



Quick Clearance Best Practices

(Subtask E.6)

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1. Executive Summary

A comprehensive review of literature that included such information sources as the I-95 Corridor Coalition Website, the Federal Highway Administration Website, and many State Department of Transportation Websites along with Pennsylvania stakeholder interviews and interviews of five states that had strong incident management and quick clearance efforts resulted in the following suggested action items.

Suggested Executive Actions	Suggested Sub-tasks
Evaluate the Need for Changes in Legislation	<ul style="list-style-type: none"> • Driver Removal Law Examination • Consider the Need to Strengthen Hold-Harmless Language in Existing Laws
Consider the Establishment of an Incident Management Program	<ul style="list-style-type: none"> • Consider Implementing an Incident Management Policy • Consider establishing incident management memorandums of understanding with PSP • Consider developing an incident management Strategic Plan • Consider continuing and expanding the freeway service patrol program • Evaluate the benefit of implementing an incident management module into the Road Condition Reporting System • Consider implementing incident management performance metrics • Consider providing oversight and guidelines for work zone incident management plans • Facilitate the completion of FHWA's TIM Self Assessment on an annual basis
Evaluate the Expansion Capabilities for Training and Outreach Efforts	<ul style="list-style-type: none"> • Develop and disseminate a PennDOT Incident Management Brochure • Dedicate a portion of the PennDOT website to become a focal point for Pennsylvania Quick Clearance information and outreach efforts • Coordinate and hold 11 Saturday Incident Management Symposiums • Require District Incident/Emergency Management Coordinators to attend two county EMA coordination meetings per year • Provide quick clearance training opportunities by nationally recognized experts • Establish a relationship with the Pennsylvania Chiefs of Police Association
Consider Facilitating the Improvement of the Towing and Recovery Qualification Process	<ul style="list-style-type: none"> • Facilitate coordination efforts between the PSP and the Pennsylvania Towing Industry • 29% Shared with Traffic Engineering • 65% Shared with Maintenance Forces
Consider developing regional partnerships to seek incident management funding	<ul style="list-style-type: none"> • Investigate relationships and grant opportunities from the Department of Homeland Security

2. Introduction

Ensuring that the traveling public experiences the least amount of delay due to non-recurring congestion while providing first responders with the greatest amount of safety possible is the essence of quick clearance. As the National Incident Management System (NIMS) describes, the first objective of any emergency is responder safety.

2.1 Background and Purpose

With regard to quick clearance policies and research, many engineering research groups such as the American Association of State Highway Officials (AASHTO) and the National Highway Cooperative Research Program (NCHRP) have conducted efforts in hopes of identifying practices that will reduce the amount of delay experienced by vehicles waiting in the queue after a crash has occurred.

Evaluation Questions

- What are other States doing?
- What laws are there?
- What does Federal guidance suggest?
- What is Pennsylvania doing?
- What are the best practices?
- What resources are there?
- What is the law enforcement community doing?
- What should PA consider doing?

Likewise, the law enforcement community has gone to great lengths to emphasize officer safety and best practices for responding to situations on the roadway network. For its part, the Federal Highway Administration (FHWA) has dedicated a portion of its website to traffic incident management (TIM), <http://www.ops.fhwa.dot.gov/incidentmgmt/>. Additionally, in the 2003 edition of the Manual on Uniform Traffic Control Devices (MUTCD), Chapter 6I is devoted to proper signing for emergency scenes and some guidance on the use of emergency vehicle lighting.

Finally, some individual states such as Florida, Kentucky, and Washington have been dedicated to establishing quick clearance policies and laws along with the I-95 Corridor Coalition. The I-95 Corridor Coalition, an alliance of transportation organizations along the eastern US Coast and Canada, has provided support for many quick clearance efforts including training, awareness, resource compilation, and other activities.

The sum of all of these efforts will hopefully result in saved lives and a reduction in lost time.

2.2 Contacts

This task was performed as part of the PennDOT Bureau of Planning and Research, Project Number 060908. The following are the task and contract contacts:

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2.3 Disclaimer

The contents do not necessarily reflect the official views or policies of the Pennsylvania Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

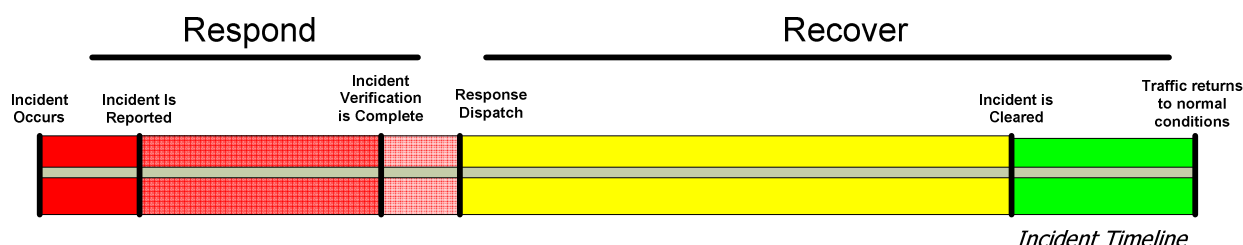
3. The Need to Quickly Clear Incidents

The idea of having an approach to quickly clearing incidents falls within the larger context of incident response and recovery, specifically in gaining and maintaining situational awareness. While transportation agencies implement devices, systems, and procedures to address non-recurring congestion, proper quick clearance policies and practices can reduce the amount of spending needed on these devices and systems.

Non-recurring congestion creates the largest challenge for the job of getting and maintaining situational awareness. Since adverse weather rarely causes more than regional affects on road surface conditions, strategically placed ITS devices combined with correct field personnel positioning can provide continuous knowledge of the condition of road segments in a relatively large area. Likewise, recurring congestion that typically affects the urban areas of the Commonwealth is chronicled and can be predicted based on historical experiences and identified trends for the future. In these cases, ITS devices and proper personnel policies are also effective. However, non-recurring congestion is the exact opposite of adverse road surface conditions and non-recurring congestion. In that case, a concentrated effort is required for systems and personnel at a specific location on the road network. Also, the slightest ambiguity in policy can strain the situation in undesired ways.

3.1 How is Situational Awareness Improved?

Focusing on non-recurring congestion, traffic crashes and the time that it takes to verify, respond to, and recover from them is one of the most critical areas for maintaining situational awareness. Consider the incident timeline shown below:



On the graphic above, situational awareness is gained at the time incident verification is complete. So an initial improvement in situational awareness is obtained by reducing the time between “Incident is Reported” and “Incident Verification is Complete”.

For the type of incidents like the one described above, maintaining situational awareness is the knowledge gained from the progress of physically dispatched response personnel. The status of the recovery process is passed onto motorists and potential travelers through diversion and incident messages posted on dynamic message signs, through telephone access, and through internet access. **Effective quick clearance policies and procedures improve situational awareness by reducing the time to recover from an incident affecting the roadway.**

4. Literature Review

As stated in the Introduction, there are two main focus areas with regard to quickly clearing traffic incidents: increase the safety of responders and reduce the amount of time that citizens spend waiting in traffic queues. To develop the definition of efforts in both of these focus areas six documents and two online resources were examined to establish what the current environment is for quick clearance practices; each is shown in the table below with a small excerpt from the text to examine how quick clearance is defined.

Document Reviewed	Summary of Definition of Quick Clearance
NCHRP 318: Safe and Quick Clearance of Traffic Incidents, Published 2003	<ul style="list-style-type: none"> The practice of rapidly and safely removing temporary obstructions from the roadway.
National Traffic Incident Management Coalition Strategic Plan 2009-2013, Published 2008	<ul style="list-style-type: none"> <i>Strategy 10. Multidisciplinary TIM Procedures.</i> Traffic Incident Management partners at the state, regional and local levels should develop and adopt multidisciplinary procedures for coordination of Traffic Incident Management operations, based on national recommended practices and procedures. <i>Strategy 11. Response and Clearance Time Goals.</i> Traffic Incident Management partners at the state, regional and local levels should commit to achievement of goals for traffic incident response and clearance times. <i>Strategy 12. 24/7 Availability.</i> Traffic Incident Management responders and resources should be available 24/7.

Document Reviewed	Summary of Definition of Quick Clearance
I-95 Corridor Coalition Coordinated Incident Management Toolkit for Quick Clearance, Published 2007	<ul style="list-style-type: none"> Active quick clearance legislation efforts that focus on responder safety and reduction of liability. Implementation of Open Roads Policies. Focus on interagency training and policies. Field best practices for safety and standardization.
FHWA Incident Management Performance Measures, Published 2002	<ul style="list-style-type: none"> The number of service patrol assists; The average elapsed time from incident occurrence to detection; The average elapsed time from the point at which the incident response team is called out until its arrival on-scene; and The average elapsed time to normal traffic flow restoration.
US Fire Administration Traffic Incident Management Systems, Published 2008	<ul style="list-style-type: none"> Concentrate all responders into a unified approach Ensure proper safety for responders Use ITS Devices to increase safety Use responder indication lights correctly
Washington State DOT and Patrol Joint Operations Policy, Published 2008	<ul style="list-style-type: none"> Increased responder safety Shorter incident duration and improved traffic control Reductions in secondary collisions and societal costs of congestion
FHWA Operations Website	<ul style="list-style-type: none"> Timely and prudent clearance of incidents involving commercial vehicles. Considerations as the potential for hazards associated with the load and the availability of appropriate towing and recovery equipment and personnel.
A National Review of Best Practice Traffic Incident Management Quick Clearance Laws, December 2008	<ul style="list-style-type: none"> Quick clearance is the practice of rapidly and safely removing temporary obstructions – including disabled or wrecked vehicles, debris, and spilled cargo – from the roadway to increase safety of incident responders by minimizing their exposure to adjacent passing traffic, reduce the probability of secondary incidents, and relieve overall congestion levels and delay.

