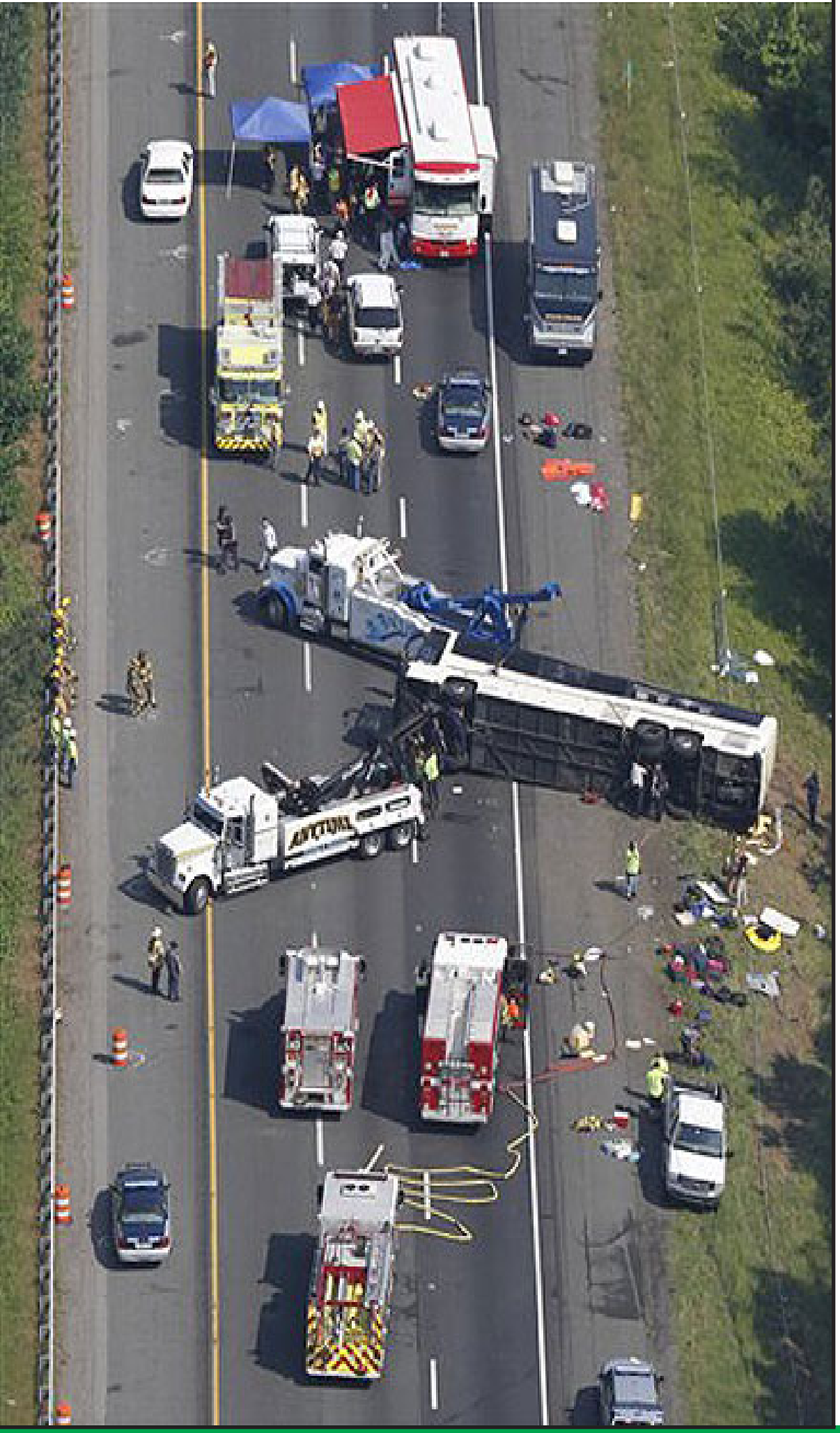

2013 Virginia Traffic Incident Management Plan

Colonel W. Steven Flaherty
Superintendent
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Chairman
Statewide Traffic Incident
Management Committee

