

Recommended Practice for Trash/Recycling Container Placement to Mitigate the Effects of an Explosive Event

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Abstract: This Recommended Practice provides procedures for placement of trash and recycling containers in transit-related infrastructure.

Keywords: container, explosions, placement, trash

Introduction

(This introduction is not a part of APTA RP-FS-001-08, Recommended Practice for Trash/Recycling Container Placement to Mitigate the Effects of an Explosive Event.)

This Recommended Practice for trash/recycling container placement represents a common viewpoint of those parties concerned with its provisions, namely transit operating/planning agencies (transit systems), manufacturers, consultants, engineers and general interest groups. The application of any standards, practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of transit systems' operations. In those cases, the government regulations take precedence over this Recommended Practice. APTA recognizes that for certain applications, the practices implemented by transit systems may be either more or less restrictive than those given in this document.

This Recommended Practice provides procedures for trash and recycling container placement. APTA recommends the use of this recommended practice by:

- Individuals or organizations that secure, inspect and maintain transit infrastructure;
- Individuals or organizations that contract with others for the security, inspection and maintenance of transit infrastructure; and
- Individuals or organizations that influence how transit infrastructure is secured, inspected and maintained.

The purpose of an APTA Transit Recommended Practice is to ensure that each transit system achieves a high level of security for passengers, employees and the public. APTA Recommended Practices represent an industry consensus of acceptable security practices that should be used by a transit system. However, APTA recognizes that some transit systems have unique aspects of their operating environment, which when combined with levels of service that must be provided, may make strict compliance with every provision of an APTA Recommended Practice impossible.

When a transit agency is faced with this situation, it may use its system security plan (SSP) to specify an alternate means to achieve an equivalent level of security as provided by the APTA Transit Security Recommended Practice. The SSP should:

- Identify the Transit Security Recommended Practice provisions that cannot be fully met;
- State why these provisions cannot be fully met;
- Describe the alternate means to ensure equivalent security is achieved; and
- Provide a reasonable basis (e.g., an operating history or threat and vulnerability analysis) for why security is not compromised through the alternate means.

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1. Overview

This document establishes recommended practices for the placement of all types of trash and recycling containers at public transportation passenger facilities. Transit agencies should use a site-specific security risk assessment process to assess the relative risk level of each passenger facility.

The placement of containers at passenger facilities can significantly impact the effects of an explosive device. Significant thought should be given to the types of trash containers that are selected and where they are deployed relative to people, operations and critical infrastructure.

1.1 Scope

This Recommended Practice provides guidance for the placement of all types of trash and recycling containers at public transportation passenger facilities.

1.2 Purpose

The purpose of this Recommended Practice is to provide guidance to transit agencies for the placement of containers at passenger facilities to minimize the effects of an explosive device to people, operations and critical infrastructure.

2. References

This Recommended Practice should be used in conjunction with the following publications:

- Original equipment manufacturer (OEM) specifications for inspection, maintenance and testing.

3. Definitions, abbreviations and acronyms

For the purposes of this Recommended Practice, the following terms, definitions, abbreviations and acronyms apply:

3.1 Definitions

3.1.1 Communication System: System used to communicate with the various parts of a transit agency. The communication system may consist of a number of different communication devices and includes those elements and their interconnection, which permits voice, data or video interchange between system functions separated by distance.

3.1.2 Concourse: A place where pathways or roads meet, such as in a hotel, convention center, a railway or transit station, an airport terminal, a hall or some other space.

3.1.3 Explosive Device: A bomb fabricated in a manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals and designed to destroy or incapacitate personnel or vehicles.

3.1.4 Interlockings: An interlocking controlled by circuit logic so that movements succeed one another in proper sequence without need for manual control.

3.1.5 Mezzanine: The public area between the station entrance and ticketing areas and the platform. The mezzanine may include both free and paid areas. The term is interchangeable with the word “concourse” in NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems.

3.1.6 Operations Facilities: Facilities that are used by the operations staff in the course of their duties in maintaining and running passenger facilities. These facilities generally are not open to the public, although enforcement of security in these areas is likely to be low (with the exception of airports).

3.1.7 Passenger Facilities: Facilities used by the passengers as part of their transit journey. They range from simple bus stops to large, mixed-use multi-modal structures and have a wide array of supporting amenities and services.

3.1.8 right-of-way: Right afforded to the public for access to or access through a property.

3.1.9 Special Event: An anticipated gathering of a large number of people in a specified location, such as a sporting event, political event, protest or holiday celebration.

3.1.10 Station: All areas and improvements within the boundaries of the station site which includes structures, platforms, entries, approaches, and the parking lots.

3.1.11 Transit Agency: The organization that operates transit service and other related transportation services.

3.1.12 Waiting Area: Places where people wait in line (first-come, first-served) for goods or services.

3.1.13 Wayside Assets: Supporting assets for transportation systems that are used in the supply and maintenance of the system.

3.2 Abbreviations and acronyms

OEM	original equipment manufacturer
TS	transit system
IED	improvised explosive device

4. Risk assessment considerations

Agencies should evaluate risk to people, operations and critical infrastructure. Use individual risk assessments as a guide to determine placement of trash and recycling containers.

