On-Scene Management of Traffic Incidents

*Managing the scene during a traffic incident requires continuous coordination between all agencies responding to or supporting that scene. A well-coordinated scene will clear the road more quickly and more safely for all those on-scene.*

**Purpose:**

Understand the efforts for managing a scene in a coordinated response

Understand the roles of a coordinated response while on-scene

# Overview

Event management responsibilities span the time from incident detection and verification through the time when traffic returns to normal. One of the most critical stages of Traffic Incident Management (TIM) for responders is on-scene coordination at an incident. Several factors influence the on-scene responders’ roles and the requirements for effective on-scene management. Some of those factors include:

* Incident Type (crash/property damage only (PDO), minor injuries, serious injuries, fatalities, hazardous materials (HAZMAT))
* Number of lanes and the lane number (i.e., lane(s) 1 or 2) impacted or closed, availability of shoulder
* Incident duration and duration of resulting traffic impacts
* Weather conditions (rain, fog, snow, etc.)
* Time of day (day/night), seasonal time
* Peak periods
* Topography/geometry and roadway cross-sections
* Urban vs. rural areas
* Other roadway conditions such as secondary incidents, active or inactive work zones, or planned special events
* Availability of DOT equipment and/or Towers for scene clearance
* Activation of Quick Clearance with Law Enforcement

Traffic incidents are highly variable, and the impacts and duration of an incident will vary based on a host of factors and circumstances. Refer to NCDOT’s Incident Classification (dated 06/05/2014) located on the **NCDOT Traffic Systems Operations SharePoint Site** ([www.ncconnet.sharepoint.com/sites/trafficsystemsoperationsprojects](http://www.ncconnet.sharepoint.com/sites/trafficsystemsoperationsprojects)) – Reference/Incident Management Manual/Incident Clearance for **additional guidance** regarding a description of the three classifications types, their expected duration, and examples. To best prepare for the potential range of responses and deploy an optimal response, it is essential to build broad partnerships that include a thorough understanding and consistent application of Standard Operating Procedures (SOPs), laws and policies (i.e., Safe, Quick Clearance), communication protocols, agency/responder roles/responsibilities, and other available tools and resources. To further support quicker, safer, and more efficient response, agencies and responders should hold team meetings or other efforts that help to build and maintain relationships that support better on-scene partnership. Periodic Interagency Team Meetings, both by Region/Division and statewide, are important for conducting After Action Reviews (AAR), disseminating lessons learned and best practices, introducing new personnel, and providing pertinent SOPs and training updates.

The **overarching goals of on-scene management** are the safety of responders and motorists and the safe, quick clearance of the incident.

# Incident Management Timeline Definitions

This document, SOPs, and other incident management documentation will often refer to activities or responsibilities relative to different phases of an incident. There are three distinct incident phases, as defined by NCDOT. For consistency, all responding agencies should have the same definitions to describe these phases of response and on-scene management. The incident timeline and the three distinct phases of the incident, as defined by NCDOT, are shown in **Figure 1** and further described in the subsequent bullets.



Figure . Incident Management Timeline Definitions

* **Roadway Clearance Time:** the time between first recordable awareness of an incident by a responsible agency (1) and the first confirmation that all lanes are available for traffic flow (3)
* **Incident Clearance Time:** the time between first recordable awareness of the incident by a responsible agency (1) and the time at which the last responder has left the scene (4)
* **Recovery Time:** the time between the first recordable awareness of the incident by a responsible agency (1) and restoration of the roadway to normal conditions (5).

# Participating Agencies and Their Involvement in On-Scene Management

A well-coordinated scene will quickly clear the road and improve safety. When the scene is not well-coordinated, incident clearance takes longer resulting in continued and potential risks for those responders on-scene. The roles and responsibilities of each participating agency plays an important part in the overall on‑scene management.