4.1 The Bottom Line of the Literature Review

Through all of the resources that were reviewed, below is the summary of what quick clearance involves as it applies to PennDOT's Bureau of Highway Safety and Traffic Engineering (BHSTE).

PennDOT BHSTE Area of Concern	Summary of Applicable Quick Clearance Focal Area
Risk Management and Tort Liability	Coordination and review of laws as well as coordination with LTAP efforts
Crash Statistics	Metrics that track the effects of implemented policies and procedures on reducing lane blockages
Incident Management	Focus on safety of responders and increasing the efficiency of recovery efforts
Operations	Reducing the amount of time that incidents block travel lanes
Emergency Management	Increasing the efficiency of response and recovery efforts
Work Zone Safety	Development of standards and training materials that promote responder safety and fast removal of lane blockages
Traffic Signals	No specific items identified

5. Quick Clearance Legislation

According to the 2003 NCHRP 318, 21 states had legislation that contained provisions for authority removal law or authority tow law, while four states had both. At the time, 38 states had legislation that included provisions that require drivers to stop when an incident occurs or for drivers to remove their vehicles when a traffic incident occurs, while ten states have laws for both.

There are four categories of Quick Clearance legislation

- Driver stop law
- Driver removal law
- Authority removal law
- Authority tow law

For marketing purposes, these laws are commonly grouped and referred to as "Move It" Laws

5.1 Driver Stop Laws

NCHRP 318 states that these types of laws are the oldest type of quick clearance laws. The basic components of a Driver Stop Law include clauses that:

- ✓ Pertain to drivers involved in a crash
- ✓ Drivers must stop their vehicles in a way that affects traffic the least amount possible.

Most stop laws are created around the Uniform Vehicle Code, published by the National Committee on Uniform Traffic Laws and Ordinances.

Stop Law Model Text
Uniform Vehicle Code, Section 10-103

The driver of any vehicle involved in an accident resulting only in damage to a vehicle or other property which is driven or attended by any person shall immediately stop such vehicle at the scene of such accident or as close as possible, but shall forthwith return to and in every event shall remain at the scene of such accident until he has fulfilled the requirements of [Section] 10-104. *Every such stop shall be made without obstructing traffic more than is necessary* (emphasis added). Any person failing to stop or comply with said requirements under such circumstances shall be guilty of a misdemeanor and, upon conviction, shall be punished as provided in [Section] 17-101.

Pennsylvania has a stop law and it can be found in Title 75 of the Pennsylvania Code.

Pennsylvania Stop Law
Vehicle Code (Title 75), Chapter 37, Section 3743

The driver of any vehicle involved in an accident resulting only in damage to a vehicle or other property which is driven or attended by any person shall immediately stop the vehicle at the scene of the accident or as close thereto as possible but shall forthwith return to and in every event shall remain at the scene of the accident until he has fulfilled the requirements of section 3744 (relating to duty to give information and render aid). Every stop shall be made without obstructing traffic more than is necessary.

As can be seen above, Pennsylvania's Stop Law is closely aligned with the Model Text published in the Uniform Vehicle Code for incidents that do not cause injuries or fatalities. The Pennsylvania Code further defines its Stop Law as shown below.

Pennsylvania Stop Law
Vehicle Code (Title 75), Chapter 37, Section 3742

The driver of any vehicle involved in an accident resulting in injury or death of any person shall immediately stop the vehicle at the scene of the accident or as close thereto as possible but shall then forthwith return to and in every event shall remain at the scene of the accident until he has fulfilled the requirements of section 3744 (relating to duty to give information and render aid). Every stop shall be made without obstructing traffic more than is necessary.

Although defined separately, the statutes referring to both non-injury and injury incidents are very similar.

5.2 Driver Removal Laws

Driver removal laws are typically designed to address vehicle disablements, property damage only crashes, and injury crashes where serious personal injuries are not apparent. According to the NCHRP 318, a strong driver removal law will address the following:

- ✓ Incident type
- ✓ Incident severity
- ✓ Type of roadway facility where the incident occurs
- ✓ Lateral location of the incident
- ✓ Specification of who may move a disabled or wrecked vehicle
- ✓ Specification of where to move a vehicle blocking traffic
- ✓ Specification of immobilized vehicle handling
- ✓ Specification of a hold harmless clause.

Pennsylvania does not have a Driver Removal Law. Many of the documents reviewed as part of this task including the National Traffic Incident Management Coalition and US Fire Marshal's documents site the lack of a hold harmless clause as a key weakness to many of the driver removal laws in place.

5.3 Authority Removal Laws

These type of laws usually identify agencies that are authorized to remove driver attended disabled vehicles or spilled cargo (non-HAZMAT) that impede traffic flow. These laws are also where the authorization for service patrols to move vehicles is typically partially drawn from. A key component of an authority removal law for DOTs to be aware of is that the responsibility of the agency to remove vehicles from traffic lanes as soon as possible is established.

According to the NCRP 318, the elements of a strong authority removal law are equivalent to the elements of a driver removal law. Pennsylvania has an authority removal law, shown below.

Pennsylvania Authority Removal Law Vehicle Code (Title 75), Chapter 37, Section 3743.1

Immediately following an accident, a police officer may remove or direct removal of spilled cargo from any roadway to the nearest point off the roadway where the spilled cargo will not interfere with or obstruct traffic.

(b) Storage of cargo.—When, in the opinion of a police officer, it is necessary to protect the contents, load or spilled cargo of a wrecked vehicle from the elements, spoilage or theft, the police officer may remove or direct the removal of the contents or load or spilled cargo and have the same stored, at the expense of the owner, at the nearest practical place of storage.

(c) Liability for damage or loss.—In carrying out the provisions of this section, no liability shall attach to the police officer or, absent a showing of gross negligence, to any person acting under the direction of the police officer for damage to or loss of any portion of the contents or load or spilled cargo.

Pennsylvania Authority Removal Law Vehicle Code (Title 75), Chapter 37, Section 3745.1

(c) Police officers.—A police officer may immediately remove or direct removal of a wrecked vehicle if the owner or operator cannot remove the wrecked vehicle or refuses or fails to have the vehicle removed as required under this section. In carrying out the provisions of this subsection, no liability shall attach to the police officer or, absent a showing of gross negligence, to any person acting under the direction of the police officer for damage to any vehicle or damage to or loss of any portion of the contents of the vehicle.

(d) No liability.—The driver or any other person who has removed a vehicle from the roadway as provided in this section before the arrival of a law enforcement officer shall not be considered liable or at fault regarding the cause of the accident solely by reason of moving the vehicle pursuant to this section.

5.4 Authority Tow Laws

According to NCHRP 318, an authority tow law accomplishes the same goal as an authority removal law with regard to the maintenance of open roads. However, an authority tow law emphasizes the removal of driver-attended disabled or wrecked vehicles from the highway right-of-way to a legal parking area or other area of safe refuge. Select states, including Pennsylvania, have expanded the law to include the removal of spilled cargo from a highway right-of-way. In certain cases, incident responders may apply an authority tow law when drivers or cargo owners cannot provide for the timely removal of an incapacitated vehicle or spilled cargo located on, and perhaps previously moved to, the shoulder. Pennsylvania's Tow Authority Law is also described by the statutes cited above.

5.5 The Bottom Line of Quick Clearance Legislation

Pennsylvania has three of the four types of legislation described by many of the reference materials used for this task. The notable missing statute is a Driver Removal Law. The criteria for a strong Driver Removal Law is described as similar to Driver Stop Laws, which Pennsylvania has. Still the passage of a Driver Removal Law may be a good opportunity to strengthen hold harmless clauses, as was described as a weakness in most quick clearance legislation by the NCHRP 318 and other reference documents used as part of this task.

6. National Best Practices

While no two Incident Management programs are alike, reviewing and incorporating lessons learned from other States is valuable. As stated previously, quick clearance policies and procedures fall within a more broad incident management program. As will be shown in this section, successful incident management programs have some typical commonalities and those common themes also apply to their quick clearance efforts:

- ✓ Good inter-agency communications protocols
- ✓ Cross training of personnel
- ✓ Support at all levels of State government
- ✓ A commitment to achieving identified goals
- ✓ Agility in modifying procedures to reflect current operational challenges.

6.1 Washington State

Each July, the Secretary of the Department of Transportation and the Chief of the Washington State Highway Patrol sign a revised “A Joint Operations Policy Statement”. Over ten years ago and in response to increasing congestion the Governor of Washington directed the Department of Transportation and the Highway Patrol to work together. Since that time, the two agencies update their joint operations policy on an annual basis.

