Highway Incident Management Training

Housekeeping

- Cell phones/ radios/ PDAs
- Restrooms
- Rules of participation
- Logistics/ Housekeeping

Module 1 Introduction
Module 1 Objectives

- Define significance of training
- Overview training content
- Agency and Team member introductions

Need Assessment
Who trains with other agencies?

- Train with 1 other agency, 19%
- Train with 2-3 other agencies, 16%
- Train with 4-5 other agencies, 12%
- Train with >5 other agencies, 3%
- Train with No other agencies, 50%

Training Purpose

- Everybody goes home safely
- Incidents*
  - Cause over 50% of congestion
  - Waste 4.2 billion hours time
  - Waste 2.8 billion gallons fuel
  - Cost $87.2 billion each year
- Reduce Secondary Crashes

* 2009 Urban Mobility Report, TTI
**Contributing Factors**

- No advance warning to motorists
- Completely blocked roadway
- No safety vest
- Had his back to oncoming traffic
- Lack of proper training
Initial Incident: 6:10 AM, I-70 Highland Illinois
August 2010

Secondary Crash 1: 6:54 AM, I-70 WB
August 2010

Secondary Crash 2: 6:55 AM, I-70 EB
August 2010
What can be done to reduce secondary incidents?

1) Introduction
2) Roles/Procedures
3) 3 C's
4) Initial Scene Response
   ✓ Lunch

Video

- Your vest won’t stop this bullet

Training Content
Training Content

5) Incident Classification
6) Traffic Management
7) Clearance/Termination
8) Hands-on Case Studies

Target Audience

Law Enforcement
- Patrol, Supervisors, Accident Investigators/Reconstructionists

Fire Department
- Fire personnel, Officers, Rescue/Extrication crews, HazMat teams

Emergency Medical
- Duty personnel, Supervisors, Air Medical crews

Tow & Recovery Operators
- Light-, Medium-, & Heavy-duty Operators, Supervisors

Highway Department
- Municipal, County, State DOT, Courtesy Patrol, Tollway

Communication
- 911 Centers, Traffic Operations Centers, Transportation Management Centers (TMC)

Introductions

• Questions
  ▪ What is your name?
  ▪ What agency are you with?
  ▪ What is your primary role in TIM?
Summary

Module 1 Introduction
MODULE 2
ROLES AND PROCEDURES

Objectives

- Describe TIM stakeholders' roles
- Summarize the laws, guidelines, standards, and procedures applicable to TIM

TIM Stakeholder Roles

(Source: 2010 TIM Handbook)
Roles and Responsibilities

Law Enforcement:
- Securing the scene
- Providing emergency medical aid
- Investigations
- Assist disabled motorists
- Traffic control

Roles and Responsibilities

Fire and Rescue:
- Protecting the scene
- Suppressing fires
- HAZMAT
- Rescuing crash victims
- Assisting in incident clearance
- Acting as incident commander
- Providing emergency medical aid

Roles and Responsibilities

EMS:
- Advanced emergency medical care
- Transportation of injured
- Coordinating evacuation with other responders
- Removing medical waste
Roles and Responsibilities

Transportation
- Incident detection and verification
- Traffic management strategies
- Protecting the scene
- Providing traffic control
- Assisting motorist
- Motorist information
- Providing special equipment
- Clearance
- Detours
- Repairs

Roles and Responsibilities

Towing and Recovery
- Removing vehicles
- Protecting vehicles
- Removing debris
- Providing other services

Roles and Responsibilities

Special/Extreme Circumstance Responders
- Hazardous materials contractors
- Coroners/medical examiners
- Emergency management agencies
- Environmental/natural resources agencies
- Departments of health
Roles and Responsibilities

Public Safety Communications (Dispatch)

- Receives initial notification of an incident
- Preliminary determination of location and severity
- Collects and distributes accurate incident information to all responders
- Relays information between responding agencies when required
- Initial contacts for public and media, until Public Information Officer is utilized

Traffic Information Providers

- Similar role to DOT
- Location of incident
- Duration of incident
- Alternative routes

Group Discussion

- What agencies do you most commonly work with?
- What are their key roles in TIM?
Standards, Policies and Laws

- NIMS/ICS
- MUTCD
- Safe Vest Policy
- SQC Laws: Move it, Move over, and Remove it
- Joint Operation Policy by IDOT/ISP

NIMS/ICS

Incident Command System:

is a systematic tool
used for the
command, control, and
coordination of
an emergency response.

