

# Safe, Quick Clearance



## NATIONAL UNIFIED GOAL (NUG) FOR TRAFFIC INCIDENT MANAGEMENT

**F**aster incident clearance is a fundamental goal and a strong priority for Traffic Incident Management (TIM) programs. Traffic incidents account for about one-quarter of all congestion on U.S. roadways. For every minute that a freeway travel lane is blocked during a peak travel period, four minutes of travel delay results after the incident is cleared. Roadway users calculate trip times by taking recurring congestion into account. It's the unexpected travel delays that inconvenience motorists the most.

Particularly in congested areas, public perception of transportation and response agencies hinges on the efficiency of traffic incident clearance operations. When the Maryland Department of Transportation (MDOT) asked customers to rate the importance of State Highway Administration (SHA) functions in 2006, "clearing the road after an accident" rated higher than any other function statewide, with 98 percent of respondents ranking it "very important."

Incident-related delays also impact the economy by increasing shipping costs for freight. The issue is exacerbated on truck routes in rural areas where prompt incident response and clearance are challenging due to scarcer and more geographically dispersed responder resources.

In order to gain unqualified support from all the TIM stakeholders, quick clearance goals must be balanced with other important incident management tasks, which are performed routinely by law enforcement, fire and rescue, emergency medical care, and towing and recovery. Additional responders on major incidents may include hazardous materials (hazmat) teams, public health, and countless other response functions depending on the nature and severity of the incident.

While emergency responders support the concept of "Quick Clearance," they are reluctant to agree it is the top priority for traffic incident management, fearing that their responsibilities and concerns will become secondary to road clearance. While it doesn't have the same ring as "Quick Clearance," a goal more likely to unify the entire spectrum of TIM stakeholders is "Coordinated, Efficient Clearance." Because faster incident clearance reduces the exposure of responders to hazardous roadside conditions, it is a good strategy for increasing responder safety. The opportunity to improve responder safety can be a powerful motivator for emergency responders to support more coordinated and efficient incident clearance.

## KEY CLEARANCE STRATEGIES

Key strategies for "Coordinated, Efficient Clearance" that seem to be supported by most stakeholders include:

- Unified incident command
- Standardized operations, response, and scene safety practices
- More timely and coordinated use of technology
- 24/7 availability of transportation TIM responders
- Joint, accredited incident management training, and
- Clearance performance goals



## Unified Incident Command

Conflicts among responder disciplines at traffic incident scenes often stem from disagreements regarding decisions related to road closures or partial closures. When decisions are made unilaterally without consulting all of the responding disciplines, quick clearance and other goals can be compromised. Each case must be considered individually. In some cases, a total roadway shutdown enables emergency responders to clear the



road more quickly. At other times, road closures hamper the ability of responders to bring equipment to the scene. Sometimes, placement of equipment across a lane protects responders; in other cases, such equipment may block several lanes unnecessarily, increasing the likelihood of another collision.

Unified Incident Command (UC) is a method for coordinating efficient incident response at larger, more complex traffic incident scenes, where the incident involves several responding agencies with contrasting functional responsibilities and missions, and/or affects multiple political or legal jurisdictions. UC assures that the missions and concerns of all of the responders are taken into account in the incident command function, which is essential to achieving “quick clearance” goals.

UC procedures for sharing command decision-making fall under the overall Incident Command System (ICS) concept, defined as “a systematic

tool used for the command, control, and coordination of an emergency response.” ICS and UC concepts and procedures were developed by the fire service, and they are routinely applied with success in managing more complex fire and other emergency incidents. More recently, the federal National Incident Management System (NIMS) was built on an ICS framework to provide a unified nationwide management structure for emergency response operations. As a result of the requirement for training in and use of ICS as part of the Department of Homeland Security’s NIMS requirements, more and more agencies are institutionalizing ICS in their approach to all hazards and emergencies.

The Federal Highway Administration (FHWA) is fostering greater understanding and awareness of ICS among transportation professionals, having sponsored publication of *A Simplified Guide to the Incident Command System for Transportation Professionals* in 2006, and *Model Procedures Guide for High-*

*way Incidents* in 2003. Currently under development by the FHWA is an ICS training course (to include NIMS concepts) targeted specifically for transportation professionals.

