TRB Snap Search: Operations & Traffic Management

TRB's involvement in research on Operations & Traffic Management from 2022-2024

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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 Operations & Traffic Management within the past year.

Specialty Report
- 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
- Airport Cooperative Research Program (ACRP)
  - Report 253 - Airport Lessons Learned from the COVID-19 Pandemic
  - Report 247 - Airfield Pavement Markings: Effective Techniques for Removal and Temporary Applications
  - Report 246 - Airside Operations Safety: Understanding the Effects of Human Factors
  - Report 244 - Advancing the Practice of State Aviation System Planning
  - Report 237 - Primer and Framework for Considering an Airport Noise and Operations Monitoring System
  - Report 231 - Evaluating the Traveler's Perspective to Improve the Airport Customer Experience
  - Report 230 - Enhancing Academic Programs to Prepare Future Airport Industry Professionals
  - Report 229 - Airport Collaborative Decision Making (ACDM) to Manage Adverse Conditions
  - Synthesis 132 - Airport Landside Data: Collection and Application
  - Synthesis 130 - Airport-Centric Advanced Air Mobility Market Study
  - Synthesis 129 - Landscape of the FBO Industry in 2022
  - Synthesis 127 - Airport Programs That Reduce Landside Vehicle Carbon Emissions
  - Synthesis 121 - Managing a Flight Diversion with an Emergency Response at Small, Non-Hub, or General Aviation Airports
  - Synthesis 118 - Airport Parking Pricing Strategies
  - Synthesis 117 - Agricultural Operations on Airport Grounds

- Behavioral Traffic Safety Cooperative Research Program (BTSCRP)
  - Report 7 - Improving MPO and SHSO Coordination on Behavioral Traffic Safety: Guide and Toolkit

- National Cooperative Highway Research Program (NCHRP)
  - IDEA Report 228 - A Retroreflective Road Lane Marking Tape 1,000X Brighter than Existing Technology
IDEA Report 217 - A Real-Time Proactive Intersection Safety Monitoring and Visualization System Based on Radar Sensor Data

IDEA Report 209 - An Automated System for Pedestrian Facility Data Collection from Aerial Images

IDEA Report 190 - Self-de-icing LED Signals for Railroads and Highway Intersection

Report 1097 - Development of Clear Recovery Area Guidelines

Report 1087 - Guide for Intersection Control Evaluation

Report 1071 - Application of Big Data Approaches for Traffic Incident Management

Report 1069 - Estimating Effectiveness of Safety Treatments in the Absence of Crash Data: A Guide


Report 1062 - Assessing the Impacts of Right-Turn Lanes on Rural and Suburban Highways


Report 1051 - Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones

Report 1050 - Wrong-Way Driving Solutions Handbook

Report 1043 - Guide for Roundabouts


Report 1032 - How to Measure and Communicate the Value of Access Management

Report 1031 - Guide to Understanding Effects of Raising Speed Limits

Report 1005 - Motorcycle Crashes into Traffic Barriers: Factors Related to Serious and Fatal Injuries

Report 1003 - Guide to Alternative Technologies for Preventing and Mitigating Vehicle Intrusions into Highway Work Zones


Report 981 - Development of Guidelines for Quantifying Benefits of Traffic Incident Management Strategies

Report 978 - Initiating the Systems Engineering Process for Rural Connected Vehicle Corridors, Volume 1: Research Overview


Report 969 - Traffic Signal Control Strategies for Pedestrians and Bicyclists


Synthesis 587 - Use of Smart Work Zone Technologies for Improving Work Zone Safety

Synthesis 575 - Lighting Practices for Isolated Rural Intersections

Synthesis 561 - Use of Vehicle Probe and Cellular GPS Data by State Departments of Transportation

Transportation Operation Manual, 1st Edition (published by AASHTO)

Web-Only Document 394 - Evaluation of Change and Clearance Intervals Prior to the Flashing Yellow Arrow Permissive Left-Turn Indication

Web-Only Document 380 - Accessing America's Great Outdoors: Forecasting Recreational Travel Demand


Web-Only Document 369 - Estimating Effectiveness of Safety Treatments in the Absence of Crash Data

Web-Only Document 368 - Right-Turn-on-Red Operation at Signalized Intersections with Single and Dual Right-Turn Lanes: Evaluating Performance

Web-Only Document 365 - Life-Cycle Planning Analysis in a Transportation Asset Management Framework

