



U.S. Department of Transportation  
**Federal Highway Administration**

## **EXECUTIVE SUMMARY: Traffic Incident Management in Construction and Maintenance Work Zones**

Work zones provide unique challenges to incident responders, including reduced access, narrowed lanes, minimal refuge locations, physical barriers, and reduced sight distances. Work zone elements can violate driver expectancy in addition to reduction of roadway capacity, the potential for driver confusion also exists due to conflicts between construction or maintenance traffic control and incident management traffic control. All of these factors combine to not only increase the likelihood of incidents occurring within a work zone, but also increase the impact that even a minor incident has on traffic operations in the work zone.



In September 2004, the Federal Highway Administration (FHWA) published updates to rules that govern work zone safety and mobility.<sup>1</sup> Subsequently, all highway construction and maintenance projects using federal-aid highway funds are required to develop transportation management plans (TMP) to ensure the safety of the motoring public, reduce the traffic mobility impacts and promote coordination within and around work zones. A TMP is a collection of administrative, procedural, and operational strategies for managing and mitigating the impacts of work zones.

TIM and work zone management are two tools in the transportation professional's "operations toolbox" targeting congestion reduction. Incident management focuses on developing and implementing procedures, policies, and technologies to identify incidents more quickly, improve response times, and manage the incident scene more effectively and efficiently. With work zone management, agencies attempt to reduce the amount of time work zones are needed and to deploy strategies for moving traffic more effectively in and around the work zone.

TIM is defined as the coordinated, preplanned use of technology, procedures and processes to accomplish the following:

- Reduce the amount of time to detect and verify that an incident has occurred,
- Shorten the time required for response personnel and equipment to respond to the scene,
- Facilitate the management of response apparatus and personnel on site to minimize the amount of capacity lost due to the incident and the presence of response equipment,
- Reduce the amount of time required to clear the incident from the travel lanes
- Provide rapid notification to travelers upstream of the incident, encouraging a reduction in traffic demand entering the incident area and to reduce driver frustration.

Many locations already have, either formally or informally, established TIM programs. The goal of work zone planners should not be to establish new incident management programs or functions, but to augment or expand these existing programs to meet the specific needs of their construction/

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<sup>1</sup> Work Zone Safety and Mobility Rule Web site. Federal Highway Administration. Available at [http://ops.fhwa.dot.gov/wz/resources/final\\_rule.htm](http://ops.fhwa.dot.gov/wz/resources/final_rule.htm)

maintenance activities. In other locations, where incident management programs are not as well-defined, a construction or maintenance project can be the catalyst for bringing agencies together to strengthen the incident management process, building on the developing relationships that continue after the construction project ends and forming the foundation for future incident management efforts.

Incorporating incident management strategies and techniques needs to occur in the initial preparation and design stages of the work zone project. One of the strategies and activities that work zone planners and incident managers can perform during the initial planning stages is to identify the appropriate roles and responsibilities of construction personnel in managing incidents in work zones. This may include developing procedures for quick notification of an incident to agency responders to include quick clearance and assistance patrols within the work zone area. Another preconstruction activity to facilitate incident clearance in work zones is to enact new or enhance existing quick clearance policies and rapid removal (“move-it”) laws. Other preconstruction activities include: coordinating with existing regional incident management resources; and developing alternate routes through/around the work zone to route traffic when incident occurs. Agencies should also consider conducting table-top and field training exercises where special incident clearance and removal practices might be required to remove incidents from the work zone area.



Information sharing is another critical issue that needs to be addressed during the early phases of a construction planning process. Information sharing is vital to providing an effective incident response. Incident response is improved with better information sharing, ensuring that the proper equipment and resources are available to the responders when needed on-scene. Information sharing allows travelers to make better decisions regarding departure time, mode choice, and alternative routes. In the initial project planning phase, work zone planners and incident managers should develop strategies to improve information sharing within and between response agencies as well as the media and the public as a whole.

Many strategies and techniques exist for improving incident management in work zones. These strategies are designed to reduce the severity of the capacity reduction, the duration of the incident, or the amount of traffic wanting use of the facility in and around the incident scene. Many of the strategies and techniques are the same as those commonly used in incident management programs outside of work zones. FHWA’s primer on Traffic Incident Management in Construction and Maintenance Work Zones provides work zone planners, traffic operations, and incident responders with strategies and techniques that they can use to improve incident detection, responses, and clearance in work zones as well as for improving site management and information sharing with both responders and the public about incidents in work zones. Each strategy and technique contains a listing of online references which can be accessed to obtain more detailed information about when, where, why, and how the strategy can be deployed. With this information, work zone planners, traffic operations, and incident responders can devise an incident management program that fits the specifics of their own individual work zones.

While adopting incident management programs and policies may not totally eliminate all impacts, quick detection, removal, and clearance of incidents within the work zone area shows an agency’s commitment to mitigating the effects of work zones on traffic operations and congestion, and to improving safety in work zones.

This Primer is available from FHWA’s Web site at <http://ops.fhwa.dot.gov/incidentmgmt/publications.htm>.