

I. WHAT IS TRAFFIC INCIDENT MANAGEMENT (TIM)

The FHWA's Freeway Management Operations Handbook (Chapter 10, 2003), describes traffic incident management as:

The systematic, planned, and coordinated use of human, institutional, mechanical, and technical resources to reduce the duration and impact of traffic incidents, and improve the safety of crash victims, traffic incident responders, and motorists.

Effectively using these resources can also increase the operating efficiency, safety, and mobility of the highway. This results from reducing the time to detect and verify a traffic incident occurrence; implementing the appropriate response; safely clearing the incident; and managing the affected flow until full capacity is restored. Traffic incident management provides a coordinated approach to managing incidents that occur on our highways. These guidelines are designed to help develop traffic incident management plans that will create a safer work zone for all stakeholders.

II. INTRODUCTION

A. Goals of Traffic Incident Management

The goals of this program are to improve the safety of responders at incident scenes along with reducing incident duration time. Responders and the travelling public are safest when traffic is flowing at a normal traffic flow.

ALTIM is committed to providing a safe and reliable multimodal transportation system. Incidents and non-recurring events that cause a reduction in highway capacity account for nearly 50 to 60 percent of total daily congestion delay. In small urban or rural areas, this number can be significantly higher (FHWA, Freeway Management Operations Handbook, Chapter 10, 2003). These incidents pose a risk of secondary incidents and can cause additional problems, including increased traveler delay and fuel consumption, reduced air quality and, when combined with work

zones, delays and costs to the construction project. Recent studies indicate that approximately 50 percent of all highway congestion is attributed to non-recurring conditions (such as traffic incidents, weather, work zones, and special events). (U.S. Department of Energy, Temporary Losses of Highway Capacity and Impacts on Performance, Oak Ridge National Laboratory (ORNL/TM-2002/3), May 2002.)

Struck-by incidents, where passing motorists hit responders, are also on the rise. In 2005, the National Institute for Occupational Safety and Health (NIOSH) reported that 390 workers were killed in struck-by incidents (up from 278 in 2004). That year, struck-by incidents accounted for 7 percent of the total number of occupational injuries.

In a typical year, the following number of responders are struck and killed:

- 10 Law Enforcement Officers
- 4 Fire and Rescue Personnel
- An estimated 40-60 Towing and Recovery Professionals
- Several transportation professionals from DOTs, Public Works, and Safety Service Patrol

Programs Data on highway workers killed at traffic incidents currently is not separated from overall statistics; however, NIOSH estimates struck-by deaths (including workers struck by a passing vehicle, or mobile equipment) accounted for half of the 844 worker deaths between 1996 and 2002.

B. Incident Response Priorities

- a. Priority 1: Life Safety – Initial efforts are to preserve lives, including those of incident victims, responders, and passing motorists. Safety is the highest priority throughout the incident.
- b. Priority 2: Incident Stabilization – Using best practices, stabilize the incident scene to prevent fire, eliminate ignition sources, contain hazardous materials and stabilize vehicles involved in the incident.

- i. Prevention of Secondary Incidents – Responders should use available traffic control devices and, if possible, position apparatus to divert traffic around the crash scene. Special attention should be paid to the end of the traffic queue, using permanent and portable Changeable Message Signs (CMS) to warn motorists of slow or stopped traffic as they approach the end of the queue.
 - ii. Protection of Evidence – All incident sites are potential crime scenes and must be treated accordingly. Responders must make every effort to minimize the impact of their presence on the crash scene.
 - iii. Safe, Quick Clearance – It should be the goal of all responders to clear the scene as soon as practical and to restore traffic flow to limit the diversion of traffic to less desirable and/or more hazardous routes
- c. Priority 3: Protection of Property and the Environment – Responders should attempt to protect and preserve the high-way infrastructure and limit damage to vehicles involved in incidents to what is necessary to stabilize and remove victims trapped in the vehicles. Property salvage operations should be conducted as soon as safely possible. For hazardous materials and/or potential hazardous materials scenes, responders with the proper personal protective equipment and training should strive to contain the spilled product while minimizing exposure.

III. INCIDENT LEVELS

Incident levels are defined by the extent and duration of the impact anticipated on the roadway and is consistent with the definitions provided in the MUTCD. The purpose of defining levels

is to help identify appropriate actions to be taken in response to the anticipated level of impact. Common use of levels also helps responders and those responsible for disseminating information immediately understand the magnitude of the incident. The following incident levels have been adopted as standard definitions for use throughout Alabama:

- A. Minor (Level 1): Impact to traveled roadway estimated to be less than 30 minutes with no lane blockage.
- B. Intermediate (Level 2): Impact to traveled roadway estimated to be greater than 30 minutes, but less than 2 hours with lane blockages, but not a full closure of the roadway.
- C. Major (Level 3): Congestive impact to traveled roadway is estimated to be greater than 2 hours or roadway is fully closed in any single direction.
- D. Major – Long Term Closure (Level 4): Extended closure greater than 24 hours. Closure duration shall be determined by the incident commander.