INTRODUCTION

Virginia has a vested interest in reducing traffic congestion. Traffic congestion not only has a negative impact on the quality of life and safety of its citizens, it has a significant financial impact as well. The U.S. Department of Transportation (USDOT) listed traffic congestion as "one of the single largest threats" to the Nation's economic prosperity and way of life. In the 2009 Urban Mobility Report published by the Texas Transportation Institute (TTI), data calculated in 2007 reported that traffic congestion in the top 439 urban areas in the United States amounted to 4.2 billion hours of wasted time and 2.8 billion gallons of wasted fuel. This equaled approximately $87.2 billion in lost revenue. In 2009, that amount had increased to $115 billion.

In 2009, Virginia had the sixth highest commute time to work in the nation. According to a study conducted by TTI that same year, the metro area around Washington, DC had the highest average number of hours of delay (70) per traveler in the nation. Even minor disruptions in traffic flow have significant impacts on congestion. The National Traffic Incident Management Coalition (NTIMC) estimates that 4 minutes of travel delay time result for every minute a highway lane is blocked due to an incident.

While there are many factors which contribute to congestion (i.e. road capacity and condition, commuting demands, lack of public transportation, and population) other unpredictable factors also create traffic problems. In Virginia, it is estimated that more than half of all congestion is non-recurring – caused by crashes, disabled vehicles, adverse weather, work zones, special events and other temporary disruptions to the transportation system. Compounding the problem is the issue of secondary crashes. The National Highway Traffic Safety Administration (NHTSA) estimates that 36% of all crashes on the Capital Beltway in Virginia and Maryland are secondary crashes. The Federal Highway Administration estimates the likelihood of a secondary crash increases by 2.8 % for each minute the primary incident continues to be a hazard.

Traffic incidents also present a tremendous hazard for first responders. According to the NTIMC, traffic crashes and "struck-by" incidents are leading causes of on-duty injuries and deaths for law enforcement, firefighters, emergency medical, and towing and recovery personnel. Reducing incident clearance times will improve first responder safety.

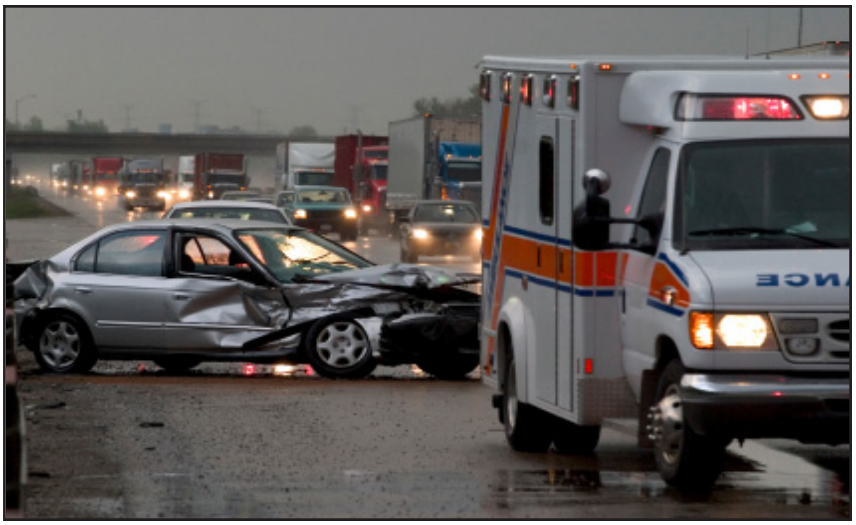
Better management of traffic incidents is one key to reducing congestion and improving safety. In the 2009 Urban Mobility study, TTI calculated that in the 272 urban areas where improved incident management procedures were implemented, the resulting reduction in incident-related congestion saved 143.3 million hours and $3.06 million in revenue.

Historically, first responder incident management procedures have been focused on responder safety at the scene with limited consideration for the benefits derived through the utilization of quick clearance strategies.

The purpose of this document is to provide general guidelines to improve the response of Virginia agencies charged with the prevention, and mitigation of traffic incidents. These guidelines should be used to create local and regional traffic incident management (TIM) plans consistent with the National Unified Goals (NUG) objectives of responder safety, safe quick clearance, and prompt, reliable incident communications.

