TRB Snap Search: Safety & Human Factors

TRB’s involvement in research on Safety & Human Factors from 2019-2020

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](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 on Safety & Human Factors within the past year.

**Subject Webpages**

- [Safety & Human Factors Research at TRB](http://www.trb.org/)
- [Behavioral Traffic Safety Cooperative Research Program (BTSCRP)](http://www.trb.org/)

**Specialty Report**

- [Critical Issues in Transportation 2019](http://www.trb.org/)

**Recent Reports & Publications**

- [Airport Cooperative Research Program (ACRP)](http://www.trb.org/)
  - [Report 212](http://www.trb.org/) - Airports and Unmanned Aircraft Systems, Volume 1: Managing and Engaging Stakeholders on UAS in the Vicinity of Airports
  - [Report 212](http://www.trb.org/) - Airports and Unmanned Aircraft Systems, Volume 2: Incorporating UAS into Airport Infrastructure—Planning Guidebook
  - [Report 212](http://www.trb.org/) - Airports and Unmanned Aircraft Systems, Volume 3: Potential Use of UAS by Airport Operators
  - [Report 206](http://www.trb.org/) - Guidebook on Effective Land Use Compatibility Planning Strategies for General Aviation Airports
  - [Report 201](http://www.trb.org/) - Airport Emergency Communications for People with Disabilities and Others with Access and Functional Needs
  - [Synthesis 106](http://www.trb.org/) - Airport Risk Identification and Prioritization Practices
  - [Synthesis 101](http://www.trb.org/) - Communication Strategies for Airport Passenger Access and Mobility
  - [Synthesis 95](http://www.trb.org/) - Airport Incident Reporting Practices

- [Conference Proceedings](http://www.trb.org/)
  - [Proceedings 55](http://www.trb.org/) - Airport Roles in Reducing Transmission of Communicable Diseases

- [IDEA Projects](http://www.trb.org/)
  - [Safety IDEA 34](http://www.trb.org/) - Prototype System for Managing and Analyzing Enterprise Rail Transport Risks of Hazardous Materials
  - [Transit IDEA 86](http://www.trb.org/) - Advanced Neutral Temperature Estimation using Solitary Waves (ANTEUSW)
  - [Transit IDEA 85](http://www.trb.org/) - Location Aware Networks Optimizing Use of Transit Systems by Blind Travelers

- [National Cooperative Highway Research Program (NCHRP)](http://www.trb.org/)
  - [NCHRP 25-25/Task 105](http://www.trb.org/) - A Guidebook for Communications between Transportation and Public Health Communities
  - [NCHRP 20-07/Task 420](http://www.trb.org/) - Road User Understanding of Bicycle Signal Symbol Indications
  - [NCHRP 22-36](http://www.trb.org/) - Synthesis of the Performance of Portable Concrete Barrier Systems
  - [NCHRP 17-76](http://www.trb.org/) - Guidance for the Setting of Speed Limits

Updated 06/05/2020
- NCHRP 17-77 - Guide for Quantitative Approaches to Systemic Safety Analysis
- NCHRP 08-36/Task 146 - Economic Resilience and Long-Term Highway/Transportation Infrastructure Investment
- NCHRP 05-22 - Guidelines for Solid-State Roadway Lighting
- Report 941 - Bicyclist Facility Preferences and Effects on Increasing Bicycle Trips
- Report 932 - A Research Roadmap for Transportation and Public Health
- Report 930 - Security 101: A Physical and Cybersecurity Primer for Transportation Agencies
- Report 926 - Guidance to Improve Pedestrian and Bicyclist Safety at Intersections
- Report 911 - Guidelines for Slope Traversability
- Report 910 - Design Guidelines for Horizontal Sightline Offsets
- Report 904 - Leveraging Big Data to Improve Traffic Incident Management
- Report 901 - Prioritization Procedure for Proposed Road–Rail Grade Separation Projects Along Specific Rail Corridors
- Report 894 - Performance of Longitudinal Barriers on Curved, Superelevated Roadway Sections
- Synthesis 535 - Pedestrian Safety Relative to Traffic-Speed Management
- Synthesis 533 - Very Short Duration Work Zone Safety for Maintenance and Other Activities
- Web-Only Document 273 - Road User Understanding of Bicycle Signal Faces on Traffic Signals

