

TRB TRANSPORTATION RESEARCH BOARD

TRB Snap Search: Innovation

TRB's involvement in research on Innovation from 2021-2022

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 on Innovation in the past year.

Specialty Websites

- [Transformational Technologies](#)

Specialty Reports

- [Critical Issues in Transportation 2019](#)
- [COVID-19 Addendum to Critical Issues in Transportation](#)
- [Racial Equity Addendum to Critical Issues in Transportation](#)

Recent Reports & Publications

- [Airport Cooperative Research Program \(ACRP\)](#)
 - [Legal Research Digest 43](#) - Legal Considerations for Telecommunications at Airports
 - [Report 234](#) - Rapid Slab Repair and Replacement of Airfield Concrete Pavement
 - [Report 231](#) - Evaluating the Traveler's Perspective to Improve the Airport Customer Experience
 - [Report 227](#) - Evaluating and Implementing Airport Privatization and Public-Private Partnerships
 - [Report 223](#) - Performance Measures for State Aviation Agencies
 - [Report 222](#) - Collecting and Sharing of Operations and Safety Data
 - [Report 220](#) - Guidebook for Developing a Zero- or Low-Emissions Roadmap at Airports
 - [WebResource 10](#) - Periodic Publication on Transformative Technologies at Airports
- [National Cooperative Highway Research Program \(NCHRP\)](#)
 - [NCHRP 20-123\(09\)](#) - Feasibility Study for a Platform to Capture Innovations from State Departments of Transportation
 - [IDEA Report 220](#) - Bridge Deck Sealer Monitor: Thermal Sealcheck
 - [IDEA Report 212](#) - Non-Gating Guardrail Terminal
 - [IDEA Report 207](#) - MILDGLASS: GFRP Strand for Resilient Mild Pre-Stressed Concrete
 - [IDEA Report 203](#) - SaferCushion
 - [Report 952](#) - Guidebook for Managing Data from Emerging Technologies for Transportation
 - [Report 948](#) - Guide for Pedestrian and Bicyclist Safety at Alternative and Other Intersections and Interchanges
 - [Web-Only Document 311](#) - Improving the Efficiency and Consistency of Section 106 Compliance for State DOTs: Strategies for Project-Level Programmatic Agreements
 - [Web-Only Document 293](#) - Deploying Transportation Resilience Practices in State DOTs
- [Transit Cooperative Research Program \(TCRP\)](#)
 - [IDEA Report 95](#) - Connected and Automated Parking Feasibility – A Pilot Study

- [IDEA Report 94](#) - Evaluation of Transit Vehicle Brake Inspection through Ultrasonic Emissions Analysis
- [IDEA Report 92](#) - Augmented Reality Dispatcher Interface
- [IDEA Report 89](#) - Dynamic Vehicle to Infrastructure TCIP Communications Laboratory Proof of Concept
- [IDEA Report 88](#) - Evaluation of an Automatic, Individual Computer-Based Driver Education and Training Program
- [Report 229](#) - Assessing and Mitigating Electrical Fires on Transit Vehicles
- [Report 227](#) - Prioritization of Public Transportation Investments: A Guide for Decision-Makers
- [Report 224](#) - Guide to Joint Development for Public Transportation Agencies
- [Report 219](#) - Guidebook for Deploying Zero-Emission Transit Buses
- [Synthesis 154](#) - Innovative Practices for Transit Planning at Small to Mid-Sized Agencies
- [Web-Only Document 73](#) - Guide to Joint Development for Public Transportation Agencies: Appendices
- [Transportation Research Circulars](#)
 - [E-Circular 272](#) - Technology Exchange on Local Roads Bridge Programs

