

TRAFFIC INCIDENT MANAGEMENT OPERATIONS GUIDELINES

Omaha – Council Bluffs | March 24, 2011

A collage of logos for various emergency and transportation agencies. The logos include:

- Iowa Department of Transportation
- NDOR (Nebraska Department of Roads)
- MAPA (Missouri Association of Professional Automobile Planers)
- Lincoln County of Potawatomi
- Omaha Fire & Rescue
- State Fire Marshal of Nebraska
- Sarpy County Sheriff's Dept.
- Nebraska Federal Highway Administration
- FHWA (Federal Highway Administration)
- 911 (Emergency Services)
- Council Bluffs Police
- Iowa State Patrol
- Police Dept. (Council Bluffs)
- Police Dept. (Council Bluffs)
- Council Bluffs
- Sarpy County Sheriff's Dept.
- NEBRASKA EMERGENCY MANAGEMENT AGENCY
- AAA

ADMINISTERED AND SPONSORED BY THE:



**AS PART OF THE
WESTERN IOWA ITS PROJECT**

PREPARED BY:



Alfred Benesch & Company

IN ASSOCIATION WITH:



PARTICIPATING AGENCIES

These operational guidelines were developed through the efforts of and in cooperation with individuals representing the following agencies:

Iowa Department of Transportation

Nebraska Department of Roads

Iowa State Patrol

Nebraska State Patrol

Metropolitan Area Planning Agency (MAPA)

City of Council Bluffs Fire, Police, & Public Works

City of Omaha Fire, Police, & Public Works

City of Bellevue Police & Public Works

Pottawattamie County 911 & Sheriff

Douglas County 911, Sheriff, and Emergency Management

Sarpy County 911 & Sheriff

Federal Highway Administration – Iowa & Nebraska

Professional Towing Association of Nebraska

AAA

Metro Area Transit

A special thanks to Kansas City Scout for their insights, advice, and contributions

EXECUTIVE SUMMARY

As part of the Western Iowa ITS Project, the Iowa DOT contracted Alfred Benesch & Company to facilitate development of Traffic Incident Management Operations Guidelines for the Omaha-Council Bluffs metro area. The effort involved stakeholders from various agencies and associations involved in incident response for the metro area.

These guidelines are focused on responses to incidents occurring on the freeway system within and adjacent to the metro area. Several working group meetings were conducted focused on on-scene response activities, periphery response activities, and coordination and communication amongst the responders and with the traveling public. The working group meetings endeavored to understand responder operating procedures, limitations and absolutes, and opportunities to provide assistance to other responders while identifying potential ways to improve safety for responders and the traveling public, improve response effectiveness and efficiency, and decrease the time required to restore normal traffic flow.

As part of this effort, basic assumptions were established to guide stakeholders during discussions and incidents were classified according to MUTCD standards. Using these standards, the practices employed by responding agencies to communicate and interact with each other in their responses were categorized by the following seven stages of the typical incident response:

- Detection
- Verification
- Response
- Motorist Information
- Site Management
- Traffic Management
- Clearance

Discussions focused on how these practices reduce response time, improve site management, improve interagency relationships, and clarify decision-making responsibilities. The information gathered was used for developing a simple pdf-based software package identifying relevant information based on the incident location and direction including diversion routes, initial response alternatives, potential responders, traffic control, potential DMS messages to provide advance warning for motorists, and potential agencies to notify that an incident is occurring.

These operations guidelines also identify and prioritize several short, medium, and long term strategies to improve TIM operations in the metro area. These strategies largely focus on improving clearance times, better communication, improved coordination, establishing performance measures, training, data gathering, and defining responder authorities and protections.

Continued, periodic training is fundamental to maintaining an effective regional TIM program and enhancing coordination among the responder agencies in the Omaha-Council Bluffs region. Multi-agency training is the most efficient method of maintaining continuity across jurisdictions. Potential training opportunities are identified with a focus on educating

responders using a consistent training message across all agencies and boundaries. Specialized training is essential for each agency and training efforts need to be consistent and incorporated into those efforts as well.

Measuring performance or measuring the effectiveness of strategies is essential to evaluate incident response to determine if desired goals are being achieved and to identify areas for improvement. By establishing performance measures, decision makers can assess the region's or agency's traffic incident management practices, procedures and decision making processes. They also help identify reasonable measures that can be taken to improve performance and better achieve goals. Performance measures need to target goals having short and long term benefits. Several potential performance measures are identified focusing on key aspects and responses to an incident. For the metro area, emphasis is placed on reducing response times, clearance times, and time to restore normal traffic flow. Planned improvements to agency systems (such as CAD systems) in the metro area provide good options for decision makers to gather data to measure improvements in incident response in the metro area.

The appendices to these guidelines contain several resources, tools, and essential information to educate and assist responders before and during an incident.

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LIST OF ABBREVIATIONS

ACTAR	Accreditation Committee for Traffic Accident Reconstruction	MAPA	Metropolitan Area Planning Agency
ATIS	Automated Traveler Information Systems	MDT	Mobile Data Terminals
ATMS	Advanced Transportation Management Systems	MOU	Memorandum of Understanding
ATSSA	American Traffic Safety Services Association	MUTCD	Manual on Uniform Traffic Control Devices
AVL	Automatic Vehicle Location	MVE	Motor Vehicle Enforcement
CAD	Computer Aided Dispatch	NDOR	Nebraska Department of Roads
CARS	Condition Acquisition and Reporting System	NIMS	National Incident Management System
CCTV	Closed Circuit Television	NTIMC	National Traffic Incident Management Coalition
CVO	Commercial Vehicle Operators	NSP	Nebraska State Patrol
DMS	Dynamic Message Sign	PD	[City] Police Department
DOC	District Operations Center	PDA	Personal Digital Assistant
DOT	Department of Transportation	PIO	Public Information Office
EMA	Emergency Management Agency	PSAP	Public Safety Answering Point
EMS	Emergency Medical Services	PTZ	Pan-Tilt-Zoom
EOC	Emergency Operations Center	PWD	[City] Public Works Department
FD	[City] Fire Department	QC	Quick Clearance
FHWA	Federal Highway Administration	RCE	Resident Construction Engineer
FSP	Freeway Service Patrol	RFP	Request for Proposals
HAR	Highway Advisory Radio	RWIS	Road-Weather Information System
HM	Hazardous Materials	SOSC	Iowa DOT Statewide Operations Support Center
ICN	Iowa Communications Network	SWIFT	Southwest Iowa Freeway Team
Iowa DOT	Iowa Department of Transportation	TIM	Traffic Incident Management
ICS	Incident Command System	TMC	Transportation Management Center
ISP	Iowa State Patrol	TRAA	Towing & Recovery Association of America
ITS	Intelligent Transportation System	VDS	Vehicle Detection Station
LE	Law Enforcement (Police, Sheriff, State Patrol)	VPN	Virtual Private Network

1. INTRODUCTION

1.1 Definition of Traffic Incident Management

Traffic Incident Management (TIM) is defined as the coordinated, preplanned procedures utilized by agencies charged with responding to traffic incidents to rapidly and efficiently detect, respond to, and clear incidents and restore traffic capacity as safely and quickly as possible. Well deployed TIM programs are able to reduce the duration and impact of incidents and improve the safety of motorists, crash victims, and incident responders.

1.2 Purpose of TIM Operations Guidelines

The purpose of the Omaha-Council Bluffs TIM Operations Guidelines is to provide emergency responders with current information on the traffic incident management program in the Omaha-Council Bluffs region. The Plan covers highways within the Omaha-Council Bluffs metropolitan area. Figure 1-1 shows the general extent of the TIM Operations Guidelines coverage.

1.3 Contents of TIM Operations Guidelines

Section 1 of the Plan provides a definition of TIM, summarizes the purpose and contents of this TIM Operations Guidelines.

Section 2 describes the background for the development of these operations guidelines and provides some national TIM resources.

Section 3 summarizes the roles of the TIM responders and stakeholders in the Omaha-Council Bluffs region.

Section 4 provides an incident definition and a means for classifying incidents.

Section 5 provides a general description of the practices being utilized by participating agencies to communicate and interact with each other in their responses to a traffic incident in the region during each of the incident stages.

Section 6 provides a general description of the incident diversion routes, use of dynamic message signs during incident response, provides guidance as to when and how to activate and remove use of alternate routes, and provides a summary of the Response Matrix describing response actions based on the severity of the incident.

Section 7 provides a summary for developing the Omaha-Council Bluffs TIM contact list, Field Responder TIM Activity Checklist and identifies agency TIM resources available to manage traffic incidents in the Omaha-Council Bluffs area.

Section 8 includes a discussion of strategies to improve the TIM program in the Omaha-Council Bluffs region and how each can be implemented over short, medium and long term time frames.

Section 9 includes a discussion of current TIM training opportunities and a proposed TIM training program for responder agencies in the Omaha-Council Bluffs region.

Section 10 provides measures of effectiveness to be used to determine benefits and manage the coordinated TIM program.

Section 11 provides the methodology for managing changes to this document.

Appendices include all “pull-out” documents that can be placed in responder vehicles, dispatcher workstations, etc. for quick reference.

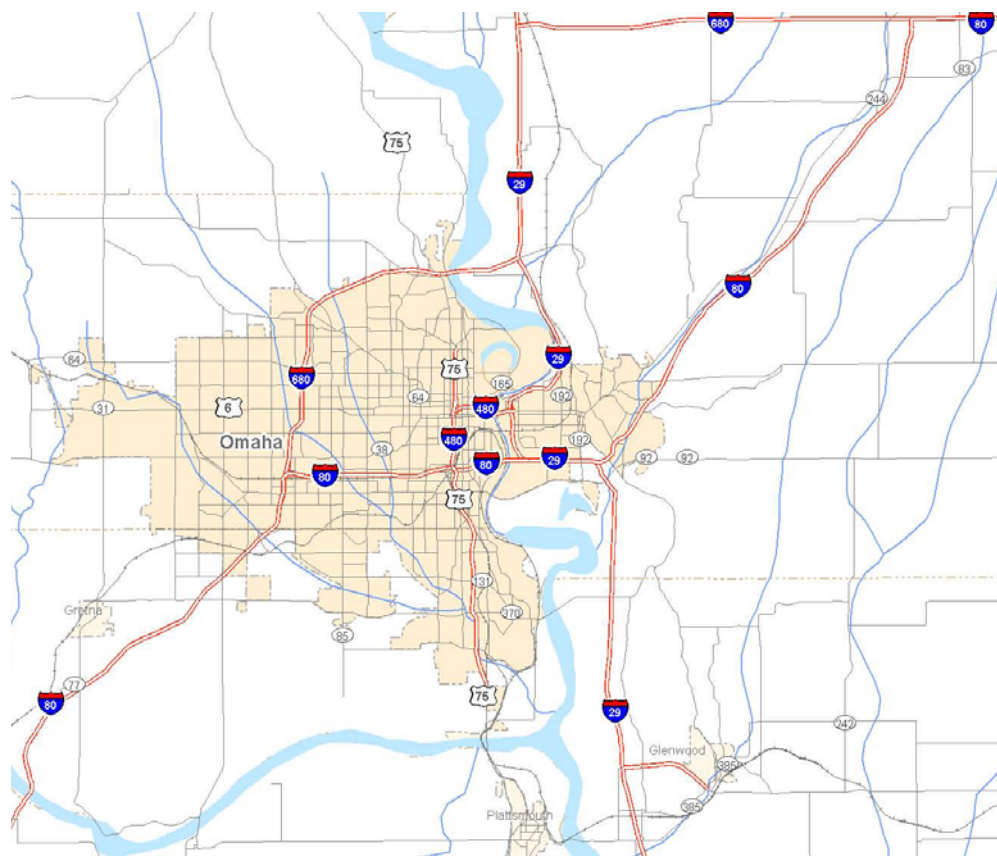


Figure 1-1 Omaha-Council Bluffs TIM Coverage Area

1.2 Assumptions of TIM Operations Guidelines

In developing these operations guidelines, it was identified that certain assumptions needed to be made to help guide the efforts of those involved, to establish what the limitations of these guidelines, and to provide understanding for users of these guidelines. It was also acknowledged that changes to these guidelines will occur and identifying assumptions will assist future efforts. The assumptions associated with the TIM Operations Guidelines are as follows:

- **Congestion is unavoidable but can be reduced by quick and proper response(s)**
- **Plan goal is to develop consistent reactions for similar situations**

- **The Plan will be altered to fit specific (uncommon) situations – recurring situations identified but not covered by the Plan will be added to the Plan**
- **Decision making occurs by many and is based upon information available at a given time – decisions can and will be changed during to course of an incident**
- **The Traffic Management Centers (TMCs) and Dispatchers have a role in responding to incidents – the Plan needs to identify their logical duties and how to coordinate/ perform/ share these duties – currently all duties are assigned to Dispatchers**

2. BACKGROUND

2.1 Project Description

In August 2007, the Iowa Department of Transportation (DOT) initiated an effort to design, deploy and implement components of an Intelligent Transportation System (ITS) along the freeway and surrounding primary road system in the Omaha-Council Bluffs and Sioux City metropolitan areas. In January 2008, the Iowa DOT contracted with Alfred Benesch & Company (formerly HWS Consulting Group) and its teaming partners Telvent USA, Inc. and Olsson Associates to perform specific tasks related to this effort. One task assigned to the Benesch Team was to facilitate Traffic Incident Management (TIM) planning including incorporating the use of ITS enhancements to improve incident response for both planned (e.g., construction, maintenance, special events) and unplanned (e.g., accidents) incidents affecting traffic operations on the Interstate, expressway, and freeway system in both metro areas.

Specific to the Omaha-Council Bluffs metro area, Benesch (formerly HWS) and PB Farradyne, Inc. developed the Omaha- Council Bluffs Traffic Incident Management Operations Manual in 2005 for the Metropolitan Area Planning Agency (MAPA) and was intended to serve as a resource for response actions in the Omaha-Council Bluffs metropolitan area. This document included sections on TIM roles and responsibilities, existing TIM practices and recommended strategies, institutional issues and cost estimates, a TIM implementation plan, a resource guide, contact information, a TIM activity list, and alternate routes and route diversion maps. This document has seen limited to no use by response agencies and a significant amount of information contained in the document is out of date due to changes in personnel and procedures. The Benesch Team was tasked to assist the responding agencies in developing a document more useable by responders and providing beneficial tools, techniques, and strategies to improve incident response in the metro area.

2.2 TIM Resources

Federal Highway Administration (FHWA) publication, “2010 Traffic Incident Management Handbook,” is a good reference for emergency responding agencies that want to improve their traffic incident management programs and operations. It is available electronically from the following link:

http://www.ops.fhwa.dot.gov/eto_tim_pse/publications/timhandbook/index.htm

FHWA publication, “Best Practices in Traffic Incident Management, September 2010” is a good reference for emergency responding agencies that want to improve their traffic incident management programs and operations. The Executive Summary for this document is contained in the appendices. The full version of this document is available electronically from the following link:

<http://www.ops.fhwa.dot.gov/publications/fhwahop10050/index.htm>

FHWA publication, “FHWA Focus States Initiative: Traffic Incident Management Performance Measures Final Report”, December 2009 – documents current programs; collectively, through workshops, determine the direction TIM programs should gravitate towards, and identifies TIM performance objectives and measures. The report can be accessed through the link:

http://ops.fhwa.dot.gov/eto_tim_pse/publications/

Additional FHWA references on traffic incident management can be accessed through the following link:

<http://ops.fhwa.dot.gov/incidentmgmt/index.htm>

National Traffic Incident Management Coalition (NTIMC) is an assembly of national organizations representing the public safety, transportation, and towing and recovery communities. Its mission is to improve incident management policies, procedures, and practices through the creation of a national-level multidisciplinary coalition. To fulfill this mission and lay a foundation for future activities, the NTIMC developed and ratified a National Unified Goal (NUG). The NUG contains three overall objectives and 18 strategies to achieve these objectives. The following link provides information about the Coalition and its activities:

<http://timcoalition.org/>

National Incident Management System (NIMS) is a system mandated by the U.S. Department of Homeland Security that provides a consistent nationwide approach for governments, the private sector, and non-governmental organizations to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity. NIMS provides on-line training and certification programs for TIM responders. NIMS can be accessed through the following link:

<http://www.fema.gov/emergency/nims/index.shtm>

CVVFA Responder Safety Institute, created as a Committee of the Cumberland Valley Volunteer Firemen’s Association, serves as an informal advisory panel of public safety leaders committed to reducing deaths and injuries to America’s Emergency Responders. Members of the Institute are personally dedicated to the safety of those who respond to emergencies on our nation’s highways. They consist of trainers, writers, managers, government officials, and technical experts and leaders. The Institute can be accessed through the following link:

<http://www.respondersafety.com>

Towing and Recovery Association of America Inc. (TRAA) is a non-profit representative for the towing industry focused on improving competition, industry practices, cooperation, education, and certification. Members include towing companies, suppliers, and state association leadership. TRAA can be accessed through the following link:

<http://www.towserver.net/>

The **National Transportation Operations Coalition (NTOC)** is a foundation focused on institutionalizing management and operations in the transportation industry. Members include national associations, practitioners and private sector groups representing state, local and regional operations, planning and public safety stakeholders. NTOC can be accessed through the following link:

<http://www.ntoctalks.com> FHWA link: http://ops.fhwa.dot.gov/nat_dialogue.htm.

The **Manual on Uniform Traffic Control Devices (MUTCD)** defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), Part 655, Subpart F.

<http://mutcd.fhwa.dot.gov/>.

The **American Traffic Safety Services Association (ATSSA)** is an international trade association representing companies and individuals in the traffic control and roadway safety industry. Its core purpose is "To Advance Roadway Safety." ATSSA members provide the majority of features, services and devices used to make our nation's roadways safer including pavement markings, road signs, work zone traffic control devices, guardrail, and other roadside safety features. Additionally, ATSSA provided training for properly establishing, maintaining, and directing traffic in work zones and incident scenes for responders and workers. TRAA can be accessed through the following link:

<http://www.atssa.com/>.