**Transit Cooperative Research Program (TCRP)**
- Report 212 - Stray Current Control of Direct Current-Powered Rail Transit Systems: A Guidebook
- Synthesis 146 - Transit Security Preparedness
- Synthesis 145 - Current Practices in the Use of Onboard Technologies to Avoid Transit Bus Incidents and Accidents

**Transportation Research Circulars**
- E-Circular 250 - Drug-Impaired Driving: Research Needs
- E-Circular 243 - SHRP 2 Safety Data Student Paper Competition 2017-2019
- E-Circular 242 - A Literature Review of Rail Trespassing and Suicide Prevention Research

**Current & Upcoming Projects**

**Current Projects**
- ACRP 03-49 - Effective Collaboration to Plan and Respond to Communicable Disease Threats
- ACRP 03-48 - Advanced Ground Vehicle Technologies (AGVT) for Airside Operations
- ACRP 04-19 - Airport Emergency Planning Template: NIMS - Incident Command System Compliance
- ACRP 08-03 - Construction Safety and Phasing Plans
- ACRP 11-01/Topic 10-04 - Updated Survey of Laws and Regulations Applicable to Airport Commercial Ground Transportation
- ACRP 11-02/Task 36 - Research Roadmap on Safety Issues
- ACRP Synthesis 11-03/Topic S04-21 - Models for Law Enforcement at Airports
- ACRP Synthesis 11-03/Topic S04-25 - Escalator Falls
- BTSCRP BTS-01 - Guidance for Employer-Based Behavioral Traffic Safety Programs for Drivers in the Workplace
- BTSCRP BTS-02 - Guide for Behavioral Traffic Safety Messaging on Variable Message Signs
- BTSCRP BTS-03 - Examining the Implications of Legislation and Enforcement on Electronic Device Use While Driving
- BTSCRP BTS-04 - Tracking State Traffic Citation and Adjudication Outcomes
- BTSCRP BTS-06 - MPO and SHSO Coordination on Behavioral Traffic Safety
- BTSCRP BTS-08 - Use of SHRP2 Naturalistic Driving Study Database to Improve Teen Driving Safety: Phase 1 Proof of Concept
- BTSCRP BTS-09 - The Influence of Infrastructure Design on Distracted Driving
- NCHRP 03-119 - Application of MASH Test Criteria to Breakaway Sign and Luminaire Supports and Crashworthy Work-Zone Traffic Control Devices
- NCHRP 03-127 - Cybersecurity of Traffic Management Systems
- NCHRP 03-130 - Guide for Roundabouts
- NCHRP 03-132 - Guidance for Safe and Effective Temporary Traffic Control for Mobile Operations on Two-Lane Two-Way Roadways
- NCHRP 03-133 - Traffic Signal Design and Operations Strategies for Non-Motorized Users
- NCHRP 03-134 - Determination of Encroachment Conditions in Work Zones
- NCHRP 03-135 - Wrong-Way Driving Solutions, Policy, and Guidance
- NCHRP 05-23 - Effects of LED Roadway Lighting on Driver Sleep Health and Alertness
- Evaluation of Bridge Rail Systems to Confirm AASHTO MASH Compliance
- Determination of Zone of Intrusion Envelopes under MASH Impact Conditions for Barrier
- Multi-State In-Service Performance Evaluations of Roadside Safety Hardware
- Development of Methods to Evaluate Side Impacts for Next Edition MASH
- Crash Modification Factors for Intelligent Transportation Systems (ITS) Applications
- Updating Safety Performance Functions for Data-Driven Safety Analysis
- Developing Safety Performance Functions for Rural Two-Lane Highways that Incorporate Speed Measures
- Updating Safety Performance Functions for Data-Driven Safety Analysis