While many jurisdictions incorporate ICS into everyday traffic incident response and removal activities, and use UC as appropriate, this is not always the case. In 2006, the FHWA asked the nation’s largest urban areas to conduct a Traffic Incident Management (TIM) Self-Assessment. Twenty-four percent of the 70 responding urban areas reported that ICS was not a generally accepted practice in their area. The respondents ranked their progress in 34 TIM program components, on a scale of 1-4: (1) “no progress;” (2) “very little being done;” (3) “strong efforts and progress, with room for improvement;” and (4) “outstanding progress.” Seventy-six percent scored themselves 3 or higher in ICS, a 12.6 percent increase from the results of the initial assessments in 2003.

Even when the ICS is used within a jurisdiction, however, its effectiveness may vary with the size and complexity of the incident. At larger, more complex incidents, UC and NIMS compliance often is carried out by ranking members of the respective responder agencies, who are well versed in UC principles and procedures. At more routine incidents, which account for a significant proportion of non-recurring congestion, scene operations may be managed by entry-level personnel and their first line supervisors, who are generally less familiar with and less comfortable with the UC process. The challenge is to push ICS tactics down, across disciplines, through standardized, controlled, readily accessible, credential-oriented training.

### **Standardized Operations and Response Practices**

The various TIM stakeholders recognize the need to “sing from the same sheet of music” in order to facilitate quicker, safer, and more efficient response operations. TIM stakeholders are calling for the development of national guidelines for traffic incident response that define responder roles,

responsibilities and requirements, and provide recommended on-scene practices and procedures. TIM stakeholders are also calling for cross-disciplinary TIM training. These elements can provide the basis for unified policies and procedures to be adopted by state, regional, and/or local TIM partners. Adopting guidelines rather than promoting standard procedures would make it much easier for jurisdictions to tailor their procedures to the specific authorities granted to each agency under state and local law. Some specific suggestions for topical guidance that emerged as a result of the stakeholder “listening sessions” sponsored by NTIMC in 2006 include:

#### **Best practice guidelines and recommended procedures for quick clearance of commercial vehicles.**

These guidelines would be developed with input from motor carriers, truck drivers, commercial vehicle law enforcement, and insurers. As a roadway user, the trucking industry is extremely supportive of eliminating unnecessary travel delay. However, roadway clearance goals must be balanced with the carriers’ interests in preserving the value of overturned cargo. Where cargo

cannot be salvaged, or where safety or time considerations prevent salvaging, proper incident investigation and data collection are vital to ensure that the carrier will be able to substantiate insurance claims. Proper incident investigation and evidence collection by law enforcement is also imperative for motor carriers and their insurers to satisfy accident reporting requirements and their subsequent impact on carrier safety ratings.

#### **Best practices and recommended procedures for towing and recovery operations.**

These guidelines would be developed with input from the towing and recovery industry. Towers play a vital but often under-recognized role as traffic incident responders, and also can be a tremendous asset in disaster response. Like other emergency responders, towers need prompt incident notification, and timely and accurate incident information. By working with towers to establishing clear procedures and policies for towing and recovery operations, TIM partners can make the most of the many resources that towers have to offer. Guidance would be included on how to pre-qualify towers who have the equipment, education, certifications, and level of competency to serve as TIM responders. Guidance on pricing structures and incentives to facilitate quick clearance (“Incentive Clearance”) also would be included. For example, the Florida Toll Road Authority has had success with an Incentive Clearance program that offers pre-qualified recovery companies a monetary incentive for clearing commercial vehicle incidents within a pre-determined time frame. Such performance incentive pricing structures encourage towers to invest in recovery equipment and in personnel training to facilitate quick clearance of commercial vehicle inci-





dents. Authorities also have the option to impose financial penalties for performance failures. Because dispatch of the wrong type of towing and recovery vehicle is a frequent cause of unnecessary clearance delay, education of responders regarding how to properly identify the classes of vehicles involved in an incident, and how to relay this information to the tower, should be encouraged. The Towing and Recovery Association of America (TRAA) has developed educational materials for responders to assist them in identifying vehicle classes.