The purpose of defining levels is not to create additional burden to the incident manager or initial responder, but to provide consistent actions and support based on the level of impact.

While an initial size-up may indicate a minor incident that could be cleared in less than 30 minutes, subsequent information, such as a hazardous materials situation or a fatality, may change what was initially thought to be a minor incident to a more complex response with more significant impacts to the roadway.

IV. SCENE SIZE-UP

As soon as practical upon arriving at the scene of a traffic incident the first responder should provide the emergency operations/dispatch center with the information outlined below. As much information as possible should be provided before initially exiting the response vehicle:

1. Location of incident:
 - (a) County.
 - (b) Route.
 - (c) Mile Post/nearest intersection.
 - (d) Direction (NB, SB, EB, WB).
2. Incident type (fire, flood, hazardous material spill, etc.).
3. Type of hazardous materials involved (if any).
4. Impacts to traffic (number of lanes blocked, etc.)
5. Vehicle information (number and type of vehicles involved, level of damage).
6. Number of persons potentially affected by the incident.
7. Anticipated threat/hazards to emergency responders.
8. Lead agency.
9. Resources needed:
 - (a) Personnel.
 - (b) Vehicles.
 - (c) Equipment/Supplies.
10. Location of the Incident Command Post (ICP) or staging area (if established).
11. Ingress/egress routes.

Class One: 6,000 lbs. or less



Full Size Pickup



Mini Pickup



Minivan



SUV



Utility Van

Class Two: 6,001 to 10,000 lbs.



Crew Size Pickup



Full Size Pickup



Mini Bus



Minivan



Step Van



Utility Van

Class Three: 10,001 to 14,000 lbs.



City Delivery



Mini Bus



Walk In

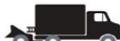
Class Four: 14,001 to 16,000 lbs.



City Delivery



Conventional Van



Landscape Utility



Large Walk In



Box Truck

Class Five: 16,001 to 19,500 lbs.



Bucket



City Delivery



Large Walk In

Class Six: 19,501 to 26,000 lbs.



Beverage



Rack



School Bus



Single Axle Van



Stake Body

Class Seven: 26,001 to 33,000 lbs.



City Transit Bus



Furniture



High Profile Semi



Home Fuel



Medium Semi Tractor



Refuse



Tow

Class Eight: 33,001 lbs. & over



Cement Mixer



Dump



Fire Truck



Fuel



Heavy Semi Tractor



Refrigerated Van



Semi Sleeper



Tour Bus

V. AGENCY IDENTIFICATION AND RESPONSIBILITIES

Typical incident management responsibilities applicable to all branches include:

- a. Protect the incident scene
- b. Perform first responder duties
- c. Support unified command
- d. Clear minor incidents
- e. Wear appropriate Personal Protective Equipment (PPE), including Safety Vests
- f. Preserve evidence
- g. Be visible at all times

A. ALDOT/Public Works/County Highway Departments

ALDOT personnel with a specific interest in traffic incident management include the Region Traffic Engineer, Area Maintenance Engineer, special response teams, and the traffic management centers.

At the local level, cities and counties that have transportation or road maintenance and operations personnel who would be impacted by detours and who could provide resources in the event of an incident.

Incident management responsibilities include:

- a. Monitor Traffic Operations
- b. Perform incident detection and verification
- c. Establish Temporary Traffic Control Zone
- d. Implement traffic control strategies and provide supporting resources
- e. Disseminate motorist information
- f. Assess and direct incident clearance activities under a unified command structure
- g. Develop and operate alternate routes
- h. Assess and perform emergency roadwork and infrastructure repair

- i. Remain at the incident scene until the tow truck or last responder has left the scene, unless law enforcement provides that coverage
- j. Support unified command as necessary.
- k. Protect incident scene
- l. Clear minor incidents
- m. Mitigate small vehicle fluid spills

B. Law Enforcement

Alabama Law Enforcement Agency generally has jurisdiction on state highways in Alabama. Local law enforcement, police and sheriff, also respond to traffic incidents on state highways and in some locations may have primary jurisdiction. It is important to coordinate with law enforcement at all levels to determine their needs in managing incidents.