- Crash Modification Factors for Intelligent Transportation Systems (ITS) Applications
- Guidelines for Drafting Liability Neutral Transportation Engineering Documents
- Implementation of NCHRP Research Report 893: The Oregon DOT Statewide Pedestrian and Bicycle Plan
- Opportunities for State DOTs (and Others) to Encourage Shared Use Mobility Practices in Rural Areas
- Lessons Learned and Impacts to Date of State DOT Implementation of New Federal Transit Asset Management and Public Transportation Agency Safety Requirements
- Cybersecurity Implications of CV/AV Technologies on State and Local Transportation Agencies
- State DOT Contributions to the Study, Investigation, and Interdiction of Human Trafficking
- Deploying Transportation Security Practices in State DOTs
- Evaluating the Performance of Longitudinal Barriers on Curved, Superelevated Off-Ramps
- Development of Methods to Evaluate Side Impacts for Next Edition MASH
- Multi-State In-Service Performance Evaluations of Roadside Safety Hardware
- Determination of Zone of Intrusion Envelopes under MASH Impact Conditions for Barrier Attachments
- Evaluation of Bridge Rail Systems to Confirm AASHTO MASH Compliance
- Development of a Barrier Design to Accommodate Vehicles, Pedestrians, and Cyclists
- Development of MASH TL-3 Deflection Reduction Guidance for 31-inch Guardrail
- NCHRP 22-39 - Guardrail Performance at Various Offsets from Curb MASH TL-3 Applications
- NCHRP 22-40 - Update to AASHTO M 180-18 and Associated Highway Guardrail Specifications
- NCHRP IDEA 20-30/IDEA 203 - Safer Cushions
- NCHRP IDEA 20-30/IDEA 206 - From Location Tracking to Continuous Interpretation: Rule-Based Automated Safety Work Zone Safety
- NCHRP IDEA 20-30/IDEA 212 - Non-Gating Guardrail End Terminals
- NCHRP IDEA 20-30/IDEA 214 - An Enhanced Network-Level Curve Safety Assessment and Monitoring Using Mobile Devices
- NCHRP IDEA 20-30/IDEA 217 - A Real-Time Proactive Intersection Safety Monitoring and Visualization System Based on Radar Sensor Data
- NCHRP Synthesis 20-05/Topic 51-03 - Pavement Markings Placement and Removal Practices and Its Effect on Work Zone Safety
- NCHRP Synthesis 20-05/Topic 50-04 - Utility Pole Safety and Hazard Evaluation Approaches
- Safety IDEA Project 33 - Adaptive Prestressing System for Concrete Crossties
- Safety IDEA Project 36 - Onboard High-Bandwidth Fiber Optic Sensing System for Broken Rail Detection
- Safety IDEA Project 40 - Using Light to Reduce Fatigue and Improve Alertness in Railway Operations
- Safety IDEA Project 41 - Vibration-based Longitudinal Rail Stress Estimation Exploiting Contactless Measurement and Machine Learning
- TCRP A-44 - Strategies for Deterring Trespassing on Rail Transit and Commuter Rail Rights-of-Way
- TCRP B-46 - Tactile Wayfinding in Transportation Settings for Travelers Who Are Blind or Visually Impaired
- TCRP F-26 - Improving the Health and Safety of Transit Workers with Corresponding Impacts on the Bottom Line
- TCRP F-27 - Characteristics and Elements of Non-Punitive Employee Safety Reporting Systems for Public Transportation
- TCRP G-17 - Assessing Lifecycle and Human Costs of Bus Operator Workstation Design and Components
- TCRP J-05/Topic 18-02 - Codes of Conduct on Transit Vehicles and Property: Legal Issues