**Best practice guidelines and recommended procedures for traffic control at incident scenes.** Good traffic control practices contribute strongly to quick clearance, traffic safety, and responder safety objectives (preventing secondary crashes). Improving the availability of training in TIM traffic control procedures, personnel and equipment is a key strategy for quick clearance. Guidelines should cover best practices for use of private sector traffic control firms, as well as recommendations for training transportation and public safety personnel in TIM traffic control. The 2003 *Manual on Uniform Traffic Control Devices*

(MUTCD) defines traffic incidents as temporary work zones requiring traffic control. The quality of traffic control at traffic incident scenes varies dramatically. Proper traffic control procedures, including providing upstream warnings to motorists well before they reach the traffic queue or enter the incident scene, are key to preventing secondary incidents and protecting responders.

**Best practice guidelines and recommended procedures for incident investigations.** These guidelines would be developed with input from the law enforcement and medical examiner communities. These would include:

- *Best practice guidelines, recommended procedures, and recommended technologies for efficient incident investigations.* This could include guidance for managing fatal incident scenes, including recommended practices for medical examiners. Because investigations of fatal incidents can require lengthy road closures, managing fatal scenes more efficiently presents a prime opportunity for reducing travel delay. Strategies for more efficient investigations would be included. For example, law en-

forcement could be encouraged to record initial incident data (by photographing and marking the scene), and then to return when traffic volumes are lower to make detailed measurements. Recommendations for cost-effective technologies to reduce investigation time also would be included. For non-criminal, non-responder-related crash investigations, specific incident investigation performance goals could be considered.

- *Recommendations for traffic incident investigations training.* Training more state and local officials in traffic incident investigations could improve clearance times. For example, in incidents involving commercial vehicles, the motor carrier division of the state highway patrol usually responds. Because these divisions tend to be understaffed, this can create an obstacle to quick clearance. Increasing the pool of qualified investigators can advance quick clearance goals, but it may be difficult to achieve (especially because not all those involved in commercial vehicle regulation are sworn officers). Maintaining the expertise of crash investigators who transfer out of specialized investigations units and assigning them to assist with major crashes may be feasible in some jurisdictions. Another possibility might be to define, by policy or agreement, what other responders might do prior to the specialists' arrival to speed the investigations process.
- *Best practice guidelines and recommended procedures for clearing HAZMAT incidents involving spilled fluids (antifreeze, etc.) and saddle tank spills.* More efficient handling of certain types of

HAZMAT incidents provides another opportunity to reduce unnecessary travel delays caused by common incident types. Small spills (such as antifreeze) are not hazmat spills, but sometimes cause unnecessary clearance delay because responders perceive them as hazmat issues. Providing more information to responders about hazmat issues, and including this information in TIM training, would help.



### **More Coordinated and Timely Use of Technology**

Technology is available that can improve many aspects of traffic incident management, including traveler information, responder communications, and incident investigations. At present, these technologies are vastly underutilized.

*Responder Communication:* The NUG technical paper on “Improved Incident Communications” discusses the many opportunities to improve the safety and efficiency of incident response operations by upgrading the information and communications technologies used by emergency responders. The paper puts interoperability challenges (such as CAD-ITS integration) into the context of a future vision for regional wireless interagency emergency information exchange networks, and relates these topics to current issues in the 9-1-1 (E 9-1-1 and next genera-

tion 9-1-1). Existing, but underutilized technologies for incident notification, public notification, coordinated incident command, prompt emergency dispatch, improved real-time emergency vehicle routing, signal prioritization for emergency vehicles, remote scene monitoring, and information sharing also are discussed.

*Traveler Information:* Traffic signal timing, changeable message signs, and traveler information technologies are powerful tools for rerouting traffic around incident scenes, but more planning, coordination, and development are needed to facilitate the most effective use of these technologies for TIM applications. Ideally, for example, traveler information systems and changeable message signs would instantly warn motorists when incidents occur on their route, and provide timely information on re-routing, to divert traffic from the scene. While such systems are in place in some areas of the country, the personnel who control the changeable message signs and traveler information systems may not operate 24/7; may not be aware of the incident until some time after the traffic back-up queue is forming; and may post information that the incident has occurred—but fail to advise the motor-

ist on alternative routes. Determination of alternative routes and traffic signal timing can benefit from pre-planning, but also requires consideration of real-time traffic conditions, so that traffic is not diverted from one incident scene onto what might be an even more congested roadway.