ROLES AND AUTHORITY

In recent years, transportation and public safety organizations have conducted studies, training, regional meetings, and national conferences to advance traffic incident management practices. These activities have led to better policies, procedures, a much better understanding of the roles of each affected agency and the need for more effective communication and coordination.



Traffic incident management is a responsibility shared by many disciplines. These disciplines often have unique origins, histories, and cultures. In many cases the various disciplines have developed competing or conflicting goals, strategies and procedures regarding traffic incident management. Mitigating these conflicts requires clearly defining the roles and responsibilities of all stake holders before incidents occur.

The goal of this section is to provide a uniformity of purpose and organization to our response and mitigation of traffic incidents in Virginia. Included below is a list of stakeholders and their generally accepted roles as derived from the Federal Highway Administration, Traffic Incident Management Handbook.

Law Enforcement

Law enforcement agencies include Virginia State Police, county police and county sheriffs, city and town police and other agencies which have officers sworn to enforce laws. On the scene of a traffic incident, the duties of these officials include:

- Securing the incident scene
- Providing emergency medical aid until trained medical personnel arrives
- Abate/eliminate small hazards (small fires, fuel/oil spills, etc)
- Safeguarding personal property
- Conducting accident investigations
- Serving as incident commander and/or serving as part of the unified command system
- Supervising scene clearance
- Assisting disabled motorists
- Directing traffic

Emergency Medical Services (EMS)

The primary responsibilities of EMS are the triage, treatment, and transport of crash victims. In many areas, fire and rescue departments/companies are also the primary emergency medical services agency. In some areas, separate EMS agencies, independent volunteer rescue squads or private companies (under contract with localities) provide these services. Typical roles and responsibilities assumed by EMS at traffic incidents include:

- Providing basic and/or advanced emergency medical care
- Determining of destination and transportation requirements for the injured
- Coordinating evacuation with fire, police and ambulance or medevac helicopter
- Serving as incident commander prior to the arrival of law enforcement and during for medical emergencies and/or serving as part of a unified command system
- Determining approximate mechanism of injuries for the trauma center
- Ensuring materials used during patient care (equipment, waste and biohazard materials) are removed from incident scene

Fire and Rescue

Fire and rescue services are typically provided by local government fire departments, by independent volunteer fire companies and/or when necessary by surrounding fire departments and emergency medical personnel through mutual aid agreements. Typical roles and responsibilities at traffic incidents assumed by fire and departments include:

- Protecting the incident scene
- Suppressing fires
- Providing emergency medical care
- Serving as incident commander prior to the arrival of law enforcement and during fire or hazmat emergencies and/or serving as part of a unified command system
- Providing initial HAZMAT response and containment
- Rescuing crash victims from contaminated environments
- Rescuing crash victims from wrecked vehicles
- Arranging transportation for the injured
- Assisting in incident clearance
- Providing traffic control until law enforcement or DOT arrives and then assisting with traffic control as needed.

In most jurisdictions, the fire department is the primary emergency response agency for hazardous materials spills.

In the Commonwealth of Virginia, fire departments are staffed in a number of ways either through all career departments, combination (career/volunteer) departments or by all volunteer fire departments.

Transportation

Transportation agencies are frequently involved in the development, implementation, and operation of traffic operations centers (TOC), as well as the management of service patrols. Typical operational responsibilities assumed by transportation agencies and their service patrols include:

- Assist in incident detection and verification
- Initiate traffic management strategies on incident impacted facilities
- Protect the incident scene
- Initiate emergency medical assistance (as appropriate/as trained) until help arrives
- Provide traffic control
- Assist motorist with disabled vehicles
- Provide motorist information
- Provide sand for absorbing small fuel and anti-freeze spills
- Provide special equipment for clearing incident scenes
- Determine incident clearance and roadway repair needs
- Establish and operate alternate routes
- Coordinate road repair resources
- Serve as incident commander prior to the arrival of law enforcement or fire and rescue personnel and for clearance and repair functions and/or serving as part of a unified command system
- Repair transportation infrastructure

Public Safety Answering Point and Communications

Public Safety Answering Points (PSAPs) are 9-1-1 communications centers typically managed by localities. PSAPs are commonly a fire or rescue, law enforcement, or jointly controlled and operated communication center.

