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APTA Security Emergency Management
Working Group

First Responder Familiarization of Transit Systems

Abstract: This *Recommended Practice* covers the need for transit agencies to familiarize first responder agencies with essential information about the transit system.

Keywords: drills, first responder, operation, vehicles

Summary: This document serves as a tool to identify appropriate training for first responders to transit system emergencies. It identifies a typical list of transit system assets that first responders need to understand in order to properly respond to incidents.

Scope and purpose: The purpose of an emergency response personnel familiarization program is to offer emergency responders with basic transit system information in regard to vehicles, facilities and equipment. The program provides emergency response personnel with a better understanding of the transit system and in so doing allows for a better-coordinated and unified response to transit-related emergencies. The training will vary depending on the function of the response agency and the complexity of the facilities, equipment and vehicles involved. Training shall be structured with a primary focus on access to transit vehicles and facilities for rescue and medical attention. It shall also include familiarization with potential system hazards such as alternative fuels, third rails or overhead power sources. The list of transit system assets is not intended to be all-inclusive, but rather representative of the more common elements found in most transit systems. Individual transit systems may have unique assets requiring familiarization that shall be addressed locally.

This security recommended practice represents a common viewpoint of those parties concerned with its provisions, namely transit operating/planning agencies, manufacturers, consultants, engineers and general interest groups. The application of any recommended practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a transit system's operations. In those cases, the government regulations take precedence over this standard. APTA recognizes that for certain applications, the standards or practices as implemented by individual transit agencies may be either more or less restrictive than those given in this document, unless referenced in federal regulations.

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Participants

The American Public Transportation Association greatly appreciates the contributions of the **APTA Security Emergency Management Working Group**, which provided the primary effort in the drafting of this document.

At the time this standard was completed, the working group included the following members:

Thomas Eng, *LACMTA, Chair*

Sam Caron, *Minneapolis Metro Transit, Co-Chair*

Christy Bailly, *Minneapolis Metro Transit*

Neil Crosier, *Kansas City Metro Transit*

Rufus Francis, *Sacramento Regional Transit*

Devan Gourdine, *Chicago Transit Authority*

Paul Harvey, *VIA Metropolitan Transit*

Ann Hutcheson, *ECCTA*

Mark Johnson, *Lane Transit District*

Robert Melan, *TSA*

John Plante, *Metra*

Alexa Dupigny-Samuels, *WMATA*

Jill Shaw, *Dallas Area Rapid Transit*

Tony Tisdale, *Federal Transit Administration*

Alexander Ubiadas, *TriMet*

Introduction

This introduction is not part of APTA-SS-SEM-RP-002-08, “First Responder Familiarization of Transit Systems.”

APTA recommends the use of this document by:

- individuals or organizations that operate rail transit systems;
- individuals or organizations that contract with others for the operation of rail transit systems; and
- individuals or organizations that influence how rail transit systems are operated (including but not limited to consultants, designers and contractors).

First Responder Familiarization of Transit Systems

1. Benefits and requirements of training

Experience has shown that anytime there is an incident on a transit system that requires action from first responders, it is mutually beneficial if the first responders are knowledgeable about the transit system environment. This awareness is necessary for the safety of the first responders, especially where there are inherent hazards found on the transit system, such as high-voltage rail equipment and alternative fuel vehicles. Such awareness is also helpful to the passengers, both for their safety and to minimize any service disruptions that occur as a result of the incident response.

1.1 Audience

The target audience for first responder familiarization includes but is not limited to local police, SWAT, bomb squad, transit security, fire, hazmat and civil support teams. Others may be included as determined by local entities. The transit agency has its own first responders, and much of the information here applies to them as well. These guidelines emphasize outside agencies, in large part because they are not working in the transit system environment on a daily basis in contrast to the transit system employees.

1.2 Organization

For the purpose of this document, transit system elements are categorized into four groups: facilities, equipment, vehicles and operational procedures. Operational procedures are important for first responders to know, since they often have a significant impact on the outcome of the incident. Familiarity with the facilities, equipment and vehicles is a prerequisite to implementing effective operational procedures. First responder training shall cover all four in a level commensurate with the involved hazards and complexities at each transit system.