*Incident Investigations:* Use of developing incident investigation technologies that promise to reduce investigation time should be encouraged.

### **24/7 Availability of Transportation TIM Responders**

While fire, law enforcement, EMS and towing responders must be available 24/7, transportation agencies often do not have response capability during non-business hours. Consequently, incident responders must manage the traffic incident without the transportation agency’s resources and capabilities.

A strong case has been made for 24/7 availability of transportation responders on Interstates and other high-volume transportation facilities. Traffic control during nighttime operations is particularly important. A serious commitment to responder safety implies 24/7 avail-



ability of the on-scene traffic control and motorist assistance provided by freeway service patrols (sometimes called traffic incident response teams). By providing this service, transportation agencies have an opportunity to gain credibility and acceptance within the emergency responder community. 24/7 support for traffic management and traveler information via changeable message signs and traffic signal management also is critical.

While recognizing that transportation agencies face many competing demands for budgetary resources, and will vary in their methods and abilities to respond to the need for 24/7 TIM response, there is widespread agreement among TIM stakeholders that as the transportation community seeks to be more included in the emergency responder community, it must accept the 24/7 nature of emergency response work. In some states, 24/7 operation of a statewide traffic management center to oversee major freeways, expressways and tollways has been supported, whereas 24/7 operation of regional or metropolitan TMCs has not yet been implemented.

### **Joint, Accredited Incident Management Training**

Interagency training programs for all TIM responders are needed to spread the best practices for incident scene response, management, and clearance, while fostering better understanding of the various responders' roles, responsibilities, and requirements. These trainings would not replace existing training programs for each discipline (for example, the training requirements formulated by state Peace Officer Standards and Training (POST) commissions). Rather, they would be an advanced, or specialized training pro-



gram for traffic incident responders.

Interdisciplinary cross-training should include towing as well as law-enforcement, fire, EMS, and transportation, at a minimum. The trucking industry has called for training to include special concerns related to incidents involving large commercial vehicles, including safe procedures for victim extractions, recommended procedures for moving vehicles, priority notifications, etc.

Multi-disciplinary training programs will ensure that transportation and towing professionals are better trained in ICS (including NIMS), and other responders are better trained in traffic-related operations, while providing additional responder safety training for all.

Existing resources that form a foundation for development of more comprehensive TIM training and certification programs include:

- Managing Traffic Incident and Roadway Emergencies, a workshop on traffic incident management, is currently available from the FHWA's National Highway Institute. The workshop is recommended for mid-level management and on-scene supervisory-level personnel from

law enforcement, fire and rescue, emergency communications, transportation, towing and recovery, traffic reporting media, and other agencies or companies involved in resolving traffic incidents.

- Emergency Traffic Control for Emergency Responders, a new course offered by the American Traffic Safety Services Association (ATSSA), is aimed at police, fire and rescue, and towing personnel who are involved in traffic control, either responding to an incident or enforcing traffic control in work zones. This 4-hour course covers the concepts of temporary traffic control presented in the *Manual on Uniform Traffic Control Devices (MUTCD)* Section 6.I, a Federal standard.
- TRAA developed a *Vehicle Identification Guide* to aid incident responders in identifying vehicles by classes, so they can request the dispatch of appropriate towing and recovery vehicles. The FHWA and TRAA also developed a National Driver Certification Program for towers, and have partnered with the International Association of Chiefs of Police (IACP) to promote these and other efforts.

Additional relevant resources currently under development include:

- The transportation ICS training course currently being developed by the FHWA (see p. 2);
- Quick Clearance / "Move-It" Tool Kit and Workshop currently being developed by the I-95 Corridor Coalition based on its 2005 report, *Quick Clearance and "Move It" Best Practices*. The I-95 Corridor Coalition plans regional workshops to introduce incident management personnel as well as legislators and policymakers to these concepts. Tools will include a 4-D visualization to illustrate scene management issues.

A formal multidisciplinary TIM certification process would strengthen training programs.