Incident management responsibilities include:

- a. Secure incident scene
- b. Assist responders in accessing the incident scene
- c. Establish emergency access routes
- d. Control arrival and departure of incident responders
- e. Police perimeter of incident scene and impact area
- f. Conduct incident investigation
- g. Establish Temporary Traffic Control Zone
- h. Perform traffic control
- i. Remain at the incident scene until the tow truck or other last responder has left the scene, unless the roadway agency provides that coverage
- j. Protect incident scene.
- k. Support unified command as necessary.

C. Fire/Rescue

Fire/rescue response is generally provided by local fire departments. These departments may have volunteer or career responders, or a combination thereof. It is important to work with these agencies to determine their needs and understand their current practices and protocols.

Incident management responsibilities include:

- a. Rescue/extricate victims
- b. Extinguish fires
- c. Stabilize and render safe crash damaged vehicles
- d. Assess incidents involving a hazardous materials release
- e. Contain or mitigate a hazardous materials release
- f. Mitigate minor fluid spills
- g. Establish and monitor Temporary Air Medical (Medevac) Landing Zones
- h. Support unified command as necessary.

D. Towing and Recovery

Towing and recovery services are responsible for the safe and efficient removal of wrecked or disabled vehicles, and debris from the incident scene. Towing and recovery services are generally provided by private companies. Towing services are often maintained on a rotation list by Law Enforcement agencies for response on state highways. In some locations in Alabama, ALDOT has a standing contract with Towing companies to provide services in certain areas during peak traffic times.

Incident management responsibilities include:

- a. Evaluate scene safety with other responders, discussing recovery procedures
- b. Provide technical assistance/information to other responding stakeholders
- c. Mitigate minor fluid spills
- d. Apply absorbents and remove debris/spilled fluids from the roadway
- e. Perform recovery by re-aligning the vehicle to tow truck, not tow truck to vehicle, using snatch blocks or other techniques, when able to do so safely
- f. Perform recoveries in one lane, if possible, and load vehicle for transport
- g. Clean up debris and used absorbents. Do not place debris and absorbents in the vehicle

- h. Return roadway to pre-incident condition as well as possible
- i. Check in with other responders prior to departing the scene
- j. Transport occupants of the vehicle to a safe location after the vehicle is removed from the roadway
- k. Support unified command as necessary.

E. Emergency Medical Service

Emergency medical service (EMS) is generally provided by fire departments or ambulance services. The primary responsibilities of EMS are the triage, treatment, and transport of victims.

Incident management responsibilities include:

- a. Provide medical treatment to those injured at the incident scene
- b. Determine destination and transportation requirements for injured victims
- c. Coordinate evacuation with fire, police, and ambulance or airlift
- d. Transport victims for additional medical treatment
- e. Provide medical monitoring and rehabilitation for emergency responders
- f. Support unified command as necessary.

F. Hazardous Materials

Hazardous materials incidents fall under the jurisdiction of the Alabama Emergency Management Agency or the local county EMA. These are the agencies with legal authority to respond to and manage hazardous materials incidents. In many urban areas, the local fire department has a Hazardous Response Unit. In more rural areas or locations without local expertise in hazardous materials, this does not exist.

Incident management responsibilities include:

- a. Contain and remove hazardous waste
- b. Mitigate on-going release of material into the environment.

- c. Coordinate with other responders to arrange for the removal of collected hazardous waste to a location off of the traveled way.

G. Media

The media can be an essential resource in informing the traveling public of incidents. Broadcast media, such as radio and television, can provide real-time information, allowing drivers to make informed decisions about their travel. Other media services, such as internet and paging services, can provide time-sensitive information. Local media services should be identified and coordinated with to provide effective incident management.

Incident management responsibilities include:

- a. Check in with law enforcement or ALDOT to determine the safest location to perform media responsibilities. Preferably not from opposite lanes or directions.
- b. Do not impede the flow of traffic.
- c. Abide by Alabama Law and stay a minimum of 500' from the nearest emergency vehicle, unless directed to a designated media area by law enforcement or ALDOT. (Code of Alabama Section 32-5A-58)

H. Other Stakeholders

A number of other stakeholders may exist in an incident and could have an impact on how incidents are managed. Some local governments or quasi-governmental agencies provide specialized rescue services, such as extrication of patients from badly damaged vehicles. Rescue squads/special dive teams may be needed for incidents that involve patients in rivers that run parallel to a number of highways in Alabama. Victims of fatal crashes cannot be moved until the Traffic Homicide Investigator is on-scene. Incidents involving livestock will often require a veterinarian for euthanizing animals that are injured along with the appropriate personnel (cowboys) to offload the remaining livestock along with livestock trailers to load the livestock onto.