6.1.1 Washington State Joint Operations Policy

This document addresses a total of fifteen joint operational topics, and 27 percent of the document is directly focused on incident management. The incident management is divided into these subject areas:

- ✓ Responder safety
- ✓ Safe, Quick Clearance
- ✓ Incident Response Team (IRT) Program
- ✓ Contracted Service Patrols and Motorist Assistance Vans (MAVs)
- ✓ Instant Tow Dispatch (freeway service patrol)
- ✓ Blok-Buster Major Incident Tow Program
- ✓ Using Technology and Education to Expedite Investigations.

For this task, bullets one and two will be examined.

Responder Safety

- ✓ Objective – Everyone goes home safe.

- ✓ Policy - WSP and WSDOT will work with the WATIMCo to identify multi-discipline best practices to enhance the safety of all emergency responders.

Washington State DOT and Highway Patrol Joint approach to Responder Safety

Emergency responders must be able to safely respond to and return from traffic incidents and other emergencies in order to fulfill their missions. If responders become involved in a traffic collision during an emergency response, not only are they unable to render aid to the emergency they were called to, but they have also exposed themselves and other motorists to unnecessary risk and place an unnecessary burden on other emergency responders.

Once on-scene, being struck (by a vehicle) is a leading cause of death and injury for emergency responders working alongside the highway. This makes responder safety the highest priority. Keeping responders safe requires implementing well designed traffic control procedures:

- Getting enough resources to the scene;
- Using proper apparel to maximize visibility;
- Utilizing proper tools;
- Strategically placing safety equipment;
- Improving cooperation and coordination between responding agencies.

Safe, Quick Clearance

- ✓ Objective - To clear all traffic incidents from roads as safely and as quickly as possible.
- ✓ Policy - The WSP and WSDOT will collaborate to safely clear highway incidents within our mutual goal of 90 minutes.

Washington State DOT and Highway Patrol Joint approach to Safe, Quick Incident Clearance

Safe, quick clearance of traffic incidents increases responder safety by reducing their exposure time to traffic. Similarly, shorter incident duration and improved traffic control enhance motorist safety by reducing the length of lane blockages and road closures which reduces exposure and helps reduce secondary collisions. Quick clearance also reduces the societal costs of congestion such as lost time and extra fuel costs incurred when motorists and truck drivers are caught in traffic congestion.

The benefits of safe, quick clearance of incidents, although well documented, are not widely understood by all incident responders. In fact, many responders don't have a good understanding or appreciation of the roles that other responders perform at incidents. In addition, some responders mistakenly assume that safety and quick clearance policies must be in conflict, and that is clearly not the case. For these reasons, WSP, WSDOT, and Fire agencies have been partnering to present multi-disciplinary training sessions to provide responders with a better understanding of our Traffic Incident Management Program and the roles that various responders perform. These training sessions are a valuable tool to help improve on-scene communication, cooperation, and coordination.

6.2 Florida

Florida's incident management efforts are branded as part of the SMART SunGuide Program and can be seen at smartsunguide.com. This program has focus areas in all aspect areas of quick clearance discussed in this document. In addition to a strong freeway service patrol program, some of the strongest parts of the program are shown below.

- ✓ Established Relationships
- ✓ Spill Cleanup policy
- ✓ Transparency in Operations.

Established Relationships

The Florida Open Roads Policy can be downloaded from the traffic incident management portion of www.smartsunguide.com website. The policy begins by clearly stating that the Department of Transportation and the Florida Highway Patrol are jointly committed to expediting the removal of vehicles, cargo, and debris from the roadway. The policy also opens by stating that those types of blockages will be removed "...to restore, in an URGENT MANNER the safe and orderly flow of traffic..." Public safety is the stated highest priority of the two agencies and they are both responsible for the free movement of people, vehicles, and commerce. In addition to those goals the document also says that it is every agency's responsibility to do what is reasonable to reduce the risk to responders, secondary crashes, and delays associated with incidents, crashes, roadway maintenance, construction, and enforcement activities. Florida Highway Patrol Responsibilities are:

Florida Highway Patrol Quick Clearance Responsibilities

- Responding personnel will make clearing the travel portion of the roadway a priority
- Investigations will be conducted as expediently as possible, considering the severity of the incident
- Non-critical portions of investigations will be delayed until non-peak periods
- Only lanes absolutely critical to the investigation will be closed and for the minimum length needed for safety
- Coordination with the DOT will be done to setup traffic control, establish alternate routes, expedite traffic movement
- For minor incidents, vehicles will be moved to areas unseen by traffic that might slow down to look at the scene
- Request tow-truck assistance when needed
- Ensure that tow-truck operators have met competency levels and that equipment is in good working order to accomplish removal.

The responsibilities of the DOT are:

Florida Department of Transportation Quick Clearance Responsibilities

- When requested, the DOT will respond and deploy resources to major incidents at all times.
- Each DOT District develops and implements response procedures to meet the goal of providing initial traffic control within 30 minutes of notification during normal business hours and within 60 minutes outside of business hours
- Coordinate with the Highway Patrol to upgrade traffic controls, determine detour routes, and discuss clearance strategies
- When requested provide traffic control for a safe work zone for responders and motorists
- Deploy heavy equipment and manpower when there is a delay in clearing the travel lane or if the dispatched towing company is not equipped to deal with the situation
- If spilled (non-hazardous) cargo is involved with the incident, the DOT will make every effort to relocate the debris from the roadway in the shortest time possible
- Document all hours and equipment used for traffic control, roadway clearance, and debris clean up.
- Provide any traffic control for remaining or damaged cargo on the shoulder until removal occurs at a later time

Spill Clean Up

The agreement dates back to 2004 but is still current on the TIM website. The guidelines involve the clarification of permissible responder actions when the release of vehicle fluids happens. The guidelines were jointly reviewed and approved by the DOT, the Florida Department of Environmental Protection, and the highway patrol. The policy is designed to aid the goal of achieving an open road within 90 minutes or arrival of the first responder. The guidelines include the following quick actions:

- ✓ Identify spill as a vehicle fluid
- ✓ Stop leaking material at the source
- ✓ Contain and limit spill from spreading
- ✓ Apply available solvents
- ✓ Sweep material off travel lanes
- ✓ Second application if necessary
- ✓ Gradually restore traffic flow
- ✓ ID RP and mark location of material
- ✓ Make proper notification.

Transparency In Operations

All information pertaining to incident management efforts and coordination is posted on the public website and the information is used to help with branding the program. The open format creates an environment of knowledge.

6.3 Tennessee

The Tennessee Department of Transportation established the Office of Incident Management. The most recent definition of quick clearance activities was defined in the 2003 *Strategic Plan for Highway Incident Management in Tennessee*. The document was a joint publication of the Department of Safety, Department of Transportation, Department of Commerce and Insurance, and the Emergency Management Agency as well as other public and private organizations concerned with incident management activities.

The strategic plan is 98 pages long and contains many joint goals, but it also establishes clear performance metrics:

- ✓ Economic costs of travel delays
- ✓ Safety of responders and motorists
 - Secondary crashes
 - Unintended pedestrians
 - Responder safety
- ✓ Air pollution and wasted fuel.

The plan also points out the success of the HELP program. Tennessee's version of service patrols, although the role of the HELP personnel is closer to first responders than the roles that they play in Pennsylvania.

Overall, the five-year strategic plan included over 150 specific tasks and 10 overall goals. While not all 150 specific tasks are captured here, the 10 overall goals are shown below and all have implications to quick clearance efforts.

Goals of the Tennessee Incident Management Strategic Plan

- Reduce the number and severity of highway incidents
- Better inform and educate motorists to reduce congestion and improve safety
- Expand and enhance resources for systematic management of highway incidents
- Expand and enhance training for highway incident responders
- Support highway incident management teams in metropolitan and urban areas
- Sponsor highway incident management teams in rural areas
- Accelerate deployment of new technologies to improve incident management
- Reduce traffic congestion caused by highway work zones
- Establish working groups to focus on specific issues and recommend actions
- Promote ongoing interagency planning and coordination

6.4 Maryland

The Coordinated Highways Action Response Team (CHART) is a well documented program administered by the Maryland Department of Transportation through their Office of CHART and ITS Development. Through the years the success of the program has been partially measured by the widespread and consistent coordination among stakeholders along the critical corridors throughout Northern Virginia, Eastern Maryland, and Washington, DC.

Some of the recent focus in the area of quick clearance by CHART has been raising awareness of the Move It Law. In the Reading Room portion of their website, they have dedicated a space to explaining why it is important to move out of a lane if possible, when it is necessary to call the police, and when a police report is necessary. The website also provides a downloadable form, in bi-lingual format, that can be used for outreach.

Below are the main focus points of the incident management portion of the CHART website, all with the common theme of quickly removing lane blockages.