• **Upcoming Projects**
  - ACRP 01-44 - Airport Insurance Requirements
  - ACRP 03-57 - A Guidebook to Prepare Airports for Transformations in Wireless Connectivity
  - ACRP 04-24 - Airport Contributions to the Study, Investigation, and Interdiction of Human Trafficking
  - ACRP 06-08 - Human Factors in Airport Operations
  - ACRP 10-29 - Development of Predictive Model of Jet Blast Exposure
  - ACRP 10-30 - Guidelines for Systematically Evaluating the Effectiveness of an Airport’s Wildlife Hazard Management Plan
  - ACRP Synthesis 11-03/Topic S10-17 - Agricultural Operations on Airport Grounds
  - BTSSCR BTS-10 - E-Scooter Safety: Issues and Solutions
  - BTSSCR BTS-11 - Ensuring Child Safety in New Travel Modes
  - BTSSCR BTS-12 - State Practices Promoting Older Driver Safety
  - BTSSCR BTS-13 - Communicating Safe Behavior Practices to Vulnerable Road Users
  - BTSSCR BTS-14 - Understanding and Analyzing Crash Contributing Factors (Joint project with NCHRP 22-45)
  - BTSSCR BTS-15 - Highway Safety Strategies for Rural Communities
  - NCHRP 03-112A - Guidelines for Selecting Lane Widths on Urban and Suburban Arterials
  - NCHRP 03-139 - Next Generation of the USLIMITS2 Speed Limit Setting Expert System
  - NCHRP 03-141 - Midblock Pedestrian Signal (MPS) Warrants and Operation
  - NCHRP 05-25 - Safety Performance of LED and Variable Lighting Systems
  - NCHRP 08-139 - Methods to Prevent Bridge Strikes by Trucks/Bridge Strike Challenges, Prevention, Mitigation Strategies and Best Practices
  - NCHRP 10-109 - Modern Solutions to Safe and Efficient Work Zone Travel
  - NCHRP 15-66 - Operational Performance and Safety Effects of Arterial Weaving Sections
  - NCHRP 15-73 - Design Options to Reduce Turning Motor Vehicle–Bicycle Conflicts at Intersections
  - NCHRP 15-74 - Safety Evaluation of On-Street Bikeway Designs
  - NCHRP 15-79 - Development of Guidance for Non-Standard Roadside Hardware Installations
  - NCHRP 17-96 - Traffic Safety Culture Research Roadmap
  - NCHRP 17-97 - Strategies to Improve Pedestrian Safety at Night
  - NCHRP 17-99 - Safety Effectiveness Assessment of Advanced Highway-Rail Grade Crossing Improvements
  - NCHRP 20-102(16) - Preparing TIM Responders for Connected Vehicles and Automated Vehicles
  - NCHRP 20-102(18) - Minimum Safety Data Needed for Automated Vehicle Operations and Crash Analysis
  - NCHRP 20-113F - Topical White Papers for the TRB Forum on Automated Vehicles and Shared Mobility
  - NCHRP 22-36(01) - A Guideline for Connection Details Between Portable Concrete Barrier Segments
o **NCHRP 22-42** - Impact Performance Assessment of Barrier Performance at High Speeds
o **NCHRP 22-43** - Developing Testing Protocol for a Family of Devices - Signs, Breakaway Poles, and Work Zone Devices
o **NCHRP 22-44** - A Transportation Agency Data Collection Practice for Use with In-Service Performance Evaluations (ISPEs)
o **NCHRP 22-45** - Understanding and Analyzing Crash Contributing Factors
o **NCHRP 22-46** - Supporting Data-Driven Decision Making through an Expansion of the Human Factors Guidelines for Road Systems
o **NCHRP 22-47** - Incorporating Driver Behavior Considerations in Safety Performance Estimates of Infrastructure Improvements
o **NCHRP 22-48** - Development of Crash Prediction Models for Short-Term Durations
o **NCHRP 22-49** - The Effect of Vehicle Mix on Crash Frequency and Crash Severity
o **NCHRP 22-50** - Crashworthiness of Roadside Hardware on Curbed Roadways
o **NCHRP 22-51** - Evaluation of MASH 2016 Soil Specifications and Procedures
o **NCHRP 23-05** - Guidance for Training and Certification of Construction Inspectors for Transportation Infrastructure
o **NCHRP 23-09** - Scoping Study to Develop the Basis for a Highway Standard to Conduct an All-Hazards Risk and Resilience Analysis
o **NCHRP Synthesis 20-05/Topic 52-08** - Practices for Balancing Safety Investments in a Comprehensive Safety Program
o **NCHRP Synthesis 20-05/Topic 52-09** - Use of Safety Management Systems in Managing Highway Maintenance Worker Safety
o **NCHRP Synthesis 20-05/Topic 52-11** - Use of Smart Work Zone Technologies for Improving the Safety of Workers and Drivers Affected by Work Zone Activity

