CapMetro

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN (PTASP) AUDIT (#22-05)

Terry Follmer, VP of Internal Audit

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Internal Audit Report #22-05 | September 22, 2022

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Executive Summary

As part of our Fiscal Year 2022 Internal Audit Plan approved by the Capital Metro Board as required by 49 CFR Part 673, we performed an audit on the Public Transportation Agency Safety Plan (PTASP) to determine whether there were sufficient internal controls to help prevent and detect safety risks, achieve safety performance targets, and meet Federal regulatory requirements. The scope included a review of internal controls over the PTASP and analysis of collected safety data and performance against safety targets. The audit results including the objective, scope, and conclusion are as follows.

Background

In 2018, the Federal Transit Administration (FTA) issued a new PTASP (a.k.a. "Safety Plan") requirement for public transportation systems that receive federal funding under the FTA Urbanized Area Formula Grants to develop a Safety Plan by 2021[1]. Safety Plans provide an outline on how a transit agency will monitor and improve the safety outcome of their transit system. The FTA requires Safety Plans to include a comprehensive Safety Management System (SMS) that include the following components:

1) Safety Management Policy (commitment)
2) Safety Risk Management (identify, assess, prioritize)
3) Safety Assurance (mitigate, measure, monitor)
4) Safety Promotion (communication)

Additionally, the Safety Plan is required to define key safety roles within the organization (i.e., Accountable Executive, Chief Safety Officer, etc.), detail the processes behind the SMS, and annually update and certify the Safety Plan. CapMetro was able to meet the FTA deadline and completed a Safety Plan for bus and demand response operations in June 2020[2].

The Safety, Risk Management, and Accessible Services Management Department (Safety Department) oversees and administers the Safety Plan. The department's mission is to put systems in place to ensure the safety of customers, employees, and property. The Safety Department is responsible for identifying and collecting safety data (e.g., fatalities, injuries, hazardous occurrences, safety hazards in the office, improper use of heavy machinery, etc.) using various sources. Next, safety concerns are documented in the Safety Risk Register kept on Microsoft Lists if they meet the definition of a hazard (see Definition of a Hazard to the right). The Safety Risk Register tracks date, location, description, severity, likelihood of consequence, mitigation action plan, estimated mitigation date, etc., and sends an email alert to the responsible employee(s) so they can address the identified safety

> **Definition of a Hazard**
> A hazard means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

hazard. The Safety Department has implemented a process to track safety concerns or risk hazards, and they monitor and follow up on corrective actions. The biggest risk facing the Safety Department is unidentified hazards which are not mitigated in a timely manner so they have developed a Risk Register to collect safety data. See the diagram below for sources of safety data.
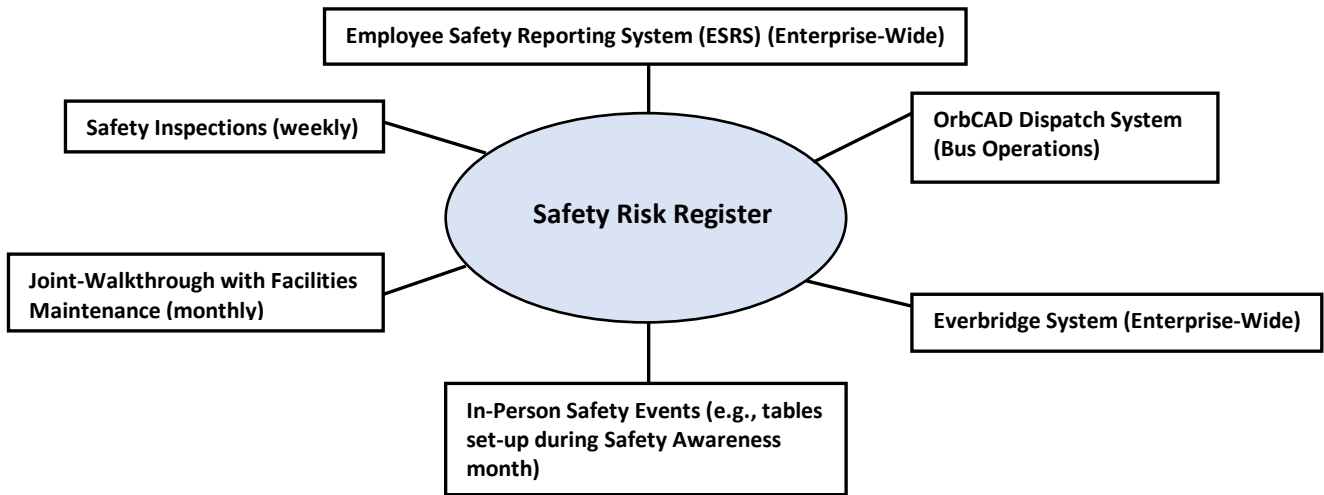
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[1] See *49 CFR Part 673 – Public Transportation Agency Safety Plans* for more details.
[2] This audit did not include rail operations (commuter and freight) because rail is governed by the Federal Railroad Administration (FRA) and not the Federal Transit Administration (FTA).