1.3 NIMS and ICS

The National Incident Management System (NIMS) and Incident Command System (ICS) are federally mandated programs that all first responders must know and practice. This includes the transit system staff who may serve as first responders. To the degree practical during the familiarization process, the unified command process in the transit environment shall be addressed unless covered elsewhere in training. This is particularly relevant where incidents require a response from multiple agencies such as police and fire.

2. Familiarization training

2.1 Types of familiarization training

The types of first responder familiarization training may differ among transit agencies, but the end goal is the same. Among the more common training options are the following:

- **Training types:**
 1. Initial training
 2. Refresher training

- **Hands-on (field):**
 1. Classroom
 2. Tabletop exercises and drills

Hands-on training involves a field demonstration of transit system facilities, equipment or vehicles. This provides the first responders with the look and feel of the actual system. Many first responders find this type of training more effective and interesting, as it provides them with actual hands-on training on the involved equipment. An example is the onboard familiarization of first responders of transit vehicles, including an inspection of the externally operated equipment such as door releases, valves and power shutoff functions. Such training is typically provided by a transit system employee who is knowledgeable about the involved equipment.

Classroom training typically consists of lectures, discussions, presentations or demonstrations of scale models of actual equipment, among other formats. The benefit of this type of training is that it can be done without any impact to revenue service operations. Classroom training often may go into more detail than is typically allowed during training in the field, and it offers more opportunity for in-depth discussion since the time constraints may be less severe.

Tabletop exercises and drills are opportunities for the transit system staff and first responders to pre-plan operational responses to various potential scenarios that may occur on the transit system. These are often done once the transit agency has provided classroom and hands-on training. The tabletop exercises and drills allow both the transit agency and first responder agencies to practice their coordination in advance of an incident. For more information on drills and exercises, refer to APTA document SS-SEM-RP-004-09, titled “General Guidance on Transit Incident Drills and Exercises.”

As a component of emergency response drills, transit systems shall include hands-on familiarization training to emergency response personnel for involved systems such as transit vehicles. They shall also provide orientation of key facilities and system components and structures by conducting walking tours to point out vital features and to highlight the specific physical configuration of each segment of the system. An example of a key facility on a subway station is the location of ventilation shafts so that first responders do not set up their command post nearby one.

Responders shall be knowledgeable about the capabilities, limitations and typical hazards and failure modes associated with the facilities, equipment and vehicles associated with the transit agency, such as buses and trains, train control, and power and communications systems. As an example, activating an emergency trip station (ETS) on a rail line de-energizes the powered overhead catenary wire or third rail, but does not immediately stop an oncoming train that can continue to coast until it eventually comes to a stop.

The transit agency shall ensure that all security sensitive information is properly identified, handled and controlled.

2.2 Familiarization training tools

The transit system may provide documentation to first responders to help them better understand and retain information about transit system elements. This will enable first responder agencies to learn more about the transit system on their own time and schedule, and to facilitate dissemination of information to other employees more easily. Typically, the transit agency may provide such information via hard copies or electronic files such as a PowerPoint presentation on CDs or DVDs, or through a transit agency train-the-trainer process.

2.3 Familiarization training programs

First responder familiarization shall generally occur often enough such that responders maintain adequate awareness and understanding of the transit system in case of an incident. Initial training allows first responders to gain familiarity, followed by refresher training. The refresher training frequency is contingent on the complexity of the system elements, the number of locations involved, turnover rate of responders and extent of hazards.

To inform emergency response agencies of changes in procedure or equipment, refresher training can be provided through additional training, updates to the written and/or audiovisual training components as applicable, based on the transit system's modification, addition or elimination of system elements. Transit agencies shall regularly review the training frequency needs with local first responders and shall maintain documentation of offered and completed training.

Familiarization training can be initiated by the transit agency or by the first responders to address safety, security and emergency management issues. Some trigger points for training can include but are not limited to the following:

- new line extensions
- equipment
- new vehicles
- system complexities (example third rail, catenary)
- first responder staff turnover
- recent incidents including real-world events
- incidents or accidents
- new or revised operating procedures

Transit systems shall reach out to local emergency operations management (EOM) or emergency operations centers (EOCs) to coordinate joint participation of emergency response agencies in emergency response exercises and drills so that all participating agencies test the effectiveness of the training received.

