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](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 11 - Construction Safety and Phasing Plans
  - WebResource 10 - Periodic Publication on Transformative Technologies at Airports

- Innovations Deserving Exploratory Analysis (IDEA)
  - Safety Report 42 - Railroad Tunnel Inspections for Maintenance and Replacement Prioritization Using Untethered Ground Penetrating Radar and LIDAR Capable Unmanned Aerial Vehicles (UAVs)
  - Safety Report 39 - Non-Contact Scour Monitoring System for Railroad Bridges
  - Safety Report 38 - Minimization of Weld Failures by Means of Gas and Shrinkage Porosity Reduction
  - Safety 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)
  - NCHRP 20-123(09) - Feasibility Study for a Platform to Capture Innovations from State Departments of Transportation
  - IDEA Report 228 - A Retroreflective Road Lane Marking Tape 1,000X Brighter than Existing Technology
  - IDEA Report 220 - Bridge Deck Sealer Monitor: Thermal Sealcheck
  - IDEA Report 212 - Non-Gating Guardrail Terminal
Current & Upcoming Projects

**Transit Cooperative Research Program (TCRP)**
- IDEA Report 207 - MIL GLASS: GFRP Strand for Resilient Mild Pre-Stressed Concrete
- IDEA Report 205-A - Bio-Inspired "MRI" of Concrete Bridges using Waveform-Based Ultrasonic Tomography
- IDEA Report 203 - SaferCushion
- Report 1002 - Metropolitan Planning Organizations: Strategies for Future Success
- Report 992 - Guide to Pedestrian Analysis
- 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

**Transportation Research Circulaires**
- E-Circular 278 - Innovations in Freight Data Workshop
- E-Circular 277 - 13th National Conference on Transportation Asset Management
- E-Circular 275 - Measuring and Managing Freight Resilience Workshop
- E-Circular 272 - Technology Exchange on Local Roads Bridge Programs

