

Public Transportation Safety Performance Measurement Education and Training

Project Number:

21SAOSU02

Start Date:

08/01/2021

Principal Investigator(s):

Samir A. Ahmed

Oklahoma State University

Lead Institution:

Oklahoma State University

Funding Source(s):

Tran-SET

Oklahoma State University

Total Project Cost:

\$ 110,000

Developing and implementing a public transportation safety performance measurement education/training

Public Transportation consists of a variety of modes including buses, light-rail/streetcars, heavy rail (metro/subway), commuter trains, cable cars, paratransit, ferries and water taxis. Historically, public transportation systems in the U.S. have been among the safest modes of surface transportation in terms of fatalities, injuries and reported safety events. In recent years, however, the risk and vulnerability of public transportation systems to catastrophic accidents have been on the rise. This is due to the growing ridership and service complexities, aging infrastructure and equipment, turnover in the transit workforce, and the quality of safety policies, procedures, and training. In Section 20021 of the Moving Ahead for Progress in the 21st Century Act (MAP-21), which is codified at 49 U.S.C. 5329, Congress directed the Federal Transit Administration (FTA) to establish a comprehensive Public Transportation Safety Program. One element of this program is the requirement for operators of public transportation systems to develop and implement Public Transportation Agency Safety Plans (PTASP) based on the Safety Management System (SMS) approach. The aim of this study is to develop and implement Public Transportation Safety Performance Measurement Education/Training Course Material based on the recent research conducted by the PI.

Objectives

The aim of this study is to develop and implement Public Transportation Safety Performance Measurement Education/Training Course Material based on the recent research conducted by the PI. The project has two main objectives: (1) to survey, review and evaluate the existing body of knowledge and the state of practice regarding safety performance measurement; and (2) to synthesize this information and package the results into a "Public Transportation Safety Performance Measurement Education/Training Course Material" for use by transit agencies in developing their safety performance measurement system which is a key component of the agency's PTASP regulation at 49 CFR §673.11

Problem Statement

The risk and vulnerability of public transportation systems to catastrophic accidents have been on the rise in recent years. This is due to the growing ridership and service complexities, aging infrastructure and equipment, turnover in the transit workforce, and the quality of safety policies, procedures, and training. From 2004 to 2016, the National Transportation Safety Board (NTSB) reported on eleven transit accidents that, collectively, resulted in 16 fatalities, 386 injuries, and over \$30 million in property damages. During that same 2004-2016 time period, transit agencies reported over 290,000 incidents and other events, more than 2,600 fatalities, and over 301,000 injuries to the National Transit Database (NTD).



Figure 1. SMS Processes

Intended Implementation of Research

This project will develop learning resources designed to further the professional capacity development and skills of the U.S. transit industry workforce. Webinar presentation will be made at the conclusion of the technical part of the project. Furthermore, the technical results will be published in archival journals and presented at conferences attended by representatives of industry and academia. The developed training materials will be made available to transit agencies, DOTs and MPOs in Region 6. The outreach activities conducted in this study will focus on transit safety practitioners and managers. The researchers will leverage and participate in Tran-SET's programmatic outreach activities.

Anticipated Impacts/Benefits of Implementation

This project develops needed professional capacity building resources to assist public transportation agencies in Region-6 in building and implementing safety performance measurement system to meet the requirements of the Public Transportation Agency Plan (PTASP) regulation at 49 CFR §673.11 (a)

Web links

- Tran-SET's website
<https://transet.lsu.edu/research-in-progress/>

Tran-SET

Tran-SET is Region 6's University Transportation Center. It is a collaborative partnership between 11 institutions (see below) across 5 states (AR, LA, NM, OK, and TX). Tran-SET is led by Louisiana State University. It was established in late November 2016 "to address the accelerated deterioration of transportation infrastructure through the development, evaluation, and implementation of cutting-edge technologies, novel materials, and innovative construction management processes".

Learn More

For more information about Tran-SET, please visit [our website](#), LinkedIn, Twitter, Facebook, and YouTube pages. Also, please feel free to contact Dr. Momen Mousa (Tran-SET Program Manager) directly at transet@lsu.edu.