Maryland's CHART Program Goals

- Emergency Traffic Patrols (ETP) used to provide emergency motorist assistance and to relocate disabled vehicles out of travel lanes.
- Emergency Response Units (ERU) used to set up overall traffic control at accident locations.
- Freeway Incident Traffic Management (FITM) Trailers, pre-stocked with traffic control tools such as detour signs, cones, and trailblazers used to quickly set up pre-planned detour routes when incidents require full roadway closure.
- A "Clear the Road" policy which provides for the rapid removal of vehicles from the travel lanes rather than waiting for a private tow service or time consuming off-loading of disabled trucks which are blocking traffic.
- An Information Exchange Network (IEN) Clearinghouse, provided by an I-95 Corridor Coalition workstation at the SOC, shares incident and traveler information to member agencies along the Corridor.

6.5 Ohio

The Quick Clear portion of the Ohio DOT's website states the mission of the Quick Clear Program: "Committed to maintaining the safe and effective flow of traffic during emergencies as to prevent further damage, injury, or undue delay of the motoring public." The website also dedicates an area to the focus of scene management for emergency responders:

Ohio DOT Emergency Responder Checklist

PRE-ARRIVAL

1. Have dispatch verify incident severity in detail, and anticipate equipment needed. If conditions warrant, begin notification process for necessary agencies. Provide guidance to driver in accordance with local policy.
2. Start notification process for towing and recovery teams for departure preparations.
3. Plan for possible detour routes.

ARRIVAL

1. Protect scene and assess situation (self & others).
 - a. Assessment should factor risks of incident vs. risks of traffic delays.
 - b. Consider temporary channelization vs. shutdown.
2. Establish ICS (Incident Command System)/UCS (Unified Command System) as needed and start notifications for assistance. Establish formal or informal Command Post with contact number.
 - a. Towing and recovery.
 - b. Hazardous material/fuel response/EPA/Chemtrec.
 - c. Initial media notifications/EAS/evacuation.
 - d. ODOT (state or local).
 - e. Establish Command Post communications link with all agencies at scene and detour routes.
 - f. Contact utilities if needed.
3. Utilize ODOT (state or local) to establish detour if warranted.
4. Reposition emergency response vehicles to open partial traffic flow.
5. Plan for road opening as soon as possible.
6. Plan for secondary crashes as detour is established: position traffic warning devices (utilize DOT resources).
7. Remove traffic trapped between incident and detour (check on welfare of trapped motorists).
8. Utilize both law enforcement & DOT resources.
9. Monitor and respond to developments to insure delays are minimized.
10. Communicate anticipated road opening to media and detour units.
11. Communicate change of scene control to responding agencies.
When appropriate ensure efficient and timely collection of evidence.

POST INCIDENT

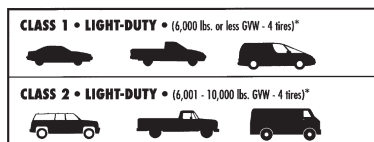
1. Media information on reasons for delay so public is informed.
2. Debrief with agencies involved to better prepare for next incident.

The Ohio DOT has also published a 20 page *Ohio Quick Clear Professional Responders Guide for Safe and Effective Highway Incident Management*. The most recent edition was released in October 2007 and outlines the Departments goals of efficient incident management, including their freeway service patrols:

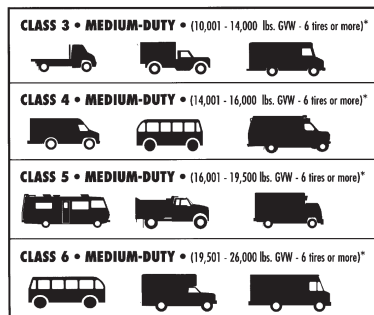
- ✓ Safety for incident responders by limiting their time at a scene.
- ✓ Reduce the risk of secondary crashes.
- ✓ Reduce the duration of traffic incidents, without compromising effective investigation by law enforcement agencies.
- ✓ Manage traffic around incidents to reduce congestion delay, and minimize the amount of traffic flowing past the incident scene.
- ✓ Minimize delay costs.

The document also addresses the needs for documentation, coordination, and specifically coordination in the area of towing. The Towing and Recovery Association of America has released guidance on how to report vehicle types to ensure that the proper recovery vehicle is dispatched.

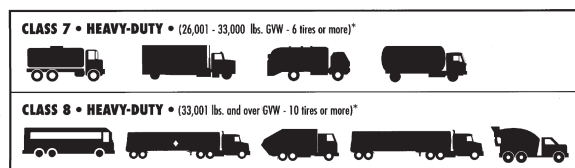
TRAA VEHICLE IDENTIFICATION GUIDE®



Classes 1 and 2 include passenger vehicles, light trucks, minivans, full size pickups, sport utility vehicles and full size vans.



Classes 3 through 6 include a wide range of mid-size vehicles, delivery trucks, utility vehicles, motorhomes, panel trucks, ambulances, small dump trucks, landscape trucks, flatbed and stake trucks, refrigerated and box trucks, small and medium school and transit buses.



Classes 7 and 8 include a wide range of heavy vehicles, large delivery trucks, motor coaches, refuse trucks, cement mixers, all tractor trailer combinations including double trailers.

Information Needed To Correctly Dispatch Towing and Recovery Units:

- Year, Make and Model of Vehicle to be Towed or Recovered
- DOT Classification (Class 1 – 8 based on GVW)
- Location of Vehicle
- Type of Tow (imound, accident, recovery motorist assist, etc.)
- Additional Vehicle Information
 - 2 wheel drive, 4 wheel drive, all wheel drive
 - damage to vehicle, tire condition
 - vehicle loaded or empty
 - cargo contents
 - does the vehicle have a trailer
 - are the keys with the vehicle

Note: Any vehicle may carry hazardous materials. Advise if placarded.

** Note:* The Gross Vehicle Weight Rating (GVWR) of the vehicle to be towed or recovered can be found on the identification label on the vehicle's driver's side doorframe. The number of pounds listed on the label can then be compared with the DOT Classification Vehicle Type Chart for the correct DOT class.

Low enforcement communications with towing and recovery operators describing an incident and the vehicles involved can insure quick and efficient clearing of these scenes and less disruption to traffic flow. In an effort to standardize communications, the towing industry is adopting the federal vehicle class standards as outlined herein.

VIN CODES

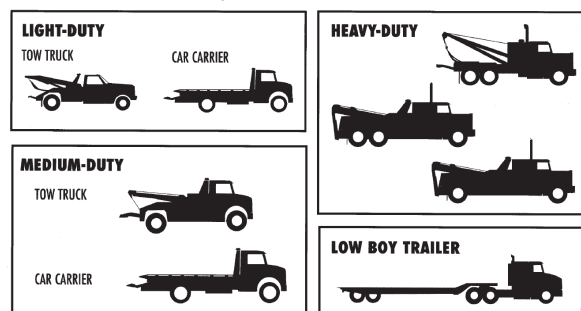
The year of the vehicle is critical information for towing operators in order for them to reference correct towing procedures. The diagrams on the front are examples of classifications. The following information about vehicle identification numbers affixed to the chassis will help determine the vehicle's year. As noted, the vehicle's year, identified by a letter or number in the VIN sequence, is the eighth character from the right.

1P8ZA1279SZ215470

EXAMPLE 1995 VIN NUMBER:

1980.....A	1987.....H	1994.....R	2001.....1	2008.....8
1981.....B	1988.....J	1995.....S	2002.....2	2009.....9
1982.....C	1989.....K	1996.....T	2003.....3	2010.....A
1983.....D	1990.....L	1997.....V	2004.....4	2011.....B
1984.....E	1991.....M	1998.....W	2005.....5	2012.....C
1985.....F	1992.....N	1999.....X	2006.....6	
1986.....G	1993.....P	2000.....Y	2007.....7	

TOW TRUCK/CAR CARRIER CLASSIFICATION



Information provided by Towing and Recovery Association of America Inc. • 1-800-728-0136 • 703-684-7713 • Sponsored by Tow Times® Magazine.

6.6 National Survey and PennDOT Environment

In 2008 PennDOT conducted a national incident management survey to determine what the characteristics of established incident management programs were. Overall 36 states responded to the survey with the results shown below. For the survey, differentiation between incident management and separate quick clearance activities were not made due to two reasons: within most agencies examined, Quick Clearance is a niche responsibility; and among states and literature reviewed, incident management activities encompass and embody quick clearance practices.

National Incident Management Survey	Answer (36 total responses)	Pennsylvania Response
Is there a distinction between incident management and emergency management in your organization?	<ul style="list-style-type: none"> 67% Yes 	<ul style="list-style-type: none"> Yes
Does your agency have dedicated personnel for incident management?	<ul style="list-style-type: none"> 81% Yes 	<ul style="list-style-type: none"> Yes
Where does coordination of incident management policy occur within your organization?	<ul style="list-style-type: none"> 85% State 24% Regional 6% Local 	<ul style="list-style-type: none"> Regional
Where does the function of incident management for non-construction related incident planning/response reside within your agency?	<ul style="list-style-type: none"> 56% Operations Division 29% Shared with Traffic Engineering 65% Shared with Maintenance Forces 	<ul style="list-style-type: none"> Shared with Maintenance Forces
What other state agencies share the responsibility of providing incident information pertaining to state roadways?	<ul style="list-style-type: none"> 100% State Police 48% EMA 39% 911 Call Centers 4% Turnpikes 	<ul style="list-style-type: none"> State Police EMA 911 Call Centers Turnpikes
What certifications/qualifications do incident managers in your agency have?	<ul style="list-style-type: none"> 100% Experience 33% Professional Engineer 36% NIMS Certs. 	<ul style="list-style-type: none"> Experience
Does your agency have (or is working toward) accreditation from the Emergency Management Accreditation Program?	<ul style="list-style-type: none"> 30% Yes 	<ul style="list-style-type: none"> No
Are incident management/emergency response functions collocated with other response agencies?	<ul style="list-style-type: none"> 76% Yes 	<ul style="list-style-type: none"> No
What levels of personnel are trained for incident management/emergency response?	<ul style="list-style-type: none"> 96% Field Responders 69% Local Support 69% Regional Support 88% State Support 	<ul style="list-style-type: none"> Field Responders Local Support Regional Support State Support

A summary of the complete survey is included as Appendix 1.

