Project Summary

USF-UCITSS-II

Development of MOT Training Program for Incident Responders in Florida

Sponsored by: FHWA/FDOT/FAU

Submitted to:
Center for Intermodal Transportation Safety & Security
Florida Atlantic University

Prepared by:
Center for Urban Transportation Research (CUTR)
University of South Florida

August 31, 2008
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Submitted to:
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Overview

Most current maintenance of traffic (MOT) training programs are typically designed for road construction projects. The training courses offered at different levels in Florida are targeted to either construction contractors or roadway designers. Some incident-responding agencies have specific incident management training and site management, but the coverage of MOT varies significantly. It has been well recognized that successful traffic incident management requires effective planning and consistent MOT setup to enhance the safety of both incident responders and motorists, and improve the mobility of travelers through incident locations. It is also vital for incident responders to have full communication, coordination, and cooperation during a traffic incident.

Through a USF UCITSS Phase II project sponsored by the Federal Highway Administration, the Florida Department of Transportation, and Florida Atlantic University, the Center for Urban Transportation Research (CUTR) at the University of South Florida has developed a comprehensive and integrated MOT training program specially tailored to the needs of incident responders such as law enforcement, fire and rescue, emergency medical service, transportation agencies, road ranger service, and towing service. In addition to the MOT training modules in PowerPoint Presentation format, instructor notes and student handbook are produced as separated documents via the development of this MOT training program for incident responders in Florida.

Objectives

The major objective of the project is to develop a comprehensive, integrated, and practical MOT training program to (1) enhance the safety of all incident responders and motorists, (2) improve the mobility of travelers through incident locations, and (3) obtain consensus, support, and utilization of the MOT training program from all incident-responding agencies.
MOT Program Development

To accomplish the major objectives on the development of a MOT training program, the following tasks have been undertaken.

Review literature and obtain input from incident responding agencies

The CUTR project team reviewed literature, solicited input from incident-responding agencies nationwide, gathered associated information, and determined the content and training materials for the development of the MOT training program. Valuable information was obtained from a variety of sources including the MUTCD, FDOT Roadway and Traffic Design Standards (Standard Index), I-95 Corridor Coalition, and MOT training courses as well as training resources utilized by law enforcement agencies, fire rescue and emergency medical services, and state departments of transportation. A resource CD was created containing all the information obtained through the development of the MOT training program for future reference.

Develop a preliminary MOT training program

Based on the comprehensive and detailed information obtained in the first task, a draft MOT training program was developed. The preliminary training program consists of 11 modules.

Assemble a MOT training advisory group to provide guidance

To obtain a consensus, support, and guidance on the development of the MOT training program for incident responders in Florida, representatives from many incident-responding agencies in Florida were selected, invited, and assembled. They exchanged their experiences and provided associated input to the development of the preliminary MOT training program for incident responders. Three advisory group meetings took place at CUTR on the University of South Florida campus. Figure 1 includes two photographs taken during an advisory group meeting.
The first meeting took place January 28th, 2008, from 8:00 AM to 4:30 PM. During the training, the representatives interacted and made suggestions regarding the first draft training modules to simplify several complicated MOT concepts and provide a practical approach. The second and third meetings took place from 8:00 AM to 12:00 PM on April 9th, 2008 and May 8th, 2008. In these two meetings, representatives discussed more details on the practices of their agencies, shared their specific experiences, and provided feedback on each revised module based on the input from previous meetings.

**Conduct MOT pilot training**

After the completion of three MOT advisory group meetings and the adoption of suggestions made at the meetings, all necessary training materials were developed, including an instructor’s guide, student manuals, and PowerPoint modules. To obtain
further feedback from incident responders in the field, a MOT pilot training was arranged for incident-responding agencies in the Tampa Bay area.

The one-day pilot training course was conducted at CUTR on August 5, 2008. Fifteen students participated in the training, which included classroom and tabletop exercises related to the appropriate setup of MOT for various types of incidents. During the morning session, five of the nine modules were covered; in the afternoon, the remaining four modules were covered, including tabletop exercises. Figure 2 includes photographs taken during the pilot training.

Figure 2  MOT Pilot Training
For the tabletop exercise, participants were divided into two groups. Each group included an incident responder representing each agency. The objective was for each group to have the opportunity to practice the knowledge obtained during the training in the process of the development of a MOT for an incident scenario. As part of the discussion, communication, coordination, and cooperation among agencies were experienced by the participants. Figure 3 includes photographs from the tabletop discussions.