The **I-95 Coalition** is an alliance of transportation agencies, toll authorities, and related organizations, including public safety from the State of Maine to the State of Florida. The Coalition provides a forum for key decision and policy makers to address transportation management and operations issues of common interest, including traffic incident management. The Coalition has developed a "Quick Clearance Toolkit" that provides a roadmap for developing a TIM Program and a collection of videos, documents, and workshops that provide examples of TIM best practices from existing programs around the country. The Toolkit can be accessed through the following link: <http://www.i95coalition.org/i95/Committees/IncidentManagementSafety/tabid/74/Default.aspx>

3. STAKEHOLDER ROLES

Primary stakeholders comprise those agencies that have a role in the TIM Operations Guidelines. This section summarizes these stakeholders' roles in the TIM process and the field devices that they operate that can assist this process.

3.1 State Patrol (Iowa, Nebraska)

Responsibilities: routinely patrol state roadways, including interstates, state highways, and secondary county roads; enforce motor vehicle laws; assist in major incidents; report road conditions (primarily winter road conditions) and input into CARS; post Amber Alert Messages on DMS or notify DOT Headquarters of Alerts to be posted to DMS; operationally share responsibility with DOT for posting amber alerts to DMS

Field Devices: in-car laptops, in-car surveillance cameras and microphones, GPS for incident location

3.2 State Patrol 911 Communications Center (Iowa, Nebraska)

Responsibilities: provides support services for all divisions within the Department of Public Safety, receives 911 calls (including wireless 911) and calls to the Iowa State Patrol help line, log information into CAD, dispatches Iowa State Patrol to incident scenes

Field Devices: none

3.2.1 Iowa State Patrol Atlantic Communications Center

Responsibilities: provides support services for all divisions within the Department of Public Safety, receives 911 calls (including wireless 911) and calls to the Iowa State Patrol help line, log information into CAD, dispatches Iowa State Patrol to incident scenes

Field Devices: none

3.2.2 Nebraska State Patrol 911 Dispatch Center

Responsibilities: provide dispatch and support services for Nebraska State Patrol; receive 911 calls (including wireless 911) and calls to the Nebraska Motorist help line; log information into CAD, support other 911 centers in Eastern Nebraska

Field Devices: none

3.3 City Fire Department (Council Bluffs, Omaha, Bellevue, Ralston, Papillion, La Vista, Gretna)

Responsibilities: respond to fires, accidents, hazardous material spills, freeway, highway, and local street incidents; deploy ITS-related technology on-board agency owned and operated

vehicles to decrease response times, enhance services, and improve travel safety; support response to incidents on

Field Devices: Mobile Data Terminals (MDTs), AVL, vehicle traffic signal pre-emption emitters

3.4 City Police Department (Council Bluffs, Omaha, Bellevue, Ralston, Papillion, La Vista)

Responsibilities: enforce the laws and manage incidents on city streets; report AMBER Alerts to State Patrol; coordinate with other emergency management agencies during regional and large scale emergencies; respond to incidents throughout the city including traffic incidents on the freeway and highway system.

Field Devices: in-vehicle cameras, AVL (currently in Omaha only), Mobile Data Terminals (MDTs)

3.5 County Sheriff's Office (Pottawattamie, Douglas, Sarpy)

Responsibilities: enforce the laws and manage incidents on county roads

Field Devices: in-vehicle PCs, video; Douglas only: AVL (deploying in all county vehicles), MDT

3.6 Iowa Department of Transportation (Iowa DOT)

Responsibilities: plan, build, and maintain the state transportation systems including all interstates and marked state highways; provide regional traveler information including 511 systems; provide assistance with coordination of agencies related to issues concerning the freeway systems; assist locals in deploying and maintaining ITS systems

Field Devices: Permanent overhead and side mounted DMS (Freeway), Permanent DMS (Rest Areas), Portable DMS, RWIS, CCTV, traffic sensors, HAR, and related communications devices, 511 phone and website, ATRs, CARS, Rest Area Kiosks, Automated Gates, Maintenance and Construction Vehicle On-board equipment (AVL, Environmental Sensors, On-board Arrow Boards, MDTs)

3.6.1 Iowa DOT Research and Technology Bureau

Responsibilities: facilitating deployment and planning associated with system operation; provide support for districts and MPOs in developing RFPs and contracts, such as for periodic updates of operational guidelines and incident management plans, training, or system enhancements; coordinate development of ongoing performance measures

3.6.2 Iowa DOT District Office

Responsibilities: assist in the preparation of media and business notifications to changes in traffic caused by construction and/or incidents

3.6.3 Iowa DOT District Maintenance Office

Responsibilities: support local maintenance garages with technical advice and reallocation of District resources

3.6.4 Iowa DOT Area Maintenance Garage

Responsibilities: provide assistance to emergency responders with regards to incident response, highway maintenance, traffic management, and quick clearance

3.6.5 Iowa DOT Resident Construction Engineer's (RCE's) Office

Responsibilities: communicate construction project status and changes needed in traffic management; post messages on DMSs for needed traffic control for planned closures relating to construction activities

3.6.6 Iowa DOT Motor Vehicle Enforcement (MVE) Office

Responsibilities: enforce all state and federal regulations that apply to commercial vehicles; operate Iowa vehicle inspection stations; inspect commercial vehicles and drivers to determine compliance with state and federal laws

3.7 Nebraska Department of Roads (NDOR)

Responsibilities: plan, build, and maintain the state transportation systems including all interstates and marked state highways; provide regional traveler information including 511 systems; provide assistance with coordination of agencies related to issues concerning the freeway systems; assist locals in deploying ITS systems, operate highway service patrol in Omaha and Council Bluffs

Field Devices: DMS, RWIS, CCTV, traffic sensors, HAR, operations center and related communications devices, 511, highway service patrol

3.8 Traffic Management Centers (TMCs)

Responsibilities: monitor the freeway and highway system; coordinate responses to events on the freeway system; provide support to responders during incident; provide and update traveler information systems

Field Devices: CCTV, DMS, VDS, Ramp Gates, Mainline Gates (Iowa only)

3.8.1 Iowa DOT Statewide Operations Support Center (SOSC)

Responsibilities: monitor the state freeway and highway system; provide central coordination for multi-regional events on the freeway and highway system within the State of Iowa and in adjacent surrounding areas (e.g., weather-related events); support districts as needed, such as in off-hours operation or supplemental assistance during large events or when operators are overloaded with multiple simultaneous freeway or highway events; provide traveler information by posting messages on DMS and on the Iowa DOT 511

system; coordinate with Iowa State Patrol; provide, coordinate, and support Motorist Assist resources

3.8.2 NDOR District 2 District Operations Center (D2 DOC)

Responsibilities: monitor the state freeway and highway system; provide coordination and monitoring for Omaha area and district wide events on the freeway system (e.g., highway accidents, weather-related events, etc.); support field responders during incident; provide traveler information by posting messages on DMS and on NDOR 511 system; coordinate with Nebraska State Patrol

3.8.3 (Future) Regional Multi-state Traffic Operations Center

Responsibilities: monitor traffic operations in and around the Omaha-Council Bluffs metro area; provide central coordination for responses to events occurring on the freeway, highway, and local major arterial system (e.g., weather-related events); support incident response agencies needed; provide traveler information using Nebraska and Iowa traveler information systems

3.9 County 911 Communications Center (Pottawattamie, Douglas, Sarpy)

Responsibilities: independent public safety answering point (PSAP) for Pottawattamie, Douglas, and Sarpy County; dispatch for law enforcement, fire, and EMS; notify Iowa DOT or ISP when appropriate; place messages on DMS

Field Devices: CAD

3.10 Federal Highway Administration (FHWA) (Iowa, Nebraska Divisions)

Responsibilities: provide federal funding and technical support for this project and ensure that the federal funding is being used in accordance with Federal rules and regulations

Agreements: formal agreements with the state DOTs on accepting and distributing federal funding

Field Devices: none

3.11 City Public Works Department (Council Bluffs, Omaha, Bellevue, Papillion, La Vista)

Responsibilities: maintain and operate signal systems; maintain local streets and arterials and associated field equipment, lighting, and power, Monitor traffic conditions and flow along city streets when incidents occur on the Interstate system; monitor diversion routes for traffic directed off the Interstate

Field Devices: traffic signals, emergency vehicle pre-emption equipment installed at traffic signals

3.12 Commercial Vehicle Operators (CVO)

Responsibilities: schedule, route, and monitor heavy vehicle transport

Field Devices: AVL, fleet communications, transponders

3.13 Iowa Communications Network (ICN)

Responsibilities: administer a statewide communications network for use by state and federal government (as well as others such as hospitals, schools, etc.)

Field Devices: fiber optic communications network (fiber, POP sites, switches, etc.), wireless communication network

3.14 Local Media Outlets

Responsibilities: disseminate traffic and incident information to the public via radio, television, newspaper, and the internet; share cameras images with the public

Field Devices: web sites, cameras

3.15 Other Local Law Enforcement Agencies

Responsibilities: enforce the laws and respond to incidents on local roadways; support State Patrol when requested

Field Devices: none

3.16 Metropolitan Area Planning Agency (MAPA)

Responsibilities: provide regional planning and inter-agency coordination, funding mechanisms for federal transportation funds throughout the region; maintain regional traffic incident management operations plan and ITS architecture

Field Devices: none

3.17 Metro Area City Transit

Responsibilities: safely and effectively move people around the region, operate fixed route and demand responsive services, collect fares and, and secure appropriate financial support.

Field Devices: shelters, Automatic Vehicle Location (AVL), radio communications, real-time website

3.18 County Emergency Management Agency (Pottawattamie, Douglas, Sarpy)

Responsibilities: support, coordinate, and maintain county and local emergency management activities, under the direction of Pottawattamie County Emergency Management Commission, in order to establish sustainable communities and assure economic opportunities for the county and its citizens

Field Devices: none

3.19 Tow Service Operators

Responsibilities: provide towing and recovery services on demand

Field Devices: none

3.20 Adjacent Operations Centers (NDOR D1 DOC, KC Scout)

Responsibilities: managing traffic and disseminating traveler information in nearby metropolitan areas, especially those directly connected to Council Bluffs by freeway (e.g., Kansas City, Lincoln, Des Moines, Omaha, Council Bluffs, Sioux City)

Field Devices: DMS, web sites, CCTV, VDS, operations center and related communications

4. INCIDENT DEFINITION AND CLASSIFICATION

4.1 Incident Definition

Setting a standard definition for describing an incident and the level of severity of the incident is beneficial to emergency responders and other stakeholders when exchanging information and for monitoring performance of traffic incident management programs. A traffic incident is defined in the Manual on Uniform Traffic Control Devices (MUTCD) as *an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic*. The FHWA's Traffic Incident Management Handbook defines an incident as *any non-recurring event that causes a reduction of roadway capacity or an abnormal increase in demand*.

For consistency in the Omaha-Council Bluffs region, the FHWA Traffic Incident Management Handbook definition of an incident should be used. Also, the region should refer to any reduction in capacity as a traffic incident to emphasize managing traffic on the region's roadways and reducing secondary crashes. Non-recurring events, as noted in the above definition, can include traffic crashes, disabled vehicles, spilled cargo, highway maintenance reconstruction projects, and special non-emergency events (e.g., sporting events, concerts, or any other event that significantly affects roadway operations).

4.2 Incident Severity Levels

The levels of traffic incidents should be based on the estimated duration time of the traffic incident. Duration time (time to clear all travel lanes) can be one of the performance measures used to evaluate the impact of implemented traffic incident management strategies in the region. The definitions of duration levels (classes) from the Manual on Uniform Traffic Control Devices (MUTCD) Chapter 6-I are recommended for this region.

The levels (classes) of traffic incidents and their definitions, modified for the Omaha-Council Bluffs region, are as follows:

4.2.1 Minor Traffic Incident

A minor traffic incident is one that involves only minor lane closures or shoulder blockage. Small multi-car collisions, single car crashes, disabled vehicles, minor injury accidents, and property damage only crashes fit into this category. The expected duration of this type of incident is under half (0.5) hour.

4.2.2 Intermediate Traffic Incident

An intermediate traffic incident is one that closes all or part of a primary roadway, may involve fatalities, multiple vehicles. Alternate routes may be employed for this type of incident. The duration of the incident is expected to be from one half (0.5) to two (2) hours.

4.3.3 Major Traffic Incident

A major traffic incident is one that closes all or part of a primary roadway, involves fatalities, hazardous materials, multiple vehicles, or is caused by natural or man-made events.

Alternate routes may be employed for this type of incident. The duration of the incident is expected to last for over two (2) hours.

5. INCIDENT COMMUNICATION/INTERACTION PRACTICES

This section contains practices being utilized by participating agencies to communicate and interact with each other in their responses to traffic incidents in the Omaha-Council Bluffs region. These practices are categorized by the following seven stages of the typical incident response:

- Detection
- Verification
- Response
- Motorist Information
- Site Management
- Traffic Management
- Clearance

For each category, the practices are broken down by those currently being used by the participating agencies in the Omaha-Council Bluffs region and proposed practices developed as a result of the working group meetings. These practices should reduce response time, improve site management, improve interagency relationships, and clarify decision-making responsibilities. Because every incident is different, these practices may vary, depending on the incident. This section will be periodically updated to reflect changes in the recommended practices. Such changes may result from changes in agency procedures, changes in technology, or because of experiences at incident scenes. Hopefully, many of the best practices from around the country will be incorporated into the current practices.

5.1 Detection

Detection is the determination that a traffic incident of some type has occurred. Traffic incidents may be detected in person (i.e. motorists, cameras) or automatically (i.e. roadway detectors).

5.1.1 Current Practices

The majority of incidents in the Omaha-Council Bluffs region are detected by cellular phone calls from motorists to one of the Public Safety Answering Points (PSAPs), including the Pottawattamie County (Council Bluffs), Douglas County (Omaha), Sarpy County (Bellevue, Papillion, La Vista, Gretna), and Nebraska and Iowa State Patrol 911 Communications Centers and Atlantic State Radio. The 911 call taker collects information on the incident from callers. The call taker then transfers the information to the 911 dispatcher, who enters the information into the center's computer-aided dispatch (CAD) system and dispatches the appropriate responders to the incident scene. The Iowa State Patrol (ISP), Nebraska State Patrol (NSP), and the local fire and law enforcement departments do not receive 911 calls directly, but dispatchers from these agencies receive calls from the 911 dispatchers to be able to dispatch responders from their individual jurisdictions. At the

present time, the CAD systems of the various centers and jurisdictions are not integrated, so communications among dispatchers, if necessary, are accomplished by telephone.

To a lesser extent, incidents are detected by operators monitoring CCTV cameras and traffic detectors in either the NDOR District Operations Center (DOC) in Omaha or the Iowa DOT Statewide Operations Support Center (SOSC) in Ames. Occasionally, roving patrols of law enforcement officers (police, State Patrol, and county sheriff) or work crews (DOT's, city public works, and secondary roads departments) are the first to detect incidents and relay the information to the appropriate dispatcher. Because a common communication network among agencies does not currently exist, this information is normally relayed by telephone.

The DOC, SOSC, and roving patrols more often provide incident verification of incidents that have already been detected by other sources.

5.1.2 Proposed Practices

The implementation of a freeway service patrol (FSP) on the freeways in the metro area will enhance incident detection by providing an additional roving patrol to detect incidents that have just occurred. A strategy to implement an FSP in the region is discussed further in Section 8.2.1.

5.2 Verification

Verification is the determination of the precise location and nature of the incident. Accurate and detailed information about the incident can help to ensure that the most appropriate personnel and resources are dispatched to the scene.

5.2.1 Current Practices

Because the majority of incidents are detected by motorists' 911 calls, the 911 call takers in the communication centers have the initial opportunity to verify these incidents. These call takers have the responsibility to interrogate the 911 callers regarding location and nature of the incident. The call takers are often flooded with calls regarding the same incident, and individual callers are often unable to provide sufficient location information to provide an appropriate response to the incident. One aid to motorists in better describing their location on the roadway in Iowa and Nebraska is the installation of reference markers every .2 miles along the freeway that are similar to mile markers but contain additional information such as route and direction.

If the 911 call takers are not able to verify the location or nature of the incident, other verification sources are utilized. As discussed in the previous section, the two TMCs monitoring the metro area, the DOC and SOSC, are often the initial sources for verifying incidents. Roving patrols also verify incidents. When other sources are unavailable, the initial responders to the incident scene provide the verification to the dispatcher.

5.2.2 Proposed Practices

While the implementation of an FSP in the metro area will occasionally provide a source of initial detection of an incident, more often it will provide a source of verification of the incident.

5.3 Response

Incident response is the activation of a planned strategy for the safe and rapid deployment of the most appropriate personnel and resources to the incident scene. Information management plays an important role in response. It provides the necessary accurate and timely information to the appropriate responders so they know what personnel and what resources to bring to the scene.

5.3.1 Current Practices

Based on the verified information, the dispatcher dispatches the appropriate initial responders, who are usually law enforcement, fire, and/or EMS personnel. Law enforcement personnel are usually the first responders on the scene. Fire department personnel are also dispatched to any crash on the freeway system. An engine company is always dispatched and EMS is dispatched if the incident involves personal injury.

The first responders, either enforcement or fire personnel, generally arrive at the incident scene within five minutes of being dispatched. They initially assess traffic conditions, check for injuries and fatalities, and determine if hazardous materials are involved. After the initial assessment, the first responder calls for additional responders through the dispatcher, as necessary. Typical information relayed to the dispatcher includes the number of injuries, the number of vehicles involved, the traffic lanes that are impacted, traffic conditions, the need for towing, the size of the vehicles, the need for HAZMAT response, any placard information on vehicles, and any corrections to the initial information received at the time of dispatch. If a fatality is involved, the medical examiner or coroner is also contacted. The timeliness of the first responder's initial assessment is critical to provide the best care for the injured and to minimize the build-up of traffic congestion that will hinder secondary responders from getting to the scene. During this initial response period, constant communication between the responders at the scene and the dispatcher is maintained. If additional resources are necessary, such as DOT forces or towing agencies, the dispatcher dispatches these resources to the scene. The dispatchers are completely dependent on the on-scene personnel for information to coordinate and track response efforts.

If a hazardous material is encountered, the first responder makes a decision whether HAZMAT support needs to be dispatched to the scene. For minor motor vehicle waste spills (i.e., gasoline and oil) resulting from the incident, the fire department is dispatched to clean up these spills.

