



APTA-SS-SEM-S-006-09, Rev. 2

First Published: December 31, 2009

First Revision: April 1, 2013

Second Revision: November 7, 2019

APTA Security Emergency Management
Working Group

Shelter of Transit Vehicles and Nonrevenue Equipment During Emergencies

Abstract: This standard identifies operational strategies to secure a transit agency's fleet and nonrevenue equipment such as nonrevenue vehicles during times of emergencies. The goal is to protect the agency's assets from various types of local hazards.

Keywords: emergency operations center (EOC), evacuation, evacuation plans, memorandum of understanding (MOU), National Terrorism Advisory System (NTAS), vehicle storage

Summary: Emergencies such as hurricanes, tornadoes, flooding, earthquakes, fires, civil unrest and acts of terrorism may pose a threat to the fleet and nonrevenue equipment. The decision to shelter the fleet and secure nonrevenue equipment may prevent or reduce the extent of damage from such threats. Identifying such assets in advance and preparing for contingencies reduces the need for last-minute reactionary responses that may not be optimized for the involved hazards. The transit agency may communicate and coordinate its actions with local government and emergency management staff, such as the local or regional EOC, if available.

Scope and purpose: This standard covers protection of both bus and rail transit fleets, modes such as ferries, and critical nonrevenue equipment from local hazards. Many more options are available to protect bus fleets, since they can be relocated anywhere accessible by road. Rail fleets have more limited flexibility, but some choices are addressed in this document. The intent is to cover as much of the transit agency's essential assets as possible so that damage from the oncoming threat is mitigated. National or international events such as acts of terrorism that threaten transit fleets are not covered, since those should be addressed in other security procedures associated with the DHS National Terrorism Advisory System (NTAS). Transit agencies shall determine how this standard may help them plan to secure their fleet and equipment against various local hazards. These guidelines are not an exhaustive list of precautionary measures but are intended to reinforce the notion that transit agencies need to plan ahead to respond to their local hazards. Local and unique considerations may require additional protective measures not identified in this document.

This security standard 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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Introduction

This introduction is not part of APTA SS-SEM-S-006-09, Rev. 2, “Shelter of Transit Vehicles and Nonrevenue Equipment during Emergencies.”

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).

Note on alternate practices

Individual rail transit systems may modify the practices in this standard to accommodate their specific equipment and mode of operation. APTA recognizes that some rail transit systems may have unique operating environments that make strict compliance with every provision of this standard impossible. As a result, certain rail transit systems may need to implement the standards and practices herein in ways that are more or less restrictive than this document prescribes. A rail transit system may develop alternates to APTA standards so long as the alternates are based on a safe operating history and are described and documented in the system’s safety program plan (or another document that is referenced in the system safety program plan).

Documentation of alternate practices shall:

- identify the specific APTA rail transit safety standard requirements that cannot be met;
- state why each of these requirements cannot be met;
- describe the alternate methods used; and
- describe and substantiate how the alternate methods do not compromise safety and provide a level of safety equivalent to the practices in the APTA safety standard (operating histories or hazard analysis findings may be used to substantiate this claim).

Shelter of Transit Vehicles and Nonrevenue Equipment During Emergencies

1. Protecting transit vehicles and equipment during emergencies

Transit agencies shall consider identifying pre-designated actions in the event an emergency condition arises that threatens their transit vehicles and critical equipment. Such actions typically are based on available all-hazard risk assessments or other means that prepare the transit agency to act under such conditions. Threshold criteria may be identified to guide the transit agency to take action. Such criteria will lessen the burden of having to make decisions under stressful conditions. In addition, these threshold criteria can reduce the subjectivity in decision-making that is sometimes present during emergencies. Not all types of emergencies can be anticipated, but many others can be, allowing for pre-planning by the transit agency.

The emphasis of this document is to pre-plan as much as possible so that agency assets are better protected in an emergency.

1.1 Support of local or regional evacuation

During local or regional emergencies, the transit agency may be asked to help evacuate or transport elements of the community or serve other purposes if requested by appropriate government officials such as the EOC. In this case, local needs may take priority before securing the transit fleet. Threshold conditions that threaten employee safety and the transit fleet shall be identified in advance to ensure their safety and protection. This also alerts emergency managers in advance that at some point during the emergency condition, they cannot assume that the transit agency will continue to be available.

1.2 All-hazard risk assessment

In order to adequately assess the hazards and threats to the transit fleet and nonrevenue equipment, an all-hazard risk assessment or threat and vulnerability assessment may be performed to evaluate the likelihood and severity of potential hazards. Based on the results of the analyses, the transit agency can make an educated decision on whether to store and shelter the fleet at its normal location, or to relocate it elsewhere, and identify the threshold criteria for taking such action.

1.3 Pre-event planning

Pre-event planning is essential before an actual emergency. This includes coordination with both internal staff and external agencies. Such coordination may include city and county emergency preparedness departments, public works, traffic and transportation, utilities, police, fire, and others. As an option, mutual aid agreements with other transit agencies and city, county or regional jurisdictions may offer useful alternatives for sheltering the fleet and other critical equipment. For more information on mutual aid, refer to APTA SS-SEM-RP-011-09, "Regional Emergency Planning and Participation in Mutual Aid."

1.3.1 Hazard and threat identification

Transit agencies shall identify the threats posed by natural, human or technological events for each transit fleet storage location. This will expedite the decision-making process as a threat unfolds. Natural threats may include hurricanes, flooding, tornadoes, earthquakes, blizzards and other similar types of events. Typically, an all-hazards risk assessment identifies the anticipated hazards to the transit fleet and other critical equipment. Human threats may include civil unrest, terrorism or other threats posed by human action. Such threats are identified with the use of a threat and vulnerability assessment (TVA). These hazards and threats may provide the transit agency with advance warning time to take actions that are pre-identified. Those hazards that provide little if any warning may limit the choices available to the agency in terms of available protective actions.

