



SAFETY BULLETIN

FEDERAL TRANSIT ADMINISTRATION

SB 20-2

December 30, 2020

Inward- and Outward- Facing Image and Audio Recorders

Purpose

This Safety Bulletin (SB 20-2) provides information to State Safety Oversight Agencies (SSOAs) and Rail Transit Agencies (RTAs) on the implementation of inward- and outward-facing image and audio recorders in rail transit compartments.

Background

On February 21, 2017, a Southeastern Pennsylvania Transportation Authority (SEPTA) light-rail passenger train entered the number two loop track and struck a stopped SEPTA light-rail passenger train. Four people were injured and equipment damages totaled \$1.6 million. The National Transportation Safety Board's (NTSB) investigation determined that the installation of crash- and fire-protected inward- and outward-facing image and audio recorders capable of providing recordings to verify train crew actions and train operating conditions may aid in the investigation of accidents and serve as an additional tool to improve operational safety.

Analysis

Rail transit vehicles that are not equipped with inward- and outward-facing image and audio recorders may pose an increased risk to RTAs in the following areas:



Safety Bulletin 20-02: Inward- and Outward-Facing Image and Audio Recorders

1. **Repeat accidents.** When an accident investigation cannot make an accurate causal determination, then an agency may fail to correctly identify and address an issue, which may result in repeat accidents. Inward- and outward-facing image and audio recorders may provide additional information that can result in more precise causal determinations. Precise causal determinations may result in different and more targeted mitigations to reduce the likelihood or severity of repeat accidents.
2. **Operator rule violations.** Inward- and outward-facing image and audio recorders may deter operating rule violations and increase operator accountability by providing additional performance monitoring. The known presence of image and audio recorders by operators may reduce the likelihood of operating rule violations by rail transit operators, and in turn, the accidents caused by those violations. Such recorders may allow insight into operators' actions and perspectives at the time of an accident. In addition, image and audio recorders may increase operator accountability by allowing additional performance monitoring. Without image and audio recorders, the operator may only be observed by the agency during supervisor "ride-alongs" or evaluations. This means the operator may not expect continuous monitoring of his or her behavior.
3. **Unidentified Hazards.** Image and audio recorders can be valuable tools for supporting proactive training and hazard mitigation programs. Having the capability to review camera data from near- miss events, such as hard braking or fast turns, could help RTAs develop mitigations before accidents occur.

Next Steps

RTAs may consider the installation of inward- and outward-facing image and audio recorders in the controlling locomotive cabs and cab car operating compartments to support safety risk management and safety assurance activities required under the Public Transportation Agency Safety Plan regulation (49 CFR Part 673), such as hazard identification and safety performance monitoring and measurement.

RTAs also may consider adopting existing voluntary standards to support the installation and use of inward- and outward-facing image and audio recorders. For example, the American Public Transportation Association (APTA) RT-OP-RP-024-019, Crash and Fire Protected Inward and Outward Facing Audio and Image Recorders in Rail Transit Operating Compartments, dated 04/12/2019, may be used by RTAs as a method for determining the minimum requirements for selection, installation, and operating and maintenance requirements for crash and fire protected inward- and outward-facing image and audio recorders.

The installation and retrofitting of inward- and outward-facing image and audio recorders generally are eligible expenses under FTA's formula programs, including *Section 5307 – Urbanized Area Formula Grants*, *Section 5309 – Capital Investment Grants*, and *Section 5337 – State of Good Repair Grants*. Please consult with your FTA Regional Office for more information on eligible grant expenses.



Safety Bulletin 20-02: Inward- and Outward-Facing Image and Audio Recorders

Additional Resources

This Safety Bulletin and related documents can be found on the FTA Webpage link below:

[FTA Safety Bulletins](#)

External

[United States Department of Transportation. Evaluating the Safety Benefits of a Low-Cost Driving Behavior Management System in Commercial Vehicle Operations. June 27, 2010](#)

[NTSB. Inward- and Outward-facing Audio and Image Recorders as Investigative and Safety Tools. August 24, 2017](#)

[APTA Standards Development Program. Crash and Fire Protected Inward and Outward Facing Audio and Image Recorders in Rail Transit Operating Compartments. April 12, 2019](#)

[Public Transportation Agency Safety Plan regulation \(49 CFR Part 673\). July 19, 2018](#)

[FTA Grant Programs](#)