VI. UNIFIED COMMAND AND MULTI-DISCIPLINARY APPROACH

Incidents requiring the response of multiple stakeholders will be managed via a Unified Command (UC). As such, each responding discipline will send a representative to the Unified Command Post (if such is designated), where they will work cooperatively and within their respective areas of expertise to safely and effectively mitigate the incident. Decisions will be communicated amongst all stakeholder representatives to ensure coordination of efforts. A successful traffic incident management program requires strong, inter-agency involvement and commitment. Incidents require a high level of collaboration and coordination to meet the safety and mobility needs of all stakeholders. All agencies responding to incidents must be involved to ensure that their specific needs are met and help ensure a successful TIM implementation.

UC allows agencies representing different jurisdictions or functional responsibilities to coordinate, plan, and interact effectively without loss of individual agency authority, responsibility, or accountability. UC is intended to jointly accomplish the following tasks:

- Determine incident objectives (in priority order)
- Establish strategies to accomplish the objectives.
- Establish ICS organizational elements as necessary
- Resolve any outstanding issues affecting UC management

Advantages of Using Unified Command

- A single set of objectives is developed for an entire incident.
- A collective approach is used to develop strategies to achieve incident objectives.
- Information flow and coordination are improved between all jurisdictions and agencies involved in the incident.
- All agencies with responsibility for the incident understand joint priorities and restrictions.
- No agency's legal authority is compromised or neglected.

- Each agency has complete knowledge of the plans, actions, and constraints of all other agencies.
- The combined efforts and resources of all agencies are optimized as they perform their respective assignments under a single IAP (Incident Action Plan).
- Duplicative efforts are reduced or eliminated, thereby increasing the overall cost-effectiveness of the effort and minimizing potential conflicts

VII. GENERAL SAFETY AND RISK MANAGEMENT

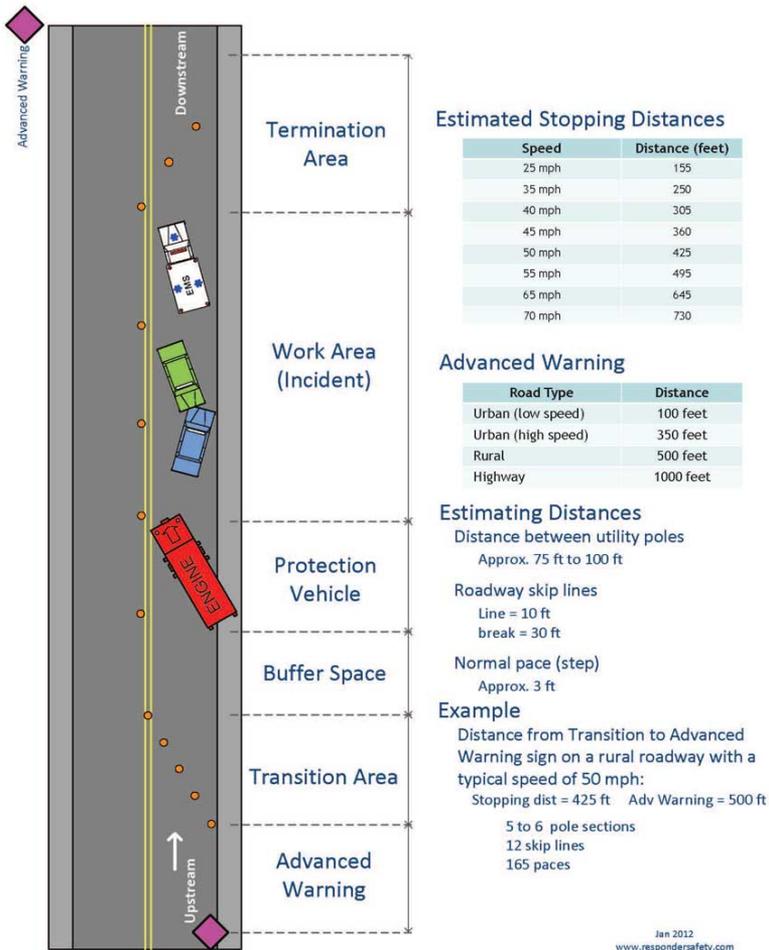
Chapter 6 of the Manual on Uniform Traffic Control Devices (MUTCD) states “The primary function of [Temporary Traffic Control] TTC is to provide for the reasonably safe and efficient movement of road users through or around TTC zones while reasonably protecting workers, responders to traffic incidents, and equipment.” Chapter 6 includes requirements and guidance on all temporary traffic control associated with work zones and the traffic incidents. One of the principles for temporary traffic control is to develop “general plans or guidelines ... to provide safety for motorists, bicyclists, pedestrians, workers, law enforcement/emergency officials, and equipment. Responders to roadway incidents must maintain a constant awareness of the inherent danger of operating on roadways. While completely closing the roadway whenever an incident occurs may seem the safest option, it can cause a myriad of problems and complications:

- The number of personnel needed to safely and effectively close the highway or roadway.
- The greatly increased chance of secondary crashes, both on the affected roadway and on secondary roads not designed for the increased traffic volume.
- The likely delay for additional emergency units attempting to access the incident scene.