Potential Sources of Safety Data

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              ┌─────────────────────────────────────────────────────┐
              │  Employee Safety Reporting System (ESRS) (Enterprise-Wide)  │
              └─────────────────────────────────────────────────────┘
                                      │
  ┌──────────────────────────┐        │        ┌──────────────────────────┐
  │ Safety Inspections (weekly) │      │        │ OrbCAD Dispatch System    │
  └──────────────────────────┘       │        │ (Bus Operations)          │
                      \              │       /  └──────────────────────────┘
                       \    ┌─────────────────┐
                        \   │                 │
                         \  │  Safety Risk    │
                         /  │   Register      │
                        /   │                 │
  ┌──────────────────────┐ /└─────────────────┘\  ┌──────────────────────────┐
  │ Joint-Walkthrough with │      │              \ │ Everbridge System (Enterprise-Wide) │
  │ Facilities Maintenance │      │                └──────────────────────────┘
  │ (monthly)              │      │
  └──────────────────────┘       │
              ┌──────────────────────────────────┐
              │ In-Person Safety Events (e.g., tables │
              │ set-up during Safety Awareness       │
              │ month)                               │
              └──────────────────────────────────┘
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As required by federal regulations, CapMetro implemented an Employee Safety Reporting System (ESRS) in 2019. The system is available to employees on the Intranet and Safety Department staff promote the system using flyers, periodic emails (CapMetro Weekly News), and by hosting safety events and speaking with vehicle operators.

The FTA requires transit agencies to include safety performance targets in their Safety Plan, which are used by management to determine whether implemented safety risk mitigations are appropriate and effective and to determine how well safety performance is in-line with established safety objectives. While agencies can set their own safety categories and calculations, at a minimum they must include the four areas listed below. Additionally, the FTA recommends agencies should select safety performance targets that are appropriate to their operations and environment and meet the SMART requirements (specific, measurable, attainable, relevant, and time-bound). The FTA-required safety performance targets include the following four categories:

1) **Fatalities** – Total number of reportable fatalities and rate per total vehicle revenue miles by mode.
2) **Injuries** – Total number of reportable injuries and rate per total vehicle revenue miles by mode.
3) **Safety Events** – Total number of reportable events and rate per total vehicle revenue miles by mode.
4) **System Reliability** – Mean distance between major mechanical failures by mode.

The Safety Department continues to make improvements through safety committees and systems (see Appendix A for more details). They lead three safety committees at CapMetro with various responsibilities and member compositions. For example, some committees include just CapMetro employees from various departments and others include service provider employees. All of the safety committees have a common purpose of overseeing the Safety Plan's development and implementation and creating a culture of safety awareness at CapMetro. During 2022, they will begin implementing a Governance, Risk and Compliance (GRC) system that will allow them to further automate safety processes and data analytics.

Audit Objective & Scope

The primary objective of this audit was to determine whether there were sufficient internal controls related to the Public Transportation Agency Safety Plan (PTASP) to help prevent and detect safety risks, achieve safety performance targets, and meet Federal regulatory requirements. The scope included a review of internal controls over the PTASP and analysis of collected safety data and performance against safety targets.

Opinion

In our opinion, internal controls are generally in place and properly functioning over CapMetro's Safety Plan. We found the PTASP was in compliance with federal requirements, however, we identified some areas where internal controls could be further strengthened as follows:

1) *Automate the Safety Risk Register*
2) *Update and Further Develop the Safety Plan*
3) *Enhance Controls Related to ESRS*
4) *Refine Safety Performance Targets & Reporting*
5) *Develop the Safety Training Program*

More details regarding the issues/risks and recommendations can be found below in the detailed audit report. This audit was conducted in accordance with US Government Accountability Office's Generally Accepted Government Auditing Standards (GAGAS) and the Institute of Internal Auditor's International Standards for the Professional Practice of Internal Auditing. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The audit was conducted by the following staff members in the Capital Metro Internal Audit Department:

- Sarah Daigle, Internal Auditor III (Project Lead)
- Terry Follmer, VP of Internal Audit

Recommendations to strengthen controls and improve accountability were provided to management. Management agrees with the internal audit recommendations and has provided target completion dates which are included in the detailed audit report below. A follow-up audit is performed semi-annually (i.e. May and November) to ensure management action plans for all issued audit reports are completed timely.

We appreciate the cooperation and assistance provided to us throughout this audit.