Current & Upcoming Projects

- [Current Projects](#)
 - [ACRP 01-41](#) - Airport Blockchain Implementation Guidebook
 - [ACRP 01-43](#) - Conducting Consumer Research of Air Passengers
 - [ACRP 01-46](#) - A Guide for Geospatial Data Governance Policies and Procedures
 - [ACRP 01-47](#) - A Guide to Developing a Culture of Innovation at Airports
 - [ACRP 03-49](#) - Effective Collaboration to Plan and Respond to Communicable Disease Threats
 - [ACRP 03-51](#) - Electric Aircraft of the Horizon -- An Airport Planning Perspective
 - [ACRP 03-57](#) - A Guidebook to Prepare Airports for Transformations in Wireless Connectivity
 - [ACRP 03-63](#) - Modernizing Air Cargo Operations and Infrastructure at U.S. Airports
 - [ACRP 04-25](#) - Airports and Communicable Diseases—Preparedness and Response
 - [ACRP 07-17](#) - Update to ACRP Report 40: Airport Roadway Analysis and Curbside Congestion Management Strategies
 - [ACRP 08-03](#) - Construction Safety and Phasing Plans
 - [ACRP 09-19](#) - Airfield Pavement Markings - Effective Techniques for Removal and Temporary Applications
 - [ACRP 10-32](#) - U.S. Airport Industry Adoption of Automated Ground Vehicle Systems
 - [ACRP 11-02/Task 37](#) - Periodic Report on Transformative Technology at Airports
 - [ACRP 11-02/Task 41](#) - Toward a Touchless Airport Journey
 - [BTSCRPT BTS-01](#) - Guidance for Employer-Based Behavioral Traffic Safety Programs for Drivers in the Workplace
 - [BTSCRPT BTS-02](#) - Guide for Behavioral Traffic Safety Messaging on Variable Message Signs
 - [BTSCRPT BTS-06](#) - MPO and SHSO Coordination on Behavioral Traffic Safety
 - [BTSCRPT BTS-07](#) - Assessing the Impacts of Connected, Automated, and Autonomous Vehicles on the Future of Transportation Safety
 - [BTSCRPT BTS-09](#) - The Influence of Infrastructure Design on Distracted Driving
 - [BTSCRPT BTS-12](#) - State Practices Promoting Older Driver Safety
 - [BTSCRPT BTS-15](#) - Highway Safety Strategies for Rural Communities
 - [NCHRP 03-128](#) - Business Intelligence Techniques for Transportation Agency Decision Making
 - [NCHRP 03-135](#) - Wrong-Way Driving Solutions, Policy, and Guidance
 - [NCHRP 03-140](#) - Guidelines for Applications of RFID and Wireless Technologies in Highway Construction and Asset Management
 - [NCHRP 05-22A](#) - Gaps and Emerging Technologies in the Application of Solid-State Roadway Lighting
 - [NCHRP 06-18](#) - Guide for Snow and Ice Control Operations
 - [NCHRP 08-111](#) - Effective Decision-Making Methods for Freight-Efficient Land Use
 - [NCHRP 08-118](#) - Risk Assessment Techniques for Transportation Asset Management
 - [NCHRP 08-121](#) - Accessibility Measures in Practice: Guidance for Transportation Agencies
 - [NCHRP 08-127](#) - Emerging Issues: Impact of New Disruptive Technologies on the Performance of DOTs
 - [NCHRP 08-139](#) - Guide for Preventing and Mitigating the Risk of Bridge and Tunnel Strikes by Motor Vehicles
 - [NCHRP 08-142](#) - Virtual Public Involvement: A Manual for Effective, Equitable, and Efficient Practices for Transportation Agencies
 - [NCHRP 10-109](#) - Modern Solutions to Safe and Efficient Work Zone Travel
 - [NCHRP 12-117](#) - Guidelines for Corrosion Protection of Steel Bridges Using Duplex Coating Systems
 - [NCHRP 15-67](#) - Wind Drag Coefficients for Highway Signs and Support Structures
 - [NCHRP 15-69](#) - Utility Conflict Impacts During Highway Construction
 - [NCHRP 15-72](#) - Identification of AASHTO Context Classifications
 - [NCHRP 15-77](#) - Aligning Geometric Design with Roadway Context
 - [NCHRP 17-83](#) - Briefings and Training Materials for Implementation of the Highway Safety Manual, Second Edition
 - [NCHRP 17-91](#) - Assessing the Impacts of Automated Driving Systems (ADS) on the Future of Transportation Safety