For incidents occurring near the Iowa-Nebraska state line, cooperation and ability to respond are the predominant criteria for determining who responds and how. Often the direction of travel will dictate what agency responds first. Dispatchers send their respective response agencies as soon as they are notified of an incident and, if different, contact the appropriate agency with jurisdiction. Because of incompatible radio systems among the various responder agencies, land line and cellular telephones are the principal means of interagency communications.

5.3.2 Proposed Practices

To improve communication among the responder agencies in the region, efforts are underway in both Iowa and Nebraska to develop statewide radio systems that can be shared by State and local agencies. The plan will involve coordinating these efforts in both states to develop a unified metro area radio system that will allow responders to communicate across jurisdictional and state lines. A unified radio system will greatly improve communication among dispatchers and responders, particularly during the critical detection/verification stages. Strategies to implement a unified radio system for the region are discussed further in Section 8-3-1.

Efforts are also underway to investigate options to implement a metro-wide CAD alert system that can be integrated with the advanced transportation management system (ATMS) software utilized by the DOC and SOSC. This system will provide a valuable electronic link between law enforcement and the TMCs. Strategies to implement a metro-wide CAD alert system are discussed further in Section 8-3-2. The strategies will include investigating these institutional barriers in the region.

An updated contact list of area responders and a procedure for updating the contact list will be developed to facilitate communications among the responder agencies. The list will include contact information, not individual names, and target 24/7 contact numbers. This strategy is discussed further in Section 8-1-2.

Another proposed means of improving communications will involve DOC and SOSC staffs working with the appropriate response agencies to define their roles in the TIM process and to develop and implement improved coordination and communication procedures for managing incidents. Because each center may be required to operate as a back-up to the other, standard procedures will be developed so that either center can provide similar TIM support services on both sides of the state line. Strategies to improve coordination between the TMCs and PSAPs are discussed further in Section 8-1-8.

Non-fire emergency responders will work with fire departments and the Iowa Department of Natural Resources (DNR) to develop improved and streamlined procedures to handle HAZMAT incidents in Iowa and Nebraska. This strategy is discussed further in Section 8-1-5.

5.4 Motorist information

Motorist information is the communication of incident-related information to motorists who are at the scene of the incident, approaching the scene of the incident, or not yet departed from work, home, or other locations.

5.4.1 Current Practices

Motorist information in the Omaha-Council Bluffs region is provided primarily through the use of dynamic message signs (DMSs), the Iowa DOT CARS system, the NDOR 511 system, and media outlets. CARS is a specialized database application, used by the Iowa DOT and ten other state DOTs, to record and disseminate important road, travel, weather, and traffic information. In Iowa, CARS is used to provide traveler information through a public website and the statewide 511 system.

Motorist information is a primary function of the two TMCs operating for the region, the DOC in Omaha and the SOSC in Ames. When an incident is detected, the appropriate PSAP notifies its respective TMC, which immediately attempts to verify the incident by viewing the CCTV camera images and, when verified, posts the appropriate DMS messages. DMSs are currently in place in the Omaha-Council Bluffs region. Additional DMSs are proposed in Iowa. The DMSs in place are operated by the respective DOTs that own the signs.

Also, in Iowa, the SOSC normally enters the incident information in the CARS system at about the same time it is posting DMS messages. The SOSC then communicates with the Iowa DOT Highway Maintenance Supervisor in Council Bluffs to further verify the incident and receive updated information as the incident progresses. The Iowa DOT Highway Maintenance Supervisor has the ability to enter and update incident information through the CARS interface into the 511 system but this is typically handled by the SOSC Operator.

Local media outlets are valuable partners regarding the dissemination of motorist information. Although there currently is no formal way of informing the media about incident information, it usually obtains the information from the appropriate communications center or TMC. Also, law enforcement and fire departments often appoint a Public Information Officer (PIO) to disseminate incident information to the public.

Both the Iowa DOT and NDOR provide the public advance notification of planned incidents and events, primarily through the use of DMS messages. State to state communication of planned incidents, including suggested alternate routes, has been effective.

5.4.2 Proposed Practices

Another means of providing motorist information that the NDOR and Iowa DOT will utilize when the ITS field devices are deployed in the Omaha-Council Bluffs region is the development of agreements with the media to allow them to view CCTV camera images and broadcast them to the public. From previous agreements with the media in Des Moines, the Iowa DOT has learned that the media monitors these images very closely, which helps in getting the incident information out to the public as quickly as possible. Also these images will be able to be viewed from the internet by anyone with access to the Internet.

Also being considered are email notifications (blasts) to the media and to individual subscribers from the TMCs. These notifications will allow the TMCs to push the information out to public as quickly as possible. Notifications can be customized to allow users to receive specific information that they request.

Both Iowa DOT and NDOR have standardized message sets that they use to ensure that uniform information is provided to motorists across the respective sets. Although the message sets are similar across the state line, some standardization will be needed to ensure that all motorists in the Omaha-Council Bluffs metro area are receiving similar messages for similar situations, no matter what side of the state line they are operating in.

5.5 Site Management

Site management is the coordination and management of resources and activities at or near the incident scene, including personnel, equipment, and communication links. Successful site management relies heavily on agency cooperation and traffic management strategies.

5.5.1 Current Practices

The law enforcement are usually the first on the scene. Fire and law enforcement responders each have their own protocols for managing the incident. Typically, the first responder on the scene is in charge and assumes command until the agency with jurisdiction arrives. The first responder coordinates with their dispatcher, and their dispatcher works with the dispatchers from the other agencies to obtain additional support. The agency with jurisdiction assumes command when they arrive and other responders transition to a supporting role. All responders, however, coordinate and cooperate well with their counterparts at the scene to clear the incident quickly and safely. The dispatchers become the common denominator for communications and coordination in providing current information on the incident and notifying additional responders to the scene. A list of dispatcher roles during an incident is included in the Appendix.

A unified command structure is usually only deployed for larger scale incidents (e.g., multiagency response, multiple fatalities, and/or multiple situations to address, chemical/biological evacuation, or natural disaster). In such cases, the overall command is decided by which agency has the largest role. This practice works very well. In more typical incidents, the fire department, if present, has the initial role of scene commanders. After fire/EMS personnel have stabilized the vehicle(s), secured any hazardous materials (including plugging any leaks), transported the injured victim(s), and departed the scene, law enforcement takes over as scene commander.

None of the individual responder agencies in the Omaha-Council Bluffs region have written policies on vehicle placement or light discipline at incident scenes. It is the consensus of the working groups, however, that neither of these practices has been a problem at incident scenes and formal policies are not necessary. The working group members believe that the current cooperation of responders at the incident scenes precludes the need for formal written policies.

The DOC and SOSC can enhance the site management efforts by providing the information motorists need to select other routes, delay their trips, or slow gradually as they approach the scene, all of which minimize and control the traffic demand at the scene. The TMC operators are also able to relay information to responders about locations to stage or park secondary responders through their surveillance of the CCTV cameras.

Incidents involving serious crashes, fatalities, criminal cases, or law enforcement personnel require enforcement agencies to conduct accident investigations. Total stations equipment is used by most agencies for these investigations. The use of total stations provides quicker investigations and roadway clearance than other methods, but it is often too costly for some enforcement agencies. Agencies that do have the equipment and trained officers to operate it, however, are usually willing to share their resources with agencies that do not own the equipment.

5.5.2 Proposed Practices

Improved communications among responders at the scene, dispatchers, and TMC operators will enhance site management. The strategy to implement a unified radio system, discussed

further in Section 8-3-2, will be a key means of improving site management communications.

Another site management improvement will be the streamlining of accident investigation procedures. A review of existing practices will be conducted by the individual law enforcement agencies and recommended improvements will be identified. This strategy is discussed further in Section 8-1-4.

5.6 Traffic Management

Traffic management is the application of traffic control measures in areas affected by an incident. These measures may include:

- Establishing point traffic control at the scene
- Managing the roadway space
- Deploying appropriate personnel to assist in traffic management (e.g., law enforcement, freeway service patrols)
- Actively managing traffic control devices (e.g., traffic signals) in affected areas
- Designating, developing, and operating diversion routes

5.6.1 Current Practices

Upon arrival at the scene, the initial responders secure and provide all possible protection to the scene in order to prevent or limit further escalation of severity of the situation. Once secure, responders assess the scene for fatalities, injuries, and presence of hazardous materials, provide care for the injured, and call for necessary additional responders. The first responders' next responsibility is traffic control. The responders ensure that the scene is safe and protected from outside interference.

The Iowa DOT and NDOR are usually contacted within 10 to 15 minutes of the responders' arrival at the scene to assist in clearing the incident, providing MUTCD compliant traffic control and supporting diversion route activation. If the DOT hears a report about the incident on its scanner, a DOT maintenance employee drives to the scene to verify the report. Responders rely heavily on the DOT for traffic management at the scene because responders do not have standard temporary traffic control plans and usually do not carry sufficient temporary traffic control devices (cones, signs, flares, etc.) in their vehicles.

A law enforcement officer at the scene has the authority to divert traffic off of the freeway. Typical reasons for law enforcement to designate a diversion are when a fatality is involved or when the incident results in all lanes closed on the affected roadway. If the incident is expected to last under two hours, the official diversion routes described in Section 6 of these operations guidelines are not normally used because of the difficulty in deploying the necessary diversion signing plan in less than two hours. It is more likely that an unofficial, ad hoc diversion is used. With such a diversion, the routes are not marked and motorists are responsible for finding their way back to the intended route.

For incidents over two hours where all lanes are closed, the Iowa DOT and NDOR are consulted in considering the activation of the diversion routes and signing plans described in Section 6. When a decision is made to activate a diversion route, the dispatcher notifies the local contacts from the contact list that is associated with the designated diversion

route to inform them of the need to accommodate diverted traffic through their jurisdiction. The diversion route maps, contact lists, and signing plans are included in the Appendix. The Iowa DOT and NDOR activate the signing plan for DMSs approaching the closure and for the trailblazer signs along the diversion route.

5.6.2 Proposed Practices

The Iowa DOT and NDOR are planning to deploy sign trailers that will be equipped with signs and traffic control devices for short and long term detours. The deployment of a freeway service patrol in the region will enhance traffic management by assisting responders with traffic control at the scene. Emergency responders should familiarize themselves with Section 6.1 of the MUTCD which prescribes traffic control activities to be undertaken by responders.

5.7 Clearance

Incident clearance refers to the safe and timely removal of any wreckage, debris, or spilled material from the roadway and the restoration of the roadway to its full capacity. Effective clearance relies on effective equipment utilization, wrecker company preparedness and awareness of legal authority to speed clearance.

5.7.1 Current Practices

“Move Over” and “Move It” laws are in effect by both states in the Omaha-Council Bluffs region. The “Move Over” law requires motorists approaching an emergency vehicle parked on the shoulder or roadway to either move over a lane where possible or to reduce speed. The “Move It” law requires that motorists involved in minor accidents with no injuries to move their vehicles out of the travel lanes to a safe location immediately after the accident occurs.

Push bumpers are installed on many but not all of the responders’ vehicles to quickly move impacted vehicles to a safe location on the shoulder. Some agencies do not install them because of initial costs or maintenance issues. This is a recommended strategy, as discussed further in Section 8-1-3, for those agencies that do not have push bumpers to facilitate the quick removal of vehicles from the travel way

Dispatchers contact towing companies for assistance in clearing the incident as quickly and safely as possible. They are normally dispatched relatively late in the incident, which makes it more difficult for them to access the scene. Earlier notification so that the towing company can be at the scene and waiting out of the way would expedite the clearance process. Also, the information provided to the towing companies is sometimes inaccurate and which requires them to call for additional equipment after they arrive on the scene. To prevent such situations, dispatchers need to be accurate in relaying information given by responders at the scene, and towing companies need to be prepared to ask specific questions regarding the vehicles that need to be removed. Towing companies prefer to be given sufficient details of the incident and the vehicles impacted to allow them to make their own decisions regarding what equipment to bring to the scene rather than being told what equipment to bring.

Frequent coordination and communication between law enforcement and tow operators can significantly reduce clearance/removal times and improve response times. Tow operators should be informed of any developments or changed conditions at the incident scene so they can be well prepared and aware when they arrive. When law enforcement calls to report that the scene is ready for towing removal, they need to ensure that they leave a protected area for the tow vehicle to safely maneuver into and out of the incident scene by the time the tow operator arrives. Law enforcement also needs to communicate concerns to towing operators to help them determine the best method for vehicle extraction.

The responder at the scene notifies the dispatcher when the incident has been cleared. The dispatcher then notifies the DOC and/or SOSOC so that clearance messages can be placed on the DMSs and the 511 systems can be updated. The media also notifies the public through its outlets when the incident is cleared.

5.7.2 Proposed Practices

Response agencies in the Omaha-Council Bluffs region have agreed to establish a quick clearance policy for the region. This policy, to be accomplished by a Memorandum of Understanding (MOU) among the agencies and coordinated by MAPA, will include a goal of opening all blocked lanes resulting from incidents within 90 minutes after detection. The strategy to establish this policy is discussed further in Section 8.1.1.

Both Iowa and Nebraska will pursue the development of effective authority removal laws in their respective state legislatures. Because insurance considerations, either perceived or real, play a large role in decisions to remove vehicles and cargo from the roadway, the states will need to work with the insurance industry to ensure that the industry supports these laws and educates its customers on the safety benefits, particularly in preventing secondary accidents. It is important that both laws include “hold harmless” provisions and extend removal authority to towing companies. The strategy to pursue these laws is discussed further in Section 8.2.2.

Strategies to improve towing response and expedited requests for towing response in the region will be developed as discussed further in Section 8.1.6. Towing should be performed only when conditions are safe and good judgment concludes it is appropriate to tow.

The deployment of an FSP in the Omaha-Council Bluffs region will enhance the clearance at the scene. It is anticipated that these freeway service patrol vehicles will be equipped with push bumpers. The strategy to deploy a freeway service patrol is discussed further in Section 8.2.1.

6. INCIDENT RESPONSE PLANS

To facilitate consistent initial responses, Incident Response Plans were developed for defined segments of the freeway system. These plans identify diversion routes, critical information along the diversion route(s), a response decision making matrix, a list of responding agencies having jurisdiction, suggested DMS messages, and barricading and traffic control plans. These operations guidelines were developed in a paper as well as an automated electronic format to improve ease of use by responders.

The response plans are based upon responders and dispatchers knowing the route the incident occurs on, the segment along the route, and the direction of travel. By knowing this information, a user can drill down into the plan to identify specific details regarding potential responses to an incident based upon the specific information known about the incident.

6.1 Diversion Route Maps

During an incident, roadway restrictions or closures and traffic congestion resulting from an incident may create a traffic condition where directing motorists along pre-defined routes is desirable to relieve traffic congestion and/or restore traffic flow during an incident response. While a significant percentage of the motorists in the metro area are local and relatively familiar with the local roadway system, there is a need to identify pre-determined routes for non-local traffic and routes capable of providing passage for large trucks and semi-tractor trailer combinations. In cooperation with the local Public Works Departments, preferred local diversion routes were developed and are termed "local" diversion routes. The local diversion routes primarily use local arterial roads paralleling the freeway system. Whenever possible and practical, the local diversion routes utilize nearby highways, expressways, and freeways. Local diversion routes were screened for ability to handle truck traffic, both from a pavement design and ability to facilitate turning movements.

It was decided that through traffic, defined as traffic using the interstate and freeway system to reach a destination outside the metro area, should be provided an option to divert as far away from the incident as possible. These diversion routes are termed "global" diversion routes and generally begin and end at system interchanges up and downstream from the incident location. While these routes may add travel distance to the motorists, they provide a signed, freeway route capable of handling significant traffic volumes, and could reduce total travel time through the metro area by reducing or avoiding delays due to congestion near the incident location. It is intended for motorists to be notified of these potential global diversion routes using Dynamic Message Signs (DMS) upstream from an incident.

6.2 Diversion Route Information

As traffic is diverted to a local roadway network, significant congestion can be expected due to traffic volumes exceeding the capabilities of the roadway. While this congestion is expected, it can be managed to reduce delays. Accompanying each diversion map is a list of critical locations along the route for personnel charged with maintaining traffic operations to monitor and possibly initiate a back-up diversion plan to handle traffic volumes resulting from a diversion.

6.3 Response Matrix

Decisions are going to be made based on the information available at the time a decision is needed and decisions may be changed as more information becomes available. During group discussions, the consensus was each incident is unique and there is not a universal response plan to address all incidents. It was also agreed a variety of general response plans could be identified to serve as an initial response for a general type of incident. These response plans could then be tailored to fit a particular incident as more information becomes available. The general concept is for responders to be generally initiating a similar response plan thus making it more efficient to change the plan because the different responding agencies are "moving in the same direction."

Accompanying each diversion plan is a decision making matrix to assist in determining the potential responses to an incident. The matrix is broken down into 3 major sections defined by the expected duration of an incident. For each duration level, a variety of situations are identified along with a potential response for each situation. The potential responses are not absolute and may be modified based upon specific information available to the user.

6.4 Response Agencies

The metro area is often impacted directly or indirectly by incidents occurring on the freeway system. To assist responders in identifying the various agencies and entities to contact when an incident occurs, each diversion plan includes a list of agencies that should be informed that an incident is occurring on the particular freeway segment. Agencies were identified primarily based upon jurisdiction, expected responsibilities or potential support opportunities during a response, and potential impacts from enacting diversion routes.

6.5 Dynamic Message Sign (DMS) Messages

6.5.1 DMS Message Sets

DMS message sets have been developed for use and as a starting point for customizing a message to fit the situation. DMS message sets should follow best practices currently identified in the MUTCD.

6.5.2 DMS Hierarchy

The following message hierarchy shall be used to determine what type of message has priority should more than one request be made for a message to be posted to the same sign. A general rule of hierarchy is that the event which has the highest impact on traffic should be posted on the DMS.

Table 6-1 DMS Message Hierarchy

Hierarchy Level	Hierarchy Description
A	Accidents/Stalls/Debris
B	Lane Closures/Construction Information/Maintenance Activity
C	AMBER Alerts/Child Abduction Alerts
D	Non-Mainline Accidents
E	Severe Weather (Tornado Warnings and Blizzard Conditions)
F	Special Event Information
G	General Information/Safety Information
H	Travel Times (if significant)

When events that have a higher message priority have ended, the lower priority event message will be posted back to the DMS until that event is closed out. If there is any dispute over what message has priority, the TMC Coordinator or their designated representative will make the final decision as to what message is displayed.