6.7 Bottom Line of National Best Practices

The five agencies chronicled in this section all have unique aspects of their programs that make them the best in class, but they also have some things in common as well:

- ✓ Support at all levels of the agency
- ✓ Segregated departments of the agency
- ✓ Dedicated personnel at all levels of the agency
- ✓ Support from other State emergency response agencies
- ✓ Strong public outreach programs
- ✓ Transparency of processes and availability of materials
- ✓ Well defined performance metrics.

7. Pennsylvania Quick Clearance Stakeholder Interviews

Ultimately, the ability to move Pennsylvania forward with regards to quick clearance may rest with the ability of stakeholders to find common ground on the issues at hand. A number of stakeholder interviews were conducted to further ascertain the current state of the practice within the Commonwealth.

7.1 Pennsylvania Towing Association

A phone interview was held with the President of the Pennsylvania Towing Association on February 9, 2009. This Association is a member of the larger Towing and Recovery Association of America, Inc. Below is a list of the attendees and a summary of the conversation follows.

Cathy Tennis	Pennsylvania Towing Association, President
Jim Hunt	Federal Highway Administration - Harrisburg
Mike Pack	PennDOT Bureau of Highway Safety and Traffic Engineering
Bruce Kuhn	PennDOT Bureau of Highway Safety and Traffic Engineering
Eric Rensel	Gannett Fleming, Inc.

On the national association's webpage the mission statement is comprised of the following points:

- ✓ To foster and promote the interest and welfare of all towing and recovery operators in North America and to towing professionalism and quality customer service throughout the world.
- ✓ To foster and encourage fair competition in all business dealings and to promote and encourage good fellowship among members.
- ✓ To promote and encourage the enactment of wise and uniform legislation that fosters professionalism, quality service, healthy competition, and fair compensation.
- ✓ To support the grassroots legislative process and be ready to provide hands-on advice and expertise when called upon to serve the legitimate interests of the towing and recovery industry; and to oppose unwise state and local legislation deemed to have potential negative impact on the towing and recovery industry as a whole.
- ✓ To seek to eliminate unfair and destructive industry practices.
- ✓ To foster cooperation and unity among associations in our industry so that we may have a representative body that speaks with a single voice and wields the collective power of the

group to protect and serve the interests of the towing and recovery industry and to promote fair dealings and quality customer service.

The Pennsylvania Towing Association has approximately 230 members, which Ms. Tennis estimates represents 50 percent of the towing and recovery companies in the Commonwealth that are not associated with automobile dealerships and nearly all of the companies that deal with incident management and response. Below is a summary of the discussion.

1. Does PennDOT or the State Police operate any program to register and/or qualify members other than general vehicle registration and inspection?
 - a. No. This is a problem within Pennsylvania because some companies do not maintain equipment or keep equipment current with new standards and advancements.
2. In general how is the relationship between members and the PennDOT?
 - a. Good. PennDOT field personnel provide support for members when they are on-scene including safety protection when completing operations.
3. In general how is the relationship between members and the State Police?
 - a. Bad. PSP field personnel do not typically respect the operations of the towing company and do not demonstrate a concern for towing operator safety.
 - i. All towing companies are required to have a contract with PSP and are required to respond when contacted.
 - ii. Although a revolving call-out procedure is advertised, most towing companies report favoritism shown by local personnel and these policies are not upheld.
 - iii. The lack of a statewide incident management policy makes it difficult to meet the demands of providing services.
 - iv. No quick clearance point of contact makes it difficult to resolve issues.
4. Are current laws and policies in Pennsylvania conducive to allow members to operate a business and make a profit?
 - a. No. When a towing company responds to the scene, removes, and stores a vehicle the towing company must release personal items in the vehicle even if the fee for the tow is not paid. Ms. Tennis reported that typically what happens is that the vehicle is abandoned and the fee is never reimbursed.
5. How are fees assessed when providing services?
 - a. By weight. For light duty towing operations, fees are typically assessed on per mile traveled basis. These are typically measured from the towing company location, to the scene, and the return trip. These fees typically range from \$3-4/mile.
 - i. For medium and heavy duty vehicles, fees are typically assessed based on the per pound weight of the vehicle.
6. Would a program that provided bonuses for quickly clearing incidents improve the operations?
 - a. No. In an environment that already places towing personnel safety in jeopardy at times, this practice may magnify the situation.
 - i. Florida has one of the only successful bonus programs known.
7. How can the towing industry help reduce incident clearance times?
 - a. State of the art Equipment. Ms. Tennis cited an example of equipment that uses air

to remove heavy vehicles versus one that uses hydraulics to accomplish the same tasks. She estimates that hydraulic equipment can reduce clearance times by as much as 4 hours.

8. What additional policies hinder operations?
 - a. Weight restrictions and policies regarding the movement of over-weight vehicles greatly hinder operations. Currently, a towing company may move an overweight vehicle one time and then it must remain stationary until the payload is altered.
9. What kind of policies for towing and incident management would make sense given the geographical and demographical situation of Pennsylvania?
 - a. A unified policy that allows for local adjustments based on the population of the area may make sense.
10. What legislative issues are on the Association's radar screen?
 - a. The Association played an important role in lobbying for the passage of the current Move Over Law.
 - b. The Association is not aware of any current pending legislation that will affect their industry.
 - c. The Association desires to be a part of the effort to increase safety of all incident responders.

7.2 Federal Highway Administration

A conference call was held on February 11, 2009 with the Federal Highway Administration to gain a national perspective on the issues surrounding quick clearance. Below is a list of the attendees and a summary of the conversation follows.

David Helman	Federal Highway Administration Traffic Incident Management Program Manager
Kim Vasconez	Federal Highway Administration Emergency Transportation Operations Program Coordinator
Mike Herron	Federal Highway Administration - Harrisburg
Jim Hunt	Federal Highway Administration - Harrisburg
Lieutenant Hopkins	PSP Patrol Safety
Doug Tomlinson	PennDOT Bureau of Highway Safety and Traffic Engineering
Mike Pack	PennDOT Bureau of Highway Safety and Traffic Engineering
Bruce Kuhn	PennDOT Bureau of Highway Safety and Traffic Engineering
Larry Lentz	PennDOT Bureau of Highway Safety and Traffic Engineering
Eric Rensel	Gannett Fleming, Inc.

Legislative Discussions

- ✓ The FHWA has just released the *A National Review of Best Practice Traffic Incident Management Quick Clearance Laws, December 2008* as of January 2009 and the report was an effort by FHWA to compile the state of the practice with regards to quick clearance laws.
 - The document was summarized as part of this effort.
- ✓ The FHWA is aware of the issue that many state authority removal laws and hold-harmless clauses indemnify the on-scene agency representative but not the agency itself. They

offered the following examples of states that do have clauses that indemnify agencies:

- Rhode Island Code: 24-8-42
 - Oklahoma Code: 47-11-1002B.2
 - Texas Code: 545.3051E
- ✓ The FHWA stated that the National Towing Industry is attempting to change their image among emergency responders and that they support many efforts to improve safety, streamline clearance time, and other functions that they can assist with in incident response.

Publication Discussions

- ✓ The FHWA recognizes that many of the published guidelines and best practices in the area of traffic incident management are not in conformance with NIMS and is working with stakeholders to address integration.
- ✓ The FHWA believes that the TIM Self Assessment is an appropriate tool for PennDOT Engineering Districts to assess their situation for clearing incidents.
- ✓ The FHWA acknowledged that its website needs to be updated with the definition of quick clearance.
- ✓ The FHWA is in the process of finalizing as many as ten documents that will deal with specific issues of traffic incident management in the near future.

Incident Management Program Discussions

- ✓ FHWA believes that for quick clearance policies to be effective, they need to be contained within an incident management program at departments of transportation.
- ✓ One of the current issues with traffic incident management integration with traffic management centers is data sharing protocols. Many agencies are deploying computer aided dispatch programs at traffic management centers so that information can be shared and viewed among multiple agencies in a seamless fashion.
- ✓ Outreach to volunteers outside of DOT normal business hours is typically required for successful incident management programs.
- ✓ The FHWA believes that it is appropriate for work zone incident management to be a part of an incident management program.
- ✓ Performance metrics are one of the most important parts of an incident management program and the FHWA said that one of the upcoming publications will have updated approaches to metrics.

