

TRB TRANSPORTATION RESEARCH BOARD

TRB Snap Search: Data and Information Technology

TRB's involvement in research on Data and Information Technology from 2022-2023

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.

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- 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 Data within the past year.

Subject Webpage

- [Data Research at TRB](#)

Specialty Report

- [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 \(ACRP\)](#)
 - [Report 241](#) - Toward a Touchless Airport Journey
- [National Cooperative Highway Research Program \(NCHRP\)](#)
 - [Report 985](#) - Integrating Effective Transportation Performance, Risk, and Asset Management Practices
 - [Synthesis 594](#) - Technological Capabilities of Departments of Transportation for Digital Project Management and Delivery
 - [Synthesis 593](#) - 3D Digital Models as Highway Construction Contract Documents
 - [Synthesis 589](#) - Automated Data Collection and Quality Management for Pavement Condition Reporting
 - [Synthesis 584](#) - Visualization of Highway Performance Measures
 - [Web-Only Document 319](#) - Roadside Safety Analysis Program (RSAP) Update
- [Special Reports / Consensus Studies](#)
 - [Report 344](#) - Emerging Hazards in Commercial Aviation—Report 1: Initial Assessment of Safety Data and Analysis Processes
- [Transit Cooperative Research Program \(TCRP\)](#)
 - [Report 235](#) - Improving Access and Management of Public Transit ITS Data
- [Transportation Research Circulars](#)
 - [E-Circular 278](#) - Innovations in Freight Data Workshop

Current & Upcoming Projects

- [Current Projects](#)