3. Facilities

This section is a list of some of the more noteworthy facility elements that may be included in familiarization training.

3.1 General

- physical address of transit facilities
- evacuation plans/staging areas for all facilities
- transit headquarters and other administrative and operational locations

3.2 Rail, bus and ferry stations/terminals

- station/terminal overview
- access and egress components
- street-level ventilation grates
- fire department connections
- fire hydrants/standpipes
- ancillary equipment rooms
- emergency equipment rooms
- access to trackway/docks
- rail and bus vehicle storage yards and maintenance facilities

- fueling and defueling islands
- fueling shutoff locations

3.3 Transit vehicles and vessels

- power (third rail, overhead power, hybrid, CNG)
- power shutoffs, fuel shutoffs
- emergency access/egress of vehicles/vessels
- rail and bus right-of-way alignment
- right of way access and egress points
- vehicle emergency alarms

3.4 Structures

- tunnels
- tunnel cross-passages
- tunnel emergency exits
- ventilation structures
- bridge and aerial structures
- access and egress to/from all of the above

4. Equipment

This section is a list of some of the more noteworthy equipment elements that may be included in familiarization training:

- subway emergency ventilation fans and controls
- emergency or local control panels
- rail traction power shutoff systems
- fire detection and suppression systems
- hazardous gas/chemical detection systems
- CCTV
- communications systems (interoperable systems, radio systems, automatic vehicle location [GPS], etc.)

5. Vehicles

This section is a list of some of the more noteworthy vehicle elements that may be included in familiarization training:

- passenger rail cars, buses, high-rail vehicles, paratransit vans and ferries
- basic operation
- access/egress
- emergency shutdown
- power isolation
- emergency lighting

6. Operational procedures

Operational procedures shall be included as part of the familiarization training to help first responders better understand how to respond to an incident. First responders need to know the basics about the equipment they may encounter. For example, it's useful to know that a rail line may have a high-voltage third rail for traction power to the trains, but it is just as important to know the correct process to have the power shut it off, and

whom to contact at the transit agency during the process. The following are examples of transit elements that first responders need to be aware of:

- access into transit system and right-of-way
- power removal and operational consequences on trains
- vehicle and vessel operations
- hand signals directing vehicle operation
- single track train operation
- bus bridges
- safety procedures/protocols
- partial or full loss of communication systems
- power and fuel shutoff on vehicles and vessels
- emergency access into/onto vehicles and vessels
- evacuation from vehicles and vessels
- other procedures unique to a transit system

7. Dedicated training facilities

Dedicated training facilities can be a highly valuable asset to both the transit agency and first responders, where training can be scheduled at any time without needing to coordinate with normal transit operations. Such scheduling flexibility enables greater numbers of first responders to be trained. Where such facilities exist, they may include a mock-up of the transit vehicles. While most transit systems accomplish their training needs without such a facility, this option is included here for consideration as a long-range capital planning project.

References

Connecting Communities Public Transportation Workshops. <https://www.transportation.gov/civil-rights/emergency-preparedness/emergency-prep-workshops>

Definitions

drill: A supervised activity to test a procedure that is a component of the overall emergency management plan. A drill may be a step leading toward an exercise or may be an actual field response. The true value of a drill lies in its ability to highlight a limited portion of the overall emergency management plan and to examine it closely.

first responders: Those individuals who in the early stages of an incident are responsible for the protection and preservation of life, property, evidence and the environment.

tabletop exercise: Exercise using paper (or PowerPoint) and verbal scenarios to evaluate the emergency management plan and procedures' effectiveness with a minimum amount of stress; a paper drill intended to demonstrate the working and communication relationships of functions found within the plan.

Abbreviations and acronyms

CCTV	closed-circuit television
CNG	compressed natural gas
EOC	emergency operations center
EOM	emergency operations management
GPS	Global Positioning System
ICS	Incident Command System
MSDS	material safety data sheet
NATSA	North American Transportation Services Association
NIMS	National Incident Management System

Summary of document changes

Document history

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