Transportation Security Awareness and All-Hazards Emergency Training

February 3, 2016
Today’s Presenters

- **Moderator:** Laurel Radow, FHWA

- Incorporating Transportation Security Awareness into Routine DOT Operations and Training, Jeff Western, Western Management and Consulting, LLC

- Interactive Training for All-Hazards Emergency Planning, Preparation, and Response for Maintenance and Operations Field Personnel, Dr. Yuko Nakanishi and Pierre Auza, Nakanishi Research and Consulting LLC
NCHRP is...

A state-driven national program

• The state DOTs, through AASHTO’s Standing Committee on Research...
  - Are core sponsors of NCHRP
  - Suggest research topics and select final projects
  - Help select investigators and guide their work through oversight panels
NCHRP delivers...

Practical, ready-to-use results

- Applied research aimed at state DOT practitioners
- Often become AASHTO standards, specifications, guides, manuals
- Can be directly applied across the spectrum of highway concerns: planning, design, construction, operation, maintenance, safety
NCHRP uses...

**A range of research approaches**

- Traditional NCHRP research reports
- Syntheses of highway practice
- Innovations Deserving Exploratory Analysis program studies
- Domestic scans of innovative practices
- Quick-response research for AASHTO committees
- Research for AASHTO and state DOT leadership
- Long-range strategic studies
NCHRP Webinar Series

• Part of TRB’s webinar program

• Opportunity to interact with experts and learn about challenges, opportunities and updates

• Complementary to other products that spread results and foster implementation
  - Reports and Syntheses
  - Research Results Digests
  - Legal Research Digests
  - Web-Only Documents and CD-ROMs
Today’s First Presenter

• NCHRP 793: Incorporating Transportation Security Awareness into Routine State Operations and Training

Jeff Western, Western Management and Consulting, LLC
Today’s Second Presenters

- NCHRP Synthesis 468: Interactive Training for All-Hazards Emergency Planning, Preparation, and Response for Maintenance and Operations Field Staff
  Yuko Nakanishi and Pierre Auza, Nakanishi Research and Consulting, LLC
NCHRP REPORT 793
Incorporating Transportation Security Awareness Into Routine State DOT Operations And Training
Agenda

Team
Approach
Findings
Guide Overview
# Research Team

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Jeff Western</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countermeasures Assessment &amp; Security Experts</td>
<td>Ernest &quot;Ron&quot; Frazier, Dave Ekern, Mike Smith</td>
</tr>
<tr>
<td>Western Management and Consulting</td>
<td>Pat Bye (Assistant PI)</td>
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</table>
The Goal

Objective: Develop a guide for incorporating transportation security awareness into routine state DOT operations and training.

Research Approach
Literature Review: Focus

- Federal Security Training Requirements
- Transportation Security Training Guidance and Available Training
- Security Awareness Programs
- Academic Research on Security Training and Employee Training
- Security Awareness Training Components and Effective Delivery Methods
Requirements & Guidance

- HazMat Transportation Law (49 U.S.C. § 5101 et seq.)
- Federal Security Grant Guidance
- FDA Guidance for Food Producers, Processors, and Transporters
- 2010 Department of Homeland Security Quadrennial Review

APTA Recommended Practice: Security Awareness Training for Transit Employees issued March 2012

Security Awareness Training should be provided to ALL transit employees


Outlines security program elements including training for DOT security awareness program
Highway Security Awareness

Security Awareness Training

• TSA security awareness brochures, tip cards, and posters
• FHWA resources including courses:
  • Freight Security Awareness
  • First Responder Awareness to Terrorist Threats for Bridges and Tunnels
• Risk Management Training

Security Awareness Programs

First Observer

• ATA Safety Program expanded to security post-2001.
• DHS/TSA funded in 2003, ended in 2008.
• Started in 2008 with DHS/TSA funding.
• Currently online only.

DHS/TSA Brochures

FHWA Highway Infrastructure Security & Emergency Management Professional Capacity Building Website
Transit Security Awareness

Security Awareness Training

• Mass Transit Security Training Program
  • Curriculum guidance
  • Transit Security Grant Program funding
  • FTA/TSA & FEMA courses
• National Transit Institute (NTI)
  • Security Awareness for Transit Employees
  • Employee Guide to System Security

Security Awareness Programs

• Launched in 2003 by FTA.
• Updated in 2006.