NIMS/ICS Training

- When to use:
  - Single Command System
  - Unified Command System

- Existing Trainings
  - http://www.fema.gov/emergency/nims/NIMSTrainingCourses.shtm#item1
MUTCD

http://mutcd.fhwa.dot.gov

• Standard
  ➢ Contains the national standards governing all traffic control devices.

• Guidance
  ➢ Plays a critical role in improving safety and mobility of all road users.

• Option
  ➢ Non-compliance of the MUTCD ultimately can result in significant increase in tort liability.

Signs Must be Retroreflective and Clean
Safety Vest Policy

- MUTCD Chapters 6D and 6E require all incident responders, including flaggers, to wear high-visibility apparel meeting the ANSI 107-2004 Class 2 or 3 Standards.

SQC Laws and Policies

“Safe, Quick Clearance (SQC) is defined as “…the practice of rapidly and safely removing temporary obstructions from the roadway.”

Law Categories

- “Move Over”
- Driver removal or “Move It”
- Authority removal or “Remove it”
- Closure laws
“Move Over” Law

Provided by the Illinois Tollway Authority

“Move over”=Scott’s Law

Scott’s Law, The “Move Over” Law, mandates that when approaching any police or other emergency vehicle stopped along the roadway, you must:

• proceed with due caution
• change lanes if possible
• reduce your speed

An authorized emergency vehicle, under Scott’s Law, includes ANY vehicle authorized by law to be equipped withaudible, rotating, or flashing lights under Section 12-215 of this Code, while the owner or operator of the vehicle is engaged in his or her official duties.

“Move it” or “Remove it”

• Move it laws
  • Require drivers to clear travel lanes
  • If no injuries and vehicles movable
• Remove it laws
  • Protect responders clearing travel lanes
  • Damaged vehicles or cargo
Shib’s Law

• FD can close traffic lanes
  • Only in the absence of a law enforcement officer or a representative of highway agency
  • Must follow the MUTCD
  • Must be trained on proper traffic control

---

DUTY OFFICER MANUAL
APPENDIX A
JOINT OPERATIONAL POLICY STATEMENT

DISTRIBUTED MARCH 2004

Key Message:
ISP and IDOT should close the lane or restrict access together working as a team.

---

Summary

MODULE 2
ROLES AND PROCEDURES
MODULE 3 3C’S

- Communication
- Coordination
- Cooperation

Outline

- HATS Video
- Communication
- Coordination
- Cooperation
- Unified Command

Video Introduction

- HATS
Communication

**Communication**: exchange of information among agencies to better the understanding of each other's duties

- I-REACH
- Starcom 21

Common problems:

- Incompatible radios
- Inconsistent terminology
- Dispatching improper responder vehicles
- Responders may lack equipment
- Debriefings
Coordination

**Coordination**: agencies working together to achieve a common goal efficiently
- Decreases overlap
- Reduces redundancy
- Removes separation

Coordination

**Common Problems:**
- Vehicles are improperly staged at the scene

Cooperation

**Cooperation**: work side-by-side within a group by taking the team approach to TIM
Cooperation

Common Problems:
• Agencies fail to share information
• Agencies fail to assist others when needed

Unified Command System

• Used for multi-jurisdictional/agency incidents
• Characteristics
  • Common organizational structure
  • Single command post
  • Unified planning process
  • Unified resource management
• Command meeting:
  • Between jurisdiction representatives
  • Determines incident priorities and strategies
  • Establish ICS organization and leadership positions
  • Resolve any issues in the unified command

A Unified Command Example

• Incident:
  • Two passenger vehicles involved in a collision
  • One driver is not injured
  • The other driver is severely injured and needs to be extricated from the vehicle.

• Responders:
  • Law enforcement
  • EMS responder
  • Fire department
  • Transportation agencies (service patrols)
  • Towing and Recovery
**A Unified Command Example**

- Who is the “lead agency”?
- Towing agency's role?

---

**Key!**

- Communications
- Coordination
- Cooperation

---

**Summary**

**MODULE 3 3C’S**
MODULE 4
INITIAL SCENE RESPONSE

Objectives

• Describe necessary notification and response actions
• Demonstrate appropriate arrival safety procedure
• Outline key points for on-scene information reporting

Participant Activity...