6.6 Barricading and Traffic Control

Protecting responders and the traveling public is a priority at all times. The 2009 MUTCD includes a section devoted specifically to incident response traffic control. A copy of this section is provided in the appendices. Beyond immediate scene traffic control, barricading and traffic control upstream and along diversion routes is needed to move traffic as safe and efficient as possible. Accompanying each diversion plan is a potential immediate and longer term traffic control plan to assist in directing motorists where to go.

6.7 Implementation Guidelines

The responders on the scene or in the dispatch centers are ultimately responsible for initiating and stopping a response plan. It is important for responders to communicate with each other to identify when a more or less significant response is needed and what resources are required to improve the response to an incident. Once the various stages of a response are completed, it is important to also communicate current status of an incident so unneeded resources or response actions can be reduced or stopped.

7. RESOURCE GUIDE

This section provides a summary for developing the Omaha-Council Bluffs TIM contact list, Field Responder TIM Activity Checklist and identifies agency TIM resources available to manage traffic incidents in the Omaha-Council Bluffs area.

7.1 TIM Contact List

A list of traffic incident management stakeholders was compiled by the group and is provided in the appendices. These stakeholders represent the various entities having a role in responding to an incident at a particular location the freeway system.

7.2 Field Responder TIM Activity Checklist

To assist responders in the field and to help with training efforts, a checklist of items for dispatchers and responders was developed to aid in assessing the incident, reporting relevant information, identifying additional resources, planning activities, and identifying information to relay to the traveling public. This resource is intended to be a quick reminder and not an involved decision making document. The Field Responder TIM Activity Checklist is provided in the appendices.

7.2 Agency Resources

There are multiple agencies in the metro area, each having some or all of the resources needed to respond to an incident. To assist the agencies, a list of what resources (e.g., portable message boards, signs and barricades, heavy equipment) each agency should compile and identify the resources they have available to assist other agencies in responding to incidents. It was decided the exact number of units of each resource was not practical due to difficulty in maintaining accurate quantities and fluctuations in available quantities.

8. STRATEGIES

The purpose of this section is to describe the various strategies identified by the working groups to improve the Traffic Incident Management program in the Omaha-Council Bluffs region. These strategies are classified as short, medium, and long term to define the time frames to implement them. The strategies listed are not meant to be all-inclusive or mandatory, but rather are suggested strategies to improve traffic operations and incident management in the Omaha-Council Bluffs region. These strategies were first identified in the 2005 Omaha-Council Bluffs TIM Operations Manual and were subsequently discussed, revised and re-prioritized by the working groups.

8.1 Short Term Strategies

These strategies are anticipated to be implemented within two years.

8.1.1 ST Strategy 1 *Implement a Quick Clearance/Open Roads Policy*

Many states and responder agencies around the country have implemented quick clearance/open roads policies. These policies are based on the “Open Roads Philosophy” that, *after concern for personal safety and the safety and security of any incident victims, the top priority of responders, balanced with the need for accurate investigation, is to open the roadway by clearing vehicles, victims, and debris from the travel lanes to allow traffic to resume at the maximum possible capacity under the circumstances.* Many of these policies set goals for minimizing this time period. For this metro-area, the consensus target is to have an average time to fully clear the roadway of 90 minutes or less. Additionally, the policy should identify a target timeframe to restore partial roadway access or to re-open some closed lanes. States and local agencies that have adopted quick clearance policies have generally shown that they have effectively reduced overall incident clearance times.

MAPA will assist the Iowa DOT and NDOR, the Iowa and Nebraska State Patrols, and the Cities of Council Bluffs and Omaha police, fire, and public works agencies to establish a quick clearance policy for the Omaha-Council Bluffs region. This policy, which can be accomplished by a Memorandum of Understanding (MOU) among the agencies, will include a goal of opening all blocked lanes resulting from incidents within 90 minutes after detection. The policy could be coordinated, developed, and implemented in about 18 months at minimal cost to the participating agencies.

Once a quick clearance policy is approved, appropriate training needs to be provided within the agencies and routine post incident review meetings need to be initiated to seek improvements and monitor performance.

8.1.2 ST Strategy 2 Develop Emergency Responder Contact List

Proper communication among responding agencies is critical to ensure that incidents are responded to and cleared in the safest and most timely manner possible. A complete and up-to-date contact list of the region's incident response agencies is an essential tool for providing proper communication. The list needs to be easily updated and accessible to all response agencies. A contact list was developed for the 2005 Omaha-Council Bluffs TIM Operations Manual, but it was not universally distributed and utilized. Also much of the contact information on that list is outdated.

A new contact list was developed as part of this TIM Operations Guidelines effort. The new contact list is found in the appendix. The new contact list includes emergency first responders (fire and law enforcement), Iowa DOT, NDOR, local transportation agencies, and media. A process for updating the contact list will also be developed. The list will include contact information, not individual names, and target 24/7 contact numbers. This list can be developed and updated by the participating agencies in less than six months and at minimal cost to these agencies.

8.1.3 ST Strategy 3 Equip All Responder Vehicles with Push Bumpers

Push bumpers are the quickest and most effective means of moving undamaged or minimally damaged passenger vehicles off the roadway to prevent the need to close a traffic lane. Without the availability of push bumpers on responder vehicles, responders have to wait for equipment designed for removal, such as those provided by towing companies or service patrols. This strategy involves developing policies and procedures and equipping responder vehicles, particularly first responder vehicles, with push bumpers to move vehicles and clear traffic lanes more quickly. This strategy also involves defining the agencies authority to move or remove vehicles, a.k.a. "Hold Harmless" legislation.

This is a recommended strategy for those agencies that do not have push bumpers to facilitate the quick removal of vehicles from the travel way. Several agencies in the region already have them installed and utilize them effectively. Some agencies have chosen not to install them for several reasons. Each agency must address whether to adopt a push bumper policy or not.

If an agency chooses to adopt a policy, installation would only involve minimal to moderate costs. Federal or state safety funds could be utilized to install the push bumpers. The policy could be adopted by an individual agency in less than six months and installation could be accomplished through the normal phased replacement of the vehicle fleet. Retrofitting the bumpers on existing vehicles could also be accomplished relatively easily and at minimal costs.

It is important for push bumper users to receive mandatory training for on the proper procedures and techniques to move a vehicle using push bumpers with minimal or no damage and on the impacts of power steering, power brakes, and air bags when pushing a disabled vehicle to avoid secondary damage.

8.1.4 ST Strategy 4 Streamline Accident Investigation Procedures

Incidents involving serious crashes, fatalities, criminal cases, or law enforcement personnel require enforcement agencies to conduct accident investigations. Most enforcement agencies in the region use total stations equipment for these investigations. The use of total stations provides quicker investigations and roadway clearance than other methods, but is often too costly for some agencies. All agencies will need to review the impacts of the Quick Clearance Policy MOU, to be developed and adopted by the agencies under ST Strategy 1 above, on their current accident investigation procedures.

Accident investigation procedures and processes must be reviewed, and recommendations for improvement, including requiring accident reconstruction certification (ACTAR) for investigators and after-action review meetings identified. This review can be conducted by the individual law enforcement agencies and the recommended improvements identified and implemented within 18 months at minimal cost to the participating agencies.

8.1.5 ST Strategy 5 Develop Improved Hazardous Materials Response Procedures

As in ST Strategy 4 above, agencies responsible for hazardous materials response must review the impacts of the Quick Clearance Policy MOU developed under ST Strategy 1 on their current procedures. Non-fire emergency responders will work with fire departments, the Iowa Department of Natural Resources (DNR), and the Nebraska Emergency Management Agency (NEMA) to develop improved procedures for handling Hazardous Materials incidents in Iowa and Nebraska. This review can be conducted by the individual agencies involved and the recommended improvements identified and implemented within 18 months at minimal cost to the participating agencies.

8.1.6 ST Strategy 6 Develop Improved Towing Procedures

Towing companies provide valuable services in any TIM program by being responsible for the timely, safe, and efficient removal of wrecked and disabled vehicles and debris from the scene. Because they are not public agencies, they must remain profitable to stay in business and are often subject to more or different liability for their actions than public agencies.

Options for improving towing response and expediting requests for towing response will be considered. A standard list of information needed to help with relaying information will be developed. Issues that hinder towing companies from operating as full partners in the TIM program will be identified. Agencies will need to review their own towing procedures and modify as necessary. The procedures that are developed under this strategy need to be similar across all responder agencies in the region. These procedures can be developed and implemented within 18 months at minimal cost to the participating agencies.

8.1.7 ST Strategy 7 Be More Proactive with the Media and Insurance Industry

The media and the insurance industry are each powerful entities that can become valuable partners in a TIM program. The media plays an important role in motorist information dissemination, including incident related warnings. The media receives its information from several sources, including, but not limited to, public agencies like Iowa DOT and NDOR. A

closer alliance between public agencies and the media can provide benefits to both by improving the quality and timeliness of the information.

The insurance industry has become increasingly aware of the positive impacts of effective TIM programs in terms of making its clients safer and thereby minimizing claims. The industry can play an important role in supporting TIM legislation and educating motorists on proper actions to take when involved in an incident.

A particular issue to be discussed with the insurance industry often arises when a motor carrier's insurance company requires a towing company not to move loads involved in incidents that the insurance company wants to salvage. In such situations, the towing companies are faced with a dilemma over whether to follow the demands of the insurance company or to follow the best and safest practice of moving the load as rapidly as possible. The insurance industry needs to understand that the benefits of salvaging a load they deem to be undamaged has to be weighed against the costs of possible dire results of a secondary incident caused by the extra exposure on the roadway created by the salvaging operation.

Strategies to work with and educate the media and insurance industry on TIM best practices and specifically the Omaha-Council Bluffs TIM objectives will be developed and implemented. Media representatives will be invited to participate with the response agencies to identify specific activities that can be taken to improve dissemination of motorist information, such as facilitating communications with media partners and sharing CCTV camera images with media outlets. Industry representatives will be invited to help identify and support legislative initiatives, such as updating property damage reporting thresholds, and opportunities to educate the public on TIM issues, such as "Move Over" and "Move It" laws. The strategies can be identified and implemented within two years at minimal cost to the participating agencies.

8.1.8 ST Strategy 8 Improve Coordination with DOC and SOSC

Transportation Management Centers (TMCs) play a key role in any TIM program by collecting, analyzing, and disseminating traffic and incident information and providing support to incident responders. The TMC serves as the focal point for communication and coordination among the multiple incident response agencies and supports detection and verification, response, site management, traffic management, clearance, and motorist information. The NDOR District 2 District Operations Center (DOC) in Omaha and the Iowa DOT Statewide Operations Support Center (SOSC) in Ames provide the TMC functions in the Omaha-Council Bluffs region for their respective sides of the state line. Because both centers are relatively new, their roles of communicating and coordinating with other response agencies in effectively managing incidents have not been fully developed.

DOC and SOSC staffs will work with the appropriate response agencies to define their roles in the TIM process and to develop and implement improved coordination and communication procedures for managing incidents. Because each center may be required to operate as a back-up to the other, standard procedures will be developed so that either center can provide similar TIM support services on both sides of the state line. The procedures can be developed by the center staffs and response agencies within two years at minimal costs to the participating agencies.

8.1.9 ST Strategy 9 Develop TIM Performance Measures

Performance measures are important tools for developing and maintaining strong TIM programs. With an effective TIM performance measurement program, the participating agencies develop multiagency agreements that detail what measures will be tracked in the region to measure program performance and what methods will be used to collect, analyze, and report on these measures. Measures to track performance for initial incidents and secondary incidents that occur as a result of the initial incidents should be part of the TIM performance measurement plan.

Chapter 9 in this document identifies regional performance measures as developed by the executive committee and working groups. Data necessary to determine performance is being collected today or will be collected with the completion of the I-29 ITS deployment. Each agency's response to traffic incidents plays a key role in determining detection, response and restoring traffic back to normal times. Each response agency in the Omaha-Council Bluffs region must develop agency TIM performance measures and a plan for collecting, analyzing, and reporting on these measures. The selected measures will consider each individual response agency's performance and support the overall TIM performance of all agencies working together in the region.

The DOC and SOSC will have key roles in determining how the selected measures will be collected. Methods and procedures to collect data to determine current performance levels (baseline performance) should be developed immediately. The work could be done within the agencies' current budgets.

8.2 Medium Term Strategies

These strategies are anticipated to be implemented in two to five years.

8.2.1 MT Strategy 1 Develop and Deploy a Freeway Service Patrol

Freeway service patrols (FSPs) are becoming more common as TIM program components in congested metropolitan areas. They can assist in incident detection and verification, protect incident scenes, provide traffic control, assist motorists with disabled vehicles, and facilitate incident clearance. The Omaha-Council Bluffs region has a Metro Area Motorist Assist Program, operated by volunteers, that offers assistance to stranded motorists such as providing fuel and oil, repairing flat tires, and arranging to have vehicles towed. Although viewed positively by the public, this program only provides assistance to motorists with disabled vehicles. An effective FSP needs to provide the other incident management roles to have an impact on improving overall clearance times.

The Iowa DOT and NDOR will evaluate options for developing and deploying an FSP for the region to replace the existing Motorist Assist Program. The primary issue in deploying an FSP is the cost. One option that will be evaluated is sharing of the costs by both states. Federal funds may be available to participate in these costs. Other options involving public-private partnerships will also be evaluated. The time to implement this strategy will depend largely on the source and availability of funding selected.

8.2.2 MT Strategy 2 Support Development of an Authority Removal Law in Iowa and Nebraska

Authority removal laws provide authorization to public agencies to remove driver-attended disabled or wrecked vehicles and spilled cargo or other personal property blocking a travel lane(s) or otherwise creating a hazard to the flow of adjacent traffic. Usually these laws include protection from liability so that responders are held harmless for taking such lawful actions. Iowa currently does not have an authority removal law. Nebraska does have a law but it does not include a “hold harmless” provision.

Both Iowa and Nebraska will pursue the development of effective authority removal laws in their respective state legislatures. Because insurance considerations, either perceived or real, play a large role in decisions to remove vehicles and cargo from the roadway, the states will need to work with the insurance industry to ensure that the industry supports these laws and educates its customers on the safety benefits, particularly in preventing secondary accidents. It is important that both laws include “hold harmless” provisions and extend removal authority and protections to towing companies.

8.2.3 MT Strategy 2 Develop Standards for determining when to tow and not tow

Vehicle recovery and removal is necessary to improve safety but not all conditions are conducive to towing. This strategy will work with the towing industry, maintenance forces, traffic engineers, and law enforcement to determine standards for responders and dispatchers to determine if roadway conditions will allow safe recovery and removal under traffic.

Generally accepted towing procedures in conjunction with past documented incident recovery and removal experiences should be reviewed as a guide to determine what the allowable parameters are to support safe vehicle recovery and removal.

8.3 Long Term Strategies

These strategies are anticipated to be implemented beyond five years.

8.3.1 LT Strategy 1 Develop and Deploy a Unified Radio System for the Metro Area

Proper communication is critical to ensure that responding agencies can coordinate with each other to respond to and clear incidents in the safest and most timely manner possible. Coordination is typically hampered by incompatible radio systems among the agencies. Efforts are underway in both Iowa and Nebraska to develop statewide radio systems that can be shared by State and local agencies. This strategy will involve coordinating these efforts in both states to develop an integrated metro area radio system that will allow responders to communicate across jurisdictional and state lines. Initial efforts are underway to achieve this strategy.

Public safety agencies in both states will work together to facilitate development of a metro area radio system. Challenges to the development and implementation of such a system include institutional barriers among the participating agencies and costs. The institutional barriers can be overcome through a Memorandum of Understanding (MOU) among the agencies, which can be coordinated and executed within two years. The costs of a system,

however, may extend the time frame for implementation beyond five years because of the availability of funds.

8.3.2 LT Strategy 2 Investigate Options for a Metro-Wide CAD Alert System

One of the more common lines of communications dealing with TIM is between public safety and transportation agencies, particularly TMCs. A valuable electronic linkage is provided by integration of TMC software with law enforcement's computer-aided dispatch (CAD) systems. The need to protect non-law enforcement access to sensitive data in the CAD systems, however, leads to institutional barriers to such integration. This strategy will involve investigating these institutional barriers in the Omaha-Council Bluffs region and developing options to implement a metro wide CAD alert system that can be integrated with the advanced transportation management system (ATMS) software utilized by the DOC and SOSC.

Like the previous strategy, this strategy involves institutional and cost barriers to implement.

8.3.3 LT Strategy 2 Sustain TIM Coordination and Operations Efforts between Responding Agencies in the Metro-Area

TIM efforts and outcomes are an ever-changing result. To best address new techniques, available technologies, and other expected but not necessarily known future changes, sustaining the efforts currently underway to coordinate TIM responses will provide a mechanism for identifying current positives to maintain, areas for improvement, and steps needed to implement improvements. This strategy will involve identifying a lead agency or individual to coordinate and facilitate future TIM coordination and operational efforts focused on improving incident response and restoring normal traffic conditions.

This strategy relies on responding agencies' to commit to, support, and integrate recommendations by the Executive Committee and Working Groups whenever reasonable and practical.

8.3.4 LT Strategy 2 Develop a TIM Training Course for the Metro-Area

A formal TIM training program can establish a consistent delivery of TIM goals, objectives, processes, and procedures in the Omaha-Council Bluffs Metro-Area. This strategy will focus on working with responding agencies to develop a universal training course for responders, dispatchers, and management at all levels and experience. Specific training for individual agencies should compliment but not replace the fundamentals and objectives of the TIM training course.

This strategy involves overcoming institutional and cost barriers as well as identifying the best way to incorporate the training course into recruit and cadet training.

8.3.5 LT Strategy 2 Develop a Method to Track Secondary Crashes

Secondary crashes are a common occurrence when incidents occur. Given their nature and circumstances leading up to them, it is often difficult to track them. This strategy will focus on means and methods to identify and track secondary crashes ultimately to use as a performance measure for driver information measures and quick clearance strategies.

Monitoring accident rates in the vicinity of an incident and along potential diversion routes throughout the duration of the incident may be the first step in determining effective means for identifying and classifying other incidents as secondary crashes.