**Each on-scene participating agency is in alignment** with requirements and procedures of the Incident Command System (ICS) and Unified Command (UC). All responders, including first responders (law enforcement, fire, emergency medical services (EMS)), Incident Management Assistance Patrol (IMAP), towing and recovery, HAZMAT responders, incident management engineers (IME) or those whose role includes incident management responsibilities, local and state DOT maintenance teams, and operations within the transportation management center (TMC), should be familiar with the principles of ICS, UC, and Incident Commander (IC).

**There is a form of shared leadership** in which all participating agencies make decisions together and coordinate activities of those within their respective agency. However, per the ICS and UC procedures, the IC is usually established on-scene, and typically filled by a representative from the fire department. However, the IC can change as the scene progresses through different phases of response and activities. The IC will establish the overall incident action plan, oversee progress of the response activities on-scene, and communicate response status to other groups.

**There are multiple incident management strategies** that provide a proactive approach of clearing the roadway. These approaches have inherent consequences, and they include improved safety, faster incident clearance time, reduction in secondary crashes, and quicker recovery time of the roadway. Some of the incident management strategies include:

* Quick Clearance strategies, such the NCSHP/NCDOT Memorandum of Understanding (MOU). This MOU details protocols for incidents without injuries in support of a quicker response. More details about this MOU are included in the **Quick Clearance** chapter.
* Partner Engagement strategies, such as Interagency Team Meetings and AARs. Both meeting types discuss on-scene communications and coordination between partner agencies (challenges/mitigations). The outcomes of these meetings help to improve on‑scene communications and coordination for future incidents. Additional details are included in the **Interagency Team Meeting** and **After-Action Review** chapters.
* Motorist Notification strategies, such as DMS messages informing motorists of a downstream incident, appropriate detours navigating around the area impacted by the incident, and reminder mechanisms to move over and provide additional safety to on-scene responders. Also, DriveNC notifications to assist motorists with additional traveler information.

**Radio communications** allow TMC operators to monitor on-scene communications among responders and listen for requests for additional resources or important updates of on-scene management and response activities. Radio communications between law enforcement and dispatch centers allow dispatchers to update the CAD systems with real-time status based on changes occurring during the on‑scene response. Radio transmissions between IMAP responders and TMC provide two‑way communications to share incident details.

**General practices of all partner agencies** include the usage of personal protective equipment (PPE) while on-scene and recognizing the importance and need of traffic control.

* PPE is to be utilized while on-scene to promote visibility of responders and help ensure safety of responders while on-scene. PPE shall comply to all OSHA and ANSI standards. These include IMAP responders, emergency responders, and towing/recovery operators.
* Traffic control is to be implemented on-scene in a safe manner to keep traffic a safe distance from the incident location and in compliance with SOPs, including MUTCD requirements. Traffic control may be implemented by IMAP responders, law enforcement, fire/EMS, towing/recovery operators, or a combination of these responders.
* HAZMAT or incidents involving a fatality are to be elevated to the appropriate agency per the established SOPs. These incident types require more than 2-hours on-scene presence for clean up or investigation purposes. This requires a transition from the initial emergency traffic control (ETC) from IMAP to temporary traffic control (TTC) from NCDOT Maintenance or Traffic Services. TTC shall then follow NCDOT Roadway Standard Drawing and the MUTCD. In the event of a fatality, the vehicle(s) are not to be touched until the investigations has been completed.

**Effective communication and coordination are essential** among partners at all stages of the incident management timeline. The duration and extent of specific partner involvement will depend largely on the incident type, incident severity, and the incident clearance time. Together, the partnership supports safe on-scene management.

There are key on-scene activities conducted by different agencies and departments, including:

* Observation of traffic conditions near the incident scene, and queues building upstream of the incident
* Responder arrivals, including law enforcement, emergency responders, IMAP responders, and towing/recovery
* Response activities happening on-scene and situational awareness of changing circumstances as the incident is cleared
* Traffic control measures implemented to stop or divert traffic near the incident scene (barricades, detours, signs, ramp closures)
* Minimizing impacts to the roadway network surrounding the incident area
* Coordination with and among responders during on-scene arrival, while on-scene, and during clearance and recovery operations
* Assessment of infrastructure either during the lane closures or after recovery of the incident
* Responder egress and departures
* Removal/demobilization of traffic control strategies
* Return of traffic to pre-incident traffic flow

**Table 1** presents the different partners involved in on-scene management, their focus, a description of their primary involvement while on‑scene, and their involvement as it relates to the incident management timeline (refer to **Figure 1**).