Arrange the following alphabetical listing of the 11 responder duties into their proper chronological order

A. Arrival
B. Command Responsibilities
C. Investigation
D. Notification
E. Patient Care
F. Response
G. Size-Up
H. Traffic Management

1. Notification
2. Response
3. Arrival
4. Size-up
5. Command Responsibilities
6. Traffic Management
7. Patient Care
8. Investigation
Notification/Response

Call from “999, 911, or public

Call received by radio from Plaza/Maintenance/ISP Patrol Unit, or other roadway source.

CAD Incident Created

Call Routed to Dispatcher

Incident detected by TIMS Operator via CCTV, Media Notification, or Incident Detection Software

TIMS Incident created, sent through CAD/TIMS interface

Incidents received from CAD Two way communication.

Communications Before Arrival

What type of information is most valuable to you prior to arrival at the scene?

Arrival: Exiting the Vehicle

[Image of a person exiting a vehicle with equipment]
Safe Vehicle Positioning

- Protect incident scene
- Establish block with first arriving vehicle
- Exiting the vehicle safely

Protect Incident Scene

- Larger vehicles create a block

What are items do you consider when you size-up a traffic incident?
On Scene Reporting

1. Location
2. Incident duration
3. Request other support
4. Number of vehicles and injured persons
5. Hazardous materials
6. Towing and recovery
7. Traffic conditions
8. Additional resources
9. Weather conditions

Highway Terminology

Standardized names and terms to identify specific features of any street, road, or highway where an incident may occur.

- Reduce confusion
- Improve the safety of responders
- Make operations at the scene more efficient
Median

The center of the roadway

Lane Referencing

- Numbered from inside to outside
  - Should not be referenced as the “slow lane” or the “fast lane”
  - Acceleration and deceleration lanes at interchanges will not be numbered except in the case of lane drops or adds
Upstream and Downstream

- **Upstream**
  - Any area of a highway or any moving traffic that is approaching the actual incident or activity area

- **Downstream**
  - Area that is past the incident scene
Describe this incident location

INoCIDENT HERE

Highway "X"

Highway "Y"

WEST

EAST

SOUTH

NORTH

INCIDENT HERE

INoCIDENT HERE

Highway "X"

Highway "Y"

WEST

EAST

SOUTH

NORTH
Describe this incident location

Incident type and duration?

On Scene Reporting

4. Number/type of vehicles and injured persons
On Scene Reporting

5. Towing and recovery
6. Hazardous materials

(Source: IDOT, 2011)

On Scene Reporting

7. Traffic conditions
8. Additional resources
9. Weather Conditions

(Source: Illinois Tollway)

Move it or Work it

Are there any crash investigation sites in your district?

(Source: IDOT, 2011)
Example 4

(Moore, McKinney FD, TX 2006)

Example 5

(FHWA, Washington, D.C. 2010)

Summary

MODULE 4
INITIAL SCENE RESPONSE
MODULE 5
INCIDENT CLASSIFICATION

Objectives

- Incident Classification Methods
  - MUTCD
  - LMIGA
  - Incident Examples

MUTCD Incident Types

A. Minor—expected duration under 30 minutes
B. Intermediate—expected duration of 30 minutes to 2 hours
C. Major—expected duration of more than 2 hours
D. Catastrophic Incident over 12 hours
Minor Incidents

Safe Positioning Vehicles:
• Establish Initial Block
• Establish a TTC Zone
• Redirect Traffic
• Quick Clearance

Advanced Warning:
• Establish Advanced Warning
• Set up Transition Zones

Minor Incident Scenario

• Safe Positioning Vehicles
• Carry a Minimum of 6 Traffic Cones
• Establish a 250 Feet Approach to Incident:
  ✓ 50 feet Minimum Buffer Space
  ✓ 100 Feet Taper
  ✓ 50 Feet Upstream Warning Sign

Minor Incident on Shoulder

Figure B.2 - Shoulder Incident (TIMA 1)
Intermediate Incidents

More Advanced Warning:
• Follow Minor Incident Requirements
• Establish Greater Buffer and Transition Zones
• Advanced Warning Further Upstream
• Qualified Flaggers

Major Incidents

Advanced Warning:
• Follow Minor and Intermediate Incident Requirements
• Establish More Permanent TTC Devices
• Position Advanced Warning Signs Further Upstream
• DOT Provides Signs and Channeling Devices