Public safety communications services are the emergency call takers and dispatchers. In larger localities/agencies, call taking and dispatching duties may be separated. Call takers route emergency calls to appropriate dispatcher(s). In some areas, all public safety emergency calls (law enforcement, fire, rescue, and emergency medical services) are handled in one joint center with call takers routing calls to appropriate agency dispatcher(s) depending on the nature of the call. In smaller, PSAP staff may serve both roles as the call-taker and dispatcher.

McConnell Public Safety and Transportation Operations Center, Fairfax County

Traffic Information Media

Traffic information service providers are primarily private sector companies that gather and disseminate traffic condition information. These private providers are the primary source of information for commercial radio traffic information broadcasts, the most common source of traffic information for motorists. These companies also package specific information on a route or time of day basis to paying clients who subscribe for the information. In recent years, many Internet sites have been created to provide road condition and traffic information. A mixture of public sector agencies and private information service providers maintain these sites.

Emergency Management

State and local governments have agencies whose duties are to plan for and coordinate multi-agency response to large-scale emergencies such as natural and man-made disasters. These agencies have specific responsibilities under both federal and state law. Even very large highway incidents rarely activate emergency response plans unless they involve multiple highway incidents, widespread dage (i.e. large numbers of trees down or roads flooded), necessitate evacuation due to a spill, fire or presence of hazardous materials. Emergency management agencies maintain lists of the location of many public and private sector resources that might be needed in a major emergency. These lists and contacts for activating resources are valuable tools in planning multi-agency response to major highway incidents.

On HazMat Incidents, VDEM will provide the follow:

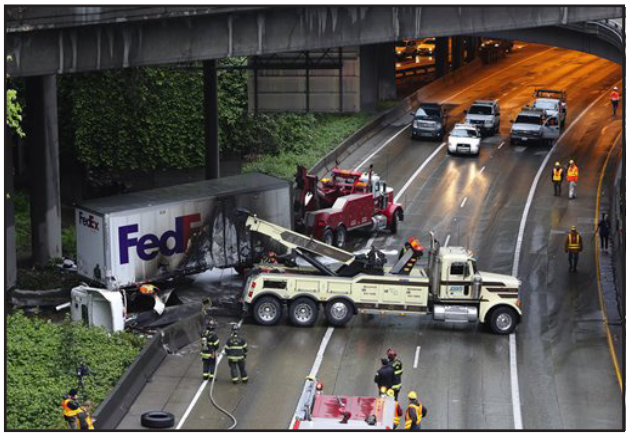
- Technical guidance to the IC; representation in UC
- Assist locals/IC with product identification, detection and monitoring, oversee clean-up w/DEQ's guidance
- Dispatch Regional HazMat Response Team to assist with mitigation, oversee clean-up w/DEQ's guidance

Hazardous Materials Contractors

Hazardous materials contractors operate in a number of regions in the United States. They are hired by emergency or transportation authorities, the responsible party(ies) and/or other legally responsible entities to clean up and dispose of toxic or hazardous materials and (as necessary) restore the damaged site. Most common (and small quantity) engine fluid spills (oil, diesel fuel, gasoline, anti-freeze, etc.) can be contained and mitigated without calling hazardous materials contractors.

Towing and Recovery

Towing and recovery service providers are responsible for the safe and efficient removal of wrecked or disabled vehicles, and debris from the incident scene. Their typical responsibilities include:



- Recover and remove vehicles from incident scene
- Protect victims' property and vehicles
- Remove debris from the roadway
- Provide other services, such as traffic control, as directed or under contract

Command and Control

Homeland Security Presidential Directive (HSPD)-5, *Management of Domestic Incidents,* directed the development and administration of the National Incident Management System (NIMS). Originally issued on March 1, 2004, by the Department of Homeland Security (DHS), the *National Incident Management System* (NIMS) provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment.