Table . Partner Agencies Roles & Responsibilities While On-Scene within the IM Timeline

| **Area** | **Agency/*Focus*** | **On-Scene Involvement** | **Involvement in** **IM Timeline**  |
| --- | --- | --- | --- |
|  | *1* | *2* | *3* | *4* | *5* |
| First Responders | Local Fire Department*Provide emergency response to motorists* | * Typically, first to arrive on scene – IC of the scene
* Follow SOPs for arrival at incident scene
* Assess incident scene needs, and communicate with appropriate dispatch/ communications centers upon arrival
* Set up the investigation area
* Triage the scene and address immediate medical needs
* Coordinate with other responders on-scene, including any lead investigating officers
* Rescue/extract victims
* Attend to emergency needs of victims, assess severity of injuries
* Request additional response resources based on severity and complexity of incident
* Follow SOPs for response protocols and procedures

**RESOURCES**: fire truck, cones, communication centers |  |  |  |  |  |
|  | Emergency Medical Services (EMS)*Triage, stabilize, and transport* | * Follow SOPs for arriving at incident scene
* Coordinate with other responders on-scene, including the IC and any lead investigating officers
* Attend to emergency needs of victims, assess severity of injuries, and administer emergency medical care
* Request additional EMS resources based on severity and complexity of incident
* Evacuate injured (ground or air)

**RESOURCES**: ambulance, communication centers |  |  |  |  |  |
|  |  |  |  |  |  |
| Law Enforcement | North Carolina State Highway Patrol (NCSHP)*Safety on the state highway system* | * Follow SOPs for arrival at incident; *if there is no fire on scene NCSHP would become the IC*
* Confirm the incident to the TMC – including location, incident type, etc. – either through direct communication and/or through computer-aided dispatch (CAD) system
* Identify support needs to secure incident scene, including traffic control support needs
* Coordinate with other responders as they arrive on scene
* Update Communications/Dispatch with response information
* Coordinate with other responders as scene needs evolve and change, and direct implementation of any changes to scene protection or traffic control
* Follow agency SOPs for investigation protocols (*with the potential use of drones*)
* Coordinate with mortuary affairs for fatalities
* Contact towing/recovery; and authorize removal of vehicles, debris and other hazards
* Support responder egress, including towing/recovery egress
* Enforce laws

**RESOURCES**: CAD dispatch system, drones (investigations), communication centers |  |  |  |  |  |
|  | County Sheriff | * Similar duties as NCSHP if they are the jurisdiction in place to respond to the incident
 |  |  |  |  |  |
|  | Local Police | * Similar duties as NCSHP if they are the jurisdiction in place to respond to the incident
 |  |  |  |  |  |
|  |  |  |  |  |  |
| Transportation Management | NCDOT TMC/Operators*Provide traveler information to motorists and situational awareness to those on-scene* | * Confirm incident location(s) and details through CAD feeds, communication from responding agency and/or IMAP, or CCTV cameras
* Enter the incident information into the traffic management software – update as new details are reported; information is pushed to DriveNC.gov
* Visually monitor the scene based on CCTV cameras, detector/ 3rd party data feeds, or via communication with on-scene responders (including IMAP responders)
* Continuously monitor CAD feeds and radio communication from law enforcement (for updates)
* Implement, monitor, and update messages alerting drivers of incident location and impacts (both DMS and CMS)
* Dispatch IMAP (if not already aware or on scene)
* Send alerts regarding the incidents
* Notify IMAP supervisor, incident management engineer (IME), regional ITS engineer (RITS), maintenance on updates of the scene
* Coordinate with contractor tow company (*if applicable*) to be on-scene or coordinate with law enforcement /construction company to have a tow company arrive on-scene
* Coordinate with IMAP and/or law enforcement for scene updates
* Coordinate with construction contractor in work zones
* Monitor responder egress
* If incident has an extended duration, follow transition procedures to the next TMC