Funding Discussions

- ✓ The FHWA stated that most state incident management programs are funded by budget line items both in DOTs and in State Police organizations.
- ✓ The FHWA as noted that there has been a decline in incident management funding over the last couple of years. There are some provisions for incident management in the currently proposed economic stimulus Bill, however there is limited optimism that money for incident management will be available once the Bill is passed.
- ✓ The FHWA believes that Homeland Security Grants are a potentially rich source of funding for incident management program and that local coalitions of agencies should work together to complete applications.

Coordination Discussions

- ✓ The FHWA is planning to conduct incident management training in the top 40 urban areas in the country towards the end of fiscal year 2009. Pittsburgh and Philadelphia will be included in the training.
- ✓ The peer-to-peer program is well funded and the FHWA will help get subject matter experts to come to Pennsylvania if desired.

7.3 Pennsylvania State Police

A face-to-face meeting was held between PennDOT and the PSP on February 10, 2009 to have a general discussion about the PSPs view on quick clearance and any ongoing efforts. Below is a list of the attendees and a summary of the conversation follows.

Major Cole	Federal Highway Administration Traffic Incident Management Program Manager
Lieutenant Hopkins	Federal Highway Administration Emergency Transportation Operations Program Coordinator
Captain Patrick	Federal Highway Administration - Harrisburg
Sergeant Leydig	PSP Patrol Safety
Jim Hunt	Federal Highway Administration - Harrisburg
Doug Tomlinson	PennDOT Bureau of Highway Safety and Traffic Engineering
Mike Pack	PennDOT Bureau of Highway Safety and Traffic Engineering
Bruce Kuhn	PennDOT Bureau of Highway Safety and Traffic Engineering
Eric Rensel	Gannett Fleming, Inc.

- ✓ The PSP declined to comment on the Towing Industry due to ongoing litigation.
- ✓ The PSP estimates that there are two non-reportable crashes for every reportable crash.
- ✓ Every PSP Trooper receives incident management education at the Pennsylvania State Police Academy
- ✓ Getting the travel lanes reopened is a priority to the PSP, however these actions cannot supersede the need to conduct a thorough investigation of what transpired.
- ✓ By working with the PEMA and specifically the Pennsylvania State Fire Commissioner, outreach to many of the 2,400 fire departments across the Commonwealth may be possible.
- ✓ The PSP believes that the following items contribute to prolonged incident clearance times
 - **Over response** – a tendency for local emergency responders to send too much equipment to the scene.
 - **Scarcity of HAZMAT response teams** – There are only 32 HAZMAT response teams across the Commonwealth resulting in longer response times when needed.
 - **Fees assessed by HAZMAT cleanup** – Pennsylvania Law does not define what allowable fees are for cleanup, therefore contractors may increase the amount of time spent on scene to increase the fee assessed.
 - **Agency liability** – Pennsylvania Law does protect the officer on scene from litigation, however the agency may still be found liable for damages.
 - **PennDOT availability** – Because there is no PennDOT incident management policy, it is difficult to instruct troopers on what to expect from PennDOT.
 - **No delineated on-scene command** - Although the theory of the National Incident

Management System is known to many, often in real situations it is not fully implemented since roles and responsibilities are not pre-defined.

8. Action Item Details

The action items shown below are a culmination of the literature review and the identified best practices from other states. The primary source to continually monitor for best practice updates is the I-95 Corridor Coalition. Throughout this research task, all leads continually traced back to documents found on the coalition's website or in reference to a coalition event. The Incident Management Portion of the FHWA Website is also a good resource; however it is not kept as current as the I-95 Corridor Coalition's Website.

8.1 Evaluate the Need for Changes in Legislation

Although the view points were differing, all stakeholders that were interviewed as well as several of the reference documents that were reviewed cited weak legislation as a contributor to longer incident clearance times.

8.1.1 Driver Removal Law Examination

There are four types of laws that make up quick clearance legislation and the group of the laws is typically referred to as "Open Roads" or "Move It" Laws/Policies. Pennsylvania does not have one of the four, a driver removal law. This type of law addresses the removal of vehicle disablements, property damage only crashes, and injury crashes where serious personal injuries are not apparent. NCHRP 318 and FHWA Traffic Incident Management Quick Clearance Laws: A National Review of Best Practices suggest that a strong driver removal law will address the following:

- ✓ Incident type
- ✓ Incident severity
- ✓ Type of roadway facility where the incident occurs
- ✓ Lateral location of the incident
- ✓ Specification of who may move a disabled or wrecked vehicle
- ✓ Specification of where to move a vehicle blocking traffic
- ✓ Specification of immobilized vehicle handling
- ✓ Specification of a hold harmless clause.

Examples of Drive Removal Laws

Florida Statute 316.071, entitled "Disabled vehicles obstructing traffic"

Whenever a vehicle is disabled on any street or highway within the state or for any reason obstructs the regular flow of traffic, the driver shall move the vehicle so as to not obstruct the regular flow of traffic or, if he or she cannot move the vehicle alone, solicit help and move the vehicle so as not to obstruct the regular flow of traffic. Any person failing to comply with the provisions of this section shall be cited for a nonmoving violation, punishable as provided in chapter 318.

Florida, 316.027 & 316.061 (Sample Language – Driver Move Law)

Every stop must be made without obstructing traffic more than is necessary, and, if a damaged vehicle is obstructing traffic, the driver of the vehicle must make every reasonable effort to move

the vehicle or have it moved so as not to obstruct the regular flow of traffic.

Tennessee, 54-16-113 (Sample Language - Authority Removal Law)

The department of [public] safety, DOT, or local law enforcement may immediately remove or cause to be removed any [disabled or] wrecked vehicle, spilled cargo, or other personal property obstructing traffic because of its position in relation to the highway. Vehicles, cargo, or personal property may be removed to any place within the immediate vicinity. No removal shall occur after a crash resulting in apparent serious personal injury or death until a law enforcement officer collects adequate crash information. When the property obstructing traffic is a motor carrier, the agency causing its removal shall make a reasonable effort to allow the owner to arrange for its removal. The department of safety, DOT, or local law enforcement agency may require the owner or carrier of the vehicle, spilled cargo, or personal property removed to pay for any costs incurred in removal.

8.1.2 Consider the Need to Strengthen Hold-Harmless Language in Existing Laws

The NCHRP 318 indicated that the main reason quick clearance laws are not followed is because agencies or individuals fear being liable for actions taken. The Pennsylvania Towing Association and the PSP also expressed concern regarding existing hold-harmless clauses. Pennsylvania does not have a hold harmless clause in its Driver Stop Law. According to NCHRP 318 there are three types of hold-harmless clauses:

- ✓ One that apply to motorists that adhere to driver stop or removal laws
- ✓ One that applies to incident responders who are fulfilling the requirements of authority removal or tow laws,
- ✓ One that provides immunity to incident responders from any potential liability incurred by the failure to execute the requirements of any quick clearance legislation.

One of the most important things to consider when strengthening hold-harmless clauses in quick clearance legislation is that responders and the agencies that they represent are indemnified from liability.

8.2 Consider the Establishment of an Incident Management Program

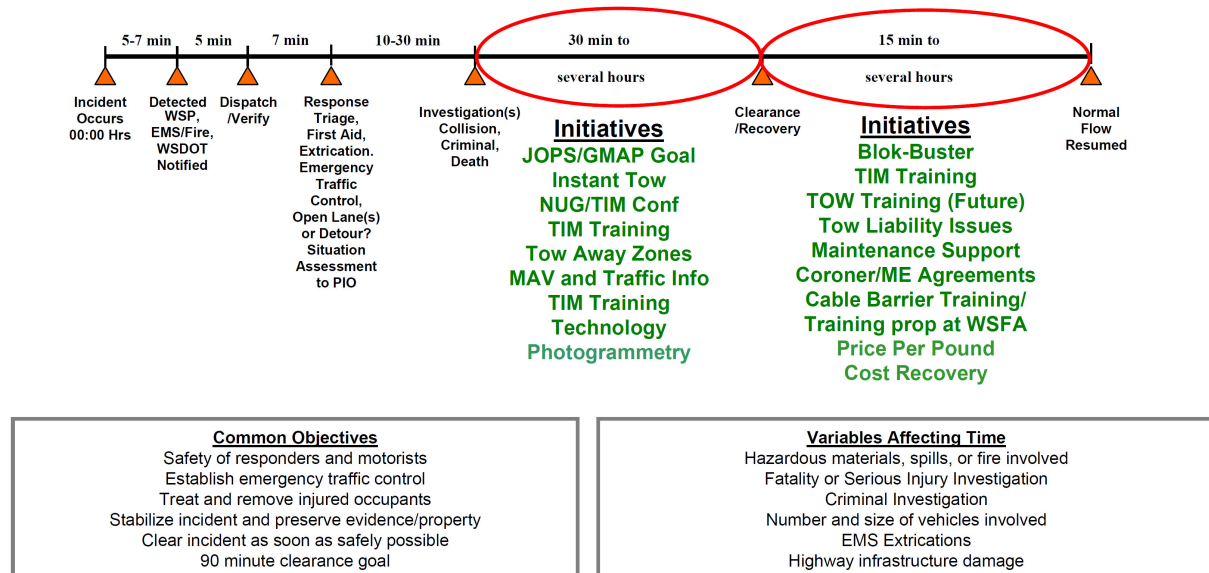
PennDOT does not have Central Office level personnel who are solely responsible for incident management and since quick clearance typically falls within a more broad incident management program at the five states identified in the best practices section, dedicated incident management personnel could be responsible for the items shown below in addition to creating a consistent statewide contact for coordination with other stakeholders.