• NYC MTA program licensed to other transit agencies.
• DHS national launch in 2010.
Cross-Cutting Training

State Security Awareness Training

State Emergency Management Agency (SEMA) Training Courses

Other Security Awareness Training

TRB’s National Cooperative Highway Research Program Report 525: Surface Transportation Security, Volume 7: System Security Awareness for Transportation Employees

First Observer Food Defense Module
Survey Results: Security Training

- 60% of the survey respondents indicated that their organization required or encouraged training in transportation security. However...

...other types of training had substantially higher levels of response.
Conclusions from Research

- There are less and less resources for training in general.
- Rich body of course material exists for DOTs to use.
- Transit has established and adopted practices for security awareness training.
- Security responsibility is either perceived or in reality rests with other organizations.
Principles of Guide Development

- Promote the **importance of security awareness** for use by DOT managers.

- Provide **guidance** for incorporating security awareness into routine DOT operations and training.

- Focus on **awareness campaign to enhance or add** to the training, operations and exercises state DOTs and other organizations are currently doing or performing.

- Use a format that works within the frameworks that already exist.
Guide Content: Coordination & Integration

Security Awareness
NCHRP Report 793

Operations & Maintenance
NCHRP Synthesis 468

Existing Security Training Content
How to Use Guide

To help state DOTS improve the security of transportation systems, Guide highlights the importance of security awareness and focuses on how incorporate security awareness into existing transportation operations and maintenance.

It includes:

• Brief overview of the current role of State DOTs in security
• Key questions to ask ensure organizational readiness to support a security awareness program
• Core components of a security awareness campaign
• Cost-effective methods for promoting security awareness within a state DOT
Introduction

State DOTs are not lead security players. In most states security may reside in state emergency management, homeland security or law enforcement.

All transportation employees contribute to security. Because of their continued presence in/on infrastructure and assets, transportation employees are:

- often the first to notice or learn about suspicious activity/objects
- uniquely positioned to identify issues, problems and deviations from what is usual.

Security awareness consists of:

- being aware of the potential risks
- recognizing a security risk
- understanding how security fits into daily routines
- knowing how to respond to a security threat.

“Awareness is not training. The purpose of awareness is simply to focus attention on security.” NIST
Organizational Readiness: Key Questions

There are fundamental capabilities that must be in place to ensure that a transportation agency IS READY and can SUPPORT an effective security awareness program.

**Five Key Questions to Ask**

1. *Is there management support for security awareness?*
2. *Has a reporting structure been identified and/or articulated, e.g. what gets reported to whom?*
3. *What awareness behaviors should be recommended and reinforced, e.g. what should employees look out for?*
4. *Are there documented security procedures AND REPORTING MECHANISMS in place?*
5. *Are there existing organizational relationships with law enforcement, e.g. can employees call an established contact number?*
Security Is Everyone’s Responsibility

Three key principles underlying transportation Security Awareness programs are:

1. Security is everybody's business.
2. Talking about security is just as important as doing something physical about security.
3. It is important that leadership supports and reinforces the security awareness program.

Security is a shared responsibility that is part of everyone’s ‘day job’.
Security Awareness Messages

Principles of Effective Messages
- Relevant and appropriate
- Realistic
- Consistent
- Actual examples from agency
Security Awareness DOs & DON’Ts

Be Vigilant and Keep Yourself Safe

- **DO** report unusual or suspicious people or items right away.
- **DO** record as many details as possible.
- **DO NOT** take risks that could harm yourself or others.
- **DO NOT** try to “handle it” yourself.
- **DO NOT** confront a suspicious individual.
- **DO NOT** touch, move or cover a suspicious substance or object.
- **Do NOT** allow an unauthorized person access to restricted areas.
Reporting Procedure

Example of State DOT reporting process from Texas Department of Transportation.

