

# FTA

FEDERAL TRANSIT ADMINISTRATION

## **2018 Joint SSO and RTA Workshop**

### **Requests for Information**

**Candace Key  
Office of Transit Safety and Oversight  
Federal Transit Administration**

**October 25, 2018**



U.S. Department of Transportation  
Federal Transit Administration

# Agenda

- Request For Information (RFI)-Between Car Barriers Update
- Request for Information-Redundant Train Control Systems

# Between Car Barrier (BCB)

A suitable device or system to prevent, deter, or warn individuals from inadvertently stepping off the platform between cars.

- Car mounted
- Platform mounted



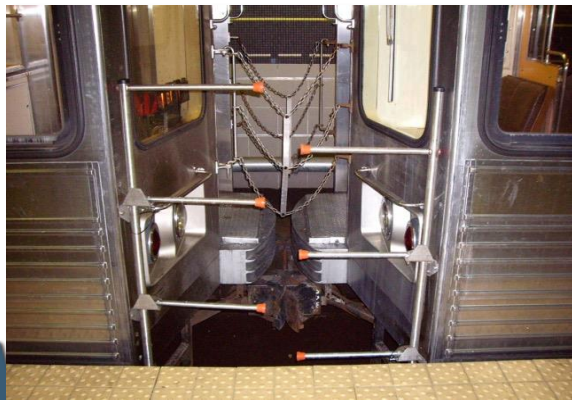
# FTA Request for Information

- May 25, 2018 – a visually impaired customer falls to the tracks at a heavy rail system
- June 22, 2018 – FTA disseminates a BCB request for information to the SSOAs
- August 8, 2018 – FTA receives submittals from all 31 SSOAs, which oversee **65 rail transit agencies operating 77 rail transit service modes**

# BCB Types

13 rail modes use car mounted BCBs

No.	Car Mounted Barriers
3	Bars and end barriers
2	Retractable belts/straps
2	Chains
2	Chains and rubber barriers
4	Pantograph gates



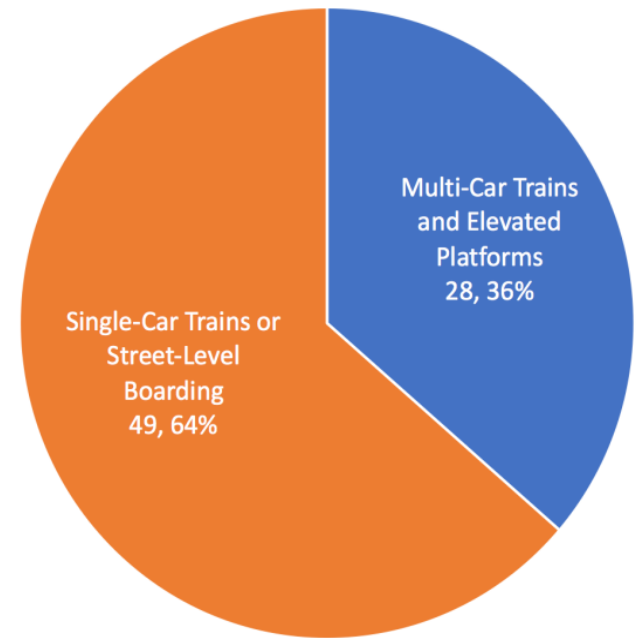
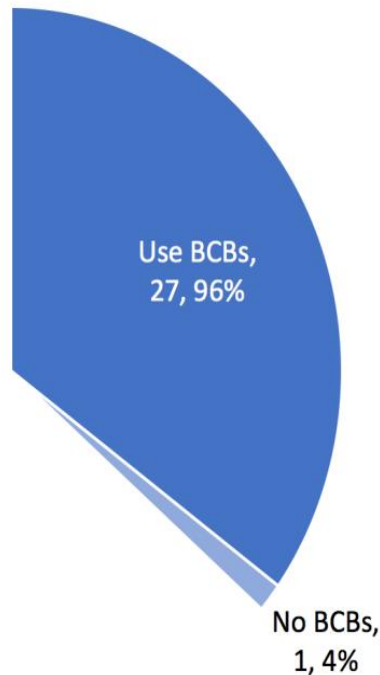
14 rail modes use platform mounted BCBs

No.	Platform Mounted Barriers
12	Bollards
1	Fencing
1	Screens



# RFI Findings

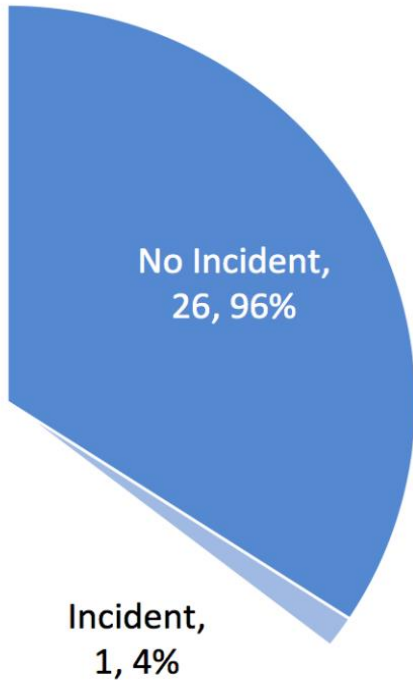
Of the 77 rail transit modal systems, the **BCB regulations do not apply to 49 systems** with single car trains and/or no elevated platforms **and do apply to 28 systems** with multicar trains and/or elevated platforms.