8.2.1 Consider Implementing an Incident Management Policy

Almost all of the materials reviewed as part of this task set target times for incident clearance. A typical target time is 90 minutes after arrival of emergency responders. Consider the major incident timeline taken from a presentation by Mr. Rick Phillips at the 2008 Traffic Incident Management Conference in Washington State:

Major Incident Response Timeline

Communication * Coordination * Cooperation



Revised 8-24-07

Adding the upper limits of the times shown above the timeline yields an incident clearance time of 94 minutes. The initiatives shown are focus areas for the Washington DOT, State Police and other emergency response organizations. To support the timeline above the objective and policy below are used.

Washington State DOT Incident Management Objective and Policy

Objective

During major incidents, WSDOT's primary Incident Response role is to coordinate with and support WSP and other emergency responders as needed, by providing traffic control to improve safety of on-scene responders and motorists approaching the incident, and periodic incident and traffic updates to the appropriate TMC for dissemination through established traveler information systems.

Policy

The WSDOT will deploy scheduled roving incident response patrols in coordination with WSP in congested areas and maintain 24/7 call out availability.

8.2.2 Consider Establishing Incident Management Memorandums of Understanding with PSP

As in the last section, the WSDOT and WSP have executed a Joint Operations Policy to define roles, responsibilities and outline specific personnel within each organization for accomplishing the goals. The Policy is reviewed each year and revisions are incorporated as needed. Such an agreement must have a commitment for implementation from the highest level of State government. In Washington, the State Police Commissioner and the Secretary of Transportation sign the document and specific personnel are named to carry out the tasks. Areas to be covered by the MOU should include:

- ✓ Responder Safety
- ✓ Information Sharing
- ✓ Incident Verification
- ✓ Mobilizing Forces
- ✓ Disseminating Information to the Public
- ✓ Quick Clearance
 - Incident classification system
 - Clearance time goals
 - Training and outreach
 - Queue and backlog monitoring

8.2.3 Consider Developing an Incident Management Strategic Plan

Tennessee, Ohio, and the National Traffic Incident Management Coalition have all recently created or updated incident management strategic plans that are interlaced with quick clearance theories. The subject areas from the Tennessee Strategic Incident Management Plan are:

- ✓ Reduce the number and severity of highway incidents
- ✓ Better inform and educate motorists to reduce congestion and improve safety
- ✓ Expand and enhance resources for systematic management of highway incidents
- ✓ Expand and enhance training for highway incident responders
- ✓ Support highway incident management teams in metropolitan and urban areas
- ✓ Sponsor highway incident management teams in rural areas
- ✓ Accelerate deployment of new technologies to improve incident management
- ✓ Reduce traffic congestion caused by highway work zones
- ✓ Establish working groups to focus on specific issues and recommend actions
- ✓ Promote ongoing interagency planning and coordination

A similar plan for PennDOT would help define actions to establish and meet an incident clearance time goal.

8.2.4 Consider Continuing and expanding the Freeway Service Patrol Program

All five of the States cited in this research as well as many of the ones identified by the Federal Highway Administration have expansive freeway service patrol programs. In addition, the NCHRP 318 document and several of the other reference documents used to complete this task highlight the benefits and strong positive public feedback for these programs.

8.2.5 *Evaluate the Benefit of Implementing an Incident Management Module into the Road Condition Reporting System*

PennDOT's Road Condition Reporting System (RCRS) has become a partial incident management tool since the implementation of the incident communications protocol module in February 2007 and is shared by the Pennsylvania Emergency Management Agency, State Police, PennDOT, and Pennsylvania Turnpike. To further enhance the incident management capabilities of the system, implement a module that includes the following:

- ✓ **The incident location** – Currently the RCRS is designed to report the length of the closure (from the beginning of the diversion point to the end of the diversion point). Providing the incident location will allow the system to more closely reflect information as reported by other incident management agencies.
- ✓ **Provide the capability to capture “reported” incidents** – Similar to the computer aided dispatch system, the RCRS needs the capability of capturing reported incidents that are not yet verified. This enhancement will reduce the decision time by operators on whether or not to capture an event and may increase accuracy of reporting by allowing operators to initially capture data and then update data as better information becomes available.
- ✓ **Enhanced map speed** – Currently maps may take up to 30 seconds to generate, and in an environment where incident verification and initial message dissemination goals are in the 5 minute range, slow maps will hamper operations.
- ✓ **Incorporate Emergency Detour Routes** – For effective backlog management, operators must have information available to them as quickly as possible. By incorporating information currently shown in the Emergency Detour Routing System (EDRS) PennDOT can provide the information at the point where it is needed (in the RCRS) and discontinue development of the EDRS.
- ✓ **Implement performance metrics that parallel national tracking criteria** – Provide the capability in the system to measure the categories shown below.

8.2.6 *Consider Implementing Incident Management Performance Metrics*

In 2002 the Federal Highway Administration, in conjunction with the Texas Transportation Institute published “Incident Management Performance Measures”. The publication recommended two tiers of performance measures as shown below.

Tier 1 Performance Metrics	Tier 2 Performance Metrics
<p>Incident Notification Time – This represents the time it takes for all the appropriate response agencies to become aware of an incident. It would be computed by taking the time differential between when the first detection/report of an incident to any agency (whether it be fire, police, 911-dispatch, or TMC) to when the other response agencies also receive notification of the incident. This performance measure would need to be computed separately for each of the official response agencies.</p> <p>First-Responder Response Time – This represents what many transportation agencies and emergency service responders are calling “response time”. This performance measure would be the time differential between the first report of an incident to any agency to when the first official responder from any agency arrived on the scene.</p> <p>Incident Assessment Time – This time represents the duration it takes the first responder to determine what needs to be done to clear the incident and when capacity of the roadway is first partially restored. This performance measure would be defined as the time differential between when the first responder arrived on the scene and when the first action is taken to fully or partially restore capacity (for example, opening one previous blocked lane of traffic).</p> <p>Total Blockage Duration – This time represents the total amount of time that freeway capacity is reduced. This performance measure would be defined as the time differential between when the first responder arrived on the scene to when the freeway capacity was fully restored (i.e., all lanes opened).</p> <p>Total Incident Duration – This time represents the total amount of time that the incident had an effect on traffic operations. This performance measure would be defined as the time differential between when the event was first reported to any official response agency until when the last official response vehicle left the scene.</p>	<p>Agency Detection - The frequency (or percentage of total incidents) at which each official response agency was the “first detector.”</p> <p>First on Scene - The frequency (or percentage of total incidents) at which each official response agency was the “first responder.”</p> <p>Capacity Established - The frequency (or percentage of total incidents) where capacity was partially restored.</p> <p>Last to Leave - The frequency (or percentage of total incidents) at which each official response agency was the last to leave the scene.</p> <p>Device Activation Time - The time lag between when an incident was reported to a TMC and when devices were activated on the roadway.</p> <p>Motorist Delay - The average delay to motorists through an incident site.</p> <p>Queue Length - The average queue length associated with different incident types.</p> <p>Diversion Time - The average amount of diversion generated by the traffic control devices used in managing an incident.</p>

8.2.7 Consider Providing Oversight and Guidelines for Work Zone Incident Management Plans

Currently, there are special provisions that are developed by each PennDOT Engineering District for incident management in work zones. Currently, there is no central oversight or monitoring of current best practices in a coordinated way. The FHWA dedicates a segment of their website, under Operations, to work zone incident management best practices and guidance.

8.2.8 Facilitate the Completion of FHWA's Traffic Incident Management Self Assessment on an Annual Basis

The FHWA facilitates the completion of the Traffic Incident Management Self Assessment in five major urban areas on an annual basis and that assessment can also be applied at the District level. This incident management program should use the assessment as an annual metric for measuring improvements in performance and perception of coordination for responding to incidents.

8.3 Evaluate the Expansion Capabilities for Training and Outreach Efforts

Almost all of the literature review documents and documents from other states outline extensive public and stakeholder outreach activities, and one thing is clear; providing quick and safe clearance of vehicles blocking roadways is a multi-agency effort. So for Pennsylvania to become a best-in-class state for incident clearance, political, institutional, and geographic challenges will need to be overcome.

Group to Outreach	Biggest Outreach Challenge
Local Fire Departments (Fire Police)	<ul style="list-style-type: none"> Most are volunteers and not available for coordination during PennDOT normal business hours
County Emergency Management Agencies	<ul style="list-style-type: none"> Many have a very small staff for accomplishing all tasks county wide
Local Police	<ul style="list-style-type: none"> Limited personnel and training budgets
Pennsylvania State Police	<ul style="list-style-type: none"> Getting headquarters coordination efforts reflected at the local level Strained local relationships
Pennsylvania Emergency Management Agency	<ul style="list-style-type: none"> Getting buy-in from many different groups within the agency with varying opinions
Pennsylvania Department of Environmental Protection	<ul style="list-style-type: none"> Streamlining policies and procedures that must be followed in HAZMAT and other potentially hazardous situations
Towing Industry	<ul style="list-style-type: none"> Varying size and technological capabilities of recovery companies
Adjacent State Emergency Services	<ul style="list-style-type: none"> Funding for travel and schedule coordination
Motoring Public	<ul style="list-style-type: none"> Pass through traffic

As can be seen from the table above, there are many challenges facing the success of the PennDOT incident management program. The strategies outlined below may help.