### **Clearance Performance Goals**

Performance goals create accountability. Currently, the most frequently used

performance metric for TIM programs is incident clearance time—either average, or maximum. California, Washington State, and Florida have statewide 90-minute incident clearance targets. Utah’s state performance goals are based on incident severity: 20 minutes for fender-benders; 60 minutes for injury crashes; 90 minutes for fatalities. Idaho takes a similar approach, with a statewide program for 30, 60, or 120-minute maximum clearance times, based on incident severity.

Where officials fear public controversy over failure to meet the goals, or unfair comparisons to results from other jurisdictions, there can be resistance to performance goals and performance measurement. While performance measurement is relatively new to transportation operations professionals, other TIM responders (fire, EMS, law enforcement) long have been publicly accountable for their response times. As previously noted, emergency responders are sensitive to clearance goals that may compromise their ability to fulfill their basic missions. For example, law enforcement

is likely to support clearance goals only to the extent that investigative quality is not jeopardized.

Effective performance measurement will require additional supporting resources that are not currently available in many states and localities, including capability for continuous collection and analysis of supporting data. If performance data are to be shared, agreement must be reached on the definitions of performance metrics, and on a uniform and structured reporting method. Clearance goals based on facility and roadway classification, and incident type, are more likely to be supported.

The National Transportation Operations Coalition (NTOC) is developing a common set of about 10 performance measures for evaluating the management and operations activities of participating NTOC members. Three of the performance measures that NTOC has proposed that relate directly to incident-related travel delay are summarized in Figure 2.<sup>2</sup>

MEASURE	DEFINITION	SAMPLE UNITS OF MEASUREMENTS
Incident Duration	The time elapsed from the notification of an incident until all evidence of the incident has been removed from the incident scene.	Median minutes per incident
Non-Recurring Delay	Vehicle delays in excess of the recurring delay for the current time-of-day, day-of-the-week, and day-type.	Vehicle-hours
Travel Time-Reliability (Buffer Time)	The Buffer Time is the additional time that must be added to a trip to ensure that travelers making the trip will arrive at their destination at, or before, the intended time 95 percent of the time.	Minutes. This measure also may be expressed as a percent of total trip time or as an index.

Figure 2. National Transportation Operations Coalition—Proposed Performance Measures for Incident-Related Travel Delay

## KEY CLEARANCE ISSUES

As noted in the introduction, quick clearance programs, while generally supported, must be carefully balanced with other incident management concerns to attain unqualified support from all of the TIM stakeholders. Discussed below are stakeholder viewpoints and concerns related to some key clearance issues.

### ***“Move-It” Laws and Policies***

Move-it” laws are considered key strategies for speeding clearance of non-injury crashes, which accounted for about two-thirds of all U.S. crashes in 2002. These laws encourage or require drivers that are involved in a non-injury crash to move crashed vehicles and debris out of the roadway,

if they can do so safely. “Move-it” laws also empower responders to move vehicles and debris. Speedy debris removal is a major issue in commercial vehicle crashes, where long traffic back-ups result from delays in clearing overturned loads. Ironically, the cost of delay of delivery of cargo on trucks in the back-up queue often exceeds the value of the cargo being salvaged while traffic waits. Nearly half of the states have enacted “move-it” laws, intended to reduce fatalities, injuries, and property damage from an incident, prevent secondary incidents, and reduce the duration or extent of traffic congestion caused by the crash.

In a 2005 report, *Quick Clearance and “Move It” Best Practices: Executive Summary*, the I-95 Corridor Coalition recommends a model “Move-It” law with the following provisions:

- "Any driver able to do so safely and who is physically able to do so shall move a vehicle (and debris) off the traveled way (and if possible to the shoulder or median) on any class of highway as quickly as possible so long as further risk of injury is not imposed.
- If the driver cannot move the vehicle, he or she shall seek assistance in doing so.
- Any traffic or public safety responder shall be empowered to move any disabled vehicle and debris from the traveled way in as safe and efficient manner possible.
- In all such cases, if frontage road, cross street, accident investigation site, or other safe haven is available, there are preferable to the median, shoulder, sidewalk or clear zone.