- **Employee sees suspicious activity or is threatened by a third party**
  - Examples would include, but are not limited to:
    - A suspicious package left at a bridge column
    - A third party inquiring about ferry procedures
    - A third party taking pictures of a bridge
    - A co-worker is being threatened in their office

- **Employee gathers pertinent information**

- **Is there an imminent threat?**
  - Yes: **Call 911**
  - No: **Employee contacts supervisor**

- **Is the incident related to homeland security?**
  - Yes or Unsure: 
    - Supervisor contacts 1) Texas Fusion Center (866) xxx-xxxx* or by email fusioncenter@dps.texas.gov
    - 2) TxDOT Emergency Coord. (name@txdot.gov)
  - No: **Employee contacts supervisor**

- **A potential terrorist incident occurs**
  - Examples would include, but are not limited to:
    - A boat exploding in a ship channel
    - A car exploding on a bridge

- **Call 911**

- **Did the incident occur at an Austin headquarters facility?**
  - Yes: Supervisor contacts TxDOT security (512) 465-xxxx*
  - No: **Employee contacts supervisor**

- **Supervisor contacts TxDOT Emergency Coordinator**
  - Work: (512) xxx-xxxx
  - Cell: (512) xxx-xxxx*
  - Home: (xxx) xxx-xxxx

* Phone numbers are available 24/7
** Supervisor will contact district or division office and may take any additional actions as necessary
*** Employees should not endanger themselves by picking up suspicious packages, confronting suspects, etc.

Revised 8/2012
Promoting Security Within DOTs

Potential Approaches

• Senior leaders/management include security awareness in all communications to employees.

• Discuss security at the small unit level, e.g. tailgate sessions.

• Incorporate security awareness into existing training, both new employee and position-specific training.

• Include security messages in regular agency communications, e.g. posters, in-box reminders, attached to paychecks.

General Tips

To keep security “top of mind”:

• Look for opportunities to tell the security story.

• Take easy steps that remind people about security.

• Keep messages short and simple.

• Repetition is good.
Appendices

- Current training with links to resources and training courses.
- Training Center Resources and Contact List.
- Directory of other related resources including:
  - Transportation Security Training Guidance
  - Transportation Security Awareness Programs such as If You See Something, Say Something™ and First Observer
  - Research Studies References
Thank You

For additional information please contact:

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Ron Frazier
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Interactive All-Hazards Training for Maintenance & Operations Field Personnel

Highlights of the NCHRP Synthesis 468 Project

TRB Webinar

<February 3, 2016>
Dr. Yuko Nakanishi
Pierre Auza
Outline

• Introduction
• Project Background/Overview
• Implementation Challenges
• Strategies and Tools
• The Toolkit
Above: Creating safe zone for incident response operations by blocking lanes with fire engine & traffic cones. (FHWA/Ronald Moore)
Preparedness Cycle

1. Plan
2. Organize/Equip
3. Train
4. Exercise
5. Evaluate/Improve

Source: CPG 101
Project Overview

Goals:

- **Identify** interactive emergency training *tools and sources* for M&O field personnel of State DOTs and local PWs
- **Identify obstacles** to implementation
- **Create** a *Toolkit* of relevant training and exercise information.
Transportation Field Workers

They must work:
1. In Traffic,
2. Under the Public Eye,
3. With equipment difficult to operate/maneuver, &
4. With noise, dirt, extreme temperatures

They must:
- Recognize various hazards
- Know what to do, what not to do
- *(Simple Incident → Complex)*
- Be ready to be the first on scene
- Integrate themselves into ICS

(Ex) Simple to Complex:
From minor traffic incident To large chemical explosion

<table>
<thead>
<tr>
<th>Classification</th>
<th>LOCAL</th>
<th>REGIONAL</th>
<th>STATE</th>
<th>NATIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected Duration</td>
<td>0-2 HOURS</td>
<td>2-24 HOURS</td>
<td>DAYS</td>
<td>WEEKS</td>
</tr>
</tbody>
</table>
National Incident Management System (NIMS)

**NIMS**
- Is comprehensive, nationwide, scalable, and dynamic
- Takes an All-Hazards approach
- Is a standardized resource management procedure

**Components**
1. Preparedness
2. Communications & Information Management
3. Resource Management
4. Command & Management
5. Ongoing Management & Maintenance

