



RAIL TRANSIT AGENCY ACCIDENT INVESTIGATIONS— BACKGROUND RESEARCH

Background

The Federal Transit Administration’s (FTA) adoption of the Safety Management System (SMS) framework elevated the approach to safety in public transit. FTA defines an SMS as “a formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of the transit agency’s safety risk mitigation” that includes systematic procedures, practices, and policies for managing risks and hazards. Event investigation, which falls under the SMS Safety Assurance component, is central to identifying causal or contributing factors in events, including accidents. Investigations are conducted for early detection and identification of hazards and address safety concerns in a permanent and effective manner, reduce the agency’s exposure to risk, promote continuous improvement, and elevate the safety of employees and the riding public. Effective accident investigations can lead to the institution of modified policies, procedures, and practices that can prevent future transit accidents. 49 Code of Federal Regulations (CFR) § 673.27 requires transit agencies to include the investigation of safety events as part of their safety assurance process in their Public Transportation Agency Safety Plan. An investigation evaluates the effectiveness of safety risk control methods and should result in corrective actions to improve those control methods where gaps are identified, providing a platform for continued monitoring, modification, and continuous improvement.

Objectives

This document complements *Effective Practices in Performing Rail Transit Agency Accident Investigations* and is intended to provide a comprehensive examination of each SMS element to broaden the understanding of how each component complements the others. Each public transit agency is responsible for tailoring its event investigation processes to its unique operating environment, the complexity of the operation, and the transit modes provided.

Findings and Conclusions

This document provides background information on leading transit industry practices for performing rail transit accident investigations and tools and resources to support the transit event investigation process.

As part of FTA’s effort to promote continuous safety improvement in the public transit industry, this background information was developed to provide rail transit agencies with leading transit industry practices for performing investigations. Each public transit agency is responsible for tailoring its event investigation processes to its unique operating environment, the complexity of the operation, and the transit modes provided. Locally-developed processes should correspond to a transit agency’s existing Standard Operating Procedures or emergency plan.

The report is organized according to each SMS element, providing a description of the organizational accountabilities, recommended policies and procedures, and components of the SMS element that supports, directs, and furthers the accident investigation process. Included are steps and considerations to direct an agency from the investigation process to the methods of safety assurance, promotion, and continuous improvement based on SMS principles. Case studies are presented to impart experiential knowledge, and appendices provide supplemental support of the topics discussed.

Benefits

Rail transit agencies will benefit from knowledge about leading transit industry practices for performing investigations, and investigator analytical and critical thinking skills will be improved to accurately identify root causes and contributing factors leading to Corrective Action Plans. Effective accident investigations can lead to modified policies, procedures, and practices that can prevent future transit accidents.

FTA Report No. 0221 Project Information

This research project was conducted by K&J Safety and Security Consulting Services and the USF Center for Urban Transportation Research (CUTR). For more information, contact FTA Project Manager Raj Wagley at (202) 366-5386 or Raj.Wagley@dot.gov.

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