9. TIM TRAINING

Continued, periodic training is fundamental to maintaining an effective regional TIM program and enhancing coordination among the responder agencies in the Omaha-Council Bluffs region. Multi-agency training is the most efficient method of maintaining continuity across jurisdictions. This section summarizes the training opportunities that are currently available and describes components that are recommended to be incorporated into a TIM training program for development and implementation by the responder agencies. This program is intended to ensure that a consistent training message is carried across all agencies and boundaries.

Current TIM Training Opportunities

Several TIM training classes and seminars have already been identified and some classes have already been attended by Omaha-Council Bluffs region responders. Examples of these classes are described below:

The National Incident Management System (NIMS) provides on-line training and certification programs for incident responders. As part of its five-year training plan, it has developed a core curriculum to train personnel capable of implementing emergency management and incident response within NIMS. The current NIMS courses and course summaries are available from the NIMS website (see Section 2.2). Most of the response agencies in the region require their employees to participate in at least the Overview (IS-700 and IS-800) and Incident Command System (ICS-100 – ICS-400) courses.

The **American Traffic Safety Services Association (ATSSA)** is an international trade association representing companies and individuals in the traffic control and roadway safety industry. ATSSA provides several training courses, but the primary TIM training offered is entitled “Incident Traffic Control for Responders.” This four-hour course is intended for law enforcement, fire, rescue, and tow company personnel and other responders responsible for incident traffic control. It covers the basic principles of incident management and temporary traffic control as presented in the MUTCD. This course is recommended for all incident responders in the Omaha-Council Bluffs region, because Section 6I.01 of the 2009 edition of the MUTCD strongly encourages all public and private agency on-scene responders to be trained in temporary traffic control. ATSSA can be accessed through the following link: <http://www.atssa.com>. A session of this course was conducted at the Scott Conference Center on July 28, 2010.

The **Federal Highway Administration (FHWA)** offers one-day and two-day workshops entitled “Managing Traffic Incident and Roadway Emergencies,” through its **National Highway Institute**

(NHI). The workshops are intended for law enforcement, fire and rescue (including emergency medical), emergency communications, transportation (including traffic management and highway maintenance), planning, towing and recovery, traffic reporting media, hazardous materials contractors, and other emergency management personnel responding to traffic emergencies on freeways and arterial streets. Fees for the workshops, which are \$250 and \$350 per participant respectively, can be funded by the Iowa DOT and NDOR. NHI can be accessed through the following link: <http://www.nhi.fhwa.dot.gov>.

The **I-95 Coalition** has developed a “Quick Clearance Toolkit” that provides a roadmap for developing a TIM Program and a collection of videos, documents, and workshops that provide examples of TIM best practices from existing programs around the country. The toolkit training materials can be downloaded from the following link:

http://www.i95coalition.org/i95/Committees/IncidentManagement/tabid/74/yhtab/510_1/Default.aspx

The **Towing and Recovery Association of America (TRAA)** is the national association representing the towing and recovery industry. Through a grant from the US Department of Transportation, TRAA established the only National Standards for tow truck operators and from these standards developed the National Driver Certification Program. Tests include Light, Medium, and Heavy Duty Towing & Recovery in the areas of:

- Customer Service
- Safety
- Incident Management
- Truck
- Equipment

The TRAA Certification Program can be accessed through the following link:

<http://www.towserver.net>

9.2 Proposed TIM Training Program

A formal TIM training program can provide the Omaha-Council Bluffs region responders the knowledge and skill base to perform their jobs effectively. Regardless of their respective roles, it is extremely important that every response agency be involved in the joint TIM training. A formal TIM training program should include training objectives, training elements, and training performance measures that gauge the effectiveness of the program in meeting the training objectives. It should also provide for an on-line re-certification and renewal. The following sections provide recommended objectives, elements, and performance measures that should be considered by responding agencies in developing and implementing a formal TIM training program for the Omaha-Council Bluffs region.

9.2.1 TIM Training Objectives

The proposed TIM training program should include the following objectives:

- Emphasize the importance of incident response from each responder’s perspective
- Foster improved interagency coordination
- Identify opportunities to improve the efficiency of TIM operations
- Foster a safe environment for each responder, crash victim, and other motorists
- Identify and discuss TIM policies and regulations

- Ensure mutual understanding of the relevant command system
- Review procedural information
- Review equipment use

9.2.2 TIM Training Elements

The proposed TIM training program should include the following elements:

- The training program should include a combination of field drills, TMC training, and classroom lectures, discussion, and exercises.
- The training should incorporate materials from the sources described in Section 9.1 above to the extent practicable.
- TIM training should be incorporated into the enforcement agencies' formal training academy curricula.
- A certification program should be developed to allow responders to obtain and maintain the certification required by MUTCD Section 6i (current edition adopted by the NDOR or Iowa DOT).
- This TIM Operations Guidelines should be a major textbook for any of the training courses developed.
- Training courses should be developed primarily for multiple rather than single agencies.
- Table top exercises should be incorporated into the training courses where feasible.
- Train-the-trainer programs should be developed.
- Training should include the following specific subjects:
 - Temporary traffic control
 - Vehicle placement at the scene
 - Light discipline
 - Communication

9.2.3 TIM Training Performance Measures

The proposed TIM training program should include the following performance measures.

- Number of responders trained
- Number of agencies represented in training
- Number of multi-agency training courses provided
- Number of single agency training courses provided

9.2.4 Proposed TIM Training Courses

As discussed above, law enforcement academy programs provide excellent opportunities for responder agencies to develop and incorporate TIM training courses. There are two such academy programs in the Omaha- Council Bluffs region, one on each side of the state line. These facilities are:

- Omaha Police/Fire Department Training Academy – 11650 Rainwood Road, Omaha
- Southwest Iowa Law Enforcement Training Facility – 10073 192nd Street, Council Bluffs

It is recommended that personnel involved with these facilities coordinate with the region's responder agencies to develop curricula for continuing multi-agency TIM training courses for responders, including dispatchers, and agency management officials. The courses can be offered at either or both facilities, as agreed to by the course developers. It is also recommended to have both an in-depth training program for new employees, recruits, cadets, etc. and a refresher course for experience responders. It is specifically recommended that curricula for two courses be developed:

- TIM Responders Course
- TIM Executive Level Course

Descriptions of these courses are summarized below:

TIM Responder Course

This two-day course will be specifically designed for those personnel, including cadets or other personnel in training, with daily involvement in responding to traffic incidents in the Omaha-Council Bluffs region. This course will cover best TIM practices from around the country and TIM policies and procedures and communication protocols utilized in the Omaha-Council Bluffs region. FHWA's 2010 "Traffic Incident Management Handbook" and this TIM Operations Guidelines document will be used as the major textbooks for this course. The course will consist of lectures, videotape presentations, table top and field exercises, and interactive discussion with participants. Participants successfully completing this course will receive a certification meeting the requirements of the 2009 MUTCD Section 6I.01.

The following topics will be covered in the course:

- Introduction to TIM and TIM Principles
- Stakeholder Roles and Responsibilities
- Common TIM Laws
- National TIM Policies and Guidelines
- NIMS Training and Certification Programs
- Local TIM Policies and Guidelines
- Open Roads Philosophy
- Reduced Incident Management Liability
- Role of TMCs
- Incident Command Structure
- Interagency Coordination and Interaction
- Diversion Routing
- Omaha-Council Bluffs Response Plan
- Safety Considerations
- Work Zone Safety
- Post Incident Briefings

The course can be offered at no charge to Law enforcement, Fire, 911, State Patrol, Iowa DOT, NDOR, EMS, Local Public Works, Media, and Towing companies located within Pottawattamie, Douglas, and Sarpy Counties. A tuition fee will be charged for agency

personnel located outside these three counties as well as all private consultants. The course will be offered several (?) times a year.

TIM Executive Level Course

This two-hour course will provide a high-level overview of the topics discussed in the TIM Responder course. It will be geared toward agency decision-makers and policy-makers. The course will be offered at no charge to participants. It will be offered twice a year. .

10. PERFORMANCE MEASUREMENT

10.1 Introduction

Performance measurement is the statistical evidence to determine the progress toward specific, defined goals. In traffic incident management, performance measurement describes the physical performance of the roadway network and/or the perception/satisfaction of the user in arriving to their destination at an acceptable time.

Measuring performance or measuring the effectiveness of strategies to optimize the roadway network performance is described by a particular value or characteristic and has the following features:

- Inputs: resources put into an activity
- Activities or Outputs: physical quantities of items, levels of effort expended or scope of activities
- Outcomes: relate to how the agency or region is meeting its mission and stated goals, (i.e. “the bottom line)
- Efficiencies: what you get for what you spend (cost/benefit ratio)

Performance measurement is a tool to assess the region’s/agency’s traffic incident management practices, procedures and decision making processes resulting in positive change and enhancing the coordinated traffic incident management program. Targets toward enhancing the coordinated TIM program must be specific of an acceptable or desired level of performance. Set targets that are acceptable in the short-term, as well as long-range, far reaching targets (I.e. zero fatalities). It is important to note, the region can measure traffic incident management performance without a fully implemented system that captures all of the data the region would like to collect. Measure what you can. Managing a few performance measures well is better than not measuring performance at all.

Key performance measuring characteristics are:

- Clear link to agency goal
- Relevant to policy-makers and the public
- Intuitive and easy to understand
- Outcome influenced by agency program and policy decisions
- Communicate the core mission of the organization.
- Reliable data must be available
- Manageable number of measures
- Capable of showing a trend

Reporting performance must fit within the region's and individual agency's TIM goals. Reporting results must be an "easy read" to the targeted reader. Results should be reported to the public, region and agency decision makers and system operators and planners. Reporting performance should be part of a larger transportation operations annual report.

10.2 National Performance Measures Initiatives

In December 2009, the Federal Highway Administration (FHWA) published the results of the Office of Operations sponsored Focus States Initiative (FSI). The FSI was designed to advance traffic incident management performance measurement state-of-practice. Eleven States participated in workshops and interviews to 1) document current TIM programs, 2) to collectively determine the direction TIM programs should gravitate towards to improve and enhance their TIM programs and 3) identify TIM program objectives and related performance measures. The working group identified three national level TIM program objectives and supporting performance measures, shown below in Table 10-1.

Table 10-1 TIM FSI Candidate National TIM Program Level Performance Measures

TIM Program Objective	Related Performance Measure
Reduce "roadway clearance" time defined as the time between awareness of an incident to the restoration of lanes to full operational status.	Time between the first recordable awareness of the incident by a responsible agency and first confirmation that all lanes are available for traffic flow.
Reduce "incident clearance" time defined as the time between awareness of an incident and removal of all evidence of the incident including debris or remaining assets, from shoulders.	Time between first recordable awareness of the incident by a responsible agency and the time at which the last responder has left the scene.
Reduce the number of secondary crashes – specifically unplanned incidents for which a response or intervention is taken, here a collision occurs either a) within the incident scene or b) within the queue (which could include opposite direction) resulting from the original incident.	Number of unplanned incidents beginning with the time of detection of the primary incident where a collision occurs either a) within the incident or b) within the queue, including the opposite direction, resulting from the original incident.

The State DOT representatives, law enforcement and FHWA representatives then developed candidate program level TIM objectives and performance measures. Table 10-2 identifies these objectives and performance measures.

Table 10-2 Candidate Program Level TIM Objectives and Performance Measures

Candidate Objective	Proposed Performance Measure(s)	Traffic Incident Management Stage
<p>1. Reduce incident notification time (defined as the time between the first agency's awareness of an incident, and the time to notify needed response agencies).</p>	<p>a. The time between the first agency's awareness of an incident, and the time to notify needed response agencies.</p>	<p>Detection, Verification</p>
<p>2. Reduce roadway clearance time (defined as the time between awareness of an incident and restoration of lanes to full operational status).</p>	<p>a. Time between first recordable awareness (detection/ notification/ verification) of incident by a responsible agency and first confirmation that all lanes are available for traffic flow.</p>	<p>Clearance</p>
<p>3. Reduce incident clearance time (defined as the time between awareness of an incident and removal of all evidence of the incident, including debris or remaining assets, from shoulders).</p>	<p>a. Time between first recordable awareness (detection/ notification/verification) of incident by a responsible agency and time at which all evidence of incident is removed (including debris cleared from the shoulder).</p> <p>b. Time between first recordable awareness and time at which the last responder has left the scene.</p>	<p>Clearance</p>
<p>4. Reduce "recovery" time (defined as between awareness of an incident and restoration of impacted roadway/ roadways to "normal" conditions).</p>	<p>a. Time between awareness of an incident and restoration of impacted roadway/roadways to "normal" conditions. (NOTE: Participants noted that "normal" conditions could be difficult to define.)</p>	<p>Traffic Returning To Normal</p>

Table 10-3 Candidate Program Level TIM Objectives and Performance Measures

Candidate Objective	Proposed Performance Measure(s)	Traffic Incident Management Stage
5. Reduce time for needed responders to arrive on-scene after notification.	a. Time between notification and arrival of first qualified response person to arrive on incident scene.	Response
6. Reduce number of secondary incidents and severity of primary and secondary incidents.	a. # of total incidents (regardless of primary or secondary) and severity of primary incidents (National Highway Transportation Safety Administration [NHTSA] classification). b. # of secondary of incidents and severity (NHTSA classification). c. # fatalities.	Traffic Management Motorist Information
7. Develop and ensure familiarity with regional, multi-disciplinary TIM goals and objectives and supporting procedures by all stakeholders.	a. Existence/availability of program-level plan for implementing traffic control devices and/or procedures. b. Existence of/participation in multi-agency/jurisdictional training programs on the effective use of traffic control/staging devices and procedures. c. % of workforce trained on National Incident Management System as well as local/ regional/ "program-level" procedures. d. % of agencies with active, up-to-date Memoranda of Understanding (MOUs) for program-level TIM. e. # of certified courses taken. f. # of attendees at various courses.	TIM Meetings Post Incident Reviews
8. Improve communication between responders and managers regarding the status of an incident throughout the incident.	a. # or % of agencies with a need to communicate, who are able to communicate (sharing information or communications systems) within an incident.	Response Site Management Traffic Management

Table 10-3 Candidate Program Level TIM Objectives and Performance Measures

Candidate Objective	Proposed Performance Measure(s)	Traffic Incident Management Stage
<p>9. Provide timely, accurate, and useful traveler information to the motoring public on regular basis during incident.</p>	<p>a. Comparison of information provided at any given time to what information could have been provided.</p> <p>b. Customer perceptions on usefulness of information provided.</p> <p>c. Time of updates to various sources.</p> <p>d. # of minutes it takes to disseminate informational updates to the public (after something changes regarding incident status).</p> <p>e. # of sources of information to the public.</p> <p>f. # of system miles that are covered/density of coverage by traveler information systems (seek to increase these).</p>	<p>Motorist Information</p>
<p>10. Regularly evaluate and use customer (road user) feedback to improve TIM program assets and practices.</p>	<p>a. % incidents managed in accordance with program-level procedures.</p> <p>b. % of incidents for which multi-agency reviews occur.</p> <p>c. Perceived effectiveness (by involved stakeholders) of use of traffic control devices to achieve incident management goals developed for each incident.</p> <p>d. Correlation of use of program-level traffic control devices by incident type.</p> <p>e. # of instances of sending the needed equipment (presumes that needed quantities and types of equipment are defined) for the incident.</p> <p>f. Frequency of dissemination of multi-agency/program-level and customer feedback back to partners.</p> <p>g. Measures of customer feedback:</p> <ul style="list-style-type: none"> • # Web site feedback. 	<p>TIM Meetings</p> <p>Post Incident Reviews</p>

Table 10-3 Candidate Program Level TIM Objectives and Performance Measures

Candidate Objective	Proposed Performance Measure(s)	Traffic Incident Management Stage
	<ul style="list-style-type: none"> • # of surveys conducted/focus groups. • # of complaint logs. • # of service patrol comment cards. • # of 1-800 feedback system calls. • # of sources of information to the public (# of media/government outlets providing information). • # of 511 calls. 	

Other transportation organizations are researching and developing state-of-the-practice TIM performance measures. The National Transportation Operations Coalition (NTOC) is one such group. NTOC has initiated studies addressing the performance measurement issues. Recent studies have stated to identify a few good measures the region or agency can monitor, use and form the basis to improve their operations and not wait on building out the ultimate system before collecting data. Some performance measures include:

- Customer Satisfaction
- Extent of Congestion
- Incident Duration
- Recurring Delay
- Speed
- Throughput (Person and Vehicle)
- Travel Time
- Travel Time Reliability

Additional information about NTOC's performance measurement initiatives can be found at <http://ops.fhwa.dot.gov/index.asp>.

10.3 Omaha/Council Bluffs TIM Objectives

Representatives from Omaha/Council Bluffs TIM Executive Committee met on May 19, 2010 to discuss and gain consensus on traffic incident management performance measures for the

region. The following TIM program objectives and related performance measures resulting from these discussions are identified in Table 10-3. The Omaha/Council Bluffs TIM program objectives and related performance measures reflect national initiatives.

Table 10-4 Omaha/Council Bluffs Regional TIM Program Objectives and Performance Measures

TIM Program Objective	Related Performance Measure
Reduce Response Time – defined as the time between awareness of the incident to when responder arrives at the scene.	The time between the first recordable awareness of the incident and the first confirmation the responder is at the scene.
Reduce Incident Clearance Time – defined as the time between awareness of the incident and the removal of all evidence of the incident including debris, response vehicles to where all travel lanes are open to traffic.	The time between the first recordable awareness of the incident and the last responder has left the scene.
Reduce Time for Traffic to Return to Normal – defined as the time between awareness of the incident to when travel speeds/times are at normal conditions based on historical data.	The time between the first recordable awareness of the incident and when travel speeds/times are at normal conditions based on historical data.

Each TIM responder contributes to each of these regional performance measures. Each responding entity (public and private) should identify their own TIM program objectives and related performance measures. These individual entity performance measures should be used to inform senior management of their efforts and contributions to achieving the regional TIM objectives, identify areas to improve their performance and ability to further meet or exceed the TIM objectives and review to determine if the individual entity's performance measures are in concert with the regional objectives and measures.

10.4 Performance Measure Data Collection

The data necessary to determine and report on performance are identified below. One important aspect of measuring and reporting performance is benchmarking the parameters. Benchmarking is a must in order to show improvement. In the case of TIM, these improvements are through the use of technology advancements, interagency coordination, agency policy and procedure modifications, inter-agency memorandums of understanding, and new state and local laws.