8.3.1 Develop and disseminate a PennDOT incident management brochure

Once the incident management program is established and goals are clearly defined, a brochure for educating many different outlets about incident management and PennDOT capabilities will be needed.

8.3.2 Dedicate a portion of the PennDOT website to become a focal point for Pennsylvania Quick Clearance information and outreach efforts

Many DOT websites have a portion dedicated to incident management/quick clearance efforts. This helps promote unity in efforts and inclusion for many different stakeholder groups.

8.3.3 Coordinate and hold 11 Saturday Quick Clearance Symposiums (One per District)

One of the identified challenges above is that many of the on-the-ground response personnel are volunteers. This means that many hold regular jobs during normal PennDOT business hours. To truly achieve coordination, educational forums and coordination meetings need to take place when these individuals are available. In many cases this will be nights and Saturdays. PennDOT will need to make provisions in their budget to account for overtime accrued by personnel performing this effort. Also, these symposiums need to be highly coordinated with State Police and County EMA personnel.

8.3.4 Require District Incident/Emergency Management Coordinators to attend two county EMA coordination meetings per year

Almost all counties hold regular meetings for emergency response coordination. For PennDOT to stay current on local and regional incident management issues, participation in these meetings will be necessary.

8.3.5 Provide quick clearance training opportunities by nationally recognized experts

The I-95 Corridor Coalition has an existing relationship with national experts and other states that were contacted, including Washington State who has offered to come to Pennsylvania and perform outreach. The FHWA peer-to-peer program may be a source to facilitate this coordination. In addition, the course that was developed by LTAP may be updated and offered regionally once PennDOT and PSP personnel have received sufficient training to conduct the course.

8.3.6 Establish a relationship with the Pennsylvania Chiefs of Police Association

In Pennsylvania, State Police patrol a percentage of the Commonwealth's road network, so outreach to local police and emergency responders is a very important task. On the association's website, they list a membership of over 1,200 command level law enforcement officers across the Commonwealth.

8.4 Consider Facilitating the Improvement of the Towing and Recovery Company Qualification Process

Modifications to improve the reimbursement process for towing agencies and improve the requirements for personnel and equipment to provide service will ensure that the most qualified companies are being used to complete operations. Texas has the most recent legislation addressing these two issues, and below is a summary of the Texas Tow Act, House Bill 2094 of the 80th Texas Legislature.

--- Texas Tow Act HB 2094, 80th Texas Legislature

As proposed by the Texas Towing & Storage Association (TTSA), the 80th Texas Legislature passed HB 2094 by Representative Fred Hill, Representative Jim Jackson & Senator John Carona. Supporters of the Legislation included: TTSA, Greater Dallas Emergency Wrecker Association, Texas Motor Transportation Association, Texas Auto Title & Registration, South West Tow Operations, Goode Towing & Recovery, Safetow, AAA Texas and Arens Services (Texas House Research Organization, SB 1118).

With the passage of HB 2094, Texas now has the most meaningful and innovative towing and storage laws in the United States. Below are the key provisions of the Act:

- Transfers regulation of the towing and vehicle storage industry from the Texas Department of Transportation to the Texas Department of Licensing and Regulation (TDLR), the state's umbrella occupational regulatory agency.
- Creates the Towing and Storage Advisory Board to advise the department on matters relating to the towing and storage of vehicle.
- Requires criminal background checks and drug testing for towing operators and vehicle storage facility employees.
- Provides for three classifications of towing, establishes requirements for each class and requires permit.
 - Incident Management Towing Operations Permit - Establishes equipment and liability insurance requirements for incident management towing permits. Provides that permitted incident management tow trucks may be used for all types of towing.
 - Private Property Towing Operations Permit - Establishes equipment and liability insurance requirements for private property towing permits. Provides that permitted private property tow trucks may be used for private property towing and consent towing but not incident management towing.
 - Consent Towing Operations Permit - Establishes equipment and liability insurance requirements for consent towing permits. Provides that permitted consent tow trucks may be used only for consent towing.
- Provides for three classifications of towing operators and requires license:
 - Incident Management Towing Operator - Establishes requirements for an incident management towing operator license. Provides that licensed incident management towing operator may conduct all types of towing.
 - Private Property Towing Operator - Establishes requirements for a private property towing operator license. Provides that licensed private property towing operator may conduct private property towing and consent towing but not incident management towing.
 - Consent Towing Operator - Establishes for a consent towing operator license. Provides that licensed consent towing operators may only conduct consent towing.
- **Key Dates**
 - September 1, 2007 - HB 2094 Effective Date
 - September 1, 2008 - Towing Operators License Required
 - Incident Management Towing Operators & Private Property Towing Operators must be certified by Towing & Recovery Association of America or another certification approved by TDLR.
 - September 1, 2008 - Vehicle Storage Facility Employees License Required
 - After August 31, 2009 - Completion of Professional Development Course Required
 - At first license renewal, Incident Management Towing Operators must have completed professional development course relating to towing that is licensed or certified by the National Safety Council or another course approved by TDLR.



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8.4.1 Facilitate Coordination Efforts between the PSP and the Towing Industry

From stakeholder interviews, the relationship between PennDOT and the towing industry in Pennsylvania appears to be strong while the relationship between the PSP and the towing industry is weak. PennDOT should consider taking a leadership role in mediating the differences between these groups and creating an environment that is conducive to unity in response and creates efficiency in incident response.

8.5 Consider Developing Regional Partnerships to Seek Incident Management Funding

The Federal Highway Administration stated that the greatest source for incident management funding is through the Department of Homeland Securities Grant Program. The Federal Highway

Administration also stated that regions that demonstrate cooperation and coordination typically fair better in grant awards. PennDOT should consider investigating partnerships and grant opportunities to position itself for successful awards.

9. Traceability

The action items that were identified in this report have ties to many other reports that have been developed by PennDOT in recent years. Below are each of the action items from this report cross referenced to recent efforts by PennDOT.

Suggested Executive Actions	Suggested Sub-tasks	Is the Action Item Traceable?		
		ITS Strategic Plan (2008)	Transportation Operations Plan (2005)	Regional Operations Plans
Evaluate the Need for Changes in Legislation	<ul style="list-style-type: none"> • Driver Removal Law Examination • Consider the Need to Strengthen Hold-Harmless Language in Existing Laws 	<ul style="list-style-type: none"> • No 	<ul style="list-style-type: none"> • Yes (TSOP 4 and 5) 	<ul style="list-style-type: none"> • No
Consider the Establishment of an Incident Management Program	<ul style="list-style-type: none"> • Consider Implementing an Incident Management Policy • Consider establishing incident management memorandums of understanding with PSP • Consider developing an incident management Strategic Plan • Evaluate the benefit of implementing an incident management module into the Road Condition Reporting System • Consider implementing incident management performance metrics • Consider providing oversight and guidelines for work zone incident management plans • Facilitate the completion of FHWA's TIM Self Assessment on an annual basis 	<ul style="list-style-type: none"> • Yes (Goal 2 and Goal 3) 	<ul style="list-style-type: none"> • Yes (TSOP 4 and 5) 	<ul style="list-style-type: none"> • Yes (Southwestern, District 2,

Suggested Executive Actions	Suggested Sub-tasks	Is the Action Item Traceable?		
		ITS Strategic Plan (2008)	Transportation Operations Plan (2005)	Regional Operations Plans
Evaluate the Expansion Capabilities for Training and Outreach Efforts	<ul style="list-style-type: none"> Develop and disseminate a PennDOT Incident Management Brochure Dedicate a portion of the PennDOT website to become a focal point for Pennsylvania Quick Clearance information and outreach efforts Coordinate and hold 11 Saturday Incident Management Symposiums Require District Incident/Emergency Management Coordinators to attend two county EMA coordination meetings per year Provide quick clearance training opportunities by nationally recognized experts Establish a relationship with the Pennsylvania Chiefs of Police Association 	<ul style="list-style-type: none"> Yes (Goal 4) 	<ul style="list-style-type: none"> Yes (TSOP 5 and TSOP 14) 	<ul style="list-style-type: none"> Yes (Southwestern, District 2,
Consider Facilitating the Improvement of the Towing and Recovery Qualification Process	<ul style="list-style-type: none"> Facilitate coordination efforts between the PSP and the Pennsylvania Towing Industry 29% Shared with Traffic Engineering 65% Shared with Maintenance Forces 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> No
Consider developing regional partnerships to seek incident management funding	<ul style="list-style-type: none"> Investigate relationships and grant opportunities from the Department of Homeland Security 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Yes (TSOP 5) 	<ul style="list-style-type: none"> Yes (Southwestern, District 2,