Six Incident Impact Level

Lake Michigan Interstate Gateway Alliance (LMIGA) “Standard Operating Procedure and Training” Guidance Policy

Six Level based on:
• Number of lanes blocked
• Time period

www.travelmidwest.com
Level 1

Incident Ranking

<table>
<thead>
<tr>
<th>Condition</th>
<th>Level 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>One lane blocked in one direction - off peak traffic period; Or, Incident blocking either shoulder or median lanes</td>
<td></td>
</tr>
</tbody>
</table>

DMS

DMS- 5 miles

MUTCD Ranking

Minor/Intermediate

---

Notifications:

- Local law enforcement
- Appropriate incident responders
- Media
- Trucking companies via email
- DMS at 5 miles

---
Level 2

Incident Ranking Level 2
Condition
One lane blocked in one direction - peak traffic period; Or, incident blocking one lane and/or service ramp
DMS
DMS 5 miles if duration is <30 minutes
DMS 10 miles if duration is > 30 minutes
MUTCD Ranking Minor/Intermediate

Level 2
1. One lane blocked in one direction
2. During peak traffic period

Notifications:
- Local law enforcement
- Appropriate incident responders
- Media
- Trucking companies via email
- DMS at 5 miles < 30 minutes
- DMS at 10 miles > 30 minutes
### Level 3

<table>
<thead>
<tr>
<th>Incident Ranking</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>Half of all available lanes are blocked and/or system ramp</td>
</tr>
<tr>
<td>DMS</td>
<td>DMS - 7 miles if duration is &lt;30 minutes</td>
</tr>
<tr>
<td></td>
<td>DMS 15 miles if duration is &gt;30 minutes</td>
</tr>
<tr>
<td>MUTCD Ranking</td>
<td>Intermediate/Major</td>
</tr>
</tbody>
</table>

#### Notes:
- Local law enforcement
- Appropriate incident responders
- Media
- Trucking companies via email
- DMS at 7 miles < 30 minutes
- DMS at 15 miles > 30 minutes
## Level 4

<table>
<thead>
<tr>
<th>Incident Ranking</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>All available lanes blocked in one direction</td>
</tr>
</tbody>
</table>

**DMS**
- DMS 15 miles if duration will be <30 minutes
- DMS 30 miles if duration will be >30 minutes

**MUTCD Ranking**
- Intermediate or Major

### LMIGA Level 4

All available lanes blocked in one direction

![Image of a road incident](Picture_Courtesy_of_the_Florida_DOT_2006)

### Notifications:
- Local law enforcement
- Appropriate incident responders
- Media
- Trucking companies
- DMS 15 miles < 30 minutes
- DMS at 30 miles > 30 minutes
LMIGA Level 5

<table>
<thead>
<tr>
<th>Incident Ranking</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>Full freeway closure</td>
</tr>
<tr>
<td>DMS</td>
<td>DMS 10 miles each direction if duration will be &lt;30 minutes</td>
</tr>
<tr>
<td></td>
<td>DMS 20 miles each direction if duration will be &gt;30 minutes</td>
</tr>
<tr>
<td>MUTCD Ranking</td>
<td>Major</td>
</tr>
</tbody>
</table>

Level 5

Full freeway closure

Notifications:
- Local law enforcement
- Appropriate incident responders
- Media
- Trucking companies
- DMS at 10 miles each direction < 30 minutes
- DMS at 20 miles each direction > 30 minutes
### Level 6

<table>
<thead>
<tr>
<th>Incident Ranking</th>
<th>Condition</th>
<th>Full freeway closure lasting 12 hours or longer</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMS</td>
<td>DMS 50 miles each direction (or at most logical point or re-direction)</td>
<td></td>
</tr>
<tr>
<td>MUTCD Ranking</td>
<td>Catastrophic</td>
<td></td>
</tr>
</tbody>
</table>

**Notifications:**

- Local law enforcement
- Appropriate incident responders
- Media
- Trucking companies
- DMS at 50 miles each direction

Picture Courtesy of the Missouri DOT, 2008
Summary

MODULE 5
INCIDENT CLASSIFICATION
MODULE 6
TRAFFIC MANAGEMENT

Learning Objective

Create a MUTCD compliant TTC (temporary traffic control) zone using proper traffic control devices, vehicle positioning, and vehicle lights.