10.4.1 Regional Data Collection

The data necessary to measure the Omaha/Council Bluffs TIM Program performance is or will be available upon completion of existing projects.

Response Time

Two pieces of data are necessary to determine the region's traffic incident response time as defined in Table 10-3. These data are:

1. The time the incident was detected and verified – This data is obtained from the 911 dispatch CAD system. When the dispatcher receives a call about an incident, the dispatcher enters the incident into the CAD software. The CAD software “time stamps” this entry.
2. The time the first responder arrives at the scene – This data is also obtained from the 911 dispatch CAD system. When the first responder (usually law enforcement or fire) arrives at the scene, they contact dispatch notifying dispatch they have arrived at the scene. The dispatch operator updates CAD reporting the responder has arrived at the scene. The CAD software “time stamps” this entry.

The difference between the two “time stamp” entries determines the response time.

Clearance Time

Two pieces of data are necessary to determine the region's traffic incident clearance time as defined in Table 10-3. These data are:

1. The time the incident was detected and verified – This data is obtained from the 911 dispatch CAD system. The dispatcher receives a call (911 call or call from either the Omaha DOC or the Iowa SOSC) about an incident. The dispatcher enters the incident into the CAD software. The CAD software “time stamps” this entry.
2. The time when all evidence of the incident, including debris and response vehicles, to where all travel lanes are opened to traffic – This data is obtained from the 911 dispatch CAD system. The dispatcher receives a call from the responder in the field (usually fire or law enforcement) that they are leaving the incident scene. The responder leaving the scene implies all debris has been removed from the travel lanes and all vehicles have left the scene. The dispatcher enters this information into the CAD software. The CAD software “time stamps” this entry.

The difference between the two “time stamp” entries determines the clearance time.

Traffic Restored to Normal

Two pieces of data are necessary to determine the region's traffic restored to normal time as defined in Table 10-3. These data are

1. The time the incident was detected and verified – This data is obtained from the 911 dispatch CAD system. The dispatcher receives a call (911 call or call from Omaha DOC) about an incident. The dispatcher enters the incident into the CAD software. The CAD software “time stamps” this entry.
2. The time when travel speeds/times are at normal conditions based on historical data – This data is obtained from traffic sensor data stored at the Omaha DOC or the Iowa SOSC. As of August 2010, the Iowa Department of Transportation is installing traffic sensors along I-80 and I-29. Once operational, real-time travel speeds/times will be available. These data will also be archived for historical purposes. The data will be time stamped. Comparing the real-time data against historical conditions will

determine when traffic has recovered from the incident. NDOR has traffic sensors installed along the major freeways in the Omaha area. Over time, the coverage area will increase as additional sensors are installed.

The difference between the two “time stamp” entries determines the time for traffic to return to normal conditions.

Table 10-4 below summarizes the data collection sources for each of the performance measures identified for the Omaha-Council Bluffs region.

Table 10-4 Omaha/Council Bluffs Regional TIM Program Performance Measure Data Collection Sources

TIM Program Objective	Related Performance Measure	Data Collection
Reduce Response Time – defined as the time between awareness of the incident to when responder arrives at the scene.	The time between the first recordable awareness of the incident and	Obtained from 911 CAD system
	The first confirmation the responder is at the scene.	Obtained from 911 CAD system
Reduce Incident Clearance Time – defined as the time between awareness of the incident and the removal of all evidence of the incident including debris, response vehicles to where all travel lanes are open to traffic.	The time between the first recordable awareness of the incident and	Obtained from 911 CAD system
	The last responder has left the scene.	Obtained from 911 CAD system
Reduce Time for Traffic to Return to Normal – defined as the time between awareness of the incident to when travel speeds/times are at normal conditions based on historical data.	The time between the first recordable awareness of the incident and	Obtained from 911 CAD system
	When travel speeds/times are at normal conditions based on historical data.	Obtained from Iowa DOT/NDOR traffic sensors

10.4.2 Agency Data Collection

As identified in Section 10.4.1, data necessary to determine the Omaha/Council Bluffs region TIM performance is not a massive effort. The data collected comes from two sources, the 911 CAD and the DOC/SOSC.

Each responder’s role in responding to, clearing the incident, and returning the traffic back to normal conditions affects the outcome of having traffic back to pre-incident conditions.

Each agency or private sector responder should develop performance objectives and measures internal to their organization to

- Assess their ability to support the region's TIM goals
- Report to their senior management the importance of operations and the work those in operations perform, and
- Secure funding to expand, enhance and update their TIM program

For example, the sooner the Iowa DOT or NDOR maintenance is aware of the incident, the quicker they can respond to provide traffic control or other resources.

Initiating traffic management strategies, whether it is traffic control or alternate routing, affects traffic flow and smoothes disruption in traffic flow caused by the incident. The quicker these strategies are implemented, the sooner traffic can return to normal conditions.

10.5 Reports

The Iowa DOT's SOSC and NDOR's DOC are responsible for fusing the data from the various data sources described above and developing the reports that document the performance of the Omaha-Council Bluffs TIM program. Because the data available to each TMC is obtained from its own side of the state line, it is important that the two TMCs coordinate and combine results to present a unified report for the entire metropolitan region.

Reporting the success of the Omaha-Council Bluffs TIM program must be targeted to the audience reading the report. Agency TIM operators and transportation planners must receive immediate feedback to address activities needing improvement. Senior level managers and public officials don't have the time to read a lengthy report. However, some technical detail is required to get a clear understanding of the TIM program. The general public's focus is getting from point A to point B in a safe, reliable manner.

A key element of any report is the manner in which it's presented. Strategic use of graphics (charts and graphs) can deliver the key message very clearly and distinctly by capturing the reader's eye. Text is another key element to any report. The report must be written in a manner easily understood by the reader. For example, the general public would be lost reading a technical report.

All reports should be made available to all TIM stakeholders. Results should be reported at O-CB TIM Executive meetings, Post Incident Review meetings or other appropriate forums. Performance surrounding a specific incident, as well as aggregated results should be reported to the stakeholders.

10.5.1 Agency Operator and Planner Report

The report targeting day to day operations and agency planning must provide enough detail to clearly identify trends in each TIM stage, thereby allowing the operations supervisors to address declining trends immediately. This detailed report serves as backup material for the higher level Agency Senior Management/Regional Stakeholder Report and General Public Report. Information that should be included in this report could include:

- Number of traveler (motorist) information devices (DMS, HAR, etc.) used (by location, by message type(TIM traveler information, AMBER alert, weather, etc))
- Number of incidents (by type, by freeway, by time of day)
- Number of times agency was called to respond to an incident
- Average travel speed/time
- Duration of incident (by type, by TIM level)
- Number of active work zones (construction, maintenance)
- Number and percentage of devices on-line
- Number of service patrol responses (by incident type)
- Number of website hits
- Number of individual website users
- Number of traveler information subscribers
- Number of times an alternate route plan was activated
- Duration of alternate route plan
- Resource availability (portable DMS, traffic cones, heavy equipment, etc., by agency)
- Tow company response time
- 511 calls
- Results from post-incident review meetings

10.5.2 Agency Senior Management/Regional Stakeholder Report

The *Agency Senior Management/Regional Stakeholder Report* targets upper level agency managers and key local public leaders. This report should be brief, yet clearly articulate the key performance of the agency or region. This “executive summary” or “dashboard” type report should report the trends to easily identify the improvements or downward trends made by the TIM responding agencies. Information that should be included in this report could include:

- Number of time traveler information devices were used
- Duration of incidents (by type) – separate unique incidents that last an extensive amount of time, for example, a tanker roll over, on fire that damages the roadway infrastructure
- Number of times agency staff responded to incidents
- Number of service patrol responses
- Number of website hits/individual users
- Number of 511 users
- Amount of air quality improvement made by utilizing coordinated TIM practices
- Number of agency/regional staff involved in TIM

10.5.3 General Public Report

The General Public Report should focus on a few key issues that touch the motoring public’s “hot buttons”, such as reliability. The report should be short and written in terms the general population can understand.

Information that should be included in this report could include:

- Duration of the incident
- Time traffic went back to normal

11. DOCUMENT CHANGE MANAGEMENT/CONTROL

The practices and procedures that govern this document will change as the TIM procedures improve and new technology is deployed, particularly in the development of Intelligent Transportation System (ITS) services for the Omaha/Council Bluffs Metro Area. Any changes will be documented and presented to MAPA and the guidance committee for review and approval. Each page of the Plan will be dated to indicate the latest version. A record of Plan change history is maintained in Table 11-1.

Table 11-1 TIM Operations Guidelines Change History

Date	Section	Change

APPENDIX

I – Agency Contact Information

II – Overview of Incident Timeline Graph

III – Standard Dispatcher Question List

IV – Field Responder TIM Activity Checklist

V – TRAA Towing Reference Document

VI – MUTCD Chapter 6I – Control of Traffic Through Traffic Incident Management Areas (2009)

VII – FHWA – Best Practices in Traffic Incident Management – Executive Summary – (Sept. 2009)

VIII – Agency to Agency Memorandums of Understanding

IX – Incident Response Plans (See CD insert)

- i Interstate 80
 - ii Interstate 29
 - iii Interstate 680
 - iv Interstate 480
 - v Highway 75
 - vi System Interchanges
-

APPENDIX I

Iowa Agency Contact Information

Agency	Public Information	Private Information
Council Bluffs Fire Department	Emergency: 911 Office: 712-328-4646 Dispatch:	Name/Position: Direct Number: Email:
Council Bluffs Police Department	Emergency: 911 Office: 712-328-5737 Dispatch:	Name/Position: Direct Number: Email:
Crescent Fire Department	Emergency: 911 Office: 712-545-3730 Dispatch:	Name/Position: Direct Number: Email:
Glenwood Fire Department	Emergency: 911 Office: 712-527-9332 Dispatch:	Name/Position: Direct Number: Email:
Iowa DOT – Council Bluffs	24 hour: Office: 712-243-3355 Dispatch:	Name/Position: Direct Number: Email:
Iowa State Patrol Council Bluffs	Emergency: 911 Office: 712-328-8001 Dispatch:	Name/Position: Direct Number: Email:
Mills County Sheriff	Emergency: 911 Office: 712-527-4337 Dispatch:	Name/Position: Direct Number: Email:
Missouri Valley Fire Department	Emergency: 911 Office: 712-642-2731 Dispatch:	Name/Position: Direct Number: Email:
Missouri Valley Police Department	Emergency: 911 Office: 712-642-2736 Dispatch:	Name/Position: Direct Number: Email:
Pottawattamie County Sheriff	Emergency: 911 Office: 712-890-2200 Dispatch:	Name/Position: Direct Number: Email:

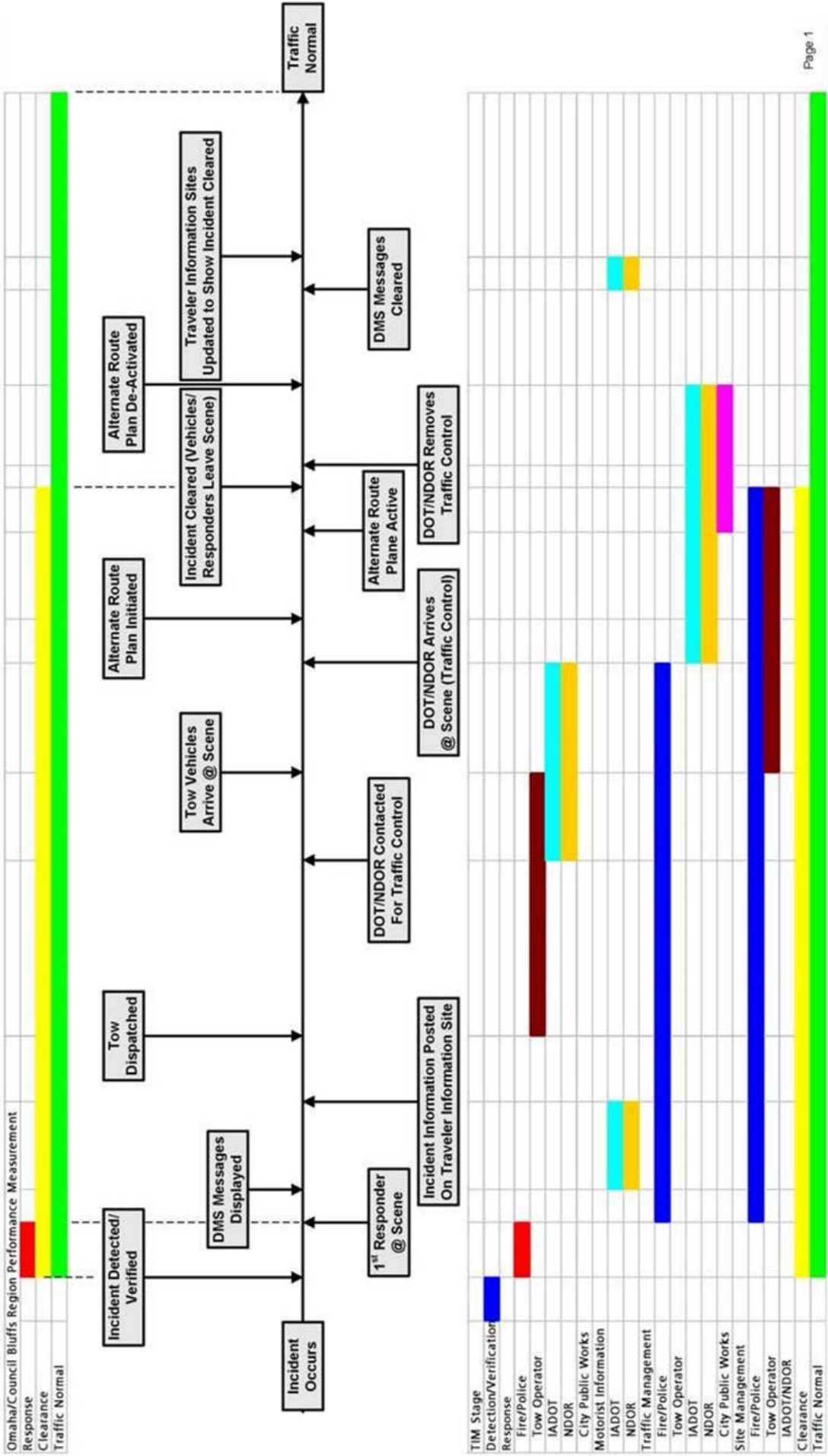
Nebraska Agency Contact Information

Agency	Public Information	Private Information
Douglas County Sheriff	Emergency: 911 Office: 402-444-6620 Dispatch: 402-444-5803	Name/Position: Direct Number: Email:
Gretna Fire Department	Emergency: 911 Office: 402-332-3336 ext 352 Dispatch:	Name/Position: Direct Number: Email:
La Vista Fire Department	Emergency: 911 Office: 402-331-4748 Dispatch:	Name/Position: Direct Number: Email:
La Vista Police Department	Emergency: 911 Office: 402-331-1582 Dispatch:	Name/Position: Direct Number: Email:
Metro Area Transit	Office: 402-341-0800	Name/Position: Direct Number: Email:
NDOR - Omaha	24 hour: Office: 402-595-2534 Dispatch:	Name/Position: Direct Number: Email:
Nebraska State Patrol	Emergency: 911 Office: 402-331-3333 Dispatch:	Name/Position: Direct Number: Email:
Omaha Fire Department	Emergency: 911 Office: 402-444-5700 Dispatch: 402-444-5706	Name/Position: Direct Number: Email:
Omaha Police Department Northeast Precinct	Emergency: 911 Office: 402-444-6916 Dispatch: 402-444-5805	Name/Position: Direct Number: Email:
Omaha Police Department Northwest Precinct	Emergency: 911 Office: 402-444-____ Dispatch: 402-444-____	Name/Position: Direct Number: Email:
Omaha Police Department Southeast Precinct	Emergency: 911 Office: 402-444-4041 Dispatch: 402-444-5806	Name/Position: Direct Number: Email:
Omaha Police Department Southwest Precinct	Emergency: 911 Office: 402-444-5794 Dispatch: 402-444-5808	Name/Position: Direct Number: Email:
Sarpy County Sheriff	Emergency: 911 Office: 402-593-4111 Dispatch:	Name/Position: Direct Number: Email:

APPENDIX II

APPENDIX III

Traffic Incident Timeline



APPENDIX IV

TIM ACTIVITY CHECKLIST

It was noted by the stakeholders that getting accurate information about traffic incidents would help with their response and management functions. The following is a checklist of information that should be gathered by the first responder on the scene of a traffic incident for required actions by other emergency responding agencies and companies.

- Overview of scene details. Exact location, including direction and lanes blocked.
- Injuries? (number and severity) Persons trapped?
- Fire or Hazardous Materials potential?
- Can vehicles be moved out of traffic NOW?
- What response agencies are needed?
- Give directions to approach and park.
- Special investigation needed?
- Tow truck and clean-up needs.
- Location for staging back-up units.
- Upstream route diversion needed?
- What level of motorist information is needed?
- Is there an offsite location to relocate the damaged vehicles?

APPENDIX V

TRAA VEHICLE IDENTIFICATION GUIDE[®]

CLASS 1 • LIGHT-DUTY • (6,000 lbs. or less GVW - 4 tires)*



CLASS 2 • LIGHT-DUTY • (6,001 - 10,000 lbs. GVW - 4 tires)*



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

CLASS 3 • MEDIUM-DUTY • (10,001 - 14,000 lbs. GVW - 6 tires or more)*



CLASS 4 • MEDIUM-DUTY • (14,001 - 16,000 lbs. GVW - 6 tires or more)*



CLASS 5 • MEDIUM-DUTY • (16,001 - 19,500 lbs. GVW - 6 tires or more)*



CLASS 6 • MEDIUM-DUTY • (19,501 - 26,000 lbs. GVW - 6 tires or more)*



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

CLASS 7 • HEAVY-DUTY • (26,001 - 33,000 lbs. GVW - 6 tires or more)*



CLASS 8 • HEAVY-DUTY • (33,001 lbs. and over GVW - 10 tires or more)*



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 (impound, 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.