1.3.2 Refuge area identification

The transit agency shall identify suitable locations that will provide shelter from the involved hazard(s) or threat(s). The locations may differ depending on the hazard(s) or threat(s). For example, areas of higher elevation away from flood basins are suitable for protection against flooding but may not be optimal for protection against brush fires if they are near vegetated areas. Although rail transit systems have limited options, some locations along the rail routes may offer better protection than others. As an example, tunnel alignments offer more protection from adverse weather conditions such as hurricanes and tornadoes, but care shall be exercised to avoid low lying track areas where flooding may result.

Some considerations in selecting a suitable refuge area include but are not limited to the following:

- availability and proximity of fueling locations for buses
- extent of protection of fleet and equipment from the approaching hazard
- ease of securing fleet and equipment
- ease of transport of employees to safe location
- ease of recovery of vehicles and equipment once the hazard has ceased
- protection of fleet and equipment from vandalism and theft

1.3.3 Fueling locations

For bus fleets, the transit agency shall identify the closest alternate fueling locations. This is especially important for non-diesel fueled fleets, such as those using compressed natural gas (CNG). If alternate bus storage locations are significant distances away from the normal fueling locations, then other fueling facilities will need to be identified along the access routes.

1.3.4 Employee transport

Consideration shall be given to transport of transit operators and other employees from the alternative storage site(s). The transit agency shall verify that operators have adequate communications capability and security along the route, in case they need assistance. If employee transport is not possible, then sheltering in place at a suitable facility may be considered as an option. If the intent is to return employees to their normal reporting location, then other factors such as return time and road accessibility need to be considered.

1.3.5 Employee resources

Before any hazard occurs, the transit agency shall consider identifying employees who may be needed to perform tasks related to the securing of transit vehicles and nonrevenue equipment. The transit agency may also consider taking steps to allow needed employees to prepare their families before performing their duties at work as time permits. This will assure the workers that their families will be reasonably prepared.

1.3.6 Transit fleet security

The transit agency shall identify the security requirements that will be needed at the alternative storage facilities. Staffing by transit agency staff, transit police, local law enforcement or private security may be needed, depending on the location. Valuable resources that are being transported for secure storage may need enclosed and locked facilities.

1.3.7 Written agreements

Transit agencies shall identify legal agreements or contracts that need to be prepared and approved ahead of time to secure the locations for alternate bus and equipment storage. Similar issues exist for fueling transit buses at non-transit agency facilities. These may include memoranda of understanding, indemnity forms and proof of insurance, among others. This is generally not a consideration for rail fleets, since storage is anywhere on the transit agency rail network. Contact information for alternative locations could change, so contact information should be confirmed on a regular basis.

1.3.8 Incident command

Transit agencies shall identify the decision process to send the transit buses and nonrevenue equipment to a sheltered location or to store the rail fleet at an alternate location along the right-of-way. This may include decision criteria and identification of individuals who will authorize the transport to alternate locations. Transit agencies shall identify vital nonrevenue equipment, such as hi-rail vehicles that should be secured away from the involved threat, in order to determine priorities and allocation of staffing resources.

1.3.9 Suspension of service criteria

The transit agency shall identify the criteria for stopping bus and rail service in preparation for securing the fleet. For example, the transit agency shall identify threshold wind conditions that trigger a shutdown before a hurricane or tornado hits the area. This includes identifying who needs to be included in or informed of the decision. This can be a challenging decision, given the expectations of the community to continue transporting residents away from the oncoming hazard.

2. Training

The transit agency shall consider conducting training exercises to prepare employees to perform their expected duties before an approaching hazard. Such training exercises can take the form of tabletop exercises or even full-scale exercises. The training opportunities should involve other city and/or county agencies that will be active in the management of resources during such emergencies, such as local EOCs.

Related APTA standards

APTA SS-SEM-RP-011-09, “Regional Emergency Planning and Participation in Mutual Aid”

References

Transit agencies are encouraged to consult their local emergency plans, such as continuity of operations plans (COOPs), city or regional evacuation plans, and local disaster plans.

Definitions

all-hazard risk assessment: An inventory and assessment of natural and human-caused threats specific to the involved jurisdiction generally in terms of severity, frequency and impacts.

hi-rail vehicle: A road vehicle equipped to operate on both roads and railroad tracks.

mutual aid agreement: An agreement that establishes procedures and protocols for providing materials, supplies and services to or from neighboring transit agencies or other organizations in the event of a community or regional emergency or other large-scale event that can overwhelm the ability of a single agency to respond effectively.

threshold criteria: Pre-identified local hazard or threat condition levels that prompt a transit agency to take protective measures.

Abbreviations and acronyms

COOP	continuity of operations plan
CNG	compressed natural gas
DHS	Department of Homeland Security
EOC	emergency operations center
MOU	memorandum of understanding

Summary of document changes

- Bullet points xx

Document history

Document Version	Working Group Vote	Public Comment/ Technical Oversight	CEO Approval	Policy & Planning Approval	Publish Date
First published	—	—	—	—	Dec. 31, 2009
First revision	—	—	—	—	April 1, 2013
Second revision	Jan. 30, 2018	Mar. 1, 2019	Jul. 10, 2019	Oct 20, 2019	Nov. 7, 2019