Source: 2008 NIMS core document
Implementation Challenges

- Scheduling difficulties
- Limited budgets
- Lack of qualified (in-house) training staff
- Personnel turnover
- Distance issues
- Senior management issues
- Inadequate facilities and other resources (e.g., PCs, Internet)
- Insufficient information about available training
Implementation Challenges

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Interactive Strategies & Tools

• Field crew meetings
• Just-in-Time training
• Interjurisdictional and interagency training and exercises
• Joint training
• Asynchronous training
• Train-the-Trainer
• Planned events, incidents, and exercises
• Classroom training
• Online training with live instructors
• Computer simulation and virtual exercises
Field Crew Meetings

**TABLE 11**

**FIELD CREW MEETINGS**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Meetings are brief and are held on a regular basis at a location/time convenient to field personnel.</td>
<td>The panel and the interviewees have identified few disadvantages to this method.</td>
</tr>
<tr>
<td>• Meetings are also focused and very relevant to field crew.</td>
<td></td>
</tr>
<tr>
<td>• Hands-on training is possible. Field personnel can practice a procedure or skill.</td>
<td></td>
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</tbody>
</table>
# Just-in-Time Training

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention of training content is high because the time period between training and its use is short.</td>
<td>During emergency response, every second counts and taking the time to train personnel may delay the response effort.</td>
</tr>
<tr>
<td>This method is cost-effective because only those who need the training undergo the training. Also, because the training is provided only when they need it, there is no issue regarding personnel having been trained and then leaving the agency without having used the training.</td>
<td>Training personnel in an emergency situation when their level of stress is high may hinder the learning process.</td>
</tr>
<tr>
<td></td>
<td>The ideal training process involves learning, reflecting, and doing. Personnel are not provided the opportunity to practice a skill or process before its real-life application, unless the training also includes drills of some sort.</td>
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</tbody>
</table>
Interjurisdictional and Interagency Training and Exercises

<table>
<thead>
<tr>
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<th>Disadvantages</th>
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</thead>
<tbody>
<tr>
<td>• Opportunity for face-to-face interactions with peers from other response agencies through these exercises is essential preparation for larger and more complex events.</td>
<td>• These are typically synchronous learning events that need to be scheduled on a fixed day and time. Scheduling difficulties may impede the ability of a large percentage of field personnel to attend these sessions.</td>
</tr>
<tr>
<td>• They will also help prepare agencies and their field personnel understand the ICS structure, their roles and responsibilities within the structure, and how they should integrate with personnel from other entities for these events.</td>
<td></td>
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</tbody>
</table>
Joint Training

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Scheduling difficulties may be mitigated by delivering emergency training in conjunction with another related topic.</td>
<td></td>
</tr>
<tr>
<td>• Intra-agency interaction and communications may be facilitated.</td>
<td>• Emergency training component may need to be shortened or modified.</td>
</tr>
</tbody>
</table>

R: Traffic Incident Management training in Visalia, CA.

Source: Visalia Times-Delta
Asynchronous Training

• Computer-Based Training w/o Live Instructors
• Prepackaged DVDs and CDs
Train-the-Trainer

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• This is a cost-effective way to leverage limited resources.</td>
<td>• Content dilution could be possible as additional training tiers are added</td>
</tr>
<tr>
<td>• It alleviates having to hire additional training staff or consultants</td>
<td></td>
</tr>
</tbody>
</table>
# Classroom Training

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Can present up-to-date information.</td>
<td>- Reduced development of problem-solving skills and interaction among students if sufficient interaction opportunities are not provided.</td>
</tr>
<tr>
<td>- Summarizes materials from various sources.</td>
<td></td>
</tr>
<tr>
<td>- Can adapt the material to student backgrounds and interests.</td>
<td>- Scheduling difficulties, and the cost of the training and travel, including time. (Scheduling and travel issues may be alleviated through the use of VTC, VoIP, or similar technology.)</td>
</tr>
<tr>
<td>- Highlights important concepts and materials.</td>
<td></td>
</tr>
<tr>
<td>- Instructor enthusiasm can motivate students and enhance learning (McKeachie and Svinicki 2013).</td>
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</tr>
</tbody>
</table>
**Online Training with Live Instructors**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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</thead>
<tbody>
<tr>
<td>• Cost is lower than with classroom training, since travel can be avoided.</td>
<td>• Training must be scheduled in advance.</td>
</tr>
<tr>
<td>• Training is standardized.</td>
<td>• Trainees may be distracted.</td>
</tr>
<tr>
<td>• Training can be provided anywhere with web access.</td>
<td>• Ability to monitor student progress may be limited.</td>
</tr>
<tr>
<td></td>
<td>• Access to a PC and Internet are required.</td>
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<tr>
<td></td>
<td>• Familiarity with the Internet and basic PC skills are required.</td>
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</tbody>
</table>
Planned events, incidents, and exercises

