with access to the ADOT CCTV highway cameras to operate with the same expectations and standards as ADOT Traffic Operations Center.

**Authority:** Guidelines set forth in these procedures will be upheld by the TOC operators, shift and Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center. The AZTech guidelines for Video Feed and Camera Control may be viewed at http://www.aztech.org/docs/curr/CCTVDevice_11-16-06.pdf.

**General:**

TOC operators, as the primary users of the CCTV cameras, have access to pan, tilt, zoom (PTZ) each camera for incident verification, traffic and incident detection. At the request of an AZTech partner, TOC operators may assist with incident detection on a non-ADOT right of way.

**Guidelines:**

- TOC Operators will remain "super-users" of ADOT CCTV highway cameras. Other users with PTZ access include DPS and several members of ADOT's upper management.
- All other users are restricted to view-only access.
- If AZTech Committee agencies would like to view an incident on non-ADOT right of way, they will call the control room at 602-257-1563.
- The requesting party will advise the TOC operator who answers the phone of their name and what agency he or she works for.
- The TOC operator will attempt to view the requested area for a period not to exceed 5 minutes. After this time is up, the ADOT cameras will resume viewing ADOT right of way.
- The priority of the TOC control room, its operators, and ADOT equipment is to ensure the safety and flow of traffic on ADOT right of way.
- Operators **will not** utilize or authorize the usage of ADOT highway CCTV cameras to view private property and or identify individuals involved in any incident.

**Quality Assurance:**

TOC operators and shift supervisors will monitor the CCTV cameras to provide quality assurance for compliance with the guidelines set forth in these procedures. Any violation of these guidelines will be reported to the TOC control room supervisor and subsequently the Assistant State Engineer assigned to the Traffic Operations Center for review.

## Dynamic Message Boards (DMS Boards)

Dynamic Message Sign (DMS) Boards display electronically generated messages for information dissemination to the traveling public. Each DMS may be used individually or as part of a system to mitigate traffic.

Within the control room, the DMS boards are controlled through the use of the Cameleon Client Software. Cameleon allows for multiple messages to be displayed at various priority levels, as well as allowing two-panel message displays.

**Purpose:** To provide drivers with information about traffic, roadway conditions, Amber Alerts, and public service announcements.

**Scope:** This TOC regulation applies to all DMS boards statewide.

**Authority:** Guidelines set forth in these procedures will be upheld by Shift supervisors and the Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Definition:**

- **Travel Times –** Through various data collection methods and a travel time algorithm, DMS boards are automatically activated Monday through Friday during peak travel times. Messages are displayed throughout the Phoenix Metro and Tucson Metro DMS boards.

**Activation of a DMS board**
Operators will activate and deactivate DMS boards either as a scheduled request or in response to an unplanned incident.

**Priority Level**
DMS boards have 10 separate priority levels; the importance of the message will dictate at what level that message will be sent. With level 1 being the highest priority and 10 being the lowest, Cameleon will display message on the DMS according to the highest priority message. Travel Times are automatically activated between 5:00 AM and 11:00 PM Monday through Friday, and 7:00 AM to 9:00 PM on Saturday and Sunday. The ten priority levels are broken down into two groups (High and Low) and will interact with the Travel Times accordingly:

**High Priority Level** encompasses levels one through three and overwrites the travel times:

1. Automated Wrong Way messages.
2. Active unplanned closures of ADOT roads.
3. Active planned closures of ADOT roads.

**Low Priority Level** encompasses levels four through ten and alternates messages with travel times:

4. Active unplanned lane restrictions, or ramp closures (crashes, debris, etc.).
5. Active planned lane restrictions, or ramp closures (construction, roadway maintenance).
6. Sweeper activity messages, Amber Alerts, Blue Alerts, and Silver Alerts.
7. Event Messages.
8. Pre-warning construction messages.
9. High pollution advisories, Public service announcements.
10. Travel Time.

**Dual Panel Display**

Operators should utilize a dual panel message for any incident/situation in which motorists would benefit from additional information.

**Procedure for Acceptable Verbiage and Abbreviations:**

In accordance with the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), only traffic, operational, regulatory, warning, and guidance information may be displayed on dynamic message signs (DMS). This includes messages for incident management, route diversion, adverse weather warnings, lane/ramp/roadway control, travel times, and destination guidance.

Other applications include safety related messages such as emergency homeland security messages as well as Amber Alert, Silver Alert, and Blue Alert messages.

Dynamic message signs (DMS) ***shall not*** be used for any non-transportation or non-safety related purpose such as advertisement or to support a private entity.

All messages should be accurate and concise. Motorists may only have a few moments to read the message before they have passed a board. Due to the limited number of lines and characters available it may be necessary to abbreviate words, but this should be avoided if possible. It is not necessary to use punctuation and all letters should be capitalized. Below is a brief list of the most commonly abbreviated words.

Table 1. List of Commonly Abbreviated Words

| Word | Abbreviation | Word | Abbreviation |
|---|---|---|---|
| access | ACCS | heavy | HVY |
| ahead | AHD | highway | HWY |
| blocked | BLKD | information | INFO |
| boulevard | BLVD | interstate | I |
| bridge | BRDG | left | LFT |
| center | CENTR | maintenance | MAINT |
| clear | CLR | mile | MI |
| closed | CLSD | North | N |
| construction | CONST | oversized | OVRSZ |
| downtown | DWNTN | Right | RT |
| East | E | Road | RD |
| emergency | EMERG | Roadwork | RDWK |
| enter | ENTR | route | RTE |
| exit | EXT | Shoulder | SHLDR |
| entrance | ENTR | South | S |
| freeway | FRWY | traffic | TRAF |
| frontage | FRNTG | vehicle | VEH |
| hazardous | HAZ | West | W |

All DMS messages should follow a similar format shown below:

- Incident – What type of incident?
- Location – Where is it?
- Action – What should motorists do or be looking for?

CRASH
AT MILL AVE
USE ALT ROUTE

If the incident is in the Phoenix or Tucson Metro area, cross streets may be used; otherwise the location should be a reference as to how many miles ahead the incident is from the DMS board. When referencing an incident on a highway different from the location of the DMS board, or prior to junction, ***always*** include the highway designator along with a direction of travel.

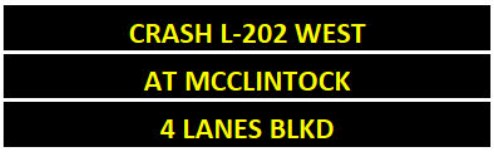
**Unplanned DMS Activation**

DMS signs are activated by operators in response to unplanned incidents such as blocking crashes, lane restrictions, closures, traffic management, weather, and AMBER Alerts. Message guidelines for each of these incidents are given below.

**Blocking incidents/Lane Restrictions/Closures**

DMS messages in response to blocking incidents may either include the lane restrictions or a request for action. Operators should use the verbiage "Merge Left or Merge Right" when the DMS board is located less than 1 mile prior to the incident. The guidelines for such incidents are as follows:

- Incident – crash, disabled, roadwork, closure etc.
- Location – cross street, number of miles ahead
- Lane restrictions/Action – Right lane blkd / Merge Left/ Use Alt Route, etc.




**Active Traffic Management**

DMS activated for Active Traffic Management may include advising motorists of alternate routes, traffic congestion, clearing crashes, or warning of hazardous non-blocking incidents impacting traffic. Operators are encouraged to provide alternate route information, when available, to help motorists avoid long traffic queues.

**Note:** Non-ADOT routes should not be utilized as part of the alternate route unless prior approval has been given by the local government agency for that route. The guidelines for active traffic management messages should be as follows:

- Incident – Long Delays, Slow traffic
- Location – L-202 West at Scottsdale
- Action– Use Alt Route, Stay Left

| LONG DELAYS |
| --- |
| L-202 W TO SCOTTSDALE |
| USE L-101 TO US-60 |

**Phoenix/Tucson Active Traffic Management**

Operators use the CCTV cameras along with additional information from DPS and ADOT personnel on-scene to determine whether a DMS should be activated for a non-blocking incident that could potentially impact traffic. Operators should always take an Active Traffic Management approach to minimize secondary incidents caused by slowing traffic. These incidents may include but are not limited to:

- Vehicles on the shoulder but close to the solid edge (fog) line.
- Slowing traffic due to an incident.
- Event traffic (sporting events, concerts, college graduation).