Outline

• Highway Terminologies
• Safety Principals
• Traffic Control Devices
• TTC Zone in MUTCD Chapter 6
Highway Safety Principles

Perception/Reaction Distance

- The distance traveled from the time a driver first detects the need to stop until the vehicle actually stops

Stopping Sight Distance

What is the typical driver's perception/reaction time value?

- 0.5 seconds
- 1.0 seconds
- 1.5 seconds
- 2.5 seconds
- 4.0 seconds

- Be prepared for distracted drivers who do not react . . .
**Braking Distance**

- Distance traveled by a vehicle from the instant the brakes lock up until the vehicle stops

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>Distance (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>346</td>
</tr>
<tr>
<td>65</td>
<td>405</td>
</tr>
<tr>
<td>70</td>
<td>470</td>
</tr>
<tr>
<td>75</td>
<td>540</td>
</tr>
</tbody>
</table>

Source: AASHTO Green Book 2001

**Total Stopping Sight Distance**

(based on 2.5-sec Perception/Reaction Time)

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>Distance (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>650</td>
</tr>
<tr>
<td>65</td>
<td>710</td>
</tr>
<tr>
<td>70</td>
<td>780</td>
</tr>
</tbody>
</table>

Note: Commercial vehicles require much longer distances.

**Personal Protective Equipment “PPE”**

- **Law Enforcement:**
  - ANSI 207-2006, Class II Public Safety vest
- **Fire/Rescue:**
  - ANSI 107-2004 (or ANSI 207-2006) Class II vest required
- **Emergency Medical Service:**
  - ANSI 107-2004 (or ANSI 207-2006) Class II vest required
- **Tow/Recovery:**
  - ANSI 107-2004 Class II or Class III vest required
- **Transportation:**
  - ANSI 107-2004 Class III high-visibility garment or ensemble required

2009 MUTCD Part 6
Highway Safety Vests

Class I

Class II

ANSI 107 Standard

Class III

A “Class III” garment has sleeves
At night – how far away can a driver see you?

- Low Beams and Dark Clothing
- Low Beams and White Clothing
- Low Beams and ANSI Vest II or III

Visibility of Pedestrian at Night

Average Detection Distance

Source: ANSI/ISEA 107-1999 MADE EASY. A Quick Reference to High-Visibility Safety Apparel

Emergency-Vehicle Light

- Essential in the initial stages of a traffic incident
- Provide safety to emergency responders and persons involved in the traffic incident, as well as road users approaching the traffic incident
- Example:
  - high-intensity rotating, flashing, oscillating or strobe lights

Emergency-Vehicle Light

- In multi-lane freeways
  - Recommended to turn off all forward-facing emergency lighting that affect traffic in the oncoming lanes
  - To reduce rubbernecking and prevents secondary crashes

Light distracts cras
Minimize Lights

- Avoid glare to motorists
- Turn off unnecessary lights
  - Emergency vehicle lights:
    - Provides warning only and provides no effective traffic control
    - Can be confusing and distracting to drivers
- Use amber instead of red
  - When proper traffic control established

Blocking Vehicles

- Blocking Vehicles – trucks or trailers that are used to protect workers or work equipment from errant vehicles
- Also called shadow vehicles
- Heavy Vehicle – 33,000 GVWR or greater, loaded at least 20,000 pounds (tanker truck)
Blocking Vehicle

- Once parked, becomes temporary traffic control device per MUTCD:
  - Spotted parallel with traffic 100 to 250 ft upstream from the work area depending upon the speed limit, with wheels cut toward the shoulder
  - Not involved in incident mitigation efforts and not occupied by people!!!
Video

Washington Traffic Incident Management Video

Traffic Control Devices

(Channelizing devices include:
- cones
- flares
- drums
- barricades)
Cones and Flares

When flares are placed near a traffic cone, the light given off by the flare not only warns upstream traffic but illuminates the cone as well.