Law 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

LIGHT-DUTY

TOW TRUCK



CAR CARRIER



MEDIUM-DUTY

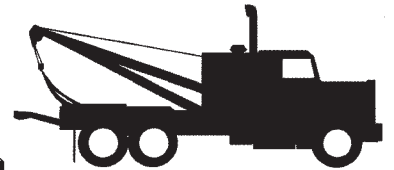
TOW TRUCK



CAR CARRIER



HEAVY-DUTY



LOW BOY TRAILER



Illustrations: © T.T. Publications and Vehicle Identification Guide: © TTRA

APPENDIX VI

CHAPTER 6I. CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS

Section 6I.01 General

Support:

Whenever the acronym “TTC” is used in this Chapter, it refers to “temporary traffic control”.

Standard:

The needs and control of all road users (motorists, bicyclists, and pedestrians within the highway, including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA), Title II, Paragraph 35.130) through a TTC zone shall be an essential part of highway construction, utility work, maintenance operations, and the management of traffic incidents.

Support:

A traffic incident is an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic.

A traffic incident management area is an area of a highway where temporary traffic controls are imposed by authorized officials in response to a road user incident, natural disaster, hazardous material spill, or other unplanned incident. It is a type of TTC zone and extends from the first warning device (such as a sign, light, or cone) to the last TTC device or to a point where vehicles return to the original lane alignment and are clear of the incident.

Traffic incidents can be divided into three general classes of duration, each of which has unique traffic control characteristics and needs. These classes are:

- A. Major—expected duration of more than 2 hours;
- B. Intermediate—expected duration of 30 minutes to 2 hours; and
- C. Minor—expected duration under 30 minutes.

The primary functions of TTC at a traffic incident management area are to move road users reasonably safely and expeditiously past or around the traffic incident, to reduce the likelihood of secondary traffic crashes, and to preclude unnecessary use of the surrounding local road system. Examples include a stalled vehicle blocking a lane, a traffic crash blocking the traveled way, a hazardous material spill along a highway, and natural disasters such as floods and severe storm damage.

Guidance:

In order to reduce response time for traffic incidents, highway agencies, appropriate public safety agencies (law enforcement, fire and rescue, emergency communications, emergency medical, and other emergency management), and private sector responders (towing and recovery and hazardous materials contractors) should mutually plan for occurrences of traffic incidents along the major and heavily traveled highway and street system.

On-scene responders should be trained in safe practices for accomplishing their tasks in and near traffic. Responders should always be aware of their visibility to oncoming traffic and take measures to move the traffic incident as far off the traveled roadway as possible or to provide for appropriate warning.

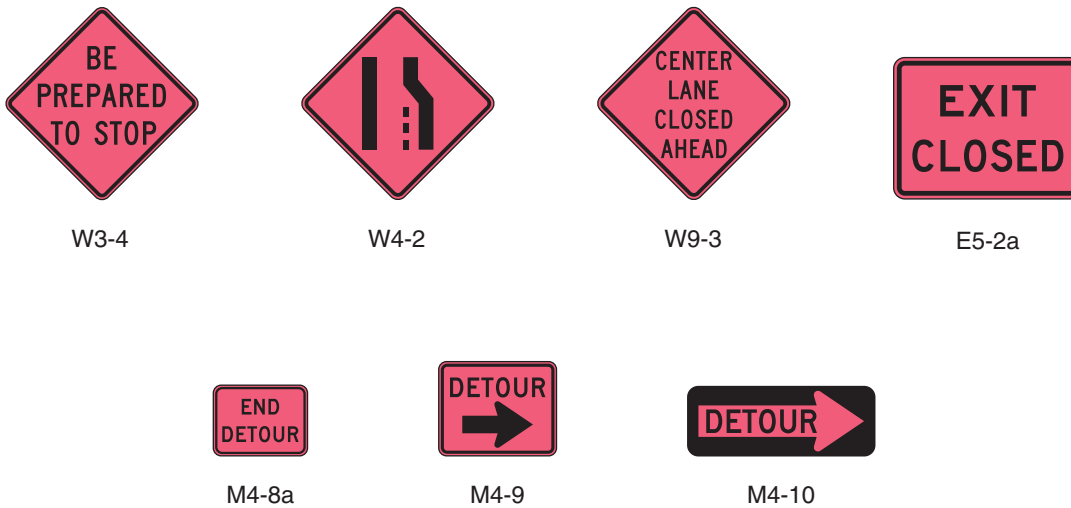
Responders arriving at a traffic incident should, within 15 minutes of arrival on-scene, estimate the magnitude of the traffic incident, the expected time duration of the traffic incident, and the expected vehicle queue length, and then should set up the appropriate temporary traffic controls for these estimates.

Option:

Warning and guide signs used for TTC traffic incident management situations may have a black legend and border on a fluorescent pink background (see Figure 6I-1).

Support:

While some traffic incidents might be anticipated and planned for, emergencies and disasters might pose more severe and unpredictable problems. The ability to quickly install proper temporary traffic controls might greatly reduce the effects of an incident, such as secondary crashes or excessive traffic delays. An essential part of fire, rescue, spill clean-up, highway agency, and enforcement activities is the proper control of road users through the traffic incident management area in order to protect responders, victims, and other personnel at the site while providing reasonably safe traffic flow. These operations might need corroborating legislative authority for the implementation and enforcement of appropriate road user regulations, parking controls, and speed zoning. It is desirable for these statutes to provide sufficient flexibility in the authority for, and implementation of, TTC to respond to the needs of changing conditions found in traffic incident management areas.

Figure 6I-1. Examples of Traffic Incident Management Area Signs**Option:**

For traffic incidents, particularly those of an emergency nature, TTC devices on hand may be used for the initial response as long as they do not themselves create unnecessary additional hazards.

Section 6I.02 Major Traffic Incidents**Support:**

Major traffic incidents are typically traffic incidents involving hazardous materials, fatal traffic crashes involving numerous vehicles, and other natural or man-made disasters. These traffic incidents typically involve closing all or part of a roadway facility for a period exceeding 2 hours.

Guidance:

If the traffic incident is anticipated to last more than 24 hours, applicable procedures and devices set forth in other Chapters of Part 6 should be used.

Support:

A road closure can be caused by a traffic incident such as a road user crash that blocks the traveled way. Road users are usually diverted through lane shifts or detoured around the traffic incident and back to the original roadway. A combination of traffic engineering and enforcement preparations is needed to determine the detour route, and to install, maintain or operate, and then to remove the necessary traffic control devices when the detour is terminated. Large trucks are a significant concern in such a detour, especially when detouring them from a controlled-access roadway onto local or arterial streets.

During traffic incidents, large trucks might need to follow a route separate from that of automobiles because of bridge, weight, clearance, or geometric restrictions. Also, vehicles carrying hazardous material might need to follow a different route from other vehicles.

Some traffic incidents such as hazardous material spills might require closure of an entire highway. Through road users must have adequate guidance around the traffic incident. Maintaining good public relations is desirable. The cooperation of the news media in publicizing the existence of, and reasons for, traffic incident management areas and their TTC can be of great assistance in keeping road users and the general public well informed.

The establishment, maintenance, and prompt removal of lane diversions can be effectively managed by inter-agency planning that includes representatives of highway and public safety agencies.

Guidance:

All traffic control devices needed to set up the TTC at a traffic incident should be available so that they can be readily deployed for all major traffic incidents. The TTC should include the proper traffic diversions, tapered lane closures, and upstream warning devices to alert approaching traffic of the end of a queue.

Attention should be paid to the end of the traffic queue such that warning is given to road users approaching the end of the queue.

If manual traffic control is needed, it should be provided by qualified flaggers or uniformed law enforcement officers.

Option:

If flaggers are used to provide traffic control for an incident management situation, the flaggers may use appropriate traffic control devices that are readily available or that can be brought to the traffic incident scene on short notice.

Guidance:

When flares are used to initiate TTC at traffic incidents, more permanent traffic control devices should replace them as soon as practical. Both the flare and its supporting device should then be removed from the roadway.

On-scene responders should be trained in safe practices for accomplishing their tasks in and near traffic. Responders should always be aware of their visibility to oncoming traffic and take measures to move the traffic incident as far off the traveled roadway as possible or to provide for appropriate warning.

Section 6I.03 Intermediate Traffic Incidents

Support:

Intermediate traffic incidents typically affect travel lanes for a time period of 30 minutes to 2 hours, and usually require traffic control on the scene to divert road users past the blockage. Full roadway closures might be needed for short periods during traffic incident clearance to allow traffic incident responders to accomplish their tasks.

The establishment, maintenance, and prompt removal of lane diversions can be effectively managed by inter-agency planning that includes representatives of highway and public safety agencies.

Guidance:

All traffic control devices needed to set up the TTC at a traffic incident should be available so that they can be readily deployed for intermediate traffic incidents. The TTC should include the proper traffic diversions, tapered lane closures, and upstream warning devices to alert approaching traffic of the end of a queue.

Attention should be paid to the end of the traffic queue such that warning is given to road users approaching the end of the queue.

If manual traffic control is needed, it should be provided by qualified flaggers or uniformed law enforcement officers.

Option:

If flaggers are used to provide traffic control for an incident management situation, the flaggers may use appropriate traffic control devices that are readily available or that can be brought to the traffic incident scene on short notice.

Guidance:

When flares are used to initiate TTC at traffic incidents, more permanent traffic devices should replace them as soon as practical. Both the flare and its supporting device should then be removed from the roadway.

On-scene responders should be trained in safe practices for accomplishing their tasks in and near traffic. Responders should always be aware of their visibility to oncoming traffic and take measures to move the traffic incident as far off the traveled roadway as possible or to provide for appropriate warning.

Section 6I.04 Minor Traffic Incidents

Support:

Minor traffic incidents are typically disabled vehicles and minor crashes that result in lane closures of less than 30 minutes. On-scene responders are typically law enforcement and towing companies, and occasionally highway agency service patrol vehicles.

Diversion of traffic into other lanes is often not needed or is needed only briefly. It is not generally possible or practical to set up a lane closure with traffic control devices for a minor traffic incident. Traffic control is the responsibility of on-scene responders.

Guidance:

When a minor traffic incident blocks a travel lane, it should be removed from that lane to the shoulder as quickly as possible.

Section 6I.05 Use of Emergency-Vehicle Lighting**Support:**

The use of emergency-vehicle lighting (such as high-intensity rotating, flashing, oscillating, or strobe lights) is essential, especially in the initial stages of a traffic incident, for the safety of emergency responders and persons involved in the traffic incident, as well as road users approaching the traffic incident. Emergency-vehicle lighting, however, provides warning only and provides no effective traffic control. It is often confusing to road users, especially at night. Road users approaching the traffic incident from the opposite direction on a divided facility are often distracted by emergency-vehicle lighting and slow their vehicles to look at the traffic incident posing a hazard to themselves and others traveling in their direction.

The use of emergency-vehicle lighting can be reduced if good traffic control has been established at a traffic incident scene. This is especially true for major traffic incidents that might involve a number of emergency vehicles. If good traffic control is established through placement of advanced warning signs and traffic control devices to divert or detour traffic, then public safety agencies can perform their tasks on scene with minimal emergency-vehicle lighting.

Guidance:

Public safety agencies should examine their policies on the use of emergency-vehicle lighting, especially after a traffic incident scene is secured, with the intent of reducing the use of this lighting as much as possible while not endangering those at the scene. Special consideration should be given to reducing or extinguishing forward facing emergency-vehicle lighting, especially on divided roadways, to reduce distractions to on-coming road users.

Vehicle headlights not needed for illumination, or to provide notice to other road users of the incident response vehicle being in an unexpected location, should be turned off at night.

APPENDIX VII



U.S. Department of Transportation
Federal Highway Administration

Office of Operations

21st Century Operations Using 21st Century Technologies



BEST PRACTICES IN TRAFFIC INCIDENT MANAGEMENT

EXECUTIVE SUMMARY

SEPTEMBER 2010

EXECUTIVE SUMMARY

Traffic incident management (TIM) is a planned and coordinated program to detect and remove incidents and restore traffic capacity as safely and as quickly as possible. Over time, various tools and strategies have been developed and implemented in an effort to improve overall TIM efforts. The nature and extent of tools and strategies in use are highly variable across the Nation, reflecting different priorities, congestion effects, levels of program maturity, and investment. As a direct result, the reported effectiveness of individual or combined strategies is inconsistent.

To achieve a higher level of effectiveness in U.S. TIM efforts and to accelerate the implementation process, the objectives of this investigation were to review and assess various TIM policies, procedures, and technologies to identify current “best practices” in the United States, and seek a synergistic partnership with the National Traffic Incident Management Coalition (NTIMC) to support both the identification of best practices in the United States and the implementation of these practices by State, regional, and local TIM partners.

Information to support this investigation was obtained through a review of published and electronic information sources and input from TIM practitioners representing law enforcement, fire and rescue, emergency medical services, transportation, and towing and recovery agencies in Arizona, California, Florida, Maryland, Michigan, Nevada, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Texas, Utah, and Washington. Task-specific and cross-cutting challenges commonly encountered by TIM responders in the performance of their duties, and novel or effective strategies for overcoming these challenges (i.e., best practices), were considered. Task-specific challenges may include obtaining accurate information from motorists, accessing the scene, and condemning a spilled load. Cross-cutting challenges may include interagency coordination and communication, technology procurement and deployment, and performance measurement. The reported tools and strategies for improving TIM range from sophisticated, high-technology strategies to simple, procedural strategies.

Best Practice TIM Tools and Strategies

Task-specific tools and strategies generally reported to be most effective in enhancing TIM efforts include the following:

- Detection and verification:
 - Field verification by on-site responders and closed-circuit television (CCTV) cameras to support confirmation of incident occurrence and enhance the assessment of incident needs and the subsequent dispatch of appropriate personnel and resources to the scene.
 - Frequent or enhanced roadway reference markers and enhanced 9-1-1/automated positioning systems to support accurate identification of incident location by motorists or response personnel.
 - In rural areas, motorist aid call boxes and automated collision notification systems (ACNS) to speed detection.
- Traveler information:
 - 5-1-1 systems, traveler information websites, and media partnerships to enhance the provision of traveler information to motorists who are primarily off-site in an effort to reduce traffic demand at the incident scene.

Best Practices in Traffic Incident Management

- Dynamic message signs (DMSs) and associated standardized DMS message sets and use protocol to enhance the provision of traveler information to motorists who are approaching the incident scene, including the consistency with which traveler information is presented.
- Response:
 - Personnel and equipment resource lists and the Towing and Recovery Association of America's (TRAA's) *Vehicle Identification Guide* to support the dispatch of appropriate resources to the incident scene.
 - Instant tow dispatch procedures and towing and recovery zone-based contracts to speed response to the incident scene by towing and recovery personnel through expedited dispatch and reduced travel distances.
 - Enhanced computer-aided dispatch (E-CAD), dual or optimized dispatch procedures, and motorcycle patrols to speed response to the incident scene by public safety personnel through reduced travel distances and increased maneuverability in congested conditions.
 - Equipment staging areas and pre-positioned equipment to enhance availability of and reduce wait time for specialty equipment that may be slow to mobilize and to improve access to and speed deployment of supporting equipment, such as traffic control devices.
- Scene management and traffic control:
 - The Incident Command System (ICS) to reduce confusion over on-scene authority and provide a unified command structure for decision making.
 - Response vehicle parking plans to enhance on-scene maneuverability.
 - High-visibility safety apparel and vehicle markings, on-scene emergency lighting procedures, and safe, quick clearance *Move Over* laws that require motorists approaching an incident to reduce speed and/or change lanes to enhance responder safety at the scene.
 - Effective traffic control through on-site traffic management teams and end-of-queue advance warning systems to provide advance warning of a downstream incident or associated congestion and subsequently reduce the occurrence of secondary incidents.
 - Alternate route plans to effectively reduce excess delay.
- Quick clearance and recovery:
 - Abandoned vehicle legislation/policy to expedite the clearance of abandoned vehicles from the roadway right-of-way and minimize the risk for abandoned-vehicle-involved secondary incidents.
 - Safe, quick clearance *Driver Removal* laws, service patrols, vehicle-mounted push bumpers, and incident investigation sites to speed the clearance of minor incidents by either the involved motorists or response personnel.
 - Safe, quick clearance *Authority Removal* laws, quick clearance/open roads policy, non-cargo vehicle fluid discharge policy, fatality certification/removal policy, and quick clearance using fire apparatus to speed the clearance of major incidents through the provision of common clearance goals, the authority to take appropriate action, and protection against liability for those actions.
 - Expedited crash investigation to speed the clearance of major incidents involving a fatality or other suspicious circumstances requiring additional information gathering at the incident scene.

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- Towing and recovery quick clearance incentives to speed the clearance of major incidents through the provision of financial rewards and or penalties tied to performance for participating towing and recovery agencies.
- Major incident response teams to speed the clearance of major incidents through a high level of familiarity among the various team members and their authority to mobilize the necessary personnel and equipment to respond.

These tools and strategies, including their functional area of primary impact and select implementation locations, are summarized in table 1.

Table 1. Task-specific strategies and select implementation locations.

TASK-SPECIFIC STRATEGIES							EXAMPLE APPLICATIONS
	Detection/Verification	Traveler Information	Response	Scene Management/Traffic Control	Quick Clearance/Recovery		
Field Verification by On-Site Responders	●						NY (Hudson Valley Region)
Closed-Circuit Television Cameras	●						76+ U.S. Metropolitan Areas, MD
Frequent/Enhanced Roadway Reference Markers	●						FL, NJ/PA (Delaware Valley Region), OH, TN
Enhanced 9-1-1/Automated Positioning Systems	●						TX (San Antonio)
Motorist Aid Call Boxes	●						27+ U.S. Metropolitan Areas, GA
Automated Collision Notification Systems	●						16+ U.S. Metropolitan Areas, NY (Erie Co.)
5-1-1 Systems		●					33+ States
Traveler Information Websites		●					39+ States
Media Partnerships		●					53+ U.S. Metropolitan Areas
Dynamic Message Signs		●					81+ U.S. Metropolitan Areas, CA (Stockton)
Standardized DMS Message Sets/Use Protocol		●					73+ U.S. Metropolitan Areas, TX (Austin, San Antonio)
Personnel/Equipment Resource Lists			●				75+ U.S. Metropolitan Areas
Towing and Recovery Vehicle Identification Guide			●				NJ/PA (Delaware Valley Region), TX (Austin)
Instant Tow Dispatch Procedures			●				WA (Seattle)
Towing and Recovery Zone-Based Contracts			●				TX (Houston)
Enhanced Computer-Aided Dispatch			●				43+ Agencies in U.S. Metropolitan Areas, CA (Los Angeles), NM (Albuquerque), TN (Sequatchie Co.)
Dual/Optimized Dispatch Procedures			●				NJ
Motorcycle Patrols			●				All or Nearly U.S. Metropolitan Areas
Equipment Staging Areas/Pre-positioned Equipment			●				TN, WI
Incident Command System				●			58+ U.S. Metropolitan Areas, WA
Response Vehicle Parking Plans				●			AZ (Phoenix), CO (Lakewood), IA, MI (Farmington), TX (Lancaster)

Table 1. Task-specific strategies and select implementation locations (continued).