**Rural Active Traffic Management**

Operators will monitor DPS CAD for incidents located on the shoulder and activate any available DMS boards within 5 miles of the incident.

| INCIDENT |
| --- |
| 5 MILES AHEAD |
| USE CAUTION |

If DPS CAD notes specify a shoulder side the DMS boards should display:

| INCIDENT |
| --- |
| 5 MILES AHEAD |
| MERGE LEFT/RIGHT |

**Weather-Related Conditions**

Adverse weather conditions may be reported by ADOT employees, DPS and local agencies. Weather-related messages should be general and never include an exact milepost or location; because of this the "Incident field" may take up two lines on a DMS board. The guidelines for these messages are as follows:

- Incident – Winter driving conditions, High Winds, Blowing Dust
- Action – Watch for ice, Use Caution

**Planned DMS Activation**

Planned messages for scheduled roadwork, construction projects, and public announcements for DMS requests should be scheduled 48 hours in advance. These are handled by the Transportation Engineer Specialist who provides operation support and coordinates planned events to mitigate non-recurring congestion. The Traffic Engineer Specialist provides a detailed daily summary of DMS boards that are to be activated, which will include:

- What message is to be displayed.
- Which DMS boards will be used.
- What time the sign will be activated/deactivated.

**ADEQ Notifications/High Pollution Advisories:**

The Arizona Department of Environmental Quality (ADEQ) Air Quality Division's mission is to protect and enhance public health and the environment by controlling present and future sources of air pollution. The Traffic Operations Center has been asked to assist by activating the DMS boards throughout the Phoenix Metro area with a public announcement notifying the public of a "High Pollution Advisory" and to urge motorists to carpool or use alternative methods of transportation.

Operators will receive daily e-mail notifications about the Air Quality Forecast for the next three days and High Pollution Advisories when ADEQ has deemed necessary. Operators will activate DMS messages listed on the daily DMS summary for maximum public notification. Operators will also notify the ADOT Communications public information officer (PIO) on duty so that a floodgate notification may be activated.

**Quality Assurance:** Shift supervisors and/or the designated operator for each shift will monitor all active DMS boards for accuracy, verbiage, and location to ensure optimal impact for active traffic management.

# TOC Staffing and Training

## Control Room Staffing

**Purpose:** To ensure that the TOC remains operational 24 hours a day, 365 days a year.

**Scope:** This TOC regulation applies to the control room.

**Authority:** This will be enforced by the shift supervisors and Operations Supervisor with support from the Operations Manager and will coincide with the Arizona State Employee Handbook. This regulation may be viewed at http://www.hr.az.gov/PDF/Statewide_Employee_Handbook.pdf.

**Definitions:**

- **Shift -** A shift is defined as eight working hours and includes one 15 minute break with 5 minute breaks every hour. There are three shifts within the control room:
  - **Night Shift -** 10:00 pm to 6:00 am
  - **Day Shift -** 6:00 am to 2:00 pm
  - **Afternoon Shift -** 2:00 pm to 10:00 pm
- **Business day -** For scheduling purposes, each 24-hour period, beginning with the "Night Shift" at 10:00 pm.
- **Business Week -** Each seven-day period beginning with the "Night Shift" on "Saturday" business day.
- **Atomic Clock -** The clock located over the "break room" door to be used as the "official time" for the start and stop of a shift.
- **On Time -** To be considered "on-time" for a shift, operators must be at their workstation, prepared to manage an incident, when the Atomic Clock reaches the official start time of that shift.

**Guidelines**

- Shift supervisors are responsible for creating the schedule for their respective shifts.
- Shift supervisors are responsible for approving leave and finding coverage when necessary.
- Any scheduling conflicts will be resolved by the control room supervisor.
- Each shift will have a minimum of two people, one of whom must be a certified operator.

All operators are expected to report for their shift on time, unless otherwise approved by the shift supervisor or control room supervisor.

## Training and Certification

**Purpose**

The purpose of this procedure is to establish the standard training and certification program for TOC Operations Staff.

**Background**

The TOC controls the Freeway Management Systems, monitors incidents, and dispatches statewide forces. It is critical that all control room personnel obtain and maintain a specific degree of skill, ability, and performance to operate the TOC. Services for the public including the Department of Public Safety (DPS), local police departments, fire departments, emergency medical services, ADOT maintenance districts, and others must be provided at all times. It is critical for ADOT to retain certified operators to support the functions of the TOC.

**Scope**

This procedure applies to all TOC Operators, Shift Supervisors, and the Operations Supervisor.

**Procedure**

- **First 2 weeks**
  - During the first two weeks of a new Operator's employment at the TOC, they will work directly with the Shift Supervisor of their assign shift. During this time, new Operators will receive training related to setting up their workspace and general responsibilities of Operations Staff at the TOC.
- **Following 2 – 4 weeks**
  - After the initial two weeks working with the Operations Supervisor, new Operators will begin working directly with the Shift Supervisor on their assigned shift.
  - The Shift Supervisor may assign an experienced Operator to oversee training if they are not available.
  - Each day, the Shift Supervisor or Operator overseeing the training must complete the appropriate column of the Weekly Training Checklist (Exhibit 1.) as well as the Daily Instructor Notes (Exhibit 2.).
  - The source document is an Excel workbook named *TOC New Operator Training* and can be found in a shared network drive at the link below:
    - \\dot.state.az\adotfiles\TSMO\TOC\ControlRoom\Documents\Certifications

- **Continued Training**
  - New Operators must demonstrate proficiency in the following:
    - Discerning information from the DPS CAD system
    - Utilizing CCTV cameras to locate incidents
    - Identification of DMS to active in response to incidents
    - Developing appropriate messages to post on DMS
    - Incident documentation
    - Agency notification and callout procedures

  - Once a new Operator has completed all required training, and demonstrated proficiency in the key areas listed above, the Operator and their Shift Supervisor must complete the *Operator Initial Certification Checklist* which can be found at the link below:
    - \\dot.state.az\adotfiles\TSMO\TOC\ControlRoom\Documents\Certifications

## Exhibit 1. Weekly Training Checklist

Traffic Operations Center

**Traffic Operations Center Weekly Report**

| Beginning Date | Ending Date | Week No. |
|---|---|---|
| | | |

| TOC Trainee | I.D. No. | TOC Instructor | I.D. No. |
|---|---|---|---|
| | | | |

RATING INSTRUCTIONS: Based on your observations of the TOC trainee's performance, rate him/her according to the following criteria. **1**-Below standard, TOC trainee seldom completes the required task, or it is determined by the instructor to have improperly or fails to manage traffic incidents. **2**-Acceptable, TOC trainee consistently completes the required task. 3-Superior, TOC trainee always completes the required task. TOC trainee should be rated as a solo operator performing the required task. Place an **"N"** in the box if the rating is **NOT** observed. Enter the number of hours spent on remedial training in the "Remedial Training Hours" column. Check the **NRT** (Not Responding to Training) column if there is no response to your training efforts. Use the category numbers below to reference your narrative.