- In all such cases, both drivers and responders shall be immune from liability for the lawful and conscientious execution of these actions.
- Similarly, when such actions are not prudent, drivers and responders shall be immune from liability for deliberately not undertaking such action when the risk of further damage or injury dictates.”

Concerns related to "Move-It" laws include property rights, insurance issues, liability issues, investigations concerns, and public education.

- Motor carriers generally oppose legislation that may deny their rights to control recovery of their cargo and/or vehicle. Carriers generally prefer to use their own towing companies and to wait for on-scene response from their insurance investigators. The American Trucking Associations (ATA) has a policy against non-consensual tows—that is, towing without the owners' consent using towers that the owner hasn't chosen.
- Even if the cargo is unsalvageable, anything that may impede proper incident investigation and data collection may threaten the carriers' ability to recover losses through insurance claims. Some insurance companies will not honor claims for vehicles or cargo that has been moved prior to arrival of investigators.
- Responders (particularly law enforcement and towers) are often hesitant to move vehicles off the road because they don't want to be charged with liability for causing additional damages.
- The public needs to be educated



about "Move-It" laws. While these laws are on the books in half the states, most drivers don't know it. In fact, many drivers were taught in driver education classes not to move vehicles after an incident. Some states have been successful in using signage to inform drivers approaching emergency scenes that they are expected to move over.

### ***Law Enforcement and Quick Clearance Performance Goals***

Law enforcement agencies often are reluctant to sign off on quick clearance performance goals because their primary missions at a traffic incident scene are crime investigation and public safety.

Building strong interdisciplinary working relationships and effective TIM programs seems to be the key to overcoming this barrier. Florida and Washington State are the only states where the State Patrol has fully endorsed a 90-minute clearance performance goal (meaning that clearance time is a per-

formance measure for both agencies), and in each case the working relationship between the State Police and the DOT is very strong.

In California, the state's 90-minute maximum clearance time is not a performance measure for California Highway Patrol (CHP) field commanders, but CHP has otherwise agreed to embrace the incident clearance time target.

One DOT official reported that the DOT is reluctant to seek signed agreements or joint performance goals with the State Patrol for fear of jeopardizing the good relationship already in place. However, the same official noted that law enforcement clearance practices, and clearance times, vary widely statewide.

### ***Medical Examiner Procedures and Policies***

Fatal incidents generally take much longer to clear because of legal concerns, including the need for thorough incident investigation and documentation, and the need for medical examiner investigation. Many jurisdictions



have passed medical examiner legislation or developed informal agreements to improve the efficiency of fatal incident investigations.

The California Department of Transportation (CalTrans) proposed state legislation that would allow fatalities to be removed from the traveled way before the medical examiner arrives, but the legislation did not pass. Some localities, including Los Angeles County, have developed protocols to speed clearance of fatal injuries, and there is an attempt to spread these practices. For example, a vehicle with a fatally injured passenger may be removed to an off-road location, where the body may be extracted following medical examiner investigation.

### ***Towing Industry Issues***

Unnecessary delays in towing and recovery operations lead to unnecessary traffic delays. In some cases state DOTs have developed relocation capa-

bility, where a service patrol (public or private) quickly relocates crashed vehicles away from the roadway, or well off the roadway, to speed clearance.

A common solution is rotation lists, where the law enforcement or transportation department maintains a list of qualified towers and rotates call-outs. Poor or unresponsive service may result in a tower being removed from the list. Use of rotation lists alone does not encourage improvement of the level of competency and the operating standards in the towing industry. The towing industry encourages use of standards, training and equipment requirements, and other measures to assure the quality and competency of towing service providers.

An incentive pricing approach has been used with success in Florida. A combination of financial incentives for quick clearance, and pricing disincentives for slow performance, have successfully improved tower perfor-

mance and reduced clearance times. On a 320-mile-long turnpike in Florida where this approach is in place, average clearance time to achieve all lanes open is 56 minutes (for all crashes). Towers point out that contract towing with price incentives enables towers to invest in the equipment and the personnel training that are needed to assure quick clearance of larger and more complex incidents. In the Orlando area, where traffic management is key to the Disney-fueled tourist industry, clearance times average less than 90 minutes due to these and other TIM practices.