- [NCHRP 19-18](#) - Transitioning Fuel Tax Assessments to a Road Usage Charge
- [NCHRP 20-07/Task 358](#) - Reducing Risks to Worker Safety in Work Zones Due to Distracted Drivers
- [NCHRP 20-24\(138\)](#) - Collective and Individual Actions for State Departments of Transportation Envisioning and Realizing the Next Era of America's Transportation Infrastructure – Phase I
- [NCHRP 20-44\(34\)](#) - Successful Practices for State Transportation Research Office's Complying with 2 CFR 200 (NCHRP 20-111J)
- [NCHRP 20-44\(39\)](#) - Consultant Support for Implementation of Guidebook for Managing Data from Emerging Technologies
- [NCHRP 20-65/Task 79](#) - Program Management Insights for the 5310 Program (Including Sub-Grantee Consolidation and Urban 5310)
- [NCHRP 20-65/Task 81](#) - Best Practices in Rural Service Assessment
- [NCHRP 20-102\(15\)](#) - Impacts of Connected and Automated Vehicle Technologies on the Highway Infrastructure
- [NCHRP 20-102\(27\)](#) - Realistic Timing Estimates for Automated Vehicle Implementation
- [NCHRP 20-102\(28\)](#) - Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones
- [NCHRP 20-123](#) - Support for AASHTO Committees and Councils
- [NCHRP 20-127](#) - Business Case and Communications Strategies for State DOT Resilience Efforts
- [NCHRP 20-128](#) - Emergency Response: Organizational and Operational Models Used by State DOTs
- [NCHRP 22-44](#) - A Transportation Agency Data Collection Practice for Use with In-Service Performance Evaluations (ISPEs)
- [NCHRP 22-45](#) - Understanding and Analyzing Crash Contributing Factors
- [NCHRP 23-03](#) - Targeted Guidance and Information Support to State DOT CEOs on Cybersecurity Issues and Protection Strategies
- [NCHRP 23-05](#) - Addressing Construction Inspector Qualifications for the Future: Best Practices for Education, Training and Certification
- [NCHRP 23-16](#) - Implementing and Leveraging Machine Learning at State Departments of Transportation
- [NCHRP 25-57](#) - Innovative Mitigation Strategies for Highway Noise
- [NCHRP 25-59](#) - Pollinator Habitat Conservation Along Roadways
- [NCHRP 25-61](#) - Effective On-Bridge Treatment of Stormwater
- [NCHRP Synthesis 20-05/Topic 52-01](#) - Highway Infrastructure Inspection Practices for the Digital Age
- [NCHRP Synthesis 20-05/Topic 52-11](#) - Use of Smart Work Zone Technologies for Improving Work Zone Safety
- [NCHRP IDEA 20-30/IDEA 214](#) - An Enhanced Network-Level Curve Safety Assessment and Monitoring Using Mobile Devices
- [NCHRP IDEA 20-30/IDEA 224](#) - Development of an Automated and Rapid Conditioning and Testing Device for Cracking and Rutting
- [NCHRP IDEA 20-30/IDEA 225](#) - An Automated System for Large-Scale Intersection Marking Data Collection and Condition Assessment
- [NCHRP IDEA 20-30/IDEA 226](#) - A Smart IoT Proximity Alert System for Highway Work Zone Safety
- [NCHRP IDEA 20-30/IDEA 227](#) - Adjustable Cross-frames for the Erection of Steel Girder Bridges
- [NCHRP IDEA 20-30/IDEA 228](#) - A Retroreflective Road Lane Marking Tape 1,000X Brighter Than Existing Technology
- [NCHRP IDEA 20-30/IDEA 229](#) - Lab Dielectric Measurement System for Asphalt Mixture Bulk Specific Gravity Determination
- [NCHRP IDEA 20-30/IDEA 231](#) - AI Analyzer for Revealing Insights of Traffic Crashes
- [NCHRP IDEA 20-30/IDEA 233](#) - Development of an Innovative Bio-Mediated Self-Healing Concrete Technology
- [TCRP A-46](#) - Quantitative Procedures for Designing and Operating Ferry Transit Services
- [TCRP B-47](#) - Impact of Transformational Technologies on Underserved Populations
- [TCRP B-48](#) - The Provision of Alternative Services by Transit Agencies: The Intersection of Regulation and Program Objectives
- [TCRP F-28](#) - Practitioner's Guide to Bus Operator Workforce Management
- [TCRP J-05/Topic 19-02](#) - Legal Issues and Emerging Technologies
- [TCRP J-05/Topic 19-03](#) - Navigating the Complexities of Sensitive Security Information (SSI) and Protected Critical Infrastructure Information (PCII)
- [TCRP J-05/Topic 20-01](#) - Legal Issues in Transit Mega Projects--Case Studies
- [TCRP J-11/Task 40](#) - Homelessness: A Guide for Public Transportation
- [Transit IDEA J-04/IDEA 91](#) - Comprehensive Wayfinding for All (CWall)
- [Upcoming Projects](#)
 - [ACRP 06-08](#) - Human Factors in Airport Operations
 - [BTSCRIP BTS-14](#) - Informing the Selection of Countermeasures by Evaluating, Analyzing, and Diagnosing Contributing Factors that Lead to Crashes
 - [BTSCRIP BTS-20](#) - Underreporting of Impaired and Distracted Driving Behaviors in Motor Vehicle Crashes