The Incident Command System (ICS) component of NIMS shall be used to provide command and control at the scene of incidents covered by this plan. The senior law enforcement official on scene shall normally be the Incident Commander, except in incidents involving a fire, rescue, patient care or hazardous materials. Unified Command may be required on large scale events. ICS recognizes that different disciplines may need to assume the role of Incident Commander at various stages of the incident, and provides for an orderly transfer of command as assignments are completed.

Law enforcement, in cooperation with other incident participants shall be responsible for securing the incident scene in a manner to safely make available the most travel lanes as soon as reasonably possible. As specialized resources such as fire, rescue EMS, and towing and recovery complete their missions, they will clear the incident and return to their normal duties. This will also be true of law enforcement and other agencies as they complete their required functions, and it is determined their resources are no longer needed. The paramount goal is restoring the roadway to normal traffic as soon as possible.

Statutory Authority

§46.2-371: Driver to give immediate notice of certain accidents.

The driver of any vehicle involved in any accident resulting in injury to or death of any person, or some person acting for him, shall immediately give notice of the accident to a law-enforcement officer. A willful failure to make the report required in this section shall constitute a Class 4 misdemeanor.

§46.2-373: Report by law-enforcement officer investigating accident.

A. Every law-enforcement officer who in the course of duty investigates a motor vehicle accident resulting in injury to or death of any person or total property damage to an apparent extent of $1,500 or more, either at the time of and at the scene of the accident or thereafter and elsewhere, by interviewing participants or witnesses shall, within twenty-four hours after completing the investigation, forward a written report of the accident to the Department. The report shall include the name or names of the insurance carrier or of the insurance agent of the automobile liability policy on each vehicle involved in the accident.

B. Any report filed pursuant to subsection A of this section shall include information as to (i) the speed of each vehicle involved in the accident and (ii) the type of vehicles involved in all accidents between passenger vehicles and vehicles or combinations of vehicles used to transport property, and (iii) whether any trucks involved in such accidents were covered or uncovered.

C. The Department shall supply copies of accident reports received under this section to the Commissioner of Highways who shall exercise the authority granted to him under §§ 46.2-870 through 46.2-878 to reduce speed limits where accident frequency or severity or other factors may indicate the course of action to be warranted.

§ 46.2-888. Stopping on highways; general rule.

No person shall stop a vehicle in such manner as to impede or render dangerous the use of the highway by others, except in the case of an emergency, an accident, or a mechanical breakdown. In the event of such an emergency, accident, or breakdown, the emergency flashing lights of such vehicle shall be turned on if the vehicle is equipped with such lights and such lights are in working order. If the driver is capable of safely doing so and the vehicle is movable, the driver may move the vehicle from the roadway to prevent obstructing the regular flow of traffic; provided, however, that the movement of the vehicle to prevent the obstruction of traffic shall not relieve the law-enforcement officer of his duty pursuant to § 46.2-373. A report of the vehicle's location shall be made to the nearest law-enforcement officer as soon as practicable, and the vehicle shall be moved from the roadway to the shoulder as soon as possible and removed from the shoulder without unnecessary delay. If the vehicle is not promptly removed, such removal may be ordered by a law-enforcement officer at the expense of the owner if the disabled vehicle creates a traffic hazard.

§ 46.2-902: Leaving scene of accident when directed to do so by officer.

A person shall leave the scene of a traffic accident when directed to do so by a law-enforcement officer.

§46.2-894: Duty of driver to stop, etc., in event of accident involving injury or death or damage to attended property; penalty.

The driver of any vehicle involved in an accident in which a person is killed or injured or in which an attended vehicle or other attended property is damaged shall immediately stop as close to the scene of the accident as possible without obstructing traffic, as provided in § 46.2-888, and report his name, address, driver's license number, and vehicle registration number forthwith to the State Police or local law-enforcement agency, to the person struck and injured if such person appears to be capable of understanding and retaining the information, or to the driver or some other occupant of the vehicle collided with or to the custodian of other damaged property. The driver shall also render reasonable assistance to any person injured in such accident, including taking such injured person to a physician, surgeon, or hospital if it is apparent that medical treatment is necessary or is requested by the injured person.

