TRB Snap Search: Connected & Autonomous Vehicles

TRB's involvement in research on Connected & Autonomous Vehicles from 2021-2024

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 Connected & Automated Vehicles within the past two years.

Specialty Reports

- 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
- Letter Report - Research and Technology Coordinating Committee: September 29, 2022

Recent Reports & Publications

- Airport Cooperative Research Program (ACRP)
  - WebResource 10 - Periodic Publication on Transformative Technologies at Airports

- Behavioral Traffic Safety Cooperative Research Program (BTSCR)

- National Cooperative Highway Research Program (NCHRP)
  - NCHRP 20-113F - Topical White Papers for the TRB Forum on Automated Vehicles and Shared Mobility
  - NCHRP 20-102(15) - Impacts of Connected and Automated Vehicle Technologies on the Highway Infrastructure
  - IDEA Report 214 - An Enhanced Network-Level Curve Safety Assessment and Monitoring Using Mobile Devices
  - Report 1084 - Connected and Autonomous Vehicle Technology: Determining the Impact on State DOT Maintenance Programs
  - Report 1051 - Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones
  - Report 1049 - Realistic Timing Estimates for Automated Vehicle Implementation
  - Report 1028 - State and Local Impacts of Automated Freight Transportation Systems
  - Report 997 - Algorithms to Convert Basic Safety Messages into Traffic Measures
  - Report 978 - Initiating the Systems Engineering Process for Rural Connected Vehicle Corridors, Volume 1: Research Overview
The National Academies of
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- Report 613 - Contrast Pavement Markings Practices
- Synthesis 578 - Use of Unmanned Aerial Systems for Highway Construction
- Web-Only Document 331 - Mobility on Demand and Automated Driving Systems: A Framework for Public-Sector Assessment
- Web-Only Document 310 - Evaluation and Synthesis of Connected Vehicle Communication Technologies

- Rail Safety IDEA Program
  - Safety IDEA Report 42 - Railroad Tunnel Inspections for Maintenance and Replacement Prioritization Using Untethered Ground Penetrating Radar and LIDAR Capable Unmanned Aerial Vehicles (UAVs)
  - Safety IDEA Report 37 - Measuring Behavior of Railroad Bridges under Revenue Traffic using Lasers and Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation

- Transit Cooperative Research Program (TCRP)
  - IDEA Report 98 - Safety Assessment of the Interaction Between the Autonomous Shuttle Bus and Vulnerable Road Users
  - IDEA Report 95 - Connected and Automated Parking Feasibility – A Pilot Study
  - Report 232 - Impacts of Vehicle Automation on the Public Transportation Workforce
  - Report 220 - Low-Speed Automated Vehicles (LSAVs) in Public Transportation

Recently Completed Projects/Pending Publication

- ACRP 11-02/Task 43 - Successful Community Inclusion in Advanced Air Mobility
- NCHRP 23-15 - Guidance on Risks Related to Emerging and Disruptive Transportation Technologies
- NCHRP 20-123(12) - System Mobility and Emerging Technologies (SMET): Strategic Planning Session and Research Roadmap Development
- NCHRP 20-102(29) - Incorporating New Mobility Options into Travel Demand Forecasting and Modeling
- NCHRP 20-102(19)B - Updated Research Roadmap for NCHRP 20-102, Impacts of Connected Vehicles and Automated Vehicles on State and Local Transportation Agencies
- NCHRP 20-102(16) - Impacts of Connected, Automated Vehicle Technologies on Traffic Incident Management Response
- NCHRP 20-102(11) - Mobility-on-Demand and Automated Driving Systems: A Framework for Public-Sector Assessment
- NCHRP 20-24(128) - State-of-the-Art Review of Cooperative Automated Transportation (CAT) Systems
- NCHRP 20-06/Topic 26-03 - Multistate Coordination and Harmonization for AV Legislation
- NCHRP 14-42 - Determining the Impact of Connected and Automated Vehicle Technology on State DOT Maintenance Programs
- NCHRP 12-122 - Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection
- NCHRP 08-145 - Utilizing Cooperative Automated Transportation (CAT) Data to Enhance Freeway Operational Strategies

Current & Upcoming Projects

- Current Projects
  - ACRP 10-32 - U.S. Airport Industry Adoption of Automated Ground Vehicle Systems
  - ACRP 10-33 - Incorporating Emerging Ground Access Technologies at Airports
  - BTS CRP BTS-26 - Advanced Driver Assistance Systems (ADAS) Education and Outreach
  - NCHRP 17-101 - Applying the Safe System Approach to Transportation Planning, Design, and Operations in the United States
  - NCHRP 20-24(147) - Identify Best Practices for Automated Driving Systems and Other Emerging Technologies
  - NCHRP 20-44(47) - UAS Operations Practical Skills Pilot Program for State DOTs
  - NCHRP 20-102 - Impacts of Connected Vehicles and Automated Vehicles on State and Local Transportation Agencies – Task-Order Support
  - NCHRP 20-102(20) - Preparing the Transportation Workforce for the Deployment of Emerging Technology
  - NCHRP 20-102(24) - Infrastructure Modifications to Improve the Operational Conditions of Automated Vehicles
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- **NCHRP 20-102(34)** - Toolbox for Navigating the Land Use Impacts of the Automated Vehicle Ecosystem
- **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

**Upcoming Projects**
- **NCHRP 13-10** - Use of UAS to Enhance the Design, Maintenance, Inspection, and Construction of Transportation Infrastructure
- **NCHRP 15-85** - Improved Superelevation Design Based on Advancing Technologies
- **NCHRP 20-24(119)** - Strategic Research in Support of the Connected and Automated Vehicle Executive Leadership Team
- **NCHRP 20-24(147)** - Identify Best Practices for Automated Driving Systems and Other Emerging Technologies
- **NCHRP 20-136** - Use of Data from Sensors Integrated within Connected Vehicles in Maintenance Management and Pavement Management

**Reports from the National Academies Press on Connected & Autonomous Vehicles**
- Future Directions for Southern Ocean and Antarctic Nearshore and Coastal Research
- Navigating an Electric Vehicle Future
- Advanced Battle Management System: Needs, Progress, Challenges, and Opportunities Facing the Department of the Air Force
- U.S. Army Futures Command Research Program Realignment
- Accelerating Decarbonization of the U.S. Energy System
- Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy — 2025-2035

**Committees & Panels**

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

**TRB Standing Committees** – Search by transportation mode and committee topic
- AED50 - Artificial Intelligence and Advanced Computing Applications
- ACH60 - Vehicle User Education, Training, and Licensing
- ACP15 - Intelligent Transportation Systems
- ACP25 - Traffic Signal Systems
- ACP30 - Vehicle-Highway Automation
- AJL40 - Emerging Technology Law
- ACH40 - Human Factors of Infrastructure Design and Operations

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

**Panels**
- D08120 - Initiating the Systems Engineering Process for Rural Connected Vehicle Corridors
- D08145 - Utilizing Cooperative Automated Transportation (CAT) Data to Enhance the Use of Freeway Operational Strategies
- D1442 - Determining State DOT Maintenance Program Implications of Connected and Automated Vehicles
- D1795 - Crash Modification Factors for Intelligent Transportation Systems Applications
- D20102 - Impacts of Connected and Automated Vehicles on State and Local Transportation Agencies
- D2010215 - Understanding the Impacts of the Physical Highway Infrastructure Caused by the Increased Prevalence of Advanced Vehicle Technologies
- D2010216 - Preparing TIM Responders for Connected Vehicles and Automated Vehicles
- D2010224 - Infrastructure Enablers for Connected and Automated Vehicles and Shared Mobility—Near-Term and Mid-Term
- D2010234 - Toolbox for Navigating the Land Use Impacts of the Automated Vehicle Ecosystem
- D2020224 - Infrastructure Enablers for Connected and Automated Vehicles and Shared Mobility—Near-Term and Mid-Term
- D2020227 - Realistic Timing Estimates for Automated Vehicle Implementation
- D2310 - Evaluation and Synthesis of Connected Vehicle Communications Technologies
- D2315 - Prioritization of Risks Related to Connected and Automated Vehicles and Emerging Technologies
Preparing for Automated Vehicles and Shared Mobility

- E0005A - Use of Automatic Vehicle Monitoring (AVM) and Vehicle Health Monitoring/Diagnostic Systems by Transit Agencies

STSA56 - Use of Automatic Vehicle Monitoring (AVM) and Vehicle Health Monitoring/Diagnostic Systems by Transit Agencies

Councils

- A001C – Young Members Coordinating Council

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’s Annual Automated Road Transportation Symposium
July 29-August 1, 2024
San Diego, CA

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

National Conference on Transportation Asset Management
July 8-11, 2023
Boston, MA

TRB’s 2023 Automated Road Transportation Symposium
July 9-13, 2023
San Francisco, CA

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

Contact or Questions: TRBLibrary@nas.edu