- [BTSCRP BTS-22](#) - Effectiveness of Different Forms of Innovative Traffic Safety Messaging
- [NCHRP 03-142](#) - Evaluating the Impacts of Real-Time Warnings and Variable Speed Limits on Safety and Travel Reliability during Weather Events
- [NCHRP 03-144](#) - Leveraging Existing Traffic Signal Assets to Obtain Quality Traffic Counts
- [NCHRP 07-31](#) - State DOT Usage of Bicycle and Pedestrian Data: Practices, Sources, Needs, and Gaps
- [NCHRP 08-128](#) - Snapshots of Planning Practices
- [NCHRP 08-130](#) - Best Practices in Coordination of Public Transit and Ride Sharing
- [NCHRP 08-136](#) - Guidance on Using Performance-Based Management Approaches for Maintenance
- [NCHRP 08-144](#) - Best Practices in Determining Rural Transit Fleet Size – How to Provide Service for Changing Demographics of Rural Ridership (Right-sizing of Rural Transit Fleets)
- [NCHRP 08-151](#) - Building Risk-Management Momentum in Agencies
- [NCHRP 08-153](#) - Guidance on Improving Truck Traffic Estimates in Design Traffic Forecasts
- [NCHRP 08-155](#) - Researching and Responding to Racial Disparities in Construction
- [NCHRP 08-156](#) - Planning for Innovative and Emerging Mobility Futures at Intermodal Passenger Facilities
- [NCHRP 08-157](#) - Best Practices for Data Fusion of Probe and Point Detector Data
- [NCHRP 08-158](#) - Communicating the Value, Interactions, and Impacts of Freight to Stakeholders
- [NCHRP 09-69](#) - Verifying Quantities of Materials Used in Asphalt Mixtures at Production Facilities
- [NCHRP 10-112](#) - Guidelines for Digital Technologies and Systems for Remote Construction Inspection for Highway Infrastructure Projects
- [NCHRP 14-45](#) - Model Procedures for Post-Event Bridge Damage Assessment and Engineering Evaluation
- [NCHRP 14-47](#) - Tools and Technology for Roadside Landscape Asset Management
- [NCHRP 15-79](#) - Development of Guidance for Non-Standard Roadside Hardware Installations
- [NCHRP 15-81](#) - Guideline for Depicting Existing and Proposed Utility Facilities in Design Plans
- [NCHRP 20-06/Topic 26-03](#) - Multistate Coordination and Harmonization for AV Legislation
- [NCHRP 20-24\(132\)](#) - Understanding Knowledge Management in Context with Other Organizational Practices
- [NCHRP 20-44\(36\)](#) - Workshops on Long-Range Strategic Issues Affecting Preservation, Maintenance, and Renewal of Highway Infrastructure
- [NCHRP 20-102\(20\)](#) - Workforce Capability Strategies for State and Local Agencies
- [NCHRP 20-102\(33\)](#) - Safety of Vulnerable Road Users in a C/AV Future
- [NCHRP 20-123\(12\)](#) - System Mobility and Emerging Technologies (SMET): Strategic Planning Session and Research Roadmap Development
- [NCHRP 20-129](#) - Best Management Practices to Address Encampments on State Highway Rights of Way
- [NCHRP 23-11](#) - Transportation Emergency Management/Security Summit and Exchange
- [NCHRP 23-15](#) - Guidance on Risks Related to Emerging and Disruptive Transportation Technologies
- [NCHRP 23-19](#) - Practices for Transportation Agency Procurement and Management of Advanced Technologies
- [NCHRP 23-23](#) - Data Governance Design and Implementation - Links Between Governance Approaches and Performance Effects in DOTs
- [NCHRP 22-53](#) - Development of Guidance for Enhanced Delineation of Barriers and other Roadside Safety Hardware, Slopes, and Hazards
- [NCHRP Synthesis 20-05/Topic 53-09](#) - Use of Unmanned Aerial Systems for Highway Stormwater Inspections
- [TCRP C-25](#) - Bus Operator Barrier Design
- [TCRP D-19](#) - Phase II TCRP Project D-17 - Detecting and mitigating low level DC fault currents in transit systems thus eliminating electrical fires in tunnels and rights-of-way
- [TCRP D-21](#) - Planning for the Future of Intermodal Passenger Facilities: Guide and Decision-Making Framework
- [TCRP J-05/Topic 20-02](#) - Liability Insurance Issues for Transit Lawyers: A Primer
- [TRB/AAMVA 19-01](#) - RFQ: Demographic and Technological Trends Impacting the DMV of the Future