**Current Projects**
- ACRP 01-41 - Airport Blockchain Implementation Guidebook
- ACRP 01-43 - Conducting Consumer and Bicyclist Safety at Alternative and Other Intersections and Interchanges
- 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
- ACRP Synthesis 11-03/Topic S02-22 - Airport Programs that Reduce Landside Vehicle Carbon Emissions
- ACRP Synthesis 11-03/Topic S03-18 - Communication, Implementation, and Outcomes of Airport Economic Impact Studies
- ACRP Synthesis 11-03/Topic S06-07 - Evolution of Airport Work Models and Strategies
- BTS CRP BTS-01 - Guidance for Employer-Based Behavioral Traffic Safety Programs for Drivers in the Workplace
- BTS CRP BTS-02 - Guide for Behavioral Traffic Safety Messaging on Variable Message Signs
- BTS CRP BTS-06 - MPO and SHSO Coordination on Behavioral Traffic Safety
- BTS CRP BTS-12 - State Practices Promoting Older Driver Safety
- BTS CRP 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
- Guidelines for Applications of RFID and Wireless Technologies in Highway Construction and Asset Management
- Gaps and Emerging Technologies in the Application of Solid-State Roadway Lighting
- Guide for Snow and Ice Control Operations
- Effective Decision-Making Methods for Freight-Efficient Land Use
- Risk Assessment Techniques for Transportation Asset Management
- Accessibility Measures in Practice: Guidance for Transportation Agencies
- Emerging Issues: Impact of New Disruptive Technologies on the Performance of DOTs
- Guide for Preventing and Mitigating the Risk of Bridge and Tunnel Strikes by Motor Vehicles
- Modern Solutions to Safe and Efficient Work Zone Travel
- Guidelines for Corrosion Protection of Steel Bridges Using Duplex Coating Systems
- Wind Drag Coefficients for Highway Signs and Support Structures
- Utility Conflict Impacts During Highway Construction
- Identification of AASHTO Context Classifications
- Aligning Geometric Design with Roadway Context
- Assessing the Impacts of Automated Driving Systems (ADS) on the Future of Transportation Safety
- Transitioning Fuel Tax Assessments to a Road Usage Charge
- Reducing Risks to Worker Safety in Work Zones Due to Distracted Drivers
- Collective and Individual Actions for State Departments of Transportation Envisioning and Realizing the Next Era of America's Transportation Infrastructure – Phase I
- Successful Practices for State Transportation Research Office's Complying with 2 CFR 200 (NCHRP 20-111)
- Workshops on Long-Range Strategic Issues Affecting Preservation, Maintenance, and Renewal of Highway Infrastructure
- Consultant Support for Implementation of Guidebook for Managing Data from Emerging Technologies
- Program Management Insights for the 5310 Program (Including Sub-Grantee Consolidation and Urban 5310)
- Best Practices in Rural Service Assessment
- Impacts of Connected and Automated Vehicle Technologies on the Highway Infrastructure
- Realistic Timing Estimates for Automated Vehicle Implementation
- Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones
- Support for AASHTO Committees and Councils
- System Mobility and Emerging Technologies (SMET): Strategic Planning Session and Research Roadmap Development
- Business Case and Communications Strategies for State DOT Resilience Efforts
- Emergency Response: Organizational and Operational Models Used by State DOTs
- A Transportation Agency Data Collection Practice for Use with In-Service Performance Evaluations (ISPES)
- Understanding and Analyzing Crash Contributing Factors
- Targeted Guidance and Information Support to State DOT CEOs on Cybersecurity Issues and Protection Strategies
- Implementing and Leveraging Machine Learning at State Departments of Transportation
- Innovative Mitigation Strategies for Highway Noise
- Pollinator Habitat Conservation Along Roadways
- Effective On-Bridge Treatment of Stormwater
- Highway Infrastructure Inspection Practices for the Digital Age
- Use of Smart Work Zone Technologies for Improving Work Zone Safety
- Practices Leveraging Social Media Data for Emergency Preparedness and Response
- Strategies and Programs For Electric Vehicle Charging
- Use of Unmanned Aerial Systems for Highway Stormwater Inspections
- An Enhanced Network-Level Curve Safety Assessment and Monitoring Using Mobile Devices
- Development of an Automated and Rapid Conditioning and Testing Device for Cracking and Rutting
- An Automated System for Large-Scale Intersection Marking Data Collection and Condition Assessment
- A Smart IoT Proximity Alert System for Highway Work Zone Safety
- Adjustable Cross-frames for the Erection of Steel Girder Bridges
- Lab Dielectric Measurement System for Asphalt Mixture Bulk Specific Gravity Determination
- Al Analyzer for Revealing Insights of Traffic Crashes
- Development of an Innovative Bio-Mediated Self-Healing Concrete Technology
- Quantitative Procedures for Designing and Operating Ferry Transit Services
- Impact of Transformational Technologies on Underserved Populations
- The Provision of Alternative Services by Transit Agencies: The Intersection of Regulation and Program Objectives
- Bus Operator Barrier Design
- Detecting and Mitigating Low-Level DC Fault Currents in Transit Systems (Phase II TCRP Project D-17)
- Practitioner’s Guide to Bus Operator Workforce Management
- Legal Issues and Emerging Technologies
- Navigating the Complexities of Sensitive Security Information (SSI) and Protected Critical Infrastructure Information (PCII)
- Legal Issues in Transit Mega Projects--Case Studies
- Best Practices for Data Fusion of Probe and Point Detector Data
- A Guide for the Development and Use of Truck Traffic Forecasts in Design
- Risk Management at State DOTs: Building Momentum and Sustaining the Practice
- A Guide for the Development and Use of Truck Traffic Forecasts in Design
- Researching and Responding to Racial Disparities in Construction
- Planning for Innovative and Emerging Mobility Futures at Intermodal Passenger Facilities
- Best Practices for Data Fusion of Probe and Point Detector Data
- Communicating the Value, Interactions, and Impacts of Freight to Stakeholders
- Integrating Active Transportation Data into Transportation Decision-Making
- Verifying Quantities of Materials Used in Asphalt Mixtures at Production Facilities
- Guidelines for Digital Technologies and Systems for Remote Construction Inspection for Highway Infrastructure Projects
- Guidebook on Progressive Design-Build for Transportation Projects: Project Planning through Project Implementation
Reports from the National Academies Press on Innovation

- Innovation in Cancer Care and Cancer Research in the Context of the COVID-19 Pandemic
- 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
- AJE35 - Research Innovation Implementation Management
- AIE50 - Economics and Finance
- AIL40 - 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
Recent and Upcoming Events

Upcoming TRB Conferences – Use left hand menu to filter events

**Conference on Sustainability and Emerging Transportation Technology**
*May 31 - June 2, 2022*
Irvine, CA

**18th Biennial National Harbor Safety Committee Conference**
*June 13-15, 2022*
Boston, MA

**TRANSED: Mobility, Accessibility, and Demand Response Transportation Conference**
*September 12-16, 2022*
Online

**Conference on Scenario Planning in Transportation Planning**
*September 19-21, 2022*
Washington, D.C.

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
- **Research Needs Statements (RNS)** – [rns.trb.org](http://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