Web-Only Document 361 - Determination of Work Zone Encroachments


Web-Only Document 347 - Background and Summary of a Guide for Roundabouts

Web-Only Document 343 - Traffic Modeling Document

Web-Only Document 328 - Safety Effects of Raising Speed Limits to 75 mph and Higher

Web-Only Document 327 - Serious and Fatal Motorcycle Crashes into Traffic Barriers: Injury Information

Web-Only Document 322 - Alternative Technologies for Mitigating the Risk of Injuries and Deaths in Work Zones: Conduct of Research

Web-Only Document 318 - Safety Prediction Models for Six-Lane and One-Way Urban and Suburban Arterials

Web-Only Document 316 - Human Factors Guidelines for Road Systems 2021 Update, Volume 1: Updated and New Chapters


Web-Only Document 301 - Guidelines for Quantifying Benefits of Traffic Incident Management Strategies
• **Transit Cooperative Research Program (TCRP)**
  - IDEA Report 95 - Connected and Automated Parking Feasibility – A Pilot Study
  - Report 238 - Quantitative Procedures for Designing and Operating Ferry Transit Services
  - Report 237 - Fare-Free Transit Evaluation Framework
  - Report 234 - Measuring and Managing Fare Evasion
  - Synthesis 159 - Assessing Equity and Identifying Impacts Associated with Bus Network Redesigns

**Recently Completed/Pending Publication**

- ACRP 11-08(20-02) - ACRP Insight Event--On-Demand Aviation Services for Mobility, Logistics, Emergency Response, and Humanitarian Use Cases
- ACRP 09-21 - Asset Information Handover Guidelines: From Planning and Construction to O&M
- ACRP 03-52 - Guidelines for Adapting and Managing Airport Common Use Programs
- NCHRP 17-95 - Crash Modification Factors (CMFs) for Intelligent Transportation System (ITS) Applications
- NCHRP 17-92 - Developing Safety Performance Functions for Rural Two-Lane Highways that Incorporate Speed Measures
- NCHRP 17-88 - Roadside Encroachment Database Development and Analysis
- NCHRP 15-66 - Operational Performance and Safety Effects of Arterial Weaving Sections
- NCHRP 14-42 - Determining the Impact of Connected and Automated Vehicle Technology on State DOT Maintenance Programs
- NCHRP 08-145 - Utilizing Cooperative Automated Transportation (CAT) Data to Enhance the Use of Freeway Operational Strategies
- NCHRP 08-135 - Reliability and Quality of Service Evaluation Methods for Rural Highways
- NCHRP 05-22A - Gaps and Emerging Technologies in the Application of Solid-State Roadway Lighting
- NCHRP 03-128 - Business Intelligence Techniques for Transportation Agency Decision Making

**Current & Upcoming Projects**

- **Current Projects**
  - ACRP 01-41 - Airport Blockchain Implementation Guidebook
  - ACRP 02-95 - Understanding Airport Air Quality and Public Health Studies Related to Airports: An Update to ACRP Report 135
  - ACRP 02-98 - Airport Energy Resiliency Primer and Roadmap
  - ACRP 03-66 - Guidebook for Digital Twin Programs at Airports
  - ACRP 03-70 - Incorporating Technologies into Airport In-Terminal Concession Programs
  - ACRP 04-26 - Uncontrolled Terminal Evacuations: Planning, Response, and Recovery
  - ACRP 07-17 - Update to ACRP Report 40: Airport Roadway Analysis and Curbside Congestion Management Strategies
  - ACRP 10-32 - U.S. Airport Industry Adoption of Automated Ground Vehicle Systems
  - ACRP 10-33 - Incorporating Emerging Transportation and Ground Access Technologies at Airports
  - ACRP 10-35 - Readiness and Feasibility of Automatic Dependent Surveillance-Broadcast (ADS-B) Data for Airport Use Cases
  - ACRP 11-02/Task 37 - Periodic Report on Transformative Technology at Airports
  - ACRP Synthesis 11-03/Topic S03-19 - Airport Parking Reservation Systems and Techniques
  - ACRP Synthesis 11-03/Topic S06-08 - Exploring Airport Employee Commuting and Transportation Needs
  - ACRP Synthesis 11-03/Topic S10-20 - Identifying Military Resources and Strategies to Improve Civilian Airport Resiliency
  - NCHRP 03-114(01) - Planning and Evaluating Active Traffic Management Strategies
  - NCHRP 03-134 - Determination of Encroachment Conditions in Work Zones
  - NCHRP 03-135 - Wrong-Way Driving Solutions, Policy, and Guidance
  - NCHRP 03-139 - Next Generation of the USLIMITS2 Speed Limit Setting Expert System
  - NCHRP 03-144 - Leveraging Existing Traffic Signal Assets to Obtain Quality Traffic Counts and Enhance Transportation Monitoring Programs
  - NCHRP 07-30 - Methods for Assigning Short-Duration Traffic Volume Counts to Adjustment Factor Groups for Estimating AADT
  - NCHRP 08-130 - Best Practices in Coordination of Public Transit and Ride Sharing
  - NCHRP 08-138 - Guide to the Integration of Transportation Systems Management and Operations into Transportation Asset Management
  - NCHRP 08-140 - Guide for Truck Parking Information Management Systems
  - NCHRP 08-141 - A Guidebook for Local Truck Parking Regulations
- NCHRP 08-143 - Guide to the Application of Spatial Segmentation on Travel Time Reliability Measures
- NCHRP 08-144 - Rural Transit Fleet Mix and Vehicle Size Decision Trees
- NCHRP 08-146 - Integrating Resiliency into Transportation System Operations
- NCHRP 08-147 - Improving Public Transportation in Rural Areas and Tribal Communities
- NCHRP 08-149 - Estimating Benefits of Closing Gaps in Active Transportation Networks
- NCHRP 08-157 - Best Practices for Data Fusion of Probe and Point Detector Data
- NCHRP 10-109 - Modern Solutions to Safe and Efficient Work Zone Travel
- NCHRP 15-73 - Design Options to Reduce Turning Motor Vehicle–Bicycle Conflicts at Controlled Intersections
- NCHRP 15-79 - Development of Guidance for Non-Standard Roadside Hardware Installations
- NCHRP 17-09 - Crash Modification Factors for Automated Traffic Signal Performance Measures
- NCHRP 17-99 - Safety Effectiveness Assessment of Advanced Highway-Rail Grade Crossing Improvements
- NCHRP 17-101 - Assessing Safety Effectiveness of Treatments and Technologies at Highway-Rail Grade Crossings
- NCHRP 17-108 - Developing Crash Modification Factors for Alternative Intersections
- NCHRP 19-23 - Revenue-Related Strategies for New Mobility Options
- 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 20-50(21) - Enhancements of Climatic Inputs and Related Models for Pavement ME Using LTPP Climate Tool (MERRA-2)
- NCHRP 20-65/Task 81 - Best Practices in Rural Service Assessment
- NCHRP 20-102(16) - Impacts of Connected, Automated Vehicle Technologies on Traffic Incident Management Response
- NCHRP 20-102(28) - Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones
- NCHRP 20-123(12) - System Mobility and Emerging Technologies (SMET): Strategic Planning Session and Research Roadmap Development
- NCHRP 20-123(18) - Development of a New Transportation System Operations Strategic Plan
- NCHRP 22-42A - Impact Performance Assessment of Barrier Performance at High Speeds
- NCHRP 22-43 - Proposed AASHTO Guidelines for Implementation of MASH for Sign Supports, Breakaway Poles, and Work Zone Traffic Control Devices
- NCHRP 23-13(01) - Telecommuting, Remote Work, and Hybrid Schedules: Managing the Shift to a Flexible Work Future
- NCHRP 23-13(04) - Scoping Supply Chain Challenges and Solutions amid COVID-19
- NCHRP 23-13(05) - Regulatory Relief of Commercial Vehicle Weight Requirements for Emergency Transportation of Critical Commodities
- NCHRP 23-13(06) - Assessing the Equity and Workforce Mobility Implications of the Expansion of E-Commerce and Direct-to-Consumer Delivery Services
- NCHRP 23-19 - Practices for Transportation Agency Procurement and Management of Advanced Technologies
- NCHRP 23-20 - Guidebook for Implementation of UAS Operational Capabilities
- NCHRP 23-28 - Planning for 4.9 GHz Spectrum Changes — What Transportation Agencies Need to Know
- NCHRP IDEA 20-30/IDEA 225 - An Automated System for Large-Scale Intersection Marking Data Collection and Condition Assessment
- NCHRP Synthesis 20-05/Topic 53-10 - Identifying the Current Practice of Contrast Pavement Markings by Departments of Transportation
- NCHRP Synthesis 20-05/Topic 53-16 - Critical Findings for Tunnel Functional Systems
- NCHRP Synthesis 20-05/Topic 54-05 - Practices for Statewide and MPO Coordination
- NCHRP Synthesis 20-05/Topic 54-13 - Truck Escape Ramp Design and Operation
- NCHRP Synthesis 20-05/Topic 55-20 - Traffic Capacity Level of Service Adaptations and Usage
- TCRP B-49 - Improving Public Transportation in Rural Areas and Tribal Communities
- TCRP B-50 - Accessible Public Bus and Rail Passenger Information for Riders with Vision Disabilities
- TCRP B-54 - Paving the Way for Inclusion: Addressing Gaps in Measuring Disability within Transportation Data Systems
- TCRP I-11/Task 44 - Improving Access to Public Transportation Services and Facilities with Transit-Oriented Complete Streets
- TCRP Synthesis I-07/Topic SA-61 - State of Practice for Transit Recovery in the Aftermath of Severe Weather Events
- TCRP Synthesis I-07/Topic SA-62 - Planning and Operations Initiatives to Support Nighttime Off-Peak Transit Ridership
- TCRP Synthesis I-07/Topic SB-36 - Dynamic Optimization on ADA Paratransit Service
• Upcoming Projects
  o ACRP 03-63 - Modernizing Air Cargo Operations in U.S. Airports
  o ACRP 03-74 - ACRP Web Resource for Airport User Choice Modeling and Analysis
  o ACRP 03-75 - Preparing for Hydrogen at Airports
  o ACRP 06-10 - Enhancing Airport Workforce Efficiency through Automation
  o ACRP 07-24 - Airport Security Checkpoint Demand Management Using Virtual Queuing
  o ACRP 08-04 - A Blueprint for Incorporating ORAT into Airports
  o ACRP 11-01/Topic 16-01 - Update to ACRP Legal Research Digest 18: Buy America Requirements for Federally Funded Airports
  o NCHRP 03-129A - Update of Essential Communications: A Guide to Land Mobile Radio (LMR)
  o NCHRP 03-143 - Framework and Toolkit for Selecting Pedestrian Crossing Treatments
  o NCHRP 03-145 - National Traffic Sensor System Evaluation Program
  o NCHRP 03-147 - LED Applications on Traffic Control Devices
  o NCHRP 03-148 - Preparing for Virtual Operation of Traffic Management Systems
  o NCHRP 03-150 - Update to Procedure for Determining Work Zone Speed Limits
  o NCHRP 03-151 - Data Subsystems and Data Management Plans for Traffic Management Systems
  o NCHRP 05-27 - Guide for Lighting at Innovative Intersections/Interchanges, including Roundabouts
  o NCHRP 07-34 - Artificial Intelligence for Transportation Systems Management and Operations Applications
  o NCHRP 07-36 - Guide for Self-Explaining Roads in the Context of the Safe System Approach
  o NCHRP 08-175 - Understanding Travel Behavior Impacts of Transportation Systems Management and Operations Strategies
  o NCHRP 08-182 - Playbook for Communicating Benefits of Transportation Systems Management and Operations Strategies Using System Performance Data
  o NCHRP 15-82 - Relationship of Speed, Roadway Geometrics, and Crashes on High-Speed Rural Highways
  o NCHRP 17-111 - Speed Management Strategies to Improve Pedestrian and Bicyclist Safety on Arterials and Higher-Speed Roadways
  o NCHRP 17-114 - Integrated Strategies for Managing Excessive Travel Speed to Improve Safety Performance
  o NCHRP 17-115 - Guide for Marked Crosswalk Design, Spacing, Placement, and Safety
  o NCHRP 17-118 - Understanding the Impacts of Operational Changes on Safety Performance
  o NCHRP 17-119 - Conflict-Based Crash Prediction Method for Intersections
  o NCHRP 17-124 - Effectiveness of Speed Reduction in Work Zones
  o NCHRP 17-128 - Reducing Adverse Driving Behaviors in Work Zones: Strategies and Guidelines
  o NCHRP 17-129 - Assessing Safety Performance of Atypical Service Interchanges
  o NCHRP 20-130 - Incorporating Human Factors Guidelines into Transportation Projects, Programs, and Practices
  o NCHRP 22-62 - Tool for Estimating the Deflection of Temporary Traffic Barriers with Reduced Impact Angles
  o NCHRP Synthesis 20-05/Topic 55-13 - Practices for Operational Traffic Simulation Models
  o NCHRP Synthesis 20-05/Topic 55-20 - Traffic Capacity Level of Service Adaptations and Usage

Reports from the National Academies Press on Operations & Traffic Management

  o Transportation and Infrastructure » Operations & Traffic Management

  o Supply Chain Disruptions: Impacts on Vulnerable Communities - Proceedings of a Workshop—in Brief
Community-Driven Relocation: Recommendations for the U.S. Gulf Coast Region and Beyond
Planning the Future Space Weather Operations and Research Infrastructure
Enhancing Operational Effectiveness of U.S. Naval Forces in Highly Degraded Environments: Autonomy and Artificial Intelligence in Unmanned Aircraft Systems
Enabling DoD's Test Ranges and Infrastructure to Meet Threats and Operational Needs in the 21st Century
Aviation After a Year of Pandemic

Committees & Panels

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TRB Standing Committees - Search by transportation mode and committee topic
- ACP00 - Operations
- ACP10 – Regional Transportation Systems Management and Operations
- ACP15 – Intelligent Transportation Systems
- ACP20 – Freeway Operations
- ACP25 – Traffic Signal Systems
- ACP30 – Vehicle-Highway Automation
- ACP35 – Managed Lanes
- ACP40 – Highway Capacity and Quality of Service
- ACP50 – Traffic Flow Theory and Characteristics
- ACP55 – Traffic Control Devices
- ACP60 – Access Management
- ACP80 - Traffic Simulation
- AKD10 – Performance Effects of Geometric Design
- AKD80 – Roundabouts and other Intersection Design and Control Strategies
- AKR10 – Maintenance and Operations Management
- AMR20 – Disaster Response, Emergency Evacuations, and Business Continuity
- AR080 – Highway/Rail Grade Crossings
- AV095 - New Users of Shared Airspace

Task Forces - Search for task force under committee here

Policy Study
- B0024 - Research and Technology Coordinating Committee (FHWA)

CRP/Synthesis Panels
- D08119 - Developing Data Standards and Guidance for Transportation Planning and Traffic Operations - Phase I
- D08138 - Connecting Transportation Asset Management (TAM) and Transportation System and Management Operations (TSMO)
- D08146 - Integrating Resiliency into Transportation System Operations
- D08175 - Understanding Travel Behavior Impacts of Transportation Systems Management and Operations (TSMO)
- D08182 - Using System Performance Data to Communicate Benefits of Transportation Systems Management and Operations (TSMO) Strategies
- D17101 - Applying the Safe System Approach to Transportation Planning, Design, and Operations in the United States
- D2007424 - Best Practices for the Operations of Movable Bridges from Remote Locations
- D2010212 - Business Models to Facilitate Deployment of CV Infrastructure to Support AV Operations
- D2012318 - Development of a New Transportation System Operations Strategic Plan
- D2013461 - UAS Operations Practical Skills Pilot Program for State DOTs
- DA0135 - Transportation Network Companies (TNCs): Impacts to Airport Revenues and Operations
- DA0289 - Industry Survey - Benefits and Costs for Airport Noise and Operations Monitoring Systems
- DA0348 - Advanced Ground Vehicle Technologies (AGVT) for Airside Operations
- DA0363 - Modernizing Air Cargo Operations and Infrastructure at U.S. Airports
- DA0608 - Human Factors in Airport Operations
- DA0717 - Update ACTP Report 40: Airport Curbside and Terminal Area Roadway Operations
- DA0921 - Guidelines for the Effective Transition of Asset Data from Design/Construction to Operations and Maintenance
- DA1031 - Guidebook for Virtual Airport Ramp Control Operations Facilities
- DA1032 - Airside Automated Ground Vehicle Technology (AGVT) Demonstration to Support Airport Operations
- DA1036 - Review and Update of ACRP Products Related to Airport Operations
- SAS1016 - Airport Operations Training at Small Airports
Recent and Upcoming Events

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

TRB Webinar: Wrong-Way Driving Solutions Handbook
March 27, 2024

TRB’s 4th International Conference on Access Management
June 24-26, 2024
Boston, MA

TRB’s Symposium on Managed Lanes
August 12-14, 2024
Irvine, CA

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

International Conference on Road Weather and Winter Maintenance
May 9-10, 2023
Washington, D.C.

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

TRB International Conference on Low Volume Roads
July 23-26, 2023
Cedar Rapids, IA

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 (PubsIndex) 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

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