Reports from the [National Academies Press](#) on Innovation

- [Innovation in Drug Research and Development for Prevalent Chronic Diseases](#)
- [Enhancing Federal Clean Energy Innovation](#)
- [Learning from Rapid Response, Innovation, and Adaptation to the COVID-19 Crisis](#)
- [DoD Engagement with Its Manufacturing Innovation Institutes - Phase 2 Study Final Report](#)
- [Innovations in Pharmaceutical Manufacturing on the Horizon](#)

Committees & Panels

[Sign-up to be a committee "Friend"](#)

[TRB Standing Committees](#) – Search by transportation mode and committee topic

- [AED20](#) - Urban Transportation Data and Information Systems
- [AED80](#) - Visualization in Transportation
- [AIE35](#) - Research Innovation Implementation Management

- [AJE50](#) - Economics and Finance
- [AJL40](#) - Emerging Technology Law
- [AKB10](#) - Innovative Highway Structures and Appurtenances
- [AMR50](#) - Extreme Weather and Climate Change Adaptation
- [AP020](#) - Innovative Public Transportation Services and Technologies
- [AP025](#) - Public Transportation Planning and Development
- [AP045](#) - Passenger Intermodal Facilities
- [AT020](#) - International Trade and Transportation

Panels

- [D08130](#) - Best Practices in Coordination of Public Transit and Ride Sharing
- [D08144](#) - Best Practices in Determining Rural Transit Fleet Size – How to provide service for changing demographics of rural ridership (Right-sizing of rural transit fleets)
- [D08157](#) - Best Practices for Data Fusion of Probe and Point Detector Data
- [D2007424](#) - Best Practices for the Operations of Movable Bridges from Remote Locations
- [D2010228](#) - Best Practices in Work Zones for AVs and CVs
- [D2030](#) - IDEA (Innovations Deserving Exploratory Analysis)
- [DA0146](#) - Geospatial Data Governance--Organizational Factors and Best Practices
- [DA0147](#) - Guide to Airport Innovation--Creating an Organizational Fit for the Future
- [DA0344](#) - Best Practices in Building Air Service through Incentive Programs
- [DB022](#) - Effectiveness of Different Forms of Innovative Traffic Safety Messaging
- [E0005A](#) - Preparing for Automated Vehicles and Shared Mobility
- [E1008](#) - Rail Safety Innovations Deserving Exploratory Analysis
- [STSH20](#) - Innovative Practices for Transit Planning at Small- to Mid-Sized Agencies
- [TD21](#) - Planning for Innovation & Emerging Mobility Futures at Intermodal Passenger Facilities
- [TI04](#) - Transit-innovations Deserving Exploratory Analysis (IDEA)
- [TI1135](#) - Diversity and Inclusion Plans, Policies and Best Practices in the Transportation Industry
- [X0014](#) - AASHTO Special Committee on Research and Innovation

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.)

[Accelerated Bridge Construction Conference*](#)

December 8-10, 2021

Online

[Conference on Sustainability and Emerging Transportation Technology](#)

March 15-18, 2022

Irvine, CA

[18th Biennial National Harbor Safety Committee Conference](#)

June 13-15, 2022

Boston, MA

[11th International Conference on the Bearing Capacity of Roads, Railways, and Airfields*](#)

June 28-30, 2022

Trondheim, Norway

[International Conference of International Society for Intelligent Construction*](#)

September 6-9, 2022

Guimaraes, Portugal

[TRANSED: Mobility, Accessibility, and Demand Response Transportation Conference](#)

September 12-16, 2022

online

[TRB Conference on Scenario Planning in Transportation](#)

September 19-21, 2022

Washington, D.C.

Bridge Engineering Institute Conference*

Summer 2023

Singapore

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 - The world's largest and most comprehensive bibliographic source on all modes and disciplines of transportation
- **Transportation Research Thesaurus (TRT)** - trt.trb.org - A tool to improve the indexing and retrieval of transportation information.
- **Research in Progress (RiP) Database** - rip.trb.org - Current or recently completed transportation research projects
- **Research Needs Statements (RNS)** - rns.trb.org - Research needs as identified by TRB Technical Activities standing committees
- **Publications Index (PubsIndex) Database** - 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