Of the 28 modal systems that use multicar trains and/or elevated platforms, **1 system does not use BCBs on railcars that predate the BCB regulations.**

\*There is 1 modal system that has some railcars within its fleet that predate the ADA regulations and do not have BCBs. The newer cars within the system do have BCBs.

# RFI Findings



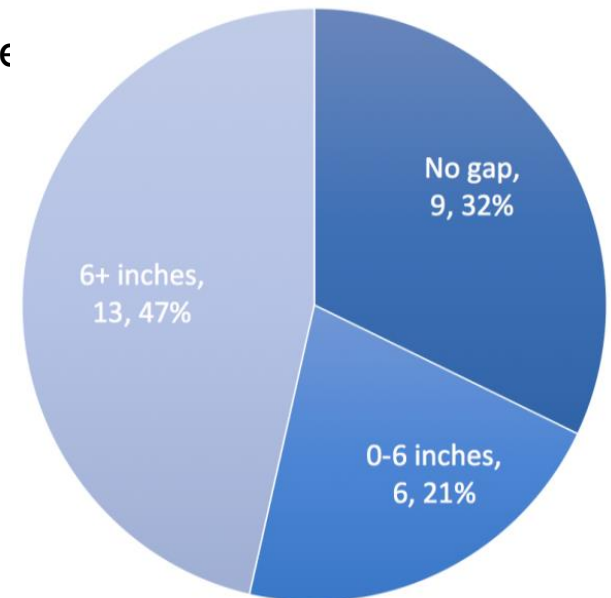
Of the 28 modal systems that use multicar trains and/or elevated platforms, **1 system does not have BCBs and has not reported a safety event in the past five years.**

Of the remaining 27 modal systems that use multicar trains and/or elevated platforms and have BCBs, **1 has reported a safety event related to BCBs.**

- **1 system experienced 1 reported**

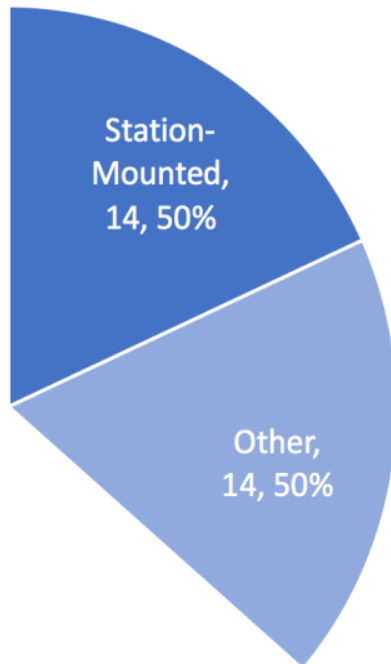
Of the 28 modal systems that use multicar trains and/or elevated platforms:

- **9 rail transit modes have no gaps**
- **6 have gaps measuring 0 – 6 inches**
- **13 have gaps measuring 6+ inches**

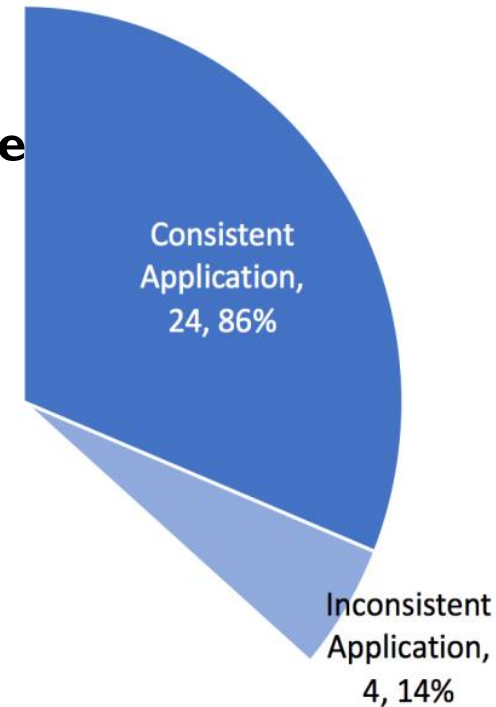


# RFI Findings

Of the 28 modal systems that use multicar trains and elevated platforms, **4 had an inconsistent BCB system with another modal system at the same rail transit agency.**



Of the 28 modal systems that use multicar trains and/or elevated platforms, **14 used station-mounted devices.**





# Summary of Findings

- Compliance with BCB regulations may not sufficiently mitigate the safety risk:
  - BCB regulations do not apply to railcars that existed prior to the effective date;
  - BCB regulations apply only to heavy and light railcars; and
  - BCB regulations do not specify what constitutes a “suitable device” to prevent, deter or warn riders:
    - Some BCB’s have large horizontal gaps that may not be easily or quickly detected by riders; and
    - Station or platform-mounted barriers and bollards can fail if operators do not stop at intended locations.
- Inconsistent BCB usage within a modal system and between modes within a rail transit agency can create confusion for riders.