Lessons learned and distilled

Vermont Agency of Transportation
Irene Innovation Task Force
March 2012

Hurricane Sandy
FEMA After-Action Report
July 1, 2013
Exercises

- **Discussion-based**
  - Safe, non-stressful environment
  - Types: Seminars, Workshops, Table-top Exercises, Games

- **Operations-based**
  - Real-time, realistic setting
  - Types: Drills, Functional Exercises, Full-Scale Exercises

Source: HSEEP 2013
Computer simulation and virtual exercises

Screenshots from I-95 Corridor Coalition Virtual Incident Management Training
(https://www.i95vim.com/)
The Toolkit

- All-Hazards Training Resources
- Seeking an online HOME
- Excel format. Sheets include:
  - Acronyms
  - Delivery Methods
  - Key Courses
  - Guidance Documents
  - NIMS, NRF, etc.
  - Source Organizations
  - 17 Source-Specific
The Toolkit

Source Org Categories
1. Federal (FEMA)
2. Federal (other DHS)
3. Federal (US DOT)
4. Federal (other fed)
5. State
6. Local
7. University/College
8. Assocs & Coalitions
9. Private Firm

Follow up on any information: Courses, Resources, Guide Docs, Source Orgs, etc.
Relevant Ongoing/Recent NCHRP Projects

- NCHRP 20-59(30) (Near Completion) “ICS Training for Field Level Transportation Supervisors and Staff”
- NCHRP 20-59 Update Projects (Active) “Emergency Response Planning” and “Security 101”
- NCHRP Synthesis 20-05, 44-01 ( Completed) “FEMA and FHWA Emergency Relief Funds Reimbursements to State Departments of Transportation”
- NCHRP Synthesis 20-05, 46-17 ( Completed) “Training and Certification of Maintenance Workers”
- NCHRP Synthesis 20-05, 47-04 ( Active) “ Technology for Transportation Workforce Development”
- NCHRP Synthesis 20-05/Topic 47-16 ( Active) “Highway Worker Safety”
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Web Link:
www.trb.org
Integrating Transportation & Public Works into ICS

Operations Section

Single Resources

Strike Team

Task Force

Operations Section:
- Road Crew
- Utilities Specialist
- Traffic Control Crew

Note: As the incident grows, so will Operations. Other Pub Works / Transp resources may be added.

Source: FHWA NIMS Workbook (link here)
Command and Management

(1) Preparedness (2) Communications & Information Management
(3) Resource Management (4) Command & Management
(5) Ongoing Management & Maintenance
Incident Command System (ICS)

Characteristics of ICS:

• Organizes on-scene operations
• All levels of gov’t, NGOs, & private sector
• Single command point
• Defines responder responsibilities
• Common Terminology
• Respond to immediate situation

Flexible command lead

Sections:
1. Command
2. Operations
3. Planning
4. Logistics
5. Finance/Admin
Multiagency Coordination Systems (MACS)

**Purposes of MACS:**
- Coordinate activities above the field level
- Prioritize demands for critical resources

Source: 2008 NIMS core document
Procedures and Protocols

Types of Procedural Documents:

• Standard Operating Procedure or Operations Manual

• Field Operations Guide or Incident Management Handbook

• Mobilization Guide

• Job Aid

What are Protocols?

• Established guidelines for action under specified conditions (such as an emergency)

• Guidelines based on training and delegation of authority (to permit specific personnel to assess a situation, to execute a task or function rapidly, or to escalate their efforts before requiring further authorization)

Source: 2008 NIMS core document