| **Below Standard** 1 | **Acceptable** 2 | **Superior** 3 |
|---|---|---|

| **Rated Categories** | Work Days 1 | 2 | 3 | 4 | 5 | Remedial Training Hours | NRT |
|---|---|---|---|---|---|---|---|
| **A. Use of TOC Telephone System** | | | | | | | |
| 1. Demonstrate professional telephone greeting | | | | | | | |
| 2. Transfer a Call | | | | | | | |
| 3. Place a call on hold | | | | | | | |
| 4. Indentify Panasonic Back up Phones | | | | | | | |
| 5. Indentify Fire Dept ring-down phone | | | | | | | |
| 6. Identifiy DPS ring-down phones | | | | | | | |
| 7 Demonstrate how to use the satellite phone | | | | | | | |
| | | | | | | | |
| **B. Sign-in Process** | | | | | | | |
| 1. Login to local windows computer | | | | | | | |
| 2. Launch / Login to DPS CAD | | | | | | | |
| 3. Launch / Login to Cameleon system | | | | | | | |
| 4. Lauch / Login to radio system | | | | | | | |
| 5. Launch / Login to HCRS | | | | | | | |
| 6. Launch / Login to VM profile | | | | | | | |
| 7. Launch / Login to PageGate | | | | | | | |
| 8. Launch / Login to PageGate Helper | | | | | | | |
| 9. Launch / Login to Microsoft Outlook | | | | | | | |
| 10. Control Room Gadget | | | | | | | |
| 11 Demonstrate how to use the Extron Digital Crosspoint Matrix Switcher | | | | | | | |
| | | | | | | | |
| **C. Camera Cameleon and Video Wall** | | | | | | | |
| 1. Identify nomeclature and elements of Camera system | | | | | | | |
| 2. Demonstrate ability to use a camera (PTZ, iris, focus) | | | | | | | |
| 3. Demonstrate ability to create a camera preset on any camera | | | | | | | |
| 4. Change the video wall layout | | | | | | | |
| 5. Drag / Drop a new camera on the video wall | | | | | | | |
| 6. Set up a custom layout in Cameleon | | | | | | | |
| | | | | | | | |
| **D. Dynamic Message Signs** | | | | | | | |
| 1. Demonstrate knowledge of statewide DMS locations | | | | | | | |
| 2. Demonstrate knowledge of DMS priority levels | | | | | | | |
| 3 Activated multiple signs at once | | | | | | | |
| 4 Create a 2 panel message and display time | | | | | | | |
| 5 Create a flashing message | | | | | | | |
| 6. Identify the DMS schedule | | | | | | | |
| 7. In DMS Cameleon view the Scheduled Messages menu | | | | | | | |

Traffic Operations Center

| Beginning Date | Ending Date | Week No. |
|---|---|---|
| | | |

**Traffic Operations Center Weekly Report**

| TOC Trainee | I.D. No. | TOC Instructor | I.D. No. |
|---|---|---|---|
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RATING INSTRUCTIONS: Based on your observations of the TOC trainee's performance, rate him/her according to the following criteria. **1**-Below standard, TOC trainee seldom completes the required task, or it is determined by the instructor to have improperly or fails to manage traffic incidents. **2**-Acceptable, TOC trainee consistently completes the required task. 3-Superior, TOC trainee always completes the required task. TOC trainee should be rated as a solo operator performing the required task. Place an **"N"** in the box if the rating is **NOT** observed. Enter the number of hours spent on remedial training in the "Remedial Training Hours" column. Check the **NRT** (Not Responding to Training) column if there is no response to your training efforts. Use the category numbers below to reference your narrative.

| **Below Standard** 1 | **Acceptable** 2 | **Superior** 3 |
|---|---|---|

| **Rated Categories** | Work Days 1 | 2 | 3 | 4 | 5 | Remedial Training Hours | NRT |
|---|---|---|---|---|---|---|---|
| **E. DPS CAD System** | | | | | | | |
| 1. Demonstrate knowledge of CAD commands | | | | | | | |
| 2. Demonstrate ability to obtain information from CAD incidents | | | | | | | |
| 3. Send CAD message to another work station / operator | | | | | | | |
| 4. Use / identify assigned districts in CAD (ASD command) | | | | | | | |
| 5. Identify CAD terminal operators | | | | | | | |
| 6. Search CAD incident histories / summaries (both active and closed) | | | | | | | |
| 7. Identify department report numbers, times, locations in CAD | | | | | | | |
| 8. Demonstrate knowledge of DPS 10 codes | | | | | | | |
| | | | | | | | |
| **F. Radio Equipment** | | | | | | | |
| 1. Demonstrate professional radio etiquette | | | | | | | |
| 2. Select proper radio channel / district | | | | | | | |
| 3. Broadcast information using radio equipment | | | | | | | |
| 4. Patch multiple radio channels together | | | | | | | |
| | | | | | | | |
| **G. Incident Management Procedures** | | | | | | | |
| 1. Continuously monitors DPS CAD for incoming calls | | | | | | | |
| 2. Prioritizes emergency calls for service | | | | | | | |
| 3. Quickly reads incident information in CAD | | | | | | | |
| 4. Quickly verifies incident on camera (location, blockage, hazards) | | | | | | | |
| 5. Selects proper camera (based on call location, highway) | | | | | | | |
| 6. Evaluates incident scene information | | | | | | | |
| 7. Actively monitors incident queues | | | | | | | |
| 8. Actively monitors incident scenes for developing hazards | | | | | | | |
| 9. Follows up on incidents to ensure completion | | | | | | | |
| 10. Correctly documents incident response in HCRS | | | | | | | |
| 11. Communicates with DPS & TOC Operators during incidents | | | | | | | |
| 12. Debriefs TOC Operators during shift change | | | | | | | |
| 13. Responds to ADOT & Citizens requests | | | | | | | |
| 14. Responds to dispatch requests | | | | | | | |
| 15. Assists ADOT & DPS employees as needed | | | | | | | |
| 16. Demonstrates progression and skill development | | | | | | | |
| | | | | | | | |
| **H. Attitude** | | | | | | | |
| 1. Willing to learn capabilities and limitations and desires to improve | | | | | | | |
| 2. Has positive attitude toward TOC operations / incident management | | | | | | | |
| 3. Accepts feedback during training / does not rationalize mistakes | | | | | | | |

Traffic Operations Center

**Traffic Operations Center Weekly Report**

| Beginning Date | Ending Date | Week No. |
|---|---|---|
| | | |

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| **Rated Categories** | Work Days 1 | 2 | 3 | 4 | 5 | Remedial Training Hours | NRT |
|---|---|---|---|---|---|---|---|
| **I. Pagegate, Pager Helper & Admin Notifications** | | | | | | | |
| 1. Send a properly formatted notification to ADOT for response | | | | | | | |
| 2. Create correctly formatted Admin notification using Pager Helper | | | | | | | |
| 3. View PageGate history log to verify messages had been sent | | | | | | | |
| | | | | | | | |
| **J. CALL-OUT PROCEDURES AND NAP** | | | | | | | |
| 1. Open the Notification Assistance Program (NAP) | | | | | | | |
| 2. Locate the callout procedures for a maintenance district in NAP | | | | | | | |
| 3. Locate the callout procedures for a maintenance org in NAP | | | | | | | |
| 4. Locate a maintenance org's boundary list in NAP | | | | | | | |
| 5. Identify call-out procedures for traffic signal malfunctions | | | | | | | |
| 6. Identify call-out procedures for ITS equipment failures | | | | | | | |
| 7. Identify call-out procedures for Tunnel Maintenance | | | | | | | |
| 8. Identify call-out procedures for Pump-house Group | | | | | | | |
| 9. Identify call-out procedures for the Bridge Group | | | | | | | |
| | | | | | | | |
| **K. I-10 TUNNEL SYSTEM** | | | | | | | |
| 1. Launch / Log into Wonderware System | | | | | | | |
| 2. Identify procedure for activating tunnel fans and use of high and low speeds | | | | | | | |
| 3. Manually adjust tunnel lighting | | | | | | | |
| 4. Identify the Carbon Monoxide Monitoring screen | | | | | | | |
| 5. Activate tunnel indicator signals for incidents in the tunnel | | | | | | | |
| | | | | | | | |
| **L. Vaisala & Roadway Weather Information System (RWIS)** | | | | | | | |
| 1. Launch / Login to Vaisala | | | | | | | |
| 2. Indentify elements within Vaisala | | | | | | | |
| 3. Demostrate knowledge of Vaisala elements | | | | | | | |
| 4. Demonstrate how to view RWIS cameras | | | | | | | |
| 5. Demonstrate how find road surface temperature | | | | | | | |
| | | | | | | | |
| **M. BUILDING EQUIPMENT AND SECURITY** | | | | | | | |
| 1. Demonstrate use of AIPHONE software (cameras, open doors/gates) | | | | | | | |
| 2. Demonstrate use of XPanel software to adjust control room lighting | | | | | | | |
| 3. Identify lighting control panels | | | | | | | |
| 4. Identify fire alarm panel | | | | | | | |

