TRB Snap Search: Maintenance & Preservation

TRB's involvement in research on Maintenance & Preservation 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.

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 Maintenance & Preservation within the past year.

Subject Webpage

- Maintenance & Preservation Research at TRB

Recent Reports & Publications

- Innovations Deserving Exploratory Analysis (IDEA)
  - Safety Report 44 - Laser-Based Non-destructive Spike Defect Inspection System

- National Cooperative Highway Research Program (NCHRP)
  - IDEA Report 206 - Rule-Based Automated Safety Monitoring System for Work Zone Safety
  - IDEA Report 205-A - Bio-Inspired "MRI" of Concrete Bridges using Waveform-Based Ultrasonic Tomography
  - NCHRP 06-18 - Guide for Snow and Ice Control Operations
  - NCHRP 14-44 - Guide Specifications for the Construction of Slurry Seals, Scrub Seals, and Tack Coats
  - Report 1008 - Attracting, Retaining, and Developing the 2030 Transportation Workforce: Design, Construction, and Maintenance
  - Report 1007 - Evaluation of Bonded Concrete Overlays on Asphalt Pavements
  - Synthesis 595 - Practices for Assessing and Mitigating the Moisture Susceptibility of Asphalt Pavements
  - Synthesis 591 - Use of Safety Management Systems in Managing Highway Maintenance Worker Safety
  - Synthesis 589 - Automated Data Collection and Quality Management for Pavement Condition Reporting
  - Synthesis 587 - Use of Smart Work Zone Technologies for Improving Work Zone Safety
  - Synthesis 586 - Use of Recycling Agents in Asphalt Concrete Mixtures
  - Synthesis 585 - Bridge Element Data Collection and Use
  - Synthesis 582 - Highway Infrastructure Inspection Practices for the Digital Age
  - Synthesis 581 - Rehabilitation of Culverts and Buried Storm Drain Pipes
  - Synthesis 580 - Practices for Ensuring the Smoothness of Concrete Bridge Decks
  - Web-Only Document 329 - Bonded Concrete Overlays on Asphalt Pavements: Resources for Evaluation
  - Web-Only Document 322 - Alternative Technologies for Mitigating the Risk of Injuries and Deaths in Work Zones: Conduct of Research
  - Web-Only Document 304 - Criteria for Restoration of Longitudinal Barriers, Phase II
  - Web-Only Document 298 - Developing a Systematic Approach for Determining Construction Contract Time

Current & Upcoming Projects

Updated 11/11/2022
• **Current Projects**
  - ACRP 09-19 - Airfield Pavement Markings - Effective Techniques for Removal and Temporary Applications
  - ACRP 09-20 - Quantifying the Impacts of Delayed Maintenance of Airport Assets
  - ACRP 09-21 - Guidelines for the Effective Transition of Asset Data from Design/Construction to Operations and Maintenance
  - ACRP Synthesis 11-03/Topic S09-09 - Automated Pavement Condition Survey Practices at Airports
  - NCHRP 02-26 - Implementation of Life-Cycle Planning Analysis in a Transportation Asset Management Framework
  - NCHRP 06-19 - Guidebook for Mechanical Methods for Snow and Ice Control Operations
  - NCHRP 09-57A - Ruggedness of Laboratory Tests to Assess Cracking Resistance of Asphalt Mixtures
  - NCHRP 10-102 - A Guidebook for Risk-Based Construction Inspection
  - NCHRP 10-105 - Verification of Traffic Speed Deflection Devices’ (TSDDs) Measurements
  - NCHRP 12-115 - Guidelines for Risk-Based Inspection and Strength Evaluation of Suspension Bridge Main Cable Systems
  - NCHRP 12-122 - Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection
  - NCHRP 13-06A - Guide for the Formulation of Long-Range Plans and Budgets for Replacement of Highway Operations Equipment
  - NCHRP 13-08 - Guideline for Decision Making for Repair vs. Replacement of Highway Maintenance Equipment
  - NCHRP 14-41 - Permanent Vegetation Control Treatments for Roadsides
  - NCHRP 14-42 - Determining the Impact of Connected and Automated Vehicle Technology on State DOT Maintenance Programs
  - NCHRP 14-43 - Guide Construction Specifications for Cold In-place Recycling and Cold Central Plant Recycling
  - NCHRP 14-46 - Guidelines for the Maintenance and Construction of Rumble Strips
  - NCHRP 18-20 - AASHTO LRFD Design, Installation, and Standard Practice of Testing for Cured In-Place Pipe Liners
  - NCHRP 20-44(36) - Workshops on Long-Range Strategic Issues Affecting Preservation, Maintenance, and Renewal of Highway Infrastructure
  - NCHRP 20-44(37) - Workshops on Performance Measures in Snow and Ice Control Operations
  - NCHRP 20-102(28) - Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones
  - NCHRP 23-08 - A Guide for Incorporating Maintenance Costs into a Transportation