- [ACRP 01-39](#) - Creative Marketing Techniques to Improve Revenue Generation Partnerships
- [ACRP 01-41](#) - Airport Blockchain Implementation Guidebook
- [ACRP 01-46](#) - A Guide for Geospatial Data Governance Policies and Procedures
- [ACRP 01-50](#) - Data Protection and Privacy Management Guidelines for Airports
- [ACRP 02-99](#) - Incorporating Environmental Justice and Equity Principles and Data into Airport Decision-Making
- [ACRP 03-61](#) - Implementing and Improving Data Analytics Capabilities at Airports
- [ACRP 03-62](#) - A Toolkit for Establishing Airport Catchment Areas
- [ACRP 03-66](#) - Guidebook for Digital Twin Programs at Airports
- [ACRP 04-27](#) - Alternative Methods to Manage Tree Growth Near Airports
- [ACRP 05-03](#) - Guidebook on Airport Cybersecurity and Incident Response
- [ACRP 07-21](#) - Understanding Opportunities of Deploying Private Wireless Network at Airports
- [ACRP 09-21](#) - Asset Information Handover Guidelines: From Planning and Construction to O&M
- [ACRP 10-32](#) - U.S. Airport Industry Adoption of Automated Ground Vehicle Systems
- [ACRP 10-34](#) - Migrating ACRP Research Report 228 Toolkit to an ACRP WebResource
- [ACRP Synthesis 11-03/Topic S09-09](#) - Automated Pavement Condition Survey Practices at Airports
- [BTSCRP BTS-14](#) - Informing the Selection of Countermeasures by Evaluating, Analyzing, and Diagnosing Contributing Factors that Lead to Crashes
- [BTSCRP BTS-20](#) - Strategies to Address Misreporting of Impaired and Distracted Driving in Motor Vehicle Crashes
- [BTSCRP BTS-22](#) - Guidelines for Selecting Communication Channels to Deliver Traffic Safety Messaging
- [BTSCRP BTS-23](#) - Outcomes of Variability in Teen Driving Experience and Exposure: Evidence from the Naturalistic Driving Study
- [NCHRP 01-60](#) - Measuring the Characteristics of Pavement Surface Images and Developing Standard Practices for Calibration, Certification, and Verification of Imaging Systems
- [NCHRP 03-129](#) - Essential Communications: A Guide to Land Mobile Radio
- [NCHRP 03-134](#) - Determination of Encroachment Conditions in Work Zones
- [NCHRP 03-138](#) - Application of Big Data Approaches for Traffic Incident Management (TIM)
- [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 and Enhance Transportation Monitoring Programs
- [NCHRP 08-119](#) - Developing Data Standards and Guidance for Transportation Planning and Traffic Operations - Phase 1
- [NCHRP 08-123](#) - Census Transportation Data Field Guide for Transportation Applications
- [NCHRP 08-140](#) - Guide for Truck Parking Information Management Systems
- [NCHRP 08-145](#) - Utilizing Cooperative Automated Transportation (CAT) Data to Enhance the Use of Freeway Operational Strategies
- [NCHRP 08-157](#) - Best Practices for Data Fusion of Probe and Point Detector Data
- [NCHRP 10-106](#) - Update of AASHTO Standard Practice for Certification of Inertial Profiling Systems (R 56)
- [NCHRP 10-110](#) - 3D Modeling Guide for Construction Inspection
- [NCHRP 12-122](#) - Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection
- [NCHRP 15-81](#) - Guideline for Depicting Existing and Proposed Utility Facilities in Design Plans
- [NCHRP 17-86](#) - Estimating Effectiveness of Safety Treatments in the Absence of Crash Data
- [NCHRP 17-88](#) - Roadside Encroachment Data for All Vehicle Types Across a Range of Traffic Volumes
- [NCHRP 17-93](#) - Updating Safety Performance Functions for Data-Driven Safety Analysis
- [NCHRP 17-100](#) - Leveraging Artificial Intelligence and Big Data to Enhance Safety Analysis
- [NCHRP 19-18](#) - Transitioning Fuel Tax Assessments to a Road Usage Charge
- [NCHRP 20-06/Topic 26-02](#) - Analysis of Arbitration and Holdings in Construction Disputes
- [NCHRP 20-44\(39\)](#) - Consultant Support for Implementation of Guidebook for Managing Data from Emerging Technologies
- [NCHRP 20-50\(20\)](#) - LTPP Data Analysis: Develop Tools to Improve Accuracy of Traffic Loading Data Collection
- [NCHRP 20-50\(22\)A](#) - LTPP Data Analysis: Guidelines to Improve Use of FWD and Longitudinal Profile Measurements
- [NCHRP 22-44](#) - A Transportation Agency Data Collection Practice for Use with In-Service Performance Evaluations (ISPEs)
- [NCHRP 22-46](#) - Human Factors Guidelines for Road Systems, Proposed 4th Edition
- [NCHRP 22-47](#) - Incorporating Driver Behavior and Characteristics into Safety Prediction Methods
- [NCHRP 23-16](#) - Implementing and Leveraging Machine Learning at State Departments of Transportation
- [NCHRP 23-23](#) - Data Governance Design and Implementation - Links Between Governance Approaches and Performance Effects in DOTs
- [NCHRP IDEA 20-30/IDEA 222](#) - Mixed Reality Assisted Infrastructure Inspections

- [NCHRP IDEA 20-30/IDEA 225](#) - An Automated System for Large-Scale Intersection Marking Data Collection and Condition Assessment
- [NCHRP IDEA 20-30/IDEA 230](#) - Automated Data and Feature Extraction from Bridge Plan
- [NCHRP IDEA 20-30/IDEA 238](#) - Low-Cost Sensing System for the Detection and Classification of Super Single Wheel Types and Distribution at the Network Level
- [NCHRP Synthesis 20-05/Topic 53-09](#) - Use of Unmanned Aerial Systems for Inspection of Stormwater Best Management Practices
- [NCHRP Synthesis 20-05/Topic 54-04](#) - Mobile Devices as a Tool for Digitalized Project Documentation and Inspection
- [NCHRP Synthesis 20-05/Topic 54-06](#) - Ancillary Asset Data Stewardship and Data Models
- [NCHRP Synthesis 20-05/Topic 54-11](#) - Quality Control Checks for Bridge and Structure Analysis Models
- [Rail Safety IDEA IDEA-49](#) - Development of a Prototype Smart Hy-Rail Wheel
- [Rail Safety IDEA IDEA-50](#) - An Artificial Intelligence Aided Forward-Facing Camera Video Data Analytics System for Rail Safety
- [TCRP J-05/Topic 19-03](#) - Navigating the Complexities of Sensitive Security Information (SSI) and Protected Critical Infrastructure Information (PCII)
- [TCRP Synthesis J-07/Topic SA-57](#) - Statewide Approaches to the Development of Comprehensive Transit Information Systems
- [TCRP Synthesis J-07/Topic SH-23](#) - Partnerships for Equitable Pandemic Response and Recovery
- [Transit IDEA J-04/IDEA 101](#) - Multimodal Transit with Citopia
- [Upcoming Projects](#)
 - [NCHRP 01-57B](#) - Validating Proposed Definitions for Comparable Pavement Cracking Data
 - [NCHRP 03-145](#) - National Traffic Sensor System Evaluation Program
 - [NCHRP 07-31](#) - State DOT Usage of Bicycle and Pedestrian Data: Practices, Sources, Needs, and Gaps
 - [NCHRP 07-32](#) - Guide for Long-Term Automatic Traffic Signal Performance Measurement Systems Applications
 - [NCHRP 07-34](#) - Artificial Intelligence for Transportation Systems Management and Operations Applications
 - [NCHRP 08-165](#) - Integrating Active Transportation Data into Transportation Decision-Making
 - [NCHRP 08-166](#) - Racial and Economic Disparities in Pedestrian and Bicyclist Safety
 - [NCHRP 08-167](#) - A Guide for Creating Effective Visualizations
 - [NCHRP 08-174](#) - Development of a Surveying and Mapping Guide for Transportation Projects
 - [NCHRP 17-107](#) - Work Zone Intrusion Frequency and Characteristics
 - [NCHRP 17-110](#) - Vehicle-Based Telemetric Data for State and Local Transportation Agencies
 - [NCHRP 17-120](#) - A Method to Link Crash, Emergency Medical Service, and Trauma Registry Data
 - [NCHRP 20-24\(119\)](#) - Strategic Research in Support of the Connected and Automated Vehicle Executive Leadership Team
 - [NCHRP 20-24\(132\)](#) - Understanding Knowledge Management in Context with Other Organizational Practices
 - [NCHRP 20-44\(45\)](#) - Supporting State DOT Adoption of Knowledge Management Practices
 - [NCHRP 20-44\(48\)](#) - Peer Exchanges on Data Management and Governance Practices
 - [NCHRP 22-42](#) - Impact Performance Assessment of Barrier Performance at High Speeds
 - [NCHRP 23-25](#) - Architecture for an Information System for Reporting and Sharing Truck Regulatory Requirements Data
 - [NCHRP 23-27](#) - Strategies for Developing and Using Data Ontologies for Data-Driven Decision-Making
 - [NCHRP 23-28](#) - Planning for 4.9 GHz Spectrum Changes — What Transportation Agencies Need to Know
 - [NCHRP 23-29](#) - Enterprise Data Warehouse Implementation Guide
 - [NCHRP 25-66](#) - Update the National REMEL Database Used in FHWA Traffic Noise Model
 - [TCRP A-36A](#) - Transportation Emergency Response Application (TERA): Migration Options Beyond 2020
 - [TCRP B-50](#) - Accessible Public Bus and Rail Passenger Information for Riders with Vision Disabilities
 - [TCRP Synthesis J-07/Topic SA-59](#) - Electronic Surveillance of Railroad-Highway Crossings for Collision Avoidance, State of the Practice

Reports from the [National Academies Press](#) on Data and Information Technology

- [Transportation and Infrastructure » Data and Information Technology](#)
- [Toward a 21st Century National Data Infrastructure: Mobilizing Information for the Common Good](#)
- [Innovative Data Science Approaches to Identify Individuals, Populations, and Communities at High Risk for Suicide](#)
- [Applications of an Analytic Framework on Using Public Opinion Data for Solving Intelligence Problems](#)
- [Research and Data Priorities for Improving Economic and Social Mobility](#)
- [Evaluation of Compensation Data Collected Through the EEO-1 Form](#)
- [Artificial Intelligence Tools and Open Data Practices for EPA Chemical Hazard Assessments](#)
- [Modernizing the Consumer Price Index for the 21st Century](#)

- [Data Analytics and What It Means to the Materials Community](#)
- [Building Data Capacity for Patient-Centered Outcomes Research: Priorities for the Next Decade](#)
- [Building Data Capacity for Patient-Centered Outcomes Research: Interim Report 3 - A Comprehensive Ecosystem for PCO](#)
- [Building Data Capacity for Patient-Centered Outcomes Research - Interim Report Two - Data Standards, Methods, and Policy](#)
- [Building Data Capacity for Patient-Centered Outcomes Research - Interim Report One - Looking Ahead at Data Needs](#)

Committees & Panels

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

TRB Standing Committees – Search by transportation mode and committee topic

- [ACH40](#) - Human Factors of Infrastructure Design and Operations
- [ACP70](#) - Highway Traffic Monitoring
- [ACP80](#) - Traffic Simulation
- [AE000](#) - Data, Planning, and Analysis Group
- [AED00](#) - Data and Data Science
- [AED10](#) - Statewide/National Transportation Data and Information Systems
- [AED20](#) - Urban Transportation Data and Information Systems
- [AED30](#) - Information Systems and Technology
- [AED40](#) - Geographic Information Science
- [AED50](#) - Artificial Intelligence and Advanced Computing Applications
- [AED60](#) - Statistical Methods
- [AED70](#) - Freight Transportation Data
- [AED80](#) - Visualization in Transportation
- [AEP50](#) - Transportation Demand Forecasting
- [AJE70](#) - Data for Decision Making
- [AIL40](#) - Emerging Technology Law
- [AKD70](#) - Geospatial Data Acquisition Technologies
- [AME80](#) - Community Resources and Impacts
- [AP090](#) - Transit Data
- [B0147](#) - Bridge Data Analysis Working Group
- [B0154](#) - Review Evidentiary Protection for Public Transportation Safety Program Information
- [B0176](#) - Data, Metrics, and Analytic Methods for Assessing Equity Impacts of Surface Transportation Funding Programs

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

CRP Panels

- [D0157](#) - Standard Definitions for Comparable Pavement Cracking Data
- [D03138](#) - Experimental Implementation of Big Data Analytics for Traffic Incident Management
- [D0731](#) - State DOT usage of bicycle and pedestrian data: practices, sources, needs, and gaps/Practices and Recommendations in Reporting and Integrating Non-Fatal Injury Data for Active Travel Modes
- [D08108](#) - Developing National Performance Management Data Strategies to Address Data Gaps, Standards, and Quality
- [D08115](#) - Framework for Designing and Managing Data and Information Workflows for Transportation Assets
- [D08116](#) - Framework for Managing Data from Emerging Transportation Technologies to Support Decision-Making
- [D08119](#) - Developing Data Standards and Guidance for Transportation Planning and Traffic Operations – Phase I
- [D08123](#) - Census Transportation Data Use and Application Field Guide
- [D08145](#) - Utilizing Cooperative Automated Transportation (CAT) Data to Enhance the Use of Freeway Operational Strategies
- [D08157](#) - Best Practices for Data Fusion of Probe and Point Detector Data
- [D08165](#) - Integrating Active Transportation Data into Transportation Decision-Making
- [D08168](#) - Analysis and Assessment of the National Performance Management Data
- [D10106](#) - Improvement of Certification Method of Inertial Profiling Systems for Network Data Collection
- [D17100](#) - Leveraging Big Data and Artificial Intelligence to Streamline Safety Data Analyses
- [D17100](#) - Template for gathering and disseminating telemetric data for safety and operational uses by state DOTs (Phase 1: state of the practice survey and synthesis)
- [D17120](#) - Improved Method to Link Crash, Emergency Medical Service, and Trauma Registry Data to Expand Safety Data Analyses and Safety Program Development
- [D1743](#) - Long-Term Roadside Crash Data Collection Program

- [D1786](#) - Estimating Effectiveness of Safety Treatments in the Absence of Crash Data
- [D1788](#) - Roadside Encroachment Database Development and Analysis
- [D1793](#) - Updating Safety Performance Functions for Data-Driven Safety Analysis
- [D205019](#) - LTPP Data Analysis: Feasibility of Using LTPP Data to Develop Relationships Between Laboratory- and Field-Derived Properties of Unbound Materials
- [D205020](#) - LTPP Data Analysis: Develop Tools to Improve Accuracy of Traffic
- [D205022](#) - LTPP Data Analysis: Accounting for Temporal Variations in Pavement Performance Monitoring Measurement
- [D2244](#) - Development of a Crash Data Collection Tool and Application Guidelines for MASH In-Service Performance
- [D2246](#) - Supporting Data-Driven Decision Making through an Expansion of the Human Factors Guidelines for Road Systems
- [D2323](#) - Data Governance Design and Implementation - Links Between Governance Approaches and Performance Effects in DOTs
- [D2325](#) - Architecture for Information System for Reporting and Sharing Truck Regulatory Requirements Data
- [D2327](#) - Strategies to Strengthen Data Driven Decision Making
- [D2329](#) - Enterprise Data Warehouse Implementation Guide
- [D2566](#) - Update the National REMEL Database Used in FHWA Traffic Noise Model
- [DA0129](#) - Design and Development of a State Aviation Information Database
- [DA0146](#) - Geospatial Data Governance--Organizational Factors and Best Practices
- [DA0150](#) - Data Protection and Privacy Management Guidelines for Airports
- [DA0284](#) - Evaluating the Use of Spatially Precise Diurnal Population Data in Aviation Noise Studies
- [DA0299](#) - Use of Equity and Environmental Justice Data to Support Airport Decision-Making
- [DA0345](#) - Collecting and Sharing Airport Safety and Operational Data
- [DA0361](#) - Assessing and Improving Data Analytic Capabilities in Airports
- [DA0921](#) - Guidelines for the Effective Transition of Asset Data from Design/Construction to Operations and Maintenance
- [DB026](#) - Determining the State of Knowledge, Opportunities for Outreach, and Data-driven Tools for Consumer Education of Advanced Driver Assistance Systems (ADAS)
- [DTFRS02](#) - BIM for Infrastructure: Building the Business Case and Leveraging Asset Data
- [SAS1019](#) - Airport Landside Operations Data and Collection Method
- [SN4809](#) - Integration of Roadway Safety Data from State and Local
- [SN4814](#) - Analyzing Data for Measuring Transportation Performance
- [SN4914](#) - Synthesis of Methods to Acquire Proprietary Data for Transportation Applications
- [SN5010](#) - Availability of Pedestrian Infrastructure Data For Routing and Network Analysis
- [SN5207](#) - Use of Pavement Data Collection Technology for Pavement Data Quality Management and MAP-21 Reporting
- [SN5303](#) - Practices leveraging social media data for emergency preparedness and response
- [SN5314](#) - Use of Probe Data for Freight Planning and Operations
- [SN5406](#) - Ancillary Asset Data Stewardship and Data Models
- [TG16](#) - Development of Open Data Standards for Demand Responsive Transportation Transactions
- [TG18](#) - Improving Access and Management of Transit ITS Data

Councils

- [A001C](#) – Young Members Coordinating Council

Recent and Upcoming Events

[Upcoming TRB Conferences](#) – Use left hand menu to filter events

[National Aviation System Planning Symposium](#)

May 15-18, 2023

Irving, CA

[Innovations in Travel Analysis and Planning Conference](#)

June 4-6, 2023

Indianapolis, IN

[Marine Transportation System Innovative Science and Technologies Toward Greater Sustainability](#)

June 19-22, 2023

Washington, D.C.

[National Conference on Transportation Asset Management](#)

July 8-11, 2023
Boston, MA

[Upcoming Events](#) – In the Upcoming Events tab under Types, choose what event you are interested in, search titles by keyword

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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
- **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

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