# Next Steps

- Dear Colleague Letter
- Conduct BCB research

# RFI: Train Control Signal Systems



# NTSB Recommendation

- After the fatal WMATA train collision near Fort Totten Station on June 22, 2009, NTSB issued Recommendation 09-07.
- Advise all rail transit operators that have train control systems capable of monitoring train movements to determine whether their systems have adequate safety redundancy if losses in train detection occur.
- If a system is susceptible to single point failures, urge and verify that corrective action is taken to add redundancy by evaluating track occupancy data on a real-time basis to automatically generate alerts and speed restrictions to prevent train collisions

# FTA and Industry Response Timeline

- July 2009: Dear Colleague letter
- November 2012: Quick Study and Survey
- December 2014: APTA Issued a Standard
  - “Rail Transit Safety Standard for Audio Frequency Track Circuit Inspection and Maintenance”, APTA RT-SC-S-009-03, issued on December 31, 2014

# Train Control Signal System Information Request

- Formal Letter
- Guide to completing the information request
  - (examples, definitions, explanations)
- Form #1 - SSOA Information
  - (6 questions)
- Form #2 – RTA Train Control Signal System Information
  - (9 questions)

# Form I: SSOA Information

Complete only one Form #1

1. State the name of SSOA
2. State the name of SSOA point of contact, email, phone
3. State the name of all RTAs in the SSOAs jurisdiction
4. State the name of all lines in the SSOAs jurisdiction
5. Select all modes in SSOAs jurisdiction
6. State the number of Forms #2 the SSOA is submitting

# Form 2: RTA Train Control System Information

Complete a Form #2 for each train control systems that an RTA uses

- Use the Reference Guide to complete Form 2
  - ✓ Clarifies terminology and definitions
  - ✓ Provides details and examples for each of the 9 questions



# Form 2: Train Control System Information

1. State name of RTA
2. State names of lines under this system
  - (orange, green, etc.)
3. State the mode
  - (heavy, light, streetcar, trolley, monorail / people mover, other)
4. Train control signal system:
  - (select one)
  - (ABS, ATC, CTC, other)

# Form 2: Train Control System Information

5. If ATC, specify the type of operation
  - (select lowest level of automation)
  - (full, partial, manual, CBTC, other)
  
6. Has the RTA added redundancy to the train control system which identifies “loss of train detection” in real-time and subsequently stops trains automatically?
  - (check no or yes - if yes, describe the activity)
  
7. Specify activities the RTA conducted to reduce risk of “loss of train detection” or “train signal failure” from occurring
  - (check all that apply)

## Form 2: Train Control System Information



8. Specify oversight activities your state conducted to reduce the risk of “loss of train detection” or train signal failure occurring:
  - (select all that apply)
  
9. If the RTA has lines with audio frequency track circuits, has the RTA implemented the recommendations of APTA Standard RT-SC-S-009-03?
  - (select all that apply)

# Form 2: Train Control Information

## Form 2, Question 8 - Examples

### 8. Specify oversight activities your State has conducted to reduce the risk of loss of train detection/ train signal failure:

	<i>Select all activities that apply</i>	<i>Verification Method</i>
	1. Met with RFGPTS to understand process for inspection and testing train signal performance	Dates for Meetings, 3-year Review, Inspections, etc.
X	2. Reviewed relevant SOPs, forms and test procedures/reports for train signal system inspection and maintenance	Name of SOP, etc. reviewed and method reviewed (such as 3-year Review, Accident Investigation, etc.)
X	3. Audited RFGPTS's train signal inspection and maintenance procedures	Date and method of audit, such as Inspection, 3-year review, etc.
	4. Conducted inspections independently or jointly with RFGPTS of train signal system	Date and method of inspection, part of 3-year review, etc.
X	5. Audit of signal maintenance training program	Date and method of audit, such 3-year review, training, etc.
X	6. Conducted or reviewed hazard analysis of the train control signal system	Date and method of hazard analysis, mitigations, etc.
	7. Developed a corrective action plan to address train signal single point failure	Date and description of CAP, status (open/closed), etc.
	8. Oversight of project to upgrade the train signal system	Description of signal upgrades and estimated completion date
	9. Other	Other activities and verification to help address NTSB recommendation
	10. None	

# Next Steps

- Review the information request which includes:
  - Formal Letter of Explanation
  - Guide for Completing Form 2
  - Form 1: SSOA Information
  - Form 2: RTA Train Control System Information
- Forms are due- 90-days from issuance of request
- Submit Form #1 and the associated Form #2 to:

[FTASystemSafety@dot.gov](mailto:FTASystemSafety@dot.gov)

- FTA will analyze the information and respond to NTSB.