Figure 3 Tabletop Exercises during the Pilot Training
After completing the discussion, each group explained to the class their results related to their particular scenario. This discussion provided the opportunity for other responders to interact and make suggestions for improving the incident scene and the safety of the incident responders. Figure 4 shows photographs of the presentations.

![Figure 4 Presentations of Tabletop Exercise Results during the Pilot Training](image)

**Figure 4** Presentations of Tabletop Exercise Results during the Pilot Training

Finalize the MOT training modules

After obtaining feedback from the pilot training and FDOT project managers, the MOT training program was finalized, resulting in eight modules:

- Module 1: Introduction & Crashes and Safety
- Module 2: Legal/Liability Issues and Safety Policies/Procedures
- Module 3: 3C’s among Incident Responders
- Module 4: MOT Concepts
- Module 5: Safe Parking
- Module 6: MOT through Traffic Incident Management Areas
- Module 7: MOT Examples
- Module 8: Tabletop Case Exercises
MOT Training Modules

Each training module in the MOT training program is briefly described below.

Module 1 - Introduction & Crash and Safety

This module presents the objectives of the training course and emphasizes the need to develop a MOT training program to enhance the safety of both incident responders and motorists, and improve the mobility of travelers through incident locations.

Module 2 – Legal/Liability Issues and Safety Policies/Procedures

This module provides incident responders with basic information on tort liability and guidelines for protecting themselves from liability issues, as well as safety policies and procedures.

Module 3 - Communication, Coordination, and Cooperation among Incident Responders

This module addresses the importance of understanding the differences that exist among incident responders and the roles of other incident-responding agencies during a traffic incident. It uses “The Many HATS of Highway Incident Management” video to effectively present the topic.

Module 4 - MOT Concepts

This module presents common highway terminology so incident responders can communicate effectively during an incident. Basic MOT concepts are presented, including incident definition, types of incidents, highway standards, temporary traffic control zones, highway safety principles, personal protective equipment, and traffic signaling equipment.

Module 5 - Safe Parking

This module presents safe parking practices, positioning, and principles for incident responders during a traffic incident on access-limited interstate highways. It also includes safe procedures for the correct use of vehicle lights and vehicle exits.
Module 6 - MOT through Traffic Incident Management Area

This module presents MOT setups for an effective Temporary Traffic Control area for different scenarios based on Florida DOT Design Standards. The scenarios include shoulder lane closure, one travel lane closure, double lane closure, partial exit ramp closure, curve setup, and highway shutdown. The module also provides incident responders with practical recommendations during MOT setup.

Module 7 - MOT Examples

This module provides many examples on MOT setups and safe parking positioning depending on the incident scenario and arrival order of each responder. Figure 5 is examples of MOT setup and proper vehicle positioning for vehicle crashes.

Figure 5  Examples of MOT Setup and Proper Vehicle Positioning
Module 8 - Tabletop Case Exercises

This module provides incident responders with several opportunities to apply what they have learned from the course and work as a team to set up proper MOT and safe parking using tabletop case exercises. The participants also learn the roles of other incident responders and how to work together to successfully respond different traffic incidents.

Closing Remarks

On-scene incident responders must be properly trained on MOT setup for accomplishing their tasks in and near moving traffic. Incident responders need to be aware that although all incidents are not the same, the ability to quickly install appropriate temporary traffic controls greatly enhances the safety of all incident responders and reduces the effects of an incident, such as secondary crashes or excessive traffic delays. Procedures for establishing temporary traffic control (TTC) zones may vary with traffic, roadway and environmental conditions, but the basic MOT concepts, temporary traffic control zones, safe parking positions, and MOT setup principles remain the same.

Incident responders need to do as much as possible with the available resources in their vehicles. As other responders arrive at the incident scene, they should provide help and support in developing the corresponding and appropriate TTC area required for the incident. In addition to the MOT setup, incident responders always need to keep an eye on oncoming traffic, minimize response time (one minute of response delay can cause a four to five minute delay in traffic returning to normal), and respect the roles of other incident-responding agencies.

The MOT training program for incident responders includes eight major modules. These modules provide full coverage of introductory information, legal and liability issues, safety policy and procedures, the “3C’s” (communication, coordination, and cooperation) among incident responders, MOT concepts, safe parking, MOT through-traffic incident management, MOT examples, and tabletop case exercises. This MOT training program provides incident responders with necessary, effective, and practical tools to keep them safe, provides mobility to roadway users, and helps them understand the roles of other
incident-responding agencies. It also provides an excellent opportunity for better communication, coordination, and cooperation among all incident-responding agencies.
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