**Reports from the National Academies Press on Safety & Human Factors**

- Artificial Intelligence Applications for Older Adults and People with Disabilities - Balancing Safety and Autonomy
- The Human Factors of Process Safety and Worker Empowerment in the Offshore Oil Industry
- A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century
- In-Time Aviation Safety Management: Challenges and Research for an Evolving Aviation System

**Committees & Panels**

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

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

- **ACH10** – Pedestrians
- **ACH20** – Bicycle Transportation
- **ACH30** – Human Factors of Vehicles
- **ACH40** – Human Factors of Infrastructure Design and Operations
- **ACH50** – Road User Measurement and Evaluation
- **ACH60** – Vehicle User Education, Training, and Licensing
- **ACS10** – Transportation Safety Management
- **ACS20** – Safety Performance Analysis
- **ACS50** – Impaired in Transportation
- **ACS60** – Truck and Bus Safety
- **AKD20** – Roadside Safety Design
- **AKD80** – Roundabouts and other Intersection Design and Control Strategies
- **AL070** – Tort Liability and Risk Management
- **AME60** – Accessible Transportation and Mobility
- **AN000** – Safety and Systems Users Group
- **ANB00** – Safety
- **ANB23** – Highway Safety Workforce Development
- **ANB40** – Traffic Law Enforcement
- **ANB45** – Occupant Protection
- **ANB60** – Safe Mobility of Older Persons
- **AND00** – Users Performance
- **AND40** – Visibility
- **ANF30** – Motorcycles and Mopeds
- **AR070** – Rail Safety
- **AR080** – Highway/Rail Grade Crossings
- **AT040** – Transportation of Hazardous Materials
Task Forces - Search for task force under committee here

Policy Study
- B0110 - Commercial Truck and Bus Safety Synthesis Program
- B0140 - Offshore Oil and Gas Safety Culture: A Framing Study

CRP Panels
- Project Panels Related to Safety & Human Factors

Councils
- A001C – Young Members Coordinating Council

Recent and Upcoming Events

Upcoming Conferences - Left hand menu "upcoming conferences by topic"
(Conferences cosponsored by TRB are denoted with an asterisk.)

Joint Committee Meeting: TRB Roadside Safety Design and AASHTO Technical Committee on Roadside Safety
July 26-31, 2020
Savannah, GA

Bridging Transportation Researchers Online Conference*
August 11-12, 2020
Online

TRB Transit Safety and Security Conference and APTA Mid-year Safety and Security Seminar
November 16, 2020
Washington, DC

10th International Conference on Bridge Maintenance, Safety, and Management (IABMAS2020)*
April 11-15, 2021
Sapporo, Japan

24th National Conference on Rural Public and Intercity Bus Transportation
October 24-27, 2021
Charleston, SC

Webinars – View upcoming webinars, suggest a webinar or add registration information

Past Webinars
- Safety and Human Factors

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:

TRID – The world's largest and most comprehensive bibliographic source on all modes and disciplines of transportation - trid.trb.org

Publications Index (PubsIndex) Database – The papers, articles and reports published by the Transportation Research Board, Highway Research Board, Strategic Highway Research Programs or the Marine Board - pubsindex.trb.org

Research in Progress (RiP) Database – Current or recently completed transportation research projects - rip.trb.org
Research Needs Statements (RNS) – Research needs as identified by TRB Technical Activities standing committees - rns.trb.org

Contact the Library at TRBLibrary@nas.edu or (202) 334-2989