- Significant traffic congestion in a large geographic area, impeding responses to additional emergency incidents which may occur.

Therefore, police and other emergency responders must work cooperatively to employ the necessary traffic diversions to establish a safe work zone for responders, without unnecessarily restricting the flow of traffic through the area.

Temporary Traffic Control For 1st Responders

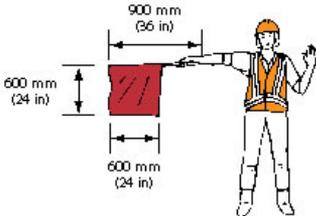


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Each responder at an incident must be constantly aware of his or her personal safety. While traffic control devices and visibility enhancing garments will increase your safety, they will not protect you from a driver who loses control of their vehicle and/or is not paying attention to the road. Therefore, your greatest protection is to keep a physical barrier (blocker vehicle, guardrail, crash vehicles, etc.) between you and moving traffic whenever possible.

PREFERRED METHOD
STOP/SLOW Paddle

EMERGENCY SITUATIONS ONLY
Red Flag



TO STOP TRAFFIC



TO LET TRAFFIC PROCEED



TO ALERT AND SLOW TRAFFIC

The following are additional protective measures you can take to maximize your protection at an incident scene. Be safe. Act safe.

- A. In accordance with Federal Regulation 23 CFR 634, all emergency workers operating on a roadway who are exposed to traffic shall wear a Class II or higher vest complying with ANSI/ISEA 107, 2004 or 2006 or a Public Safety Vest complying with ANSI/ISEA 207, 2006. Firefighters or other emergency responders engaged in emergency operations that directly expose them to flame, fire, heat, and/or hazardous materials are not required to wear a vest, provided they are attired in retro-reflective turn-out gear that is specified and regulated by other organizations, such as the National Fire Protection Association.
- B. Notwithstanding the visibility requirements described above, fire department members are expected to wear full Personal Protective Equipment (coat, pants, helmet) while operating on the roadway. As noted above, an approved Class II vest must be worn over the coat (unless the above described exemption criteria is met). The IC may allow firefighters to remove their coats after the hazard has been mitigated, however, the Class II vest must still be worn.
- C. Responders shall never operate in a live lane. Crossing a live lane should be done with extreme caution and should be avoided when possible.
- D. Hose lines/equipment should be deployed from the protected, downstream side (opposite live traffic lanes) of emergency vehicles whenever possible.
- E. Do not enter or exit apparatus near or in live lanes of traffic.
- F. Do not drive against the flow of traffic without law enforcement approval and confirmation that traffic has been stopped.

- G. Use designated entrances and exits. Do not use median turnarounds unless the circumstances pose a risk to life or are otherwise extenuating.
- H. Shut down forward facing emergency lights to reduce opposite direction incidents.
- I. Limit the amount of equipment on the roadway, thus reducing your liability exposure. Risk vs. Need.
- J. Always communicate, coordinate, cooperate, be professional, and work within the framework of unified command.
- K. Ensure all members are aware of and trained on these guidelines.

VIII. TRAVELER INFORMATION

Traveler information is a critical component of effective traffic incident management. Tools to help inform travelers of an incident include ITS (Intelligent Transportation System) devices (such as variable message signs and highway advisory radio), public education campaigns and the broadcast media. It is important to inform motorists of current traffic conditions to help minimize frustration, increase compliance with alternate routes, and enhance safety throughout the incident zone. Furthermore, it is important to notify drivers who have not yet entered the highway system. For example, it is imperative to inform those who have not left for their destination so they can reconsider the amount of time or route of travel.

In addition to using specific tools for informing motorists, there need to be procedures outlining responsibilities for updating and disseminating information. ALDOT's RTMC's (Regional Traffic Management Center) provide a key role in disseminating information to the public and the media. Most RTMC's are staffed 24-hours a day, 365 days a year, with personnel who monitor traffic conditions throughout the state and update ALGO Traffic,

permanent variable message signs, and highway advisory radios. Procedures for how to coordinate with the RTMC should be established as well as procedures for additional information activities to be performed by the response agencies.