Issues & Risk	Recommendation	Management Action Plan
1. AUTOMATE THE SAFETY RISK REGISTER The Safety Department collects safety information from safety inspections, joint walkthroughs with Facilities Maintenance, in-person safety events, Employee Safety Reporting System, etc., and tracks them in a Safety Risk Register. However, this is a manual process and there is no centralized system to collect entity-wide safety data so processes can be further automated, and information can be used to identify trends, recommend trainings, etc. In October 2022, the Safety Department will start the implementation of the GRC system which will help automate the Safety Risk Register.	The Director of Safety should complete the following: a) Automate the Safety Risk Register and related data feeds (i.e., OrbCAD, Everbridge, ESRS, safety inspections, etc.) as part of the GRC implementation. Additionally, ensure key service provider employees can directly add safety concerns to the system to help with coordination.	Management agrees with the recommendations. **Target Completion Date**: December 31, 2023

Issues & Risk	Recommendation	Management Action Plan
2. UPDATE AND FURTHER DEVELOP THE SAFETY PLAN The purpose of the Safety Plan is to establish a structured safety management approach and address applicable FTA requirements. However, we identified the following areas of improvement: • The Safety Plan did not reflect certain Demand Response inputs. • Some safety processes documented in the Safety Plan were not fully developed in practice. For example, safety data comes from several sources, however, the frequency and method the information should be pulled and input into the Safety Risk Register is not defined. • The Safety Plan includes a survey to collect safety data, however, currently no surveys are conducted. • While the Safety Plan was signed and certified by management in 2020, it was not updated, signed, and recertified in 2021, due to staffing changes. The FTA requires this on an annual basis. As a result, we found the current Safety Plan didn't always reflect current practices.	The Director of Safety should complete the following: a) Continue to develop the safety processes listed in the Safety Plan using committees, safety data, best practices, etc. b) Ensure appropriate Demand Response inputs are documented in the Safety Plan. c) Send out yearly safety risk surveys to members of management as outlined in the Safety Plan. d) Ensure the Safety Plan is updated, signed, certified on a yearly basis as required by the FTA.	Management agrees with the recommendations. **Target Completion Date**: December 31, 2023

Issues & Risk	Recommendation	Management Action Plan
3. ENHANCE CONTROLS RELATED TO ESRS We analyzed the ESRS data for Bus Operations and found, on average, there were 6 (255 total reports over 42 months) safety reports per month. Safety reports came from the following sources: **Sources of Reported Data for ESRS** **January 2019 - June 2022** | Source	Total #	%
Unknown/Anonymous	189	74%
CapMetro	41	16%
Bus - Service Provider	22	9%
Other	3	1%
Total:	**255**	**100%** | We noted the following opportunities for improvement: • According to the Safety Plan, reported safety issues should be closed within 14 days. However, the average number of days to close an issue in ESRS was 99 days. While not all safety issues can be resolved within 14 days, staff should work towards addressing issues in a more timely manner. As a note, 43 safety concerns weren't closed in ESRS, and as a result, not included in this calculation. • The Safety Plan doesn't explicitly state employee protections for reporting safety issues (i.e., protection from retaliation and confidentiality). Management will be implementing a GRC solution which may be able to replace the current ESRS intake system.	The Director of Safety should complete the following: a) Automate ESRS as part of the GRC implementation and add a risk rating (low, medium, high) to each hazard, and assign target days to close based upon risk rating. b) Assign and document the ESRS operations process owner in the Safety Plan for further clarification. The process owner should work towards lowering the time it takes to resolve safety concerns so it's closer to the 14-day goal or, alternatively, revise the target goal. c) Update the Safety Plan to explicitly state how employees are protected when they report safety concerns (i.e. protection from retaliation and confidentiality).	Management agrees with the recommendations. **Target Completion Date**: 3a) December 31, 2023 3b) December 31, 2022 3c) December 31, 2022

Issues & Risk	Recommendation	Management Action Plan
4. SAFETY PERFORMANCE TARGETS & REPORTING CapMetro has developed safety performance targets for fatalities, injuries, safety events, and system reliability (see Appendix B). These safety performance targets are compared to actual results to help the Safety Department determine whether CapMetro has achieved successful safety performance and make any necessary adjustments. We reviewed the fatality, injury, and safety event targets and identified the following areas of improvement: • Safety performance targets set in 2020 were not calculated in a timely manner after being established (i.e., 7 months after year-end) due to the COVID-19 pandemic and limited resources. As a note, the Safety Department creates a separate monthly safety report with statistics, so they are calculating safety data just not the targets from the Safety Plan. • We calculated safety performance and compared it to the targets using data submitted to the National Transit Database (NTD) and found Bus Operations did not meet any of the targets and Demand Response did not meet 2 of the 3 targets (see Appendix B). This could be a result of setting unattainable targets or a lack of developed safety processes and service provider monitoring. • While CapMetro's safety performance targets include rates, they do not include total incident numbers, as required by federal regulations.	The Director of Safety should complete the following: a) Calculate and refine or adjust safety performance targets every year so that safety performance can be evaluated and continually improved upon. Document this frequency in the Safety Performance Target section of the Safety Plan. b) Present safety performance targets to executive management and service providers on a quarterly basis to help improve CapMetro's safety awareness. c) Use benchmark data from other transit agencies to improve our standard calculation of safety performance targets.	Management agrees with the recommendations. **Target Completion Date**: 4a) December 31, 2022 4b) March 31, 2023 4c) December 31, 2022