TASK-SPECIFIC STRATEGIES	Detection/Verification	Traveler Information	Response	Scene Management/Traffic Control	Quick Clearance/Recovery	EXAMPLE APPLICATIONS
High-Visibility Safety Apparel/ Vehicle Markings				●		CO (Eagle)
On-Scene Emergency Lighting Procedures				●		TX (Austin, San Antonio)
Safe, Quick Clearance Laws— <i>Move Over</i>				●		47 States, including CA, FL, GA, IN, TN
Effective Traffic Control Through On-Site Traffic Management Teams				●		CA (Stockton), FL (Southeast), NJ
End-of-Queue Advance Warning Systems				●		CA (Bishop, Los Angeles, Redding, Stockton), NJ (Camden), TN (Chattanooga), UT (Salt Lake City)
Alternate Route Plans				●		62+ U.S. Metropolitan Areas, CA (Anaheim), FL (Northeast), ME/NH, NJ/PA (Delaware Valley Region), WI
Abandoned Vehicle Legislation/Policy					●	21+ U.S. Metropolitan Areas, IN, NC
Safe, Quick Clearance Laws— <i>Driver Removal</i>					●	~25 States, including FL, GA, MD, NC, OH, SC, TN, TX, VA, WI
Service Patrols					●	130+ U.S. Metropolitan Areas, AZ (Phoenix), CA, FL, GA (Atlanta), IN, MD, MN, NM (Albuquerque), OR, TN, UT (Salt Lake City)
Vehicle-Mounted Push Bumpers					●	CA (Redding, Stockton), MD (Baltimore), NJ/PA (Delaware Valley Region), OH (Cincinnati), TN (Chattanooga), TX (Austin), UT (Salt Lake City)
Incident Investigation Sites					●	16+ U.S. Metropolitan Areas, TX (Houston)
Safe, Quick Clearance Laws— <i>Authority Removal</i>					●	AZ, CA, CO, FL, GA, IL, IN, KY, MO, NM, NC, OH, OR, SC, TN, TX, VA, WA
Quick Clearance/Open Roads Policy					●	35+ U.S. Metropolitan Areas, CA, FL, GA, ID, IN, LA, MD, NV, NH, TN, UT, WA, WI
Non-cargo Vehicle Fluid Discharge Policy					●	FL, MN
Fatality Certification/Removal Policy					●	PA, TN, TX (Austin), WA
Expedited Crash Investigation					●	93+ U.S. Metropolitan Areas, FL, IN, TX (North Central Region), UT
Quick Clearance Using Fire Apparatus					●	TX (Austin)
Towing and Recovery Quick Clearance Incentives					●	FL, GA, WA
Major Incident Response Teams					●	DE, FL, IL (Chicago), LA, MD, NJ, OH (Cincinnati, Columbus), NY, TX (Dallas Co.), WA

Tools and strategies generally reported to be most effective in addressing cross-cutting TIM challenges include the following:

- Agency relations:
 - Routine, periodic “TIM team” meetings to encourage ongoing dialogue among TIM responders, increasing awareness of priorities and roles.
 - Joint agency/jurisdictional protocols and traffic/emergency management centers to formalize agency relations and respective roles in TIM and to demonstrate commitment through common resource/facility investments.
- Training:
 - National TIM training and information clearinghouses/communities of practice to support information dissemination and exchange among various response agencies involved in TIM regarding national best practices.
 - Local multidisciplinary TIM training and associated tabletop exercises/scenarios and after-action reviews/debriefings to encourage joint and effective training among responders and improved TIM operations at the local level.
 - Multidisciplinary TIM response plan/operating procedures to formalize recommended actions in support of future TIM training efforts, enhanced TIM responder competency, and consistent TIM operations.
 - TIM personnel certifications/training requirements to support enhanced TIM responder competency and consistent TIM operations.
- Communications:
 - Common mutual-aid frequency/channel, alternative communications devices, wireless information networks, and an associated standardized communications terminology/protocol to enhance en-route and on-scene communications among responders from different agencies.
 - Mobile unified communications vehicle to enhance en-route/on-scene communications among responders from different agencies for major incidents and emergencies.
- Technology:
 - Expedited standards development process and standards requirements for State procurement to facilitate/encourage the use of standards and subsequently enhance system and component interoperability and minimize life-cycle costs of investments.
- Performance measurement:
 - National performance measurement guidance to lend consistency and consensus to TIM performance metrics at the State and program levels.
 - Annual TIM self-assessment to support identification of TIM strengths and weaknesses and subsequent activities and initiatives to encourage continued TIM improvements at the national, State, and program levels.
 - Strong funding and performance link to ensure that TIM program effectiveness can be demonstrated and adequate attention is given in project funding prioritization.
 - Multi-agency data exchange protocol to enhance data sharing and accessibility in support of TIM performance measurement activities.

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- Program resources and funding:
 - Dedicated, ongoing funding, guidelines for Federal/State funding sources, metropolitan planning organization partnerships, and an associated TIM strategic plan to ensure ongoing access to program resources and funding.
 - Efficient/effective TIM resource management to encourage optimum use of existing resources.
 - Executive outreach materials/events to ensure that the effectiveness of TIM programs is adequately demonstrated to decision makers and that TIM programs subsequently receive adequate attention in prioritization of projects for funding.

These tools and strategies, including their institutional area of primary impact and select implementation locations, are summarized in table 2.

Table 2. Cross-cutting strategies and select implementation locations.

CROSS-CUTTING STRATEGIES	Agency Relations	Training	Communications	Technology	Performance Measurement	Program Resources/ Funding	EXAMPLE APPLICATIONS
Routine, Periodic "TIM Team" Meetings	●						GA (Atlanta), MI (Detroit), NJ/PA (Delaware Valley Region), TX (Austin), WA, WI
Joint Agency/Jurisdictional Protocols	●						FL (Southeast), WA
Joint Traffic/Emergency Management Center	●						FL, GA (Atlanta), IL (Chicago), NY (Hudson Valley Region, New York), RI, TX (Austin), UT (Salt Lake City)
National TIM Training		●					National Highway Institute (NHI), Department of Homeland Security (DHS) (National Incident Management System (NIMS)), Consortium for ITS Training and Education (CITE), <i>Traffic Incident Management Systems</i>
Information Clearinghouses/ Communities of Practice		●					NTIMC, ResponderSafety.com, I-95 Quick Clearance Toolkit, International Association of Chiefs of Police (IACP) Technology Clearinghouse, International Association of Fire Chiefs (IAFC) Vehicle Safety Resources, FL (Southwest), GA, IN, NV, NJ/PA (Delaware Valley Region), NY, WA, WI
Local Multidisciplinary TIM Training		●					AZ, FL, GA, IN, MD, MI, NC, NJ, NY, OR, TX (Dallas, Ft. Worth), VA, WA, WI
Tabletop Exercises/Scenarios		●					NJ/PA (Delaware Valley Region), MD
After-Action Reviews/Debriefings		●					FL, ME/NH, GA, NV, NJ/PA (Delaware Valley Region), TX (Austin), WI

Table 2. Cross-cutting strategies and select implementation locations (continued).

CROSS-CUTTING STRATEGIES							EXAMPLE APPLICATIONS
	Agency Relations	Training	Communications	Technology	Performance Measurement	Program Resources/ Funding	
Multidisciplinary TIM Response Plan/Operating Procedures		●					AZ, CT, ME/NH, MA, MN, NJ/PA (Delaware Valley Region), NY, NC, OH, TX (Austin, San Antonio), WI
TIM Personnel Certifications/Training Requirements		●					TRAA, GA, NJ/PA (Delaware Valley Region), NY (Hudson Valley Region), VA
Common Mutual-Aid Frequency/Channel			●				ME/NH
Alternative Communications Devices			●				WI
Wireless Information Networks			●				AR, DC/MD/VA, IL, MA (Westford), MS
Mobile Unified Communications Vehicle			●				IL (Chicago), OR (Tillamook Co.)
Standardized Communications Terminology/Protocol			●				75+ U.S. Metropolitan Areas (Resource Lists), 58+ U.S. Metropolitan Areas (ICS), Institute of Electrical and Electronics Engineers, Inc. (IEEE)/Global Justice XML Data Model (GJXDM)
Expedited Standards Development Process				●			Law Enforcement Information Technology Standards Council (Computer-Aided Dispatch (CAD) Systems)
Standards Requirements for State Procurement				●			Federal Highway Administration (FHWA)(Intelligent Transportation Systems (ITS))
National Performance Measurement Guidance					●		TIM Focus State Initiative (FSI), TIM Performance Measurement Knowledge Management System/Listserv
Annual TIM Self-Assessment					●		75+ U.S. Metropolitan Areas
Strong Funding and Performance Link					●		MD, WA
Multi-agency Data Exchange Protocol					●		CA (San Diego), CO (El Paso/Teller Co.), NV (Clark Co.), TX (Ft. Worth), UT, WA
Dedicated, Ongoing Funding						●	CA, MD, NJ/PA (Delaware Valley Region)
Guidelines for Federal/State Funding Sources						●	FL (Orlando), WI
Metropolitan Planning Organization Partnerships						●	FL, NJ/PA (Delaware Valley Region), TN (Chattanooga), TX (Austin)
TIM Strategic Plan						●	FL, GA (Atlanta), KY, TN, TX (Austin)
Efficient/Effective TIM Resource Management						●	MD (Baltimore)
Executive Outreach Materials/Events						●	GA (Atlanta), National Volunteer Fire Council (NVFC) Cost Savings Calculators

Implementation

When considering the myriad of task-specific and cross-cutting tools and strategies identified in this document, note that in some cases, select TIM tools and strategies must operate concurrently to fully realize the benefits to operations (e.g., DMSs and standardized DMS message sets/use protocol). In addition, this investigation did not consider cost in relation to effectiveness. Low- or no-cost tools or strategies with moderate reported or observed effectiveness may prove to be better implementation options than higher-cost strategies with the same or potentially higher benefits. Consequently, additional information gathering is recommended prior to implementation.

The complete *Best Practices in Traffic Incident Management* document, available for download from the FHWA's Office of Operation's Publications website (http://ops.fhwa.dot.gov/eto_tim_pse/publications/index.htm) supports additional information gathering. At a local, regional, or State level, TIM administrative or operations personnel considering implementation of a particular tool or strategy can refer to the appropriate references for published findings cited in this document or contact TIM practitioners participating in this investigation directly by telephone or email to obtain more information.

At a national level, NTIMC, working in close cooperation with FHWA, provides a unique forum for disseminating the information presented here directly through its website and through participation in various outreach activities and events. Stated goals of NTIMC include promoting and supporting the successful development and conduct of local, regional, and statewide TIM programs through peer networking, mentoring, and knowledge exchange among public safety and transportation professionals, and providing leadership in the development of multidisciplinary best practices, guides, standards, and performance measures in support of sound TIM activities.

As evidenced by the wide range of observed and reported effectiveness for singular TIM tools and strategies among the various participating locales, longer-term efforts of NTIMC, again working in close cooperation with FHWA, should focus on standardizing practices to consistently maximize the effectiveness of TIM efforts. In many cases, this may require additional research to identify the local conditions related to the nature and extent of operation, maintenance, marketing, etc. that have a significant impact on the perceived or measured success of specific TIM efforts. More consistent implementation of TIM tools and strategies will enhance not only the cost-effectiveness of program operation but also its sustainability over time.

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APPENDIX VIII

SAMPLE MEMORANDUM OF UNDERSTANDING

“OPEN ROADS POLICY”

Quick Clearance for Safety and Mobility

This agreement by and between the Florida Highway Patrol (FHP) and the Florida Department of Transportation (FDOT) establishes a policy for FHP and FDOT personnel to expedite the removal of vehicles, cargo, and debris from roadways on the State Highway System to restore, in an URGENT MANNER the safe and orderly flow of traffic following a motor vehicle crash or incident on Florida's roadways.

Whereas: Public safety is the highest priority and must be maintained especially when injuries or hazardous materials are involved. The quality of life in the State of Florida is heavily dependent upon the free movement of people, vehicles, and commerce. The FHP and FDOT share the responsibility for achieving and maintaining the degree of order necessary to make this free movement possible. Agencies have the responsibility to do whatever is reasonable to reduce the risk to responders, secondary crashes, and delays associated with incidents, crashes, roadway maintenance, construction, and enforcement activities.

The following operating standards are based on the philosophy that the State Highway System will not be closed or restricted any longer than is absolutely necessary.

Be it resolved: Roadways will be cleared of damaged vehicles, spilled cargo, and debris as soon as it is safe to do so. It is understood that damage to vehicles or cargo may occur as a result of clearing the roadway on an urgent basis. While reasonable attempts to avoid such damage shall be taken, the highest priority is restoring traffic to normal conditions. Incident caused congestion has an enormous cost to society.

Florida Highway Patrol Responsibilities

Members of FHP who respond to the scene of traffic incidents will make clearing the travel portion of the roadway a high priority. When an investigation is required, it will be conducted in as expedient a manner as possible considering the severity of the collision. Non-critical portions of the investigation may be delayed until lighter traffic conditions allow completion of those tasks. The FHP will close only those lanes absolutely necessary to safely conduct the investigation. The FHP will coordinate with FDOT representatives to set up appropriate traffic control, establish alternate routes, expedite the safe movement of traffic at the scene, and restore the roadway to normal conditions as soon as possible.

Whenever practical, damaged vehicles on access controlled roadways will be removed to off ramps, accident investigation sites, or other safe areas for completion of investigations to reduce the delays associated with motorists slowing to "gawk." Tow trucks will be requested as soon as it is evident that they will be needed to clear the roadway. FHP will assure that all authorized tow operators have met established competency levels and that the equipment is of appropriate size, capacity, and design to meet all standards of the State of Florida.

The FHP will not unnecessarily cause any delay in reopening all or part of a roadway to allow a company to dispatch its own equipment to off-load cargo or recover a vehicle or load that is impacting traffic during peak traffic hours or creating a hazard to the public. The FHP and FDOT will cooperate in planning and implementing clearance operations in the most safe and expeditious manner.

Florida Department of Transportations Responsibilities

When requested by FHP or other emergency agency, FDOT will respond and deploy resources to major traffic incidents 24 hours a day, 7 days per week. Each FDOT District will develop and implement response procedures to meet the goal of providing initial traffic control within **30 minutes** of notification during the assigned working hours of each maintenance yard, and **60 minutes** after hours.

The FDOT, in coordination with FHP, will upgrade traffic controls, determine detour routes, and discuss clearance strategies. When requested, FDOT will provide temporary traffic controls to ensure a safe work zone for all responders and the motoring public.

The FDOT, in cooperation with the FHP, will determine and deploy the necessary heavy equipment and manpower to reopen the roadway if there is a delay in clearing the travel lanes, or if the task is beyond the capabilities of the wrecker service on scene. If cargo or spilled loads [non-hazardous] are involved, FDOT will make every effort to assist in the relocation of the materials in the shortest possible time, using whatever equipment necessary. All such materials or any vehicles relocated by FDOT will be moved the minimum possible distance to eliminate traffic hazards.

FDOT personnel will document all hours and equipment used for traffic control, roadway clearance, and debris clean up. FDOT will place traffic control devices at the scene should any damaged vehicles or cargo remain on the shoulder adjacent to the travel lanes for removal at a later time.

The FDOT and FHP will continually work together to ensure that the needs of motorists on state roadways are being met in the most professional, safe, and efficient manner.

Therefore, it is agreed as follows:

The FHP and the FDOT will evaluate and continually update and modify their operating policies, procedures, rules, and standards to assure they are consistent with this "OPEN ROADS POLICY" agreement.

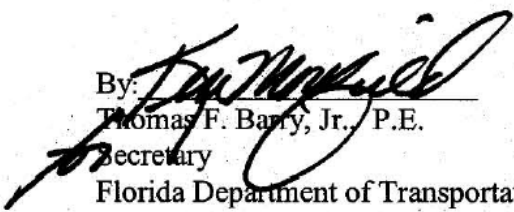
FHP, together with FDOT, will research, evaluate, and conduct training in the most advanced technologies, equipment, and approved methods for the documentation and investigation of crash or incident scenes. FHP, using these techniques, will prioritize the investigative tasks and reopen travel lanes upon completion of tasks that must be conducted, without the impediment of traffic flowing.

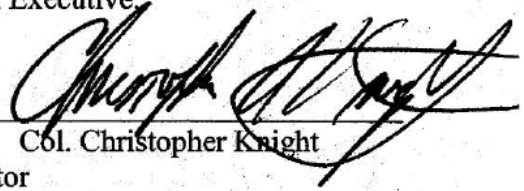
Roadways will be cleared as soon as possible. It is the goal of all agencies that **all incidents be cleared from the roadway within 90 minutes of the arrival of the first responding officer.** This goal being made with the understanding that more complex scenarios may require additional time for complete clearance.

It is further agreed that:

FHP and FDOT will actively solicit and enlist other state, county, and local agencies, political subdivisions, industry groups, and professional associations to endorse and become party to this "OPEN ROADS PHILOSOPHY" for the State of Florida.

In witness whereof, each party hereto has caused this document to be executed in its name and on its behalf by its duly authorized Chief Executive.

By: 
Thomas F. Barry, Jr., P.E.
Secretary
Florida Department of Transportation

By: 
Col. Christopher Knight
Director
Florida Highway Patrol

Date: 10/30/02

Date: 11-7-02

Reviewed By:


Agency's General Counsel Office


Agency's General Counsel Office

APPENDIX IX