Where, because of injuries sustained in the accident, the driver is prevented from complying with the foregoing provisions of this section, the driver shall, as soon as reasonably possible, make the required report to the State Police or local law-enforcement agency and make a reasonable effort to locate the person struck, or the driver or some other occupant of the vehicle collided with, or the custodian of the damaged property, and report to such person or persons his name, address, driver's license number, and vehicle registration number.

Any person convicted of a violation of this section is guilty of (i) a Class 5 felony if the accident results in injury to or the death of any person, or if the accident results in more than $1000 of damage to property or (ii) a Class 1 misdemeanor if the accident results in damage of $1000 or less to property.

§27-15.1: Authority of chief, director or other officer in charge when answering alarm or operating at an emergency incident; penalty for refusal to obey orders.

While any fire/EMS department or fire/EMS company is in the process of answering an alarm or operating at an emergency incident where there is imminent danger or the actual occurrence of fire or explosion or the uncontrolled release of hazardous materials which threaten life or property and returning to the station, the chief, director, or other officer in charge of such fire/EMS department or company at that time shall have the authority to: (i) maintain order at such emergency incident or its vicinity, (ii) direct the actions of the fire fighters or emergency medical services personnel at the incident, (iii) notwithstanding the provisions of §§ 46.2-888 through 46.2-891, keep bystanders or other persons at a safe distance from the incident and emergency equipment, (iv) facilitate the speedy movement and operation of emergency equipment and fire fighters or emergency medical services personnel, (v) cause an investigation to be made into the origin and cause of the incident, and (vi) until the arrival of a police officer, direct and control traffic in person or by deputy and facilitate the movement of traffic. The fire chief, director, or other officer in charge shall display his fire fighter's or emergency medical services personnel's badge, or other proper means of identification. Notwithstanding any other provision of law, this authority shall extend to the activation of traffic control signals designed to facilitate the safe egress and ingress of emergency equipment at a fire/EMS station. Any person or persons refusing to obey the orders of the chief, director, or his deputies or other officer in charge at that time shall be guilty of a Class 4 misdemeanor. The chief, director, or other officer in charge shall have the power to make arrests for violation of the provisions of this section. The authority granted under the provisions of this section may not be exercised to inhibit or obstruct members of law-enforcement agencies or rescue squads from performing their normal duties when operating at such emergency incident, nor to conflict with or diminish the lawful authority, duties and responsibilities of forest wardens, including but not limited to the provisions of Chapter 11 of Title 10.1. Personnel from the news media, such as the press, radio and television, when gathering the news may enter at their own risk into the incident area only when the officer in charge has deemed the area safe and only into those areas of the incident that do not, in the opinion of the officer in charge, interfere with the fire/EMS department or fire fighters or emergency medical services personnel dealing with such emergencies, in which case the chief or other officer in charge may order such person from the scene of the emergency incident.

INCIDENT DEFINITION & CLASSIFICATION

All traffic incidents will be classified based on the expected incident duration as outlined in the Virginia Work Area Protection Manual and the Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration. The three incident classes to be used are as follows:

Level 1/Minor

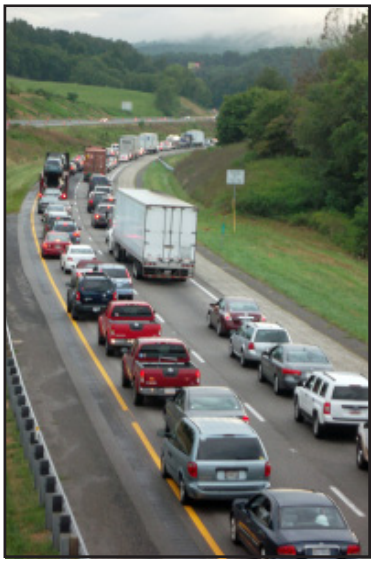
Level 2/Intermediate

Level 3/Major

Incident Classification Guidelines			
Incident Attributes	**Incident Severity Level**		
	Level 1 (Minor)	**Level 2 (Intermediate)**	**Level 3 (Major)**
Estimated Duration - Until normal traffic flow restored	Less than 30 minutes	30 minutes - 2 hours	2 hours or more
Travel Lanes Closed	0-1 Minor Lane Blockage Ex: Disabled, debris, property damage crash	1-2 Major lane blockage & measurable impact on traffic. Ex: Crashes with injuries, multi-vehicle crashes, motor carrier crashes, etc	1 or more Major lane blockage & significant impact on traffic. Ex: Fatal crashes, hazardous material spills, overturned truck/trailer, roadway or structural damage
Structures Involved - Bridge, Overhead Signs, etc.	No	Yes/No	Yes/No
Multiple Vehicles	Yes/No	Yes/No	Yes
Multiple Injuries or Fatality	No	Yes/No	Yes
Fire or Potential Fire Risk	Yes/No	Yes	Yes
Vehicles with Hazardous Materials or Cargo	No	Yes	Yes
Hazardous Materials Cargo Damaged or Breached	Yes/No Contingent upon type of released product	Yes	Yes

Incident Classification Guidelines			
Incident Attributes	**Incident Severity Level**		
	Level 1 (Minor)	**Level 2 (Intermediate)**	**Level 3 (Major)**
Hazardous Materials Cargo Damaged or Breached	Yes/No Contingent upon type of released product	Yes	Yes
Need for Resources	Minimal resources needed not typically necessary to set up lane closure with traffic control devices.	Can be handled without major commitment of resources. Usually requires traffic control on the scene to divert traffic around incident. Full road closure possible for short periods.	Major commitment of resources by participating agencies. Requires extensive traffic control and may require establishing alternate routes for traffic
PIO Resources Needed	No	Yes/No	Yes
Incident Declared By	Initial Incident Commander (typically state or local police, fire, or rescue)	Supervisor of agency w/legal responsibility for operating at incident.	Incident Commander with input from agencies in Unified Command
Unified/Area Command Req.	No	Yes/No	Yes
Incident Debriefing Required	No	As requested by participating agencies	Yes

STRATEGIES & TACTICS



Traffic incidents are defined as any non-recurrent event that causes reduction of roadway capacity or an abnormal increase in demand on a roadway system such as a crash, disabled vehicle, cargo or hazardous material spill, severe weather event, roadway debris, construction, roadway/ infrastructure deterioration (e.g., potholes, etc.) or law enforcement activity.

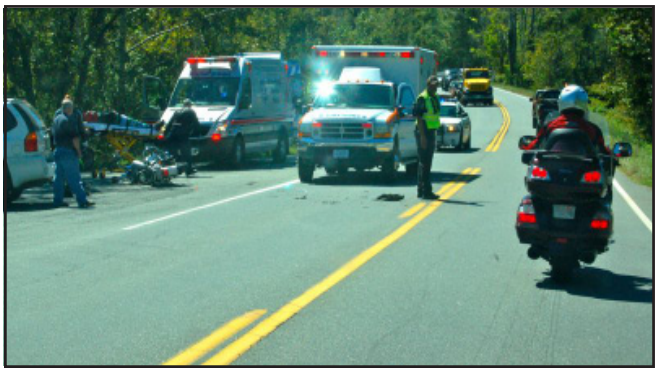
Traffic Incident Management (TIM) consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims and emergency responders.

The Virginia Traffic Incident Management Plan focuses on three NUG objectives:

1. Responder safety
2. Safe quick clearance
3. Prompt, reliable incident communications

Responder safety

Emergency responders can significantly increase their safety by responding with only the necessary resources, properly positioning their vehicles at incident scenes, quickly initiating a traffic management plan, wearing proper safety apparel and promptly removing all equipment and personnel from the scene expeditiously once their specific assignment has been completed.



It is well documented that traffic incidents present a significant danger to both motorists and emergency responders. The primary objective at any traffic incident must be to reduce this danger. Motorists can contribute to responder safety by understanding the dangers associated with traffic incidents and the role they can play in mitigating this danger. Emphasis should be placed on promoting current laws which allow motorists to remove vehicles involved in a crash from travel lanes in certain circumstances (46.2-888). Motorists should also be made aware of the dangers of standing on or in close proximity to travel lanes.

Safe, quick clearance of incident

Quickly clearing incidents and restoring the highway to normal is the essential component of TIM. In order for an incident to be cleared quickly, all stakeholders must consider this goal their priority.

