TRB Snap Search: Rail Safety Innovations

TRB’s involvement in research on Rail Safety Innovations from 2021-2023

The Transportation Research Board (TRB) provides innovative, research-based solutions to improve how we move. TRB is part of the National Academies of Sciences, Engineering, and Medicine, an independent, non-profit institution that provides objective advice on scientific, engineering, and medical issues.

A resource to the nation and to the transportation community worldwide, TRB provides an extensive portfolio of services:

- Opportunities for information exchange on current transportation research and practice
- Management of cooperative research and other research programs
- Analyses of national transportation policy issues and guidance on federal and other research programs
- Publications and access to research information from around the world

All available Snap Searches can be accessed online here: http://www.trb.org/InformationServices/Snap.aspx

TRB Research

TRID – The world's largest and most comprehensive bibliographic source on all modes and disciplines of transportation

- Click here to view search results on TRB published research Rail Safety Innovations within the past two years.

Specialty Reports

- Critical Issues in Transportation for 2024 and Beyond
- Critical Issues in Transportation 2019
- COVID-19 Addendum to Critical Issues in Transportation
- Racial Equity Addendum to Critical Issues in Transportation

Recent Reports & Publications

- IDEA Safety Projects
  - Report 45 - Development of a Fatigue Load for Railway Bridges
  - Report 44 - Laser-Based Non-destructive Spike Defect Inspection System
  - Report 42 - Railroad Tunnel Inspections for Maintenance and Replacement Prioritization Using Untethered Ground Penetrating Radar and LIDAR Capable Unmanned Aerial Vehicles (UAVs)
  - Report 38 - Minimization of Weld Failures by Means of Gas and Shrinkage Porosity Reduction
  - Report 37 - Measuring Behavior of Railroad Bridges under Revenue Traffic using Lasers and Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation

- National Cooperative Highway Research Program (NCHRP)
  - IDEA Report 190 - Self-de-icing LED Signals for Railroads and Highway Intersections
  - Report 998 - Planning Freight-Efficient Land Uses: Methodology, Strategies, and Tools

- Transit Cooperative Research Program (TCRP)
  - IDEA Report 95 - Connected and Automated Parking Feasibility – A Pilot Study
  - IDEA Report 92 - Augmented Reality Dispatcher Interface
  - Report 235 - Improving Access and Management of Public Transit ITS Data
  - Report 233 - Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way, Volume 1: Guidebook
  - Report 233 - Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way, Volume 2: Research Overview

Current & Upcoming Projects

Updated 11/22/2022
• **Current Projects**
  o NCHRP 17-99 - Assessing Safety Effectiveness of Treatments and Technologies at Highway-Rail Grade Crossings
  o NCHRP 22-53 - Development of Guidance for Enhanced Delineation of Barriers and other Roadside Safety Hardware, Slopes, and Hazards
  o TCRP D-19 - Detecting and Mitigating Low-Level DC Fault Currents in Transit Systems (Phase II TCRP Project D-17)
  o TCRP D-21 - Planning for Innovation & Emerging Mobility Futures at Intermodal Passenger Facilities
  o TCRP J-05/Topic 19-03 - Navigating the Complexities of Sensitive Security Information (SSI) and Protected Critical Infrastructure Information (PCI)

• **Upcoming Projects**
  o ACRP 03-74 - ACRP WebResource to Support Research into Air Traveler Choice Models
  o NCHRP 08-156 - Planning for Innovative and Emerging Mobility Futures at Intermodal Passenger Facilities
  o NCHRP 08-158 - A Compendium for Communicating the Value of Freight and Community Interactions
  o NCHRP 15-79 - Development of Guidance for Non-Standard Roadside Hardware Installations
  o NCHRP 20-123[16] - Roadmap for the Transformation to Computer Simulation-Based Assessment of Bridge Railings
  o TCRP B-50 - Accessible Public Bus and Rail Passenger Information for Riders with Vision Disabilities
  o TCRP J-05/Topic 20-02 - Liability Insurance Issues for Transit Lawyers: A Primer

Reports from the [National Academies Press](https://www.nap.edu) on Safety Innovations

  o [Innovation, Global Value Chains, and Globalization Measurement](https://www.nap.edu)
  o [Human-AI Teaming: State-of-the-Art and Research Needs](https://www.nap.edu)
  o [Investing in Resilient Infrastructure in the Gulf of Mexico](https://www.nap.edu)
  o [Service Life Assessment and Predictive Modeling for an Aging Critical Infrastructure](https://www.nap.edu)
  o [Engineering for Pandemics: Preparedness, Response, and Recovery](https://www.nap.edu)
  o [The Future of Electric Power in the United States](https://www.nap.edu)

Committees & Panels

**Sign-up to be a committee "Friend"**

**TRB Standing Committees** – Search by transportation mode and committee topic

  o **AMR30** - Transportation for National Defense
  o **AP065** - Rail Transit Systems
  o **AP075** - Light Rail Transit
  o **AR000** - Rail Group
  o **AR010** - Passenger Rail Transportation
  o **AR020** - Rail Rolling Stock and Motive Power
  o **AR030** - Railroad Operating Technologies
  o **AR040** - Freight Rail Transportation
  o **AR050** - Railroad Infrastructure Design and Maintenance
  o **AR060** - Rail Transit Infrastructure Design and Maintenance
  o **AR070** - Rail Safety
  o **AR080** - Highway/Rail Grade Crossings
  o **E1008** - Rail Safety Innovations Deserving Exploratory Analysis (IDEA)

**Task Forces** - Search for *task force* under committee here

Panels

  o **D1799** - Best Practices in Coordination of Public Transit and Ride Sharing
  o **STSA59** - Electronic Surveillance of Railroad-Highway Crossings for Collision Avoidance, State of the Practice
  o **TD07** - Joint Track-Related Research with Assn of American Railroads -- Transportation Technology Center, Inc.

Councils

  o **A001C** - Young Members Coordinating Council

Recent and Upcoming Events

**Upcoming TRB Conferences** – Use left hand menu to filter events

  **Innovations in Travel Analysis and Planning Conference**
  
  *June 4-6, 2023*
  
  *Indianapolis, IN*
Upcoming Events – In the Upcoming Events tab under Types, choose what event you are interested in, search titles by keyword

Past Events - In the Past Events tab under Types, choose what event you are interested in, search titles by keyword

**TRB’s Transportation Research Information Services (TRIS)**

TRIS includes the TRB Library and the TRIS Databases (listed below) which are available free on TRB’s website.

The TRB Library provides information services to TRB staff, sponsors, TRB Committee members and panels and researchers. Access to the TRB Library is a benefit to TRB sponsors and TRB committee members.

In cooperation with your State DOT Library or Information Service, the TRB Library provides:

- Reference and research assistance
- Literature searches
- Articles for TRB Committee work

The TRB Library provides training on effective and efficient use of the following TRIS resources:

- **Transportation Research International Documentation (TRID)** – [trid.trb.org](http://trid.trb.org) - The world’s largest and most comprehensive bibliographic source on all modes and disciplines of transportation
- **Transportation Research Thesaurus (TRT)** – [trt.trb.org](http://trt.trb.org) - A tool to improve the indexing and retrieval of transportation information.
- **Research in Progress (RiP) Database** – [rip.trb.org](http://rip.trb.org) - Current or recently completed transportation research projects
- **Publications Index (PubIndex) Database** – [pubsindex.trb.org](http://pubsindex.trb.org) - The papers, articles and reports published by the Transportation Research Board, Strategic Highway Research Programs or the Marine Board

Contact or Questions: TRBLibrary@nas.edu