Cone Placement

Source: Emergency Traffic Accommodation – A Guide for First Responders

Incorrect Placement

Correct Placement

Source: Emergency Traffic Accommodation – A Guide for First Responders
Arrow Board Use

![Diagram of Arrow Board Use](image)

(FHWA, Washington, D.C. 2009)

Portable Warning Signs

![Portable Warning Signs](image)

(Moore, McKinney FD, TX 2005)

Figure 6F-6. Advance Warning Arrow Board Display Specifications

<table>
<thead>
<tr>
<th>Operating Mode</th>
<th>Display (Type C arrow board illustrated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At least one of the three following modes must be provided:</td>
<td>Merge Right</td>
</tr>
<tr>
<td>Pulsating Arrow</td>
<td>![Pulsating Arrow Image]</td>
</tr>
<tr>
<td>Sequential Arrow</td>
<td>![Sequential Arrow Image]</td>
</tr>
<tr>
<td>Sequential Chevron</td>
<td>![Sequential Chevron Image]</td>
</tr>
<tr>
<td>2. The following mode shall be provided:</td>
<td>Merge Right or Curved</td>
</tr>
<tr>
<td>Pulsating Divisible Arrow</td>
<td>![Pulsating Divisible Arrow Image]</td>
</tr>
<tr>
<td>Flashing Caution</td>
<td>![Flash Caution Image]</td>
</tr>
<tr>
<td>Alternating Diamond Caution</td>
<td>![Diamond Caution Image]</td>
</tr>
</tbody>
</table>

(FHWA, Washington, D.C. 2009)
Warning Signs - Placement

- Urban Street
  - 4-9 times the speed limit in mph

- Rural Highway
  - 8-12 times the speed limit in mph.

Source: (MUCTD 2009)

Table 6C-1. Recommended Advance Warning Sign Minimum Spacing

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Distance Between Signs**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Urban (low speed)*</td>
<td>100 feet</td>
</tr>
<tr>
<td>Urban (high speed)*</td>
<td>300 feet</td>
</tr>
<tr>
<td>Rural</td>
<td>900 feet</td>
</tr>
<tr>
<td>Expressway / Freeway</td>
<td>1,000 feet</td>
</tr>
</tbody>
</table>

* Speed category to be determined by the highway agency.  ** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest apart from the TTC zone.

Source: (MUCTD 2009)

Ambulance Positioning

The downstream protected activity area is the first place to consider for parking the ambulance

(source: Moore, Motonway FD, TX 2006)
Deploying Temporary Traffic Control Devices

- Deploy coral, retroreflective sign upstream along the shoulder to serve as advance warning

- Deploy first cone or flare device at the corner of the blocking vehicle where the least amount of buffer space exists between it and moving traffic

Deploying Temporary Traffic Control Devices

- Deploy additional cones or flares at appropriate intervals while moving upstream, tapering at an angle from the corner of the emergency vehicle
  - While keeping eyes on approaching traffic
- Deploy cones downstream from blocking vehicle, parallel to lanes of moving traffic, to identify buffer area alongside work area

Cones and Flares Spacing

- On Taper
  - 25 feet (11 steps)

- Buffer
  - 50 feet (22 steps)

Note: Device spacing for speed 25 mph or higher

(Department of Transportation, Federal Highway Administration, 2009)
Flagger Upstream Position

- Flagger should stand on/near shoulder within view of upstream motorists.
- Always have escape route
  - Your survival area when things go wrong.

Flagger Minimum Qualifications

- Sense of responsibility for safety of public and fellow workers
- Adequate training in safe temporary traffic control practices
- Good physical condition including sight, mobility, and hearing
- Mental alertness and the ability to react in an emergency
- Courteous but firm manner
- Neat appearance
Double Lane Closure on Highway

Partial Exit Ramp Closure

Curve “Setup”
Summary

Module 6 Traffic Management
Module 7
Clearance/Termination

Objectives

• Practice clearance procedures
• Identify vehicles per TRAA classes
• Identify agency-specific tasks
• Incident termination
• Describe incident scene evolution

Clearance Procedures

• Responder summons help
• Required help arrives
• Summon wrecker if needed
• Wrecker arrives
• Other help leaves
• Wrecker/other clears the lanes
Effective Communicating for Clear and Accurate Information

A Common Complaint “the right truck didn’t go to the scene”

- Tower: the officer requested a carrier and it required a tow truck for the recovery
- Officer: the type of truck requested cannot handle the tow
- Customer: tow operator didn’t bring what’s needed to assist immediately.