**RESOURCES**: DriveNC.gov, CCTV cameras, DMS, portable CMS, alerts and detour messages, speed data, CAD feeds, radios, etc.  |  |  |  |  |  |
|  | NCDOT IMAP Responders & Supervisors*Emergency traffic control and coordinate information to/by TMC and IC* | * Last to leave the scene
* Follow SOPs for establishing IC upon arrival, assess incident scene needs, and communicate with the TMC upon arrival
* Coordinate with other responders on-scene, including the IC, to discuss IMAP support needs and coordinate a strategy to clear the incident
* Determine if additional NCDOT resources are needed to support safe on-scene management
* Implement traffic control in accordance with established protocols to promote safety of the scene, responders, and drivers near the incident
* Adjust traffic control and scene restrictions as needed and as determined in coordination with TMC and other responders, including towing/recovery
* Utilize tools on-board the vehicle to support on-scene incident management and traffic control support, including all traffic control equipment, arrow boards, flashers, and work light
* Update TMC operators as on-scene management progresses
* Support responder egress, including towing/recovery egress
* Maintain safety of incident scene during demobilization of traffic control
* Coordinate with TMC when all-clear is issued

**RESOURCES**: emergency traffic control equipment (cones, flashers), arrow boards, emergency flashers, work lights, etc. |  |  |  |  |  |
|  | NCDOT Incident Management Engineers (IME), County Maintenance, Traffic Services*Support other NCDOT personnel currently on-scene, investigate damage infrastructure, and temporary traffic control (TTC)* | * Follow SOPs for arriving at incident scene and safely parking NCDOT vehicle
* Coordinate with IC once on-scene regarding additional support needs and for potential authorization to investigate infrastructure damage
* Coordinate with IMAP once on-scene regarding outstanding decisions regarding IMAP coordination strategies
* Actively facilitate coordination efforts regarding support needed to open the road as quickly as possible
* Update responders if traffic control needs to change to allow for safe recovery and tow loading
* Actively consider (be mindful of) queue management as it related to the incident
* Adjust traffic control and scene restrictions as needed and as determined in coordination with other responders, including towing/recovery
* Provide portable CMS for additional messaging (when applicable)
* Support NCDOT personnel currently on-scene
* Follow NCDOT SOPs for infrastructure investigation protocols
* Update TMC operators as on-scene management progresses
* Coordinate with TMC when all-clear is issued

**RESOURCES**: staff, temporary traffic control equipment (cones, barriers, portable CMS) |  |  |  |  |  |
|  |  |  |  |  |  |
| Towing/ Recovery | Local Tow Companies/ Contracted Tow Companies*Provide towing services to motorists and first responders* | * When requested, promptly and safely respond
* Follow SOPs for arriving at incident scene and safely parking towing and recovery vehicles
* If trained and other resources are not available, implement emergency traffic control (ETC)
* Coordinate with IC once on-scene for authorization to relocate or remove crashed vehicles, debris, and other hazards
* Request additional towing/recovery resources or specialized equipment (if needed) to facilitate safe tow
* Provide IC with an estimated time for roadway clearance
* Update responders if traffic control needs to change to allow for safe recovery and tow loading
* Follow SOPs for safe tow practices while on-scene, including personal protective equipment (PPE) requirements
* Emphasis on roadway clearance first with property recovery and security completed off the roadway when possible
* Relocate vehicle to shoulder or investigation area, or remove vehicle to an off-site location, per direction from IC

**RESOURCES**: tow vehicle, traffic control equipment, PPE |  |  |  |  |  |