The following are essential elements for quick clearance.

- The quick clearance of vehicles, cargo or objects is critical to prevent excessive traffic congestion that endangers or would prohibit the emergency response of police, fire or medical services to life threatening situations.

- Prevent the occurrence of secondary incidents. Secondary incidents could further jeopardize public safety, complicate or prolong clearance and add to the congestion cost of the original incident.

- Minimize the long-term impacts of highway incidents (e.g., roadway releases of oil and/or hazardous material) that may impact public health, safety, welfare and the environment.

- Minimize productivity losses created by highway congestion and delay. These losses adversely impact business, government, education and the quality of life and every effort should be made to minimize this cost, the impact to public safety and the inconvenience to motorists of the Commonwealth.

Key strategies to be considered:

1. *Utilize the Incident Command System as appropriate based on the classification level, to manage incidents. Unified Command should be used to efficiently coordinate incidents requiring the response of several TIM agencies.*

2. *All TIM agencies must understand their individual roles and work together to safely and quickly clear incidents.*

3. *Establish performance standards for the clearance of incidents based on incident level and track progress toward achievement of the standard.*

4. *Establish and/or continue regional/local training and TIM working groups to develop best practices and standard operating procedures based on resources available to that locality.*

5. *Debrief following major incidents to improve response.*

Prompt and reliable incident communications

On-scene communications can effectively and significantly enhance TIM. The following are suggested strategies for improved communications:

1. Traffic incident responders should develop and implement standardized multidisciplinary traffic incident communications practices and procedures. Plain language should be used by all responders when conversing on the radio in lieu of ten codes.

2. All traffic incident responders should receive prompt, reliable notification of incidents to which they are expected to respond consistent with the Incident Classification Guidelines.

3. State, regional and local Traffic Incident Management stakeholders should work together to develop plans to make use of existing interoperable voice and data networks.

4. Traffic Incident Management partners should encourage development of more prompt and reliable traveler information systems that will enable drivers to make travel decisions to reduce the impacts of emergency incidents on traffic flow.

5. Traffic Incident Management partners should coordinate with news media and information service providers to provide prompt, reliable incident information to the public.

6. Public Safety Communication Centers to maintain up to date contact information for stakeholders in this plan to include both business hours and after hours contact numbers.

REGIONALIZATION/LOCALIZED STRATEGY

Maintaining an awareness of local needs and capabilities is essential to ensure all plans and strategies stay dynamic to meet the public safety needs of the community. To ensure connectivity between the State and Local TIMS Committees, the Virginia Department of State Police shall attend all regional and local TIM Committees and will be responsible for reporting all activities and findings to the Chairman of the Statewide TIMS Committee or his designee.

Periodic meetings of all involved parties and practitioners are vital to the continuity of the local committee and a coordinated response to highway incidents that mandate multiple levels of professional response. Suggested strategies include.

- Establish/Reestablish and maintain TIMs Committees
- Representation should include at a minimum fire departments, local/state law enforcement, emergency medical services, transportation incident management, 9-11 communications, and towing and recovery operators.
- Conduct training approved by the Statewide Traffic Incident Management Committee
- Committees should meet as needed, but at least semi-annually.
- Committees should conduct after action reviews of select Level 3/Major Incidents or other incidents as requested, addressing lessons learned. The Incident Commanders of the incidents should participate in the after action review.

CONCLUSION

No single document can entirely address all aspects of traffic incident management. This document is designed to provide general guidance and a framework for all TIM responders to improve performance and integrate the three NUG objectives of responder safety, safe quick clearance, and prompt reliable incident communications.

RELATED RESOURCES

Federal Highway Administration-FHWA
http://www.ops.fhwa.dot.gov/eto_tim_pse/about/tim.htm

Federal Highway Administration-FHWA
http://mutcd.fhwa.dot.gov/

2011 Virginia Work Area Protection Manual
http://www.virginiadot.org/business/resources/wztc/Virginia_WAPM_2011_web.pdf

National Traffic Incident Management Coalition-NTIMC
http://www.pcb.its.dot.gov/t3/s080911/corbin.pdf