TOW Truck Classification

- Light-duty Tow Trucks/Car Carriers
  - 15,000-26,000 pounds, GVWR
- Medium-duty Tow Trucks
  - 26,001-48,000 pounds, GVWR
- Heavy-duty Tow Trucks
  - Over 48,0001 pounds, GVWR
Class 4 Medium-duty

Medium shuttle bus
Hybrid school bus

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

Class 5 Medium-duty

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

Class 6 Medium-duty

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

International Durastar
Ford F-650
GMC Topkick C5500
Class 7 Heavy-duty

International TranStar 8500
Blue Bird Vision

**Class 7 • Heavy-Duty** • (26,001 - 33,000 lbs. GVW - 6 tires or more)

Class 8 Heavy-duty

**Class 8 • Heavy-Duty** • (33,001 lbs. and over GVW - 10 tires or more)

Agency-Specific Tasks

- **Law Enforcement**: Supervise scene clearance, safeguard personal property
- **Fire and Rescue**: Assist in incident clearance, crash victim rescue from wrecked vehicles, rescue crash victims from contaminated environments
- **EMS**: Remove injured persons and medical waste from incident scene, determine approximate cause of injuries for the trauma center
Agency Specific Tasks

• **Transportation Agencies:** Determine incident clearance and roadway repair needs, coordinate clearance and repair resources, repair transportation infrastructure

• **Towing and Recovery:** Remove vehicles from incident scene, protect victims property and vehicles, remove debris from the roadway, provide transportation for uninjured vehicle occupants

• **Media:** Broadcast information on delays, update incident status frequently, provide video or photography services

---

Agency Specific Tasks

• **Information Service Providers:** provide traffic information updates to both motorists and the media by: radio, television, telephone, E-mail services, pager services, or internet web-sites

• **Coroners and Medical Examiners:** investigate fatal accidents, remove body parts

• **Hazardous Materials Contractors:** clean up and dispose of toxic or hazardous materials

---

Termination Procedures

• **Clean-up**
  • Towing and Recovery

• **Re-opening traffic lanes**
  • Law Enforcement

• **Final checks**
  • Law Enforcement on Roadway
  • Other agency if off Roadway
Incident Progression Example

The example illustrates the progression of an incident with the corresponding expansion and reduction of the TIMA.

Crash Scene 1
Time 7:00 AM

Crash Scene 2
Time 7:10 AM
Summary

Module 7
Clearance/Termination
MODULE 8
Hands-on Case Studies

Objectives

• Table Top Exercises
• Review Questions

Table Top Exercise 1
Additional Table Top Exercise

55mph Speed Limit

Review Questions

• Test knowledge
• Promote future retention

What percent of congestion was caused by the traffic incidents?

a) 20%
b) 30%
c) 40%
d) 50%
What can be done to reduce second incidents?

a) Proper vehicle positioning
b) Proper traffic control
c) Reducing the time to clear the scene
d) Get the correct agencies and equipment there from the start
e) All of the above

Move-Over Law requires motorist to do all of the following except?

a) Proceed with due caution
b) Warn other drivers by flashing lights
c) Change lanes if possible
d) Reduce travel speed

Law Enforcement should do which of the following

a) Directing traffic
b) Suppressing fires
c) Determining the destination for the injured
d) Coordinating repair resources
Common communication problems do not include:

a) Incompatible radios
b) Inconsistent terminologies
c) Dispatching improper tow trucks
d) Responders may lack experience

What vehicle should protect the incident scene?

a) First to arrive
b) Law Enforcement
c) Fire Department
d) Department of Transportation
e) All of above

Sizing up the scene includes all except?

a) Determining incident location
b) Reporting traffic condition
c) Determining number of vehicles and types
d) Making contact with crash victims
What is the most visible safety vest?

a) Class I  
b) Class II  
c) Class III  
d) Class IV

How far away can a class III vest be seen at night?

a) 100 feet  
b) 400 feet  
c) 800 feet  
d) 1000 feet

Channelizing devices include?

a) Cones  
b) Flares  
c) Drums  
d) Barricades  
e) All of the above
Shadow vehicles should be placed at this angle of

a) 5-10°
b) 20-30°
c) 40-55°
d) 70-90°

Cones/Flare should be spaced at__ on tapers and __ past taper?

a) 10, 20 feet
b) 25, 50 feet
c) 50, 75 feet
d) Depends on scene

Temporary Traffic Control Zones include?

a) Termination area
b) Work area
c) Advance warning area
d) Buffer space
e) All of the above
TRAA Vehicle Identification Guide is used to?

a) Identify towing vehicles  
b) Identify vehicle classes  
c) Identify towing companies  
d) Identify vehicle brand  

TRAA Vehicle Identification Guide has ___ classes

a) 2  
b) 4  
c) 6  
d) 8  

Summary

MODULE 8  
Hands-on Case Studies