4.1 Systemwide assessment

Transit systems should refer to their existing security risk assessments to determine the risks to their systems' assets and the surrounding environment. Transit systems that do not have security risk assessments should develop them.

4.2 Passenger facility risk assessment

A site survey of the assets of each passenger facility should include the following, at a minimum:

- Access and egress points
 - Pedestrian
 - Vehicle (revenue and non-revenue)
- Areas where people congregate
- Location of critical structural elements such as columns and load-bearing walls
- Walkways
- Glass (e.g., doors, windows and skylights)
- Ceiling height
- Utilities
 - HVAC
 - Electrical
 - Communications
 - Gas lines
 - Fire Life Safety systems
 - High-pressure steam
 - Other subsystems
- Enclosed spaces such as alcoves and passageways where a blast could be amplified or reflected

- Pedestrian bottlenecks
- Flammable and toxic materials
- Existing security assets (e.g. security staff deployments, CCTV's, gates, intruder deterrents, etc.)

5. Trash/recycling container types and placement

5.1 General

In operational environments where trash must be regularly collected and removed, consideration must be given to the environment, proximity of critical assets and the number and type of trash containers. The units must be placed in positions where they can be viewed and accessed by the public.

5.2 Operational and maintenance considerations

Operational considerations must be considered prior to placement, including the following:

- Current placement and construction of existing trash /recycling containers
- Container servicing procedures
- Trash volume
- Trash accumulation and removal
- Staffed or unstaffed facilities

Consideration should be given to the frequency of trash collection. Frequent collection may increase the probability of a device being found.

Recommend placing the content of this section under Section 5, which opens with discussion of operational consideration.

5.3 Container types

5.3.1 Standard or non-blast-resistant

Non-blast-resistant types of containers include hard plastic, metal and concrete. These containers are not designed to withstand the effects of an explosion, as these dense materials can potentially contribute to secondary fragmentation. These types of containers should be located only in areas that are deemed to be a low risk.

5.3.2 Blast-resistant

Blast-resistant containers mitigate and resist breaking apart under a specific blast load. Note that these containers direct the blast above, and in some cases, below the unit and have a maximum manufacturer's design load rating.

5.3.3 Clear plastic

These containers provide visibility of the contents and do not contribute significantly to secondary fragmentation, but they are not designed to provide blast protection. These containers typically consist of a frame or collar and clear bag.

Clear plastic receptacles offer a relatively low cost method of monitoring and identifying suspect items placed in the receptacles, and when combined with employee awareness programs, may provide an effective mitigation measure

5.4 Specific location placement

Prior to placing any containers in any location, evaluate the risk to people, operations and critical infrastructure. Ensure that the solution does not introduce new or more serious risks.

5.4.1 Open environment

In an open, or non-enclosed, environment, there are limited blast reflecting surfaces nearby. In low-risk areas, any type of container can be used.

In a high-risk area, it is recommended that standard containers be removed or be switched to blast-resistant or clear plastic containers. The level of blast resistance should be based on the facility's security risk assessment.

5.4.2 Environments close to buildings and other blast-reflecting surfaces

Trash containers should be placed as far from blast-reflecting surfaces (e.g. wall, ceiling, stairways, elevator shafts, etc.) as practical. Placement near glass, flammable and toxic materials and structural members also should be avoided.

In high-risk areas where placement is within 100 feet of a building, standard containers should be removed or switched to blast-resistant or clear plastic containers.

In low-risk areas, any container may be used.

5.4.3 Enclosed environments

Explosions in enclosed spaces generally are more damaging than explosions in an open environment. Areas that are confined and with limited paths for the blast wave to exit the structure — such as tunnels, subway stations and underground parking garages — provide a particularly damaging blast environment. Placement near glass, flammable and toxic materials and structural members also should be avoided.

In high-risk enclosed spaces, standard containers should be removed or should be blast-resistant or clear plastic. Blast-resistant containers should be placed in accordance with recommendations from the facility's maintenance and engineering staff and emergency responders (such as bomb detection teams).

Caution should be used in placing blast-resistant containers under vulnerable overhead assets and on top of vulnerable platforms.

In low-risk enclosed spaces, any container may be used.

6. Elevated threat levels

During periods of elevated threat levels or other localized elevated threat levels, transit agencies should implement complementary protective measures associated with trash receptacles and recyclable containers.

Transit agencies should refer to the FTA's "Transit Agency Security and Emergency Management Protective Measures" (November 2006) resource document for assistance in developing their own specific protective measures. This document is available for viewing and downloading at the FTA website:

<http://transit-safety.volpe.dot.gov/Publications/order/singledoc.asp?docid=439>

Currently five levels of HSAS security threat levels exist: green, blue, yellow, orange and red. Guidance in this standard covers placement recommendations for green through orange levels. At the HSAS threat level of red, it is suggested that the following additional protective measures that pertain to trash receptacle and recyclable container placement should be implemented:

- Remove all non-blast-resistant trash receptacles except for clear plastic containers at passenger facilities.
- Non-blast-resistant trash receptacles and recyclable containers that cannot be removed should be secured from use.

7. Documentation

Documentation should be in accordance with the transit system procedures.

Approved permanent and temporary locations and container type should be documented.

Periodic monitoring of placement and type should be performed and documented.