In order to participate as a Florida Turnpike contract tow service provider, towers must meet equipment, training, and performance requirements. Many states are grappling with the need to update regulations for heavy-duty towing in order to address the more complex recovery issues associated with today's heavier commercial vehicles.

Another example of successful use of contract towing is the City of Houston's SAFEclear program, implemented in 2005. Qualified towing companies contract with the city to be responsible for responding within an average of 6 minutes to incidents on a designated section of the state-owned freeways in the Houston metro area. In order to meet the required response times, the tow companies continually patrol the freeways. The towing companies are charged with rapidly removing disabled or crashed vehicles from the highway lanes or the shoulders to a location off of the freeway. The private sector arrangement dramatically enhances the previous Motorists Assistance Program (MAP) coordinated by the Transtar Transportation Management Center. Where MAP used nine trucks to provide services, there

are about 60 tow trucks patrolling the freeway in Houston.

Tows from the shoulder to a safe, off-highway location are free to motorists. Long-distance tows or tows of vehicles in travel lanes are paid for by the motorist, but the fees for those services are the same as they were prior to the SAFEClear program. Over the first year of the program, the tow trucks responded to more than 60,000 stalls and collisions. Tow trucks responded to more than 87 percent of incidents in less than the 6-minute target. The events were cleared in less than 20 minutes 72 percent of the time. Less than 3 percent of the incidents took longer than 90 minutes to clear. Over the first year of the program there was a 10 percent reduction in the number of collisions on the freeways compared to 2003 and 2004. Comparisons of travel time data from Transtar indicate that travel delay will be 1.8 million hours lower in 2005 than expected giv-

en the traffic growth rate. Travel time reliability, as measured by the amount of extra travel time to accomplish a trip during the worst day of the month, also stabilized in 2005 after being 16 percent worse in 2004 than in 2003. Not all of these improvements can be traced to SAFEClear, but the improvements in congestion and collisions represent more than \$70 million in savings to Houstonians. The net cost of the program in 2005 was approximately \$2.1 million. Responder safety also is enhanced because vehicle repair and collision paperwork activities are being conducted in locations well away from flowing traffic.

The management of towers during incident recovery operations is an issue of concern to state DOTs. After incident response and investigation, many transportation agencies feel that they should have jurisdiction over roadway clearance and recovery operations. However, staffing these functions can

be an issue for DOTs, as it is for law enforcement and other responding agencies.

### ***Emergency Responder Designations***

Transportation agencies and private sector responders, including towing and recovery companies and traffic control companies, generally are not recognized as emergency responders. This has many adverse consequences:

- Incident notification may be delayed and haphazard, which slows response times. Towers, for example, complain that there are no standard procedures for notifying towers of an incident to which they are expected to respond. "Last called and first blamed" is a frequent refrain in the towing industry.
- Scene access may be impeded. Emergency vehicles en route to





an incident generally are permitted to use shoulders, HOV lanes, and emergency turn-around lanes to gain access to the scene. But in many states, including California, highway department vehicles may not have access to these emergency facilities. CalTrans currently is seeking recognition as an emergency response agency to enable its response vehicles to use the emergency lanes.

Some states have recognized transportation as emergency responders, with beneficial results. In Oregon, for example, ODOT maintenance personnel are frequently the first responders on the scene at rural incidents, where the

public safety agencies have difficulty in providing adequate and speedy coverage. In urban areas, ODOT incident response teams are assigned to specific corridors, with a goal of arriving on scene as soon as possible to negotiate roadway issues with other responders. Statewide, 20 percent of the time, the transportation responders arrive first. Use of UC principles ensures that roles are understood by all involved. ODOT is notified of incidents using the same CAD system that the state patrol uses, and two of three ODOT TMCs, including the statewide traffic management operations center in Portland, are co-located with Oregon State Patrol dispatch.

<sup>1,2</sup> National Transportation Operations Coalition: *National Transportation Operations Coalition Performance Measurement Initiative—Final Report*, June 27, 2005

<sup>3</sup> This measures the effects of incidents, special events, and weather events on travel delay.

<sup>4</sup> Base-level trip time is measured as “Travel Time-Trip,” defined as “the average time required to travel from an origin to a destination on a trip.”

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