NATIONAL ACADEMIES Sciences Engineering Medicine

TRB TRANSPORTATION RESEARCH BOARD

TRB Snap Search: Artifical Intelligence

TRB's involvement in research on Artificial Intelligence 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 Artificial Intelligence within the past three years.

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)
  - WebResource 10 - Periodic Publication on Transformative Technologies at Airports

- National Cooperative Highway Research Program (NCHRP)
  - NCHRP IDEA Report 231 - AI Analyzer for Revealing Insights of Traffic Crashes
  - NCHRP IDEA Report 225 - An Automated System for Large-Scale Intersection Marking Data Collection and Condition Assessment
  - NCHRP IDEA Report 222 - Mixed Reality Assisted Infrastructure Inspections
  - NCHRP IDEA Report 209 - An Automated System for Pedestrian Facility Data Collection from Aerial Images

- Transit Cooperative Research Program (TCRP)
  - Transit IDEA J-04/IDEA 100 - TrainMate Robotic System: Making Public Transportation, Public

- Transportation Research Circulars
  - Circular 278 - Innovations in Freight Data Workshop

Recently Completed/Pending Publication

- NCHRP 23-16 – Implementing and Leveraging Machine Learning at State Departments of Transportation (moved from Active)

Current & Upcoming Projects

- Current Projects
  - NCHRP 07-34 - Artificial Intelligence for Transportation Systems Management and Operations Applications
  - NCHRP 17-100 - Leveraging Artificial Intelligence and Big Data to Enhance Safety Analysis

- NCHRP IDEA 20-30/IDEA 242 - Development of an AI-Powered Dynamic Modulus Test with a Low-Cost Loading Frame
- NCHRP IDEA 20-30/IDEA 247 - Augmenting the Hearing of Safety-Critical Sounds for Highway Workers using Artificial Intelligence
- NCHRP Synthesis 20-5/Topic 15-14 - Artificial Intelligence Applications for Automated Pavement Condition Evaluation
- NCHRP 23-12 - Artificial Intelligence Opportunities for State and Local DOTs – A Research Roadmap
- Rail Safety IDEA 49 - Development of a Prototype Smart Hy-Rail Wheel
- Rail Safety IDEA 50 - An Artificial Intelligence Aided Forward-Facing Camera Video Data Analytics System for Rail Safety

- Upcoming Projects
  - TCRP J-11/Task 50 - Transit Governance and Funding Models
  - TCRP J-11/Task 51 - Enhancing Transit Operations with Artificial Intelligence

Publications from the National Academies Press on Artificial Intelligence

- Artificial Intelligence and Justified Confidence: Proceedings of a Workshop–in Brief
- Artificial Intelligence to Assist Mathematical Reasoning: Proceedings of a Workshop
- Artificial Intelligence in Health Professions Education: Proceedings of a Workshop
- Test and Evaluation Challenges in Artificial Intelligence-Enabled Systems for the Department of the Air Force
- Artificial Intelligence Tools and Open Data Practices for EPA Chemical Hazard Assessments: Proceedings of a Workshop–in Brief
- Advances in Multimodal Artificial Intelligence to Enhance Environmental and Biomedical Data Integration: Proceedings of a Workshop–in Brief
- Testing, Evaluating, and Assessing Artificial Intelligence–Enabled Systems Under Operational Conditions for the Department of the Air Force: Proceedings of a Workshop—in Brief
- Machine Learning and Artificial Intelligence to Advance Earth System Science: Opportunities and Challenges: Proceedings of a Workshop
- Enhancing Operational Effectiveness of U.S. Naval Forces in Highly Degraded Environments: Autonomy and Artificial Intelligence in Unmanned Aircraft Systems: Abbreviated Version of Full Report

Research from the National Academies on Artificial Intelligence

- Shaping the Future of AI

Committees & Panels

Sign-up to be a committee "Friend"

TRB Standing Committees – Search by transportation mode and committee topic

- ACP15 - Intelligent Transportation Systems
- AED50 - Artificial Intelligence and Advanced Computing Applications

Panels - Search for *panels* under committee here

- D0734 - Toward Artificial Intelligence-Enabled Decision Support Systems for TSMO Applications
- D08185 - Generative Artificial Intelligence (AI) Enabled Pilot for NOCoE Knowledge Center
- D17100 - Leveraging Big Data and Artificial Intelligence to Streamline Safety Data Analyses
- D2312 - An Artificial Intelligence Research Roadmap
- D2316 - Implementing and Leveraging Artificial Intelligence and Machine Learning at Departments of Transportation
- SN5414 - Artificial Intelligence Applications for Automated Pavement Condition Evaluation
- TJ1151 - Enhancing Transit Operations with Artificial Intelligence

Councils

- A001C – Young Members Coordinating Council

Recent and Upcoming Events

Upcoming TRB Conferences – Use left hand menu to filter events

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 Webinar: Cloud Computing for Next Generation Traffic Management Systems
October 25, 2023

TRB Forum with ITS America - AI in AVS
July 2023

TRB Webinar: Equity in Artificial Intelligence Applications
May 22, 2023

TRB Webinar: Deploying AI Applications for Asset Management
May 3, 2023

TRB Webinar: Robot-Enabled Sensing and Augmented Learning for Bridge Inspection
March 29, 2022

TRB Webinar: The Future of Bridge Foundation Designs with Artificial Intelligence
June 22, 2021

TRB Webinar: Using Artificial Intelligence to Predict Deterioration of Highway Bridges
February 22, 2021

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