Issues & Risk	Recommendation	Management Action Plan
5. FURTHER DEVELOP THE SAFETY TRAINING PROGRAM Federal regulations require transit agencies to implement a comprehensive safety training program for employees and service providers. At CapMetro, the service provider was previously required to provide safety training to employees, but now CapMetro is responsible for all training and in the process of developing a training academy. We found the safety training process for Bus Operations could be further strengthened as follows: • While training is provided for new employees and includes safety elements, there is currently no separately defined or formalized safety training standard. The Safety Plan lists examples of safety training, but it is not fully detailed, and the training academy is still being developed. • Historically, CapMetro doesn't use collected safety data or recommendations from the Safety Department staff to supplement the yearly training program. This data helps ensure training is focused on current and relevant safety issues, instead of just relying on a generic training program.	The Director of Safety should complete the following: a) Further formalize the safety training program by defining and documenting the safety curriculum within the standard training program. Additionally, define and document the frequency, type of training by position, and any refresher trainings. b) Change the training process to include input from the Safety Department every year to ensure current safety issues are addressed and implemented in the training program, as necessary.	Management agrees with the recommendations. **Target Completion Date**: September 30, 2023

Appendix A – Safety Committees

Number	Name	Composition	Meeting Frequency	Responsibilities
1	Safety Management Systems Committee (SMSC)	CapMetro employees from various departments	Monthly	▪Responsible for overseeing the safety plan's development and implementation. ▪Review agency progress toward meeting safety performance targets and review JHSC recommendations. ▪Support SMTSC by serving as subject matter experts of their operational area during SMS implementation. ▪Provide expertise on how to adapt existing practices for the SMS, identify and develop employee safety reporting tools, and identify data and information resources. ▪Conduct safety assurance activities as it relates to adherence to the Capital Metro Safety Management Policy, Safety Risk Management, Safety Assurance, and Safety Promotion and its subcomponents.
2	Joint Health and Safety Committee (JHSC)	CapMetro employees, Bus - Service Provider Employees, & Demand Response - Service Provider Employees	Monthly	▪Responsible for overseeing the safety plan's development and implementation ▪Review performance targets and goals on a monthly basis including but not limited to leading and lagging indicators. ▪Serve as key staff for safety reporting, communication, mitigation, and monitoring.
3	Joint Labor-Management Safety Committee	Equal number of frontline employee representatives (selected by a labor organization) and management representatives	Quarterly	▪Identify and recommend risk-based mitigations or strategies necessary to reduce the likelihood and severity of consequences identified through the agency's safety risk assessment. ▪Identify mitigations or strategies that may be ineffective, inappropriate, or were not implemented as intended. ▪Identify safety deficiencies for purposes of continuous improvement.

Appendix B – Safety Performance Targets
Performance for 2021

Fixed Route Bus - Safety Performance Target Analysis						
Calendar Year 2021						
	Fatality Rate		Injury Rate		Safety Events Rate	
Year	Fatality Rate per 100,000 Revenue Miles	Was fatality goal met (0.00)?	Injury Rate per 100,000 Revenue Miles	Was the injury goal met (0.35)?	Safety Events Rate per 100,000 Revenue Miles	Was safety events goal met (0.20)?
2021	0.01	No	0.41	No	0.51	No
*Source: Data pulled from the FTA's National Transit Database (https://www.transit.dot.gov/ntd).						

Demand Response - Safety Performance Target Analysis						
Calendar Year 2021						
	Fatality Rate		Injury Rate		Safety Events Rate	
Year	Fatality Rate per 100,000 Revenue Miles	Was fatality goal met (0.00)?	Injury Rate per 10,000 Revenue Miles	Was the injury goal met (0.25)?	Safety Events Rate per 100,000 Revenue Miles	Was safety events goal met (0.08)?
2021	0.02	No	0.02	Yes	0.42	No
*Source: Data pulled from the FTA's National Transit Database (https://www.transit.dot.gov/ntd).						