Traffic Operations Center

**Traffic Operations Center Weekly Report**

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|---|---|---|
| | | |

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|---|---|---|

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|---|---|---|---|---|---|---|---|
| **N. HCRS/511** | | | | | | | |
| 1. Create a highway entry | | | | | | | |
| 2. Create an arterial street entry | | | | | | | |
| 3. Start an IM event for documentation | | | | | | | |
| 4. Create a recurring event | | | | | | | |
| | | | | | | | |
| **O. OPERATIONS MANUAL** | | | | | | | |
| 1. Read manual | | | | | | | |
| 2. Demonstrate ability to quickly locate policies and procedures in the Operations Manual | | | | | | | |
| | | | | | | | |
| **P. MANDATORY 6 MONTHS -YEAR TRAINING** | | | | | | | |
| 1.Welcome to State Government Orientation | | | | | | | |
| 2. NIMS ICS 100 | | | | | | | |
| 3. NIMS IS 200 | | | | | | | |
| 4. NIMS IS 700 | | | | | | | |
| 5. Diversity: On-line course | | | | | | | |
| 6. Fire Safety; On-line course | | | | | | | |
| 7. Fair Employment Priactices; On-line course | | | | | | | |
| 8. Computer Security Awareness; On-line course | | | | | | | |
| 9. Stanards of Conduct for State Emplyoees; On-line course | | | | | | | |
| 10. Preventing Violence in the workplace; Classroom | | | | | | | |
| 11. Preventing inappropriate behavior & workplacde harassment; Classroom | | | | | | | |
| 12. Driver orientation; Classroom | | | | | | | |
| | | | | | | | |
| **Q. rientation. Completed within 6 months of hire** | | | | | | | |
| 1. 8 hrs with DPS dispatch | | | | | | | |
| 2. 8 hr shift with any ADOT Maint unit | | | | | | | |
| 3. 8 hr shift with any Landscaping or Construction Unit | | | | | | | |

# Incident Management

## Incident Management

**Unplanned events**

**Purpose:** The primary responsibility of the control room is to provide statewide traffic and incident management (IM) support while providing traveler information.

**Scope:** This TOC procedure applies to all active, unplanned events.

**Authority:** Guidelines set forth in this procedure will be upheld by shift supervisors and the Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Definitions and Abbreviations:**

- ERS – Event Reporting Systems
- Motorola/Spillman Flex – Computer aided dispatch software used to dispatch ADOT personnel and document their response
- Planned event – Any scheduled event (construction, road maintenance, or striping).
- Unplanned event – Any event not scheduled (crashes, disabled vehicles, or roadway damage).

**Quality Control:**
Shift Supervisors will review all Level 1 incidents to on a weekly basis to ensure that the quality level and correct prioritization of incidents is upheld.

## Allocation of Duties

Operators are responsible for simultaneously operating multiple systems, actively managing traffic flow, and keeping the traveling public informed of events that could impact traffic. The control room has three distinct allocations of duties: Metro 1, Metro 2, and Rural (includes Rural 1 and 2).

**Purpose:** To establish an allocation of duties based on "best practices" for efficiency, routine, and functionality for a 3- to 4-person shift.

**Scope:** These TOC guidelines will apply to TOC operators on duty.

**Authority:** Guidelines set forth in this procedure will be upheld by shift supervisors and the Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Allocation of Duties:**

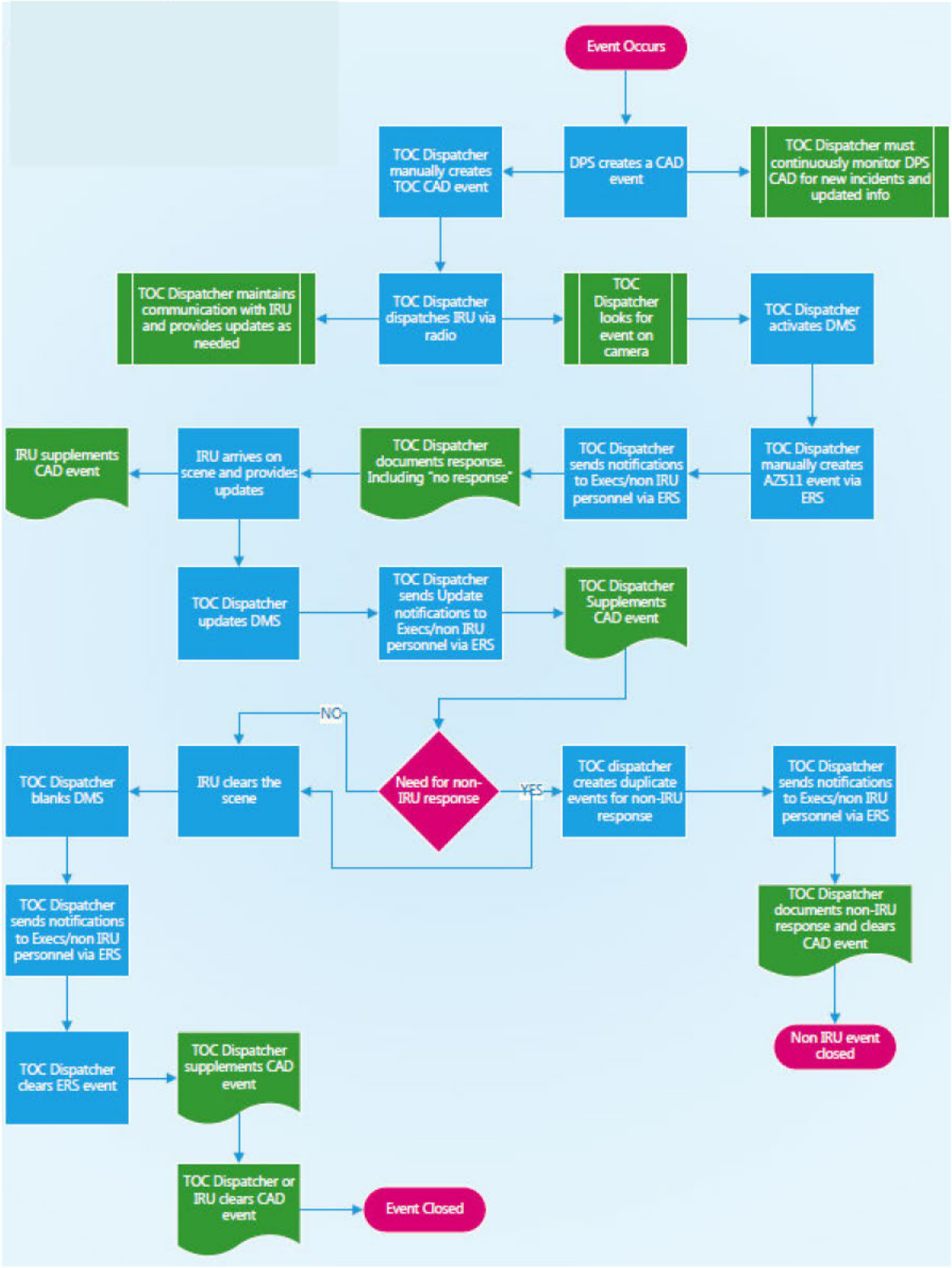
- Metro 1/IRU Dispatch – Focusses on the Metro Phoenix area with the primary function of dispatching the Incident Response Unit (IRU) and documenting incident management response for all incidents occurring within Central District. Metro 1 functions include but are not limited to:
    - Creating Motorola/Spillman CAD event and documenting incident response.
    - Maintaining regular radio communication with IRU personnel.
        - Status checks should be performed at minimum of once every hour an IRU unit is on duty and not currently assigned to a call or task.
- Metro 2 – Focusses primarily on the metro Phoenix area in performing critical incident management tasks, but will also assist Rural as needed. Metro 2 functions include but are not limited to (NOTE: If Metro 2 is not staffed, these responsibilities fall to Metro 1):
    - Answering incoming phone calls on the metro are phone lines
    - Creating ERS entries and sending admin email notifications through ERS
    - Looking for incidents on CCTV cameras
    - Activating DMS

- Sending notifications to and dispatching non IRU personnel as needed
- Serve as the backup for Operators working at Metro 1 and Rural

- Rural – Encompasses anything in the State of Arizona outside of Metro Phoenix. The functions of Rural include but are not limited to:
  - Incident documentation via Motorola/Spillman flex CAD
  - Entering incidents into ERS
  - Activation of DMS boards
  - Sending notifications and dispatching ADOT personnel outside of Central District
  - Admin Notifications for incidents outside of Central district
  - Answering the Rural phone lines

**Note –** In the event that four operators are scheduled, Rural may be divided up into Northern and Southern Regions with Rural 1 working Northern and Rural 2 working Southern.

## Incident Management Flow Chart



Event Documentation

**Purpose:**
To standardize documentation of ADOT's incident management response and event reporting through the Motorola/Spillman Flex CAD system.

**Scope:**
These guidelines apply to the use of Event Reporting System for documentation of incidents.

**Authority:**
Guidelines set forth in this TOC procedure will be upheld by shift supervisors and the Operations Supervisor with support from the Operations Manager assigned to the Traffic Operations Center.

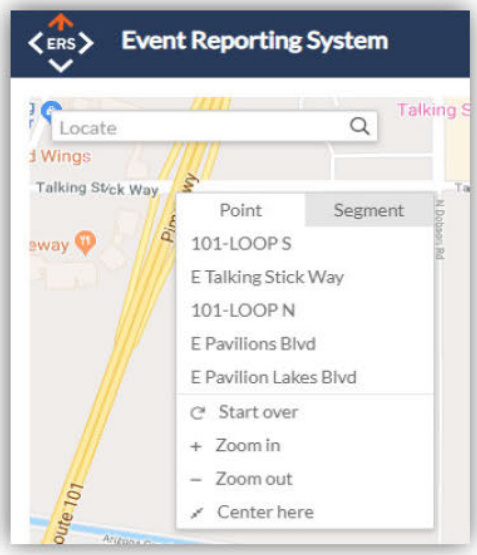
**Procedure:**
All incident management documentation must be done within the Flex CAD system. The full manual can be located on the TOC network drive at the link below.
\\dot.state.az\adotfiles\TSMO\TOC\Operations Manuals and Guidelines

Additionally, a quick reference document has been created by Shift Supervisor David Guagliardo to provide some quick guidance on the basic use of the Flex CAD system. That document can also be found at the same link (above) and is titled "CADQuickRef".

An event must also be created in ERS for any incident or scheduled event that may affect traffic flow.

**Creating an event by right-clicking on the map:**

If you are able to identify the location on a map, you may find it easiest to simply right-click on the map and select the proper road segment from the drop-down list that appears.




**Creating an event by typing in the Location-Lookup search bar:**

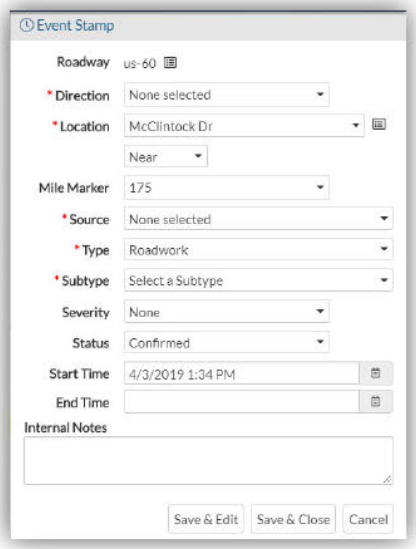

Events can also be created by typing the location in the *Location-Lookup* search bar located at the top left corner of the ERS map. The *Location-Lookup* uses a specific syntax (format) which, if followed, allows users to quickly create an entry without having to find the location on the map. The basic syntax is "*Roadway 1*" "*at/near*" "*Roadway2/Mile Marker*". Below are a few examples of the proper use of the required syntax.

**Location-Lookup syntax examples:**

- 101-Loop near 35th Ave
- I-17 at mm 215
- SR-347 at mm 180
- US-60 at McClintock Dr

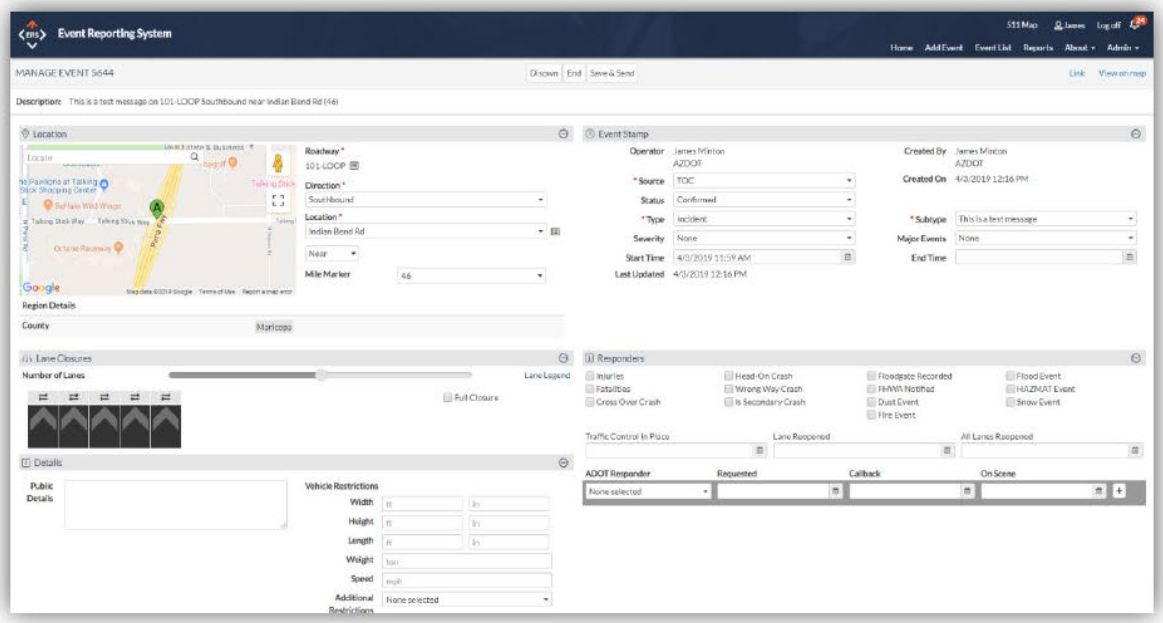
**Event Stamp Window**

Once you select the appropriate road segment by right-clicking or correctly typed the location in the *Location-Lookup*, the *Event Stamp* window will appear on the right side of your web browser window. In the Event Stamp window, you will need to ensure you have selected the correct roadway, set the direction, choose an appropriate cross street or reference for the location, select the source, choose the incident type and subtype, and enter the event start and end times.



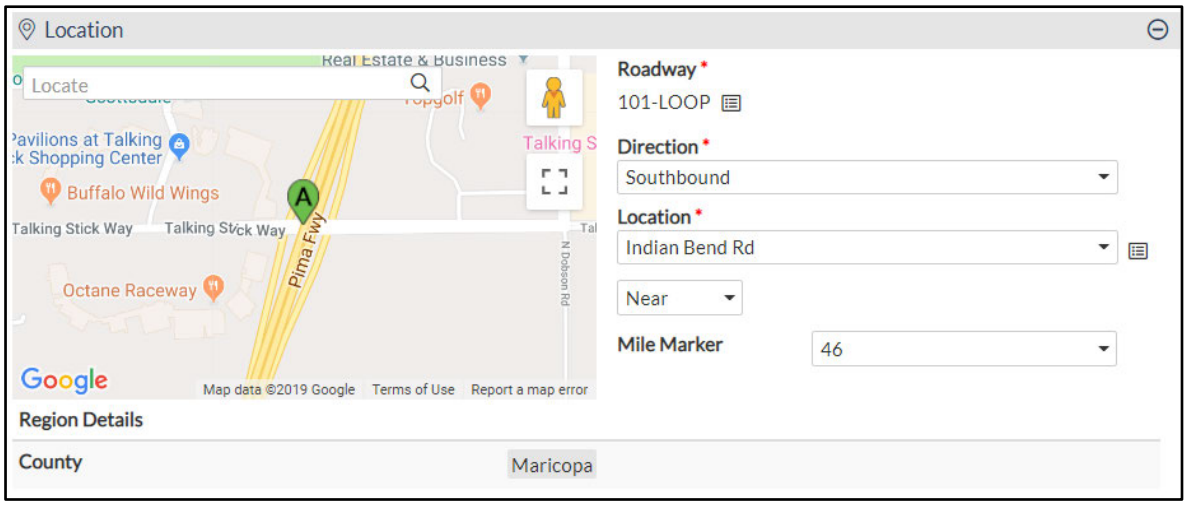

Once all of the require information has been appropriately selected on the *Event Stamp*, click on the Save & Edit button at the bottom of the window. Clicking Save & Edit will open the full *Manage Event* window.

**Manage Event window:**



While the *Event Stamp* window will create the event in ERS, however, the event will not be publically available on the 511 system until the [ ] button has been clicked on *Manage Event* window. This window is broken into the following sections; Location, Event Stamp, Lane Closure, Responders, Details, Broadcast, and Internal Notes. The following is an explanation of each section.

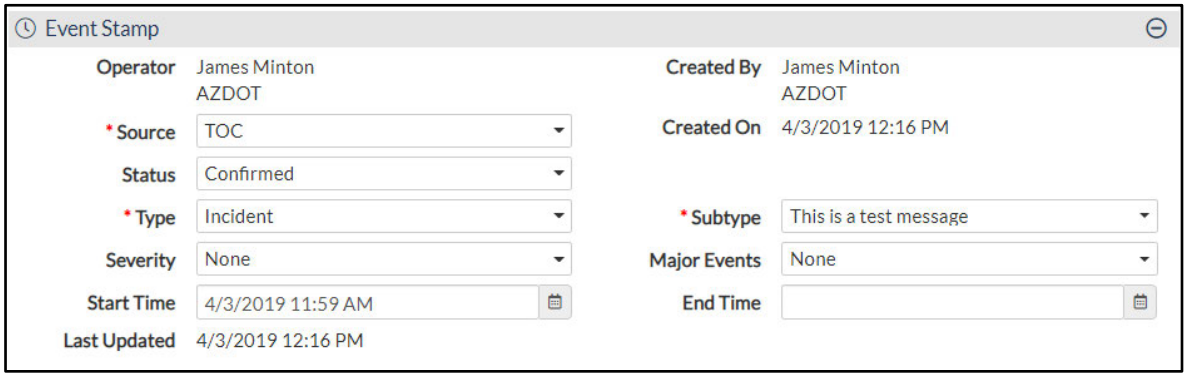
**Location:**




The location section allows users to set the appropriate direction of travel, reference location, and whether the event is at, near, beyond, or before a specific milepost.

Remember, the available drop-down options are in reference to the location pin that is visible on the mini-map. To update the location of the visible pin on the map, users will need type the updated location (with correct syntax) into the *Location-Lookup* search bar on the mini-map.

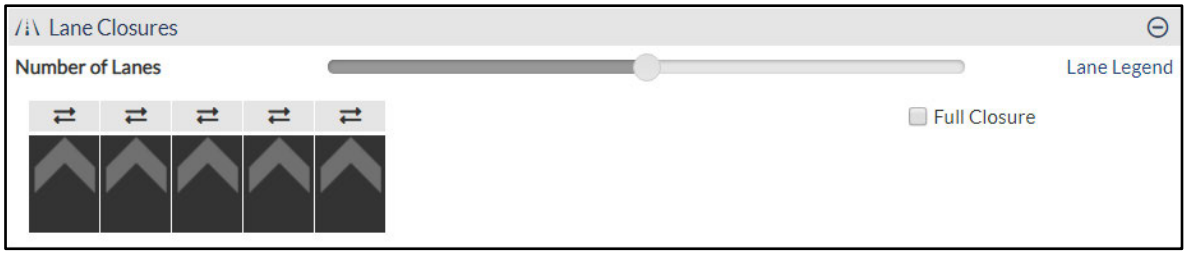
**Event Stamp:**




The Event Stamp section allows users to set the source, event status (reported, confirmed, and ended being the key status selections), event type, event severity, event subtype, a major event that may correspond with this event, the even start time, and event end time.

**Note: No end time is needed for an unplanned event like a crash.

**Lane Closures:**




Currently, Operators should <u>not</u> utilize the lane diagram in this section to indicate which lanes are blocked. Instead, choose the appropriate event subtype in the Event Stamp section to indicate which lanes are blocked.

For <u>mainline full closures</u> of an ADOT road, <u>be sure to check the "Full Closure" box</u>. Also, be sure to <u>uncheck the box once a mainline lane of travel has reopened</u>. This checkbox should not be used for ramp or interchange closures.

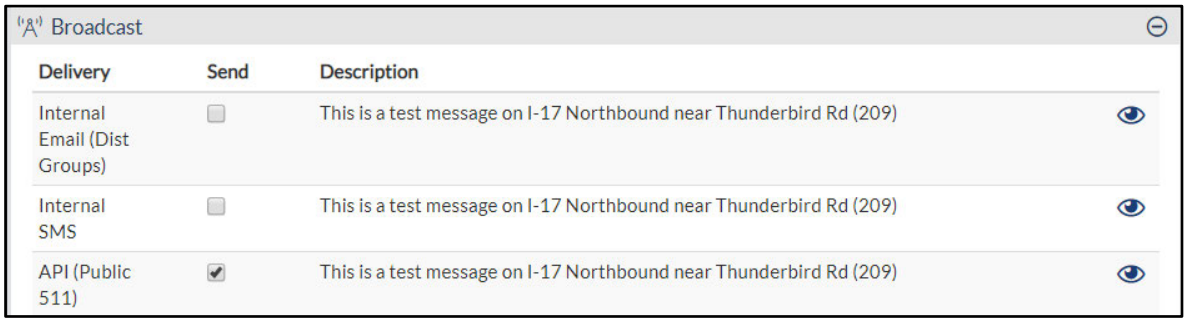
**Details:**


**NOTE: This section is all publically visible information. “Public Details” should never contain personal information or cell phone numbers.

The Public Details text box allows Operators to provide additional information (like detour routes) that can may not be represented in other information fields.

The Details section is also where vehicle dimension restrictions should be entered. It is very important that this information is correct as it affects the ADOT EPRO system and will incorrectly issue or deny permits to commercial vehicles if this information is incorrect.

**Broadcast**




The Broadcast section provides a preview of the message that will be sent to Email and SMS distribution groups as well as the public facing API which provides information to www.az511.gov and sends notifications to subscribers. By default, only the “API” option is selected as the event information must be sent to the API in order for the event to appear on the public website.

Internal Email and SMS are utilized to send push notifications to groups defined within the ERS/511 system and are not dependent on recipients also subscribing for notifications from www.az511.gov.

**Quality Control:**

Shift supervisors will review incidents to ensure compliance with this procedure.

## Call-Out Procedures

**Purpose:** To communicate and coordinate a request of service from DPS or other law enforcement, or the general public to the appropriate ADOT Organization.

**Scope:** These TOC guidelines apply to all notifications to ADOT personnel.

**Authority:** Guidelines set forth in this procedure will be upheld by shift supervisors and the Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Definitions:**

- PageGate – Primary notification program used to notify and request ADOT personnel
- Notification Assistance Program (NAP) – The primary software application used to access update and publish the various call lists for maintenance organizations and their call-out procedures.

**Call-Outs**

The call-out actions an operator will take vary depending on the request and the ADOT organization responding. The primary source of this information is the NAP program. If NAP is down, or the organization requested is not part of the NAP program, the binders located between the consoles may be used to help operators find the information. These binders are separated by maintenance districts, signal groups, signing groups, and statewide groups.

**Call-Out Notification Format**

When initiating a Call-Out request, operators need to have the following information available:

- Route (e.g., I-10, I-17, SR 51, SR 69, SR 89A, US 191, etc.).
- Direction of travel (North, South, East, West).
- Milepost ( e.g., MP 191) and or cross street (e.g., Washington St.) when in Central District.
- Incident details (type of crash or event).
- Type of assistance needed.
- ERS number.
- DR# (If available at time of request),

**PageGate Notification Example**

For PageGate requests to maintenance organizations (orgs) the following format should be adopted:

- I-40 WB at MP 80 – Crash off roadway, 20ft of ROW[1] fence damaged, ERS #4200 – Operator I.
- I-17 SB at MP 145.5 (7th St) – rollover crash, 1 post and 3ft of guardrail damaged. ERS #5302 DR#2013-9123456. – Operator I.

**IRU Callouts**

The incident response unit (IRU) is currently comprised 2 shifts that patrol Central District ADOT roads. Their current hours of operation are 5:00 AM to 8:00PM, Monday through Friday. Outside of those hours, they remain "on-call" and serve as the first point of contact to respond to requests for traffic control, infrastructure damage, or debris removal. They should not be contacted for traffic signal issues, sign knock downs, or irrigation leaks.

**Contacting IRU personnel during working hours:**

- As IRU members are on patrol, TOC Operators should contact them via radio on the "ADOT – TOC" channel
- All IRU members are issued mobile devices with access to Flex CAD so there shouldn't be any need to send incident information via text or email notification

**Contacting IRU personnel outside of working hours:**

- To contact the "on-call" IRU personnel, simply send a notification to the *ADOT IRU* contact group in PageGate.

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[1] ROW stands for "right of way."

## Admin Notifications

Admin Notifications are notifications to ADOT Administrative officials (Admin Major) and local District Administrators. Admin notifications will be sent for incidents meeting the criteria listed below.

The following list requires an Operator to select [ ] within ERS and click the [ ] button sending an email notification to TOCAdminMajor@azdot.gov.

- Any unplanned level 1 crash incident including fatal incidents and road closures
- Any incident blocking 1 or more mainline lanes of an interstate
- Any incident blocking 1 or more mainline lanes of an ADOT roadway in Central District
- Any incident resulting in the closure of an interchange ramp connecting ADOT roadways

The following items require a TOC Operator to manually send an email with relevant information to TOCAdminMajor@azdot.gov.

- Any evacuation order within the State of Arizona
- Amber/Blue/Silver Alerts

**Quality Control:**
Shift supervisors will review notifications to assure the quality of the information provided on notifications.

## Additional Information Notifications

**Overview:**
ADOT executives, including District Engineers and Traffic Systems Management and Operations leadership (TSM&O), would like more information regarding high impact events that affect ADOT maintained roadways.

**Background:**
With the reorganization of agency resources, agency leadership is now more involved and the demand for relevant information pertaining to incident management is now greater than ever.

**Purpose:**
To provide clear, direct information to key leadership personnel with current information related to ongoing incidents affecting ADOT roadways.

**Authority:**
Guidelines set forth in this procedure will be upheld by shift supervisors and the Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Definitions:**

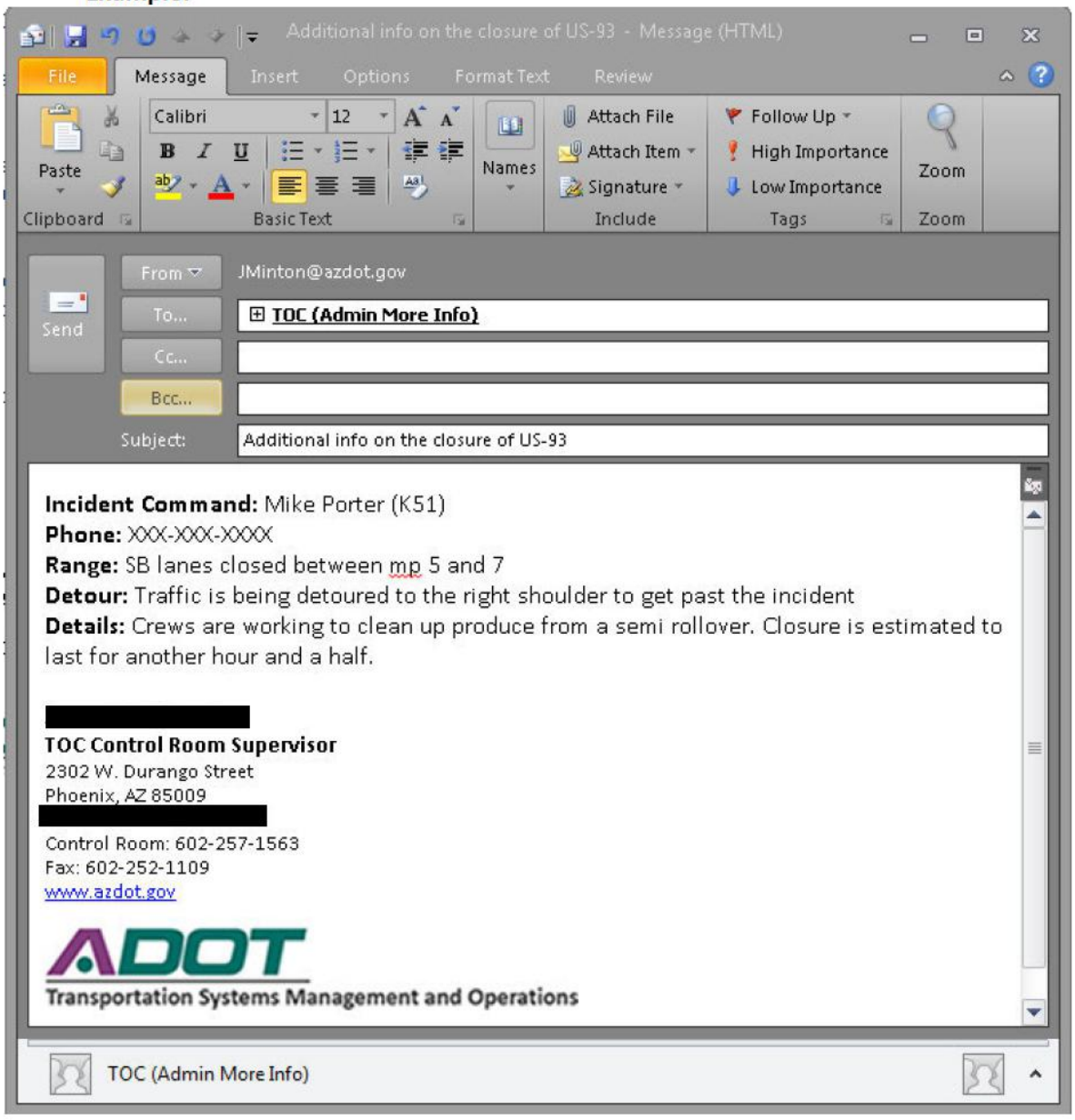
- High Impact Event – Any Level 1 Closure
- Closure – Any time a complete direction of travel, of an ADOT roadway, is blocked. (i.e. none of the travel lanes, for that direction of travel, may be used by traffic)

**Procedure:**

- Once ADOT personnel, or DPS troopers, advise they are on scene at an incident, and establish a traffic control plan, an Operator at the TOC will gather the information listed below.
    1. Name of ADOT Incident Commander (IC)
    2. Contact phone number for the ADOT IC
    3. The exact milepost to milepost rang of the closure
    4. The detour route or plan (examples: “traffic detoured onto right shoulder”, or a street by street detour list)
    5. A brief update about the incident that includes an estimate for re-opening (examples: “Cleanup operations are underway for 500 gallons of fuel that has leaked out of the tanker truck.” Or “This will be an extended closure as DPS conducts a criminal investigation for the 2 vehicle fatal crash.”)

- Once this information has been ascertained, an Operator will type it into an e-mail addressed to TOC (Admin More Info) with the subject, “Additional info on the closure of [highway of incident]”.

- The e-mail will then list the information gathered from the personnel on scene.
  **Example:**




**NOTE:** This notification does not replace notifications sent to TOC (Admin Major). This is an additional notification to be sent once on scene personnel (DPS or ADOT) are able to provide more information. This notification will not be as time sensitive as the notifications sent to TOC (Admin Major) and can wait until information is available.

## Emergency Management Group

The ADOT Emergency Management Group manages business processes during emergencies that impact ADOT facilities or right of way. Their responsibilities include establishment of the Department Operations Center (DOC), operation of the Web Emergency Operations Center (WebEOC) system, generation of Situation Reports (Sit-Reps), coordination and participation in preparedness exercises, statewide emergency management training for ADOT personnel, and emergency response coordination.

There are certain types of major incidents in which the ADOT Emergency Management will require a notification in addition to the normal notification sent to the Admin Major group. Those incidents include:

- Any incident which requires FHWA to be notified.
- Land based fire in which ADOT resources are dispatched for assistance. This includes brush fires and/or wildfires that were caused by vehicle fires.
- Any Report of an explosive device or terrorist threat including incidents involving an active shooter.
- Any incident resulting in the injury or death of 6 or more people.
- Hazmat incident causing a road closure.
- Any incident which results in the closure of an ADOT roadway for 3 hours.
- Any water release from any dam or spillway.
- Any incident causing an evacuation.
- High impact incidents that may draw media attention.
- Any Notification of Emergency Alerts for Palo Verde Nuclear Generating Station.
- Injury or fatal crashes involving an ADOT employee or a first responder including tow operators, roadway maintenance personnel, or any public works personnel.

If an incident meets any of the above criteria, operators will send a text notification to the adot-emergency-management notification group via the PageGate notification system. If you do not receive a callback within 5 minutes, call the Emergency Manager.

[redacted]

## Travel Times

ADOT has been actively developing freeway travel time estimates since 2008 to be displayed on DMS boards visible to the largest number of freeway weekday commuters on the most heavily traveled freeway corridors in the Phoenix and Tucson areas. Through the use of various data collection methods and a programmed algorithm, travel times are calculated and displayed on DMS boards throughout the Phoenix and Tucson areas for the motoring public.

**Purpose:** To provide the motoring public with an accurate time of travel to various locations during the weekday rush hours.

**Scope:** These guidelines are to ensure the quality of the travel times provided by the automated system, as well to as establish a method of tracking the times provided.

**Authority:** Guidelines set forth in this procedure will be upheld by shift supervisors and the Operations Supervisors with support from the Operations Manager assigned to the Traffic Operations Center.

**Definitions:**

- **Weekday Commute –** from 5:00am to 11:00pm, Monday through Friday
- **Weekend Commute –** from 7:00am to 9:00pm, Saturday and Sunday
- **Travel Time –** the estimated time to travel between two points, as calculated by an established algorithm.
- **Dynamic Travel Time (DTT) Extend –** The web portal used to view and extend travel times.

**General:**

Operators have the responsibility to ensure the validity of the provided times and take the necessary actions should it be discovered the times are incorrect. This includes but is not limited to notifying technical support and overriding the display of incorrect times.

**Procedure:**

During the hours of 5:00 a.m. to 11:00 p.m. on weekdays and 7:00 a.m. to 9:00 p.m. on weekends, operators are tasked with monitoring the travel times messages. These are automatically displayed on the DMS boards, with the CCTV system, and the DTT Extend web portal.

Should an operator observe a malfunction of the Travel Times System, the operator will do the following:

- Verify messages are actually displayed on the DMS boards via CCTV.
- Notify technical support.
- If possible blank the DMS board until the issue has been corrected.
- Shift supervisors or the control room supervisor will notify the TOC (Travel Times) group via email if the issue is expected to last for an extended period of time.

Operators have the capability to activate or extend the travel times in event of heavy traffic outside the established rush hours through use of the DTT Extend web portal.

- Operators should notify the shift supervisor and or control room supervisor prior to taking action.

**Quality Control:**
Shift supervisors will check with the operators to ensure compliance with this procedure. Shift supervisors will also use the TOC control room Video Wall preset display to monitor DMS currently displaying travel times.

# Appendix: TOC Training Requirements

| Operator Name:<br>Test Completion Date: | Date Demonstrated | Operator Initial | Supervisor Initial |
|---|---|---|---|
| **TELEPHONE ETIQUETTE AND USE** | | | |
| Demonstrate professional telephone greeting | | | |
| Transfer a Call | | | |
| Place a call on hold | | | |
| Identify Panasonic Back up Phones | | | |
| Identify Fire Department ring-down phone | | | |
| Identify DPS ring-down phones | | | |
| Demonstrate how to use the satellite phone | | | |
| **SIGN-IN PROCESS** | | | |
| Demonstrate how to use the Extron Digital Crosspoint Matrix Switcher | | | |
| Log in to local windows computer | | | |
| Launch and log in to the following:<br>• 511/ERS<br>• Camera Cameleon<br>• Motorola MCC 7500 Elite Dispatch<br>• Your ADOT VM profile<br>• DMS Cameleon<br>• PageGate<br>• Page Helper<br>• Microsoft Oulook<br>• Control Room Gadget | | | |
| Log in to the DPS CAD system | | | |
| **CAMERAS AND VIDEO WALL** | | | |
| Set up a custom layout in Camera Cameleon | | | |
| Demonstrate ability to use a camera (PTZ, iris, focus) | | | |
| Demonstrate ability to quickly locate an incident on camera | | | |
| Demonstrate ability to create a camera preset on any camera | | | |
| Change the video wall layout | | | |
| Drop a new camera on the video wall | | | |
| **DMS** | | | |
| Demonstrate knowledge of DMS priority levels | | | |
| Demonstrate knowledge of statewide DMS locations | | | |
| Activated multiple signs at once | | | |
| Create a 2 panel message | | | |
| Modify the display time of a 2 panel message | | | |
| Create a flashing message | | | |
| Identify the DMS schedule | | | |
| In DMS Cameleon view the Scheduled Messages menu | | | |
| **DPS and the CAD System** | | | |
| Demonstrate knowledge of DPS 10 codes | | | |
| Demonstrate knowledge of system commands to monitor incidents by dispatch district | | | |
| Demonstrate ability to gather information from CAD incidents | | | |

| | | | |
|---|---|---|---|
| Send a test message to another CAD workstation | | | |
| Demonstrate how to find which workstation is handling each DPS district | | | |
| Demonstrate the command to see who is logged into a workstation | | | |
| Search for an incident that has already closed | | | |
| Identify the DR# in an active incident | | | |
| **PAGEGATE, PAGER HELPER, AND ADMIN NOTIFICATIONS** | | | |
| Correctly Identify which maintenance org should respond to an incident and send them a notification through PageGate | | | |
| Send a properly formatted notification to ALERT for response | | | |
| Create correctly formatted Admin notification using Pager Helper | | | |
| View PageGate history log to verify messages had been sent | | | |
| **RADIO** | | | |
| Demonstrate professional radio etiquette | | | |
| Patch multiple radio channels together | | | |
| Broadcast on multiple radio channels at the same time | | | |
| Identify DPS dispatch channels | | | |
| Select a channel from the Activity Log | | | |
| **CALL-OUT PROCEDURES AND NAP** | | | |
| Open the Notification Assistance Program (NAP) | | | |
| Locate the callout procedures for a maintenance district in NAP | | | |
| Locate the callout procedures for a maintenance org in NAP | | | |
| Locate a maintenance org's boundary list in NAP | | | |
| Identify call-out procedures for traffic signal malfunctions | | | |
| Identify call-out procedures for ITS equipment failures (cameras, DMS, and ramp meters) | | | |
| Identify call-out procedures for Tunnel Maintenance and the Pump-house Group | | | |
| Identify call-out procedures for the Bridge Group | | | |
| **I-10 TUNNEL SYSTEM** | | | |
| Log on to Wonderware System | | | |
| Identify procedure for activating tunnel fans and use of high and low speeds | | | |
| Manually activate the tunnel fans | | | |
| Manually adjust tunnel lighting | | | |
| Identify the Carbon Monoxide Monitoring screen | | | |
| Demonstrate how to activated tunnel indicator signals for incidents in the tunnel | | | |
| **Roadway Weather Information System** | | | |
| Open RWIS website | | | |
| Demonstrate how to view RWIS cameras | | | |
| Demonstrate how find road surface temperature | | | |
| **BUILDING EQUIPMENT AND SECURITY** | | | |
| Demonstrate use of AIPHONE software to view facility cameras and open doors/gates | | | |
| Demonstrate use of XPanel software to adjust control room lighting | | | |
| Identify gate/door control buttons | | | |
| Identify lighting control panels | | | |
| Identify fire alarm panel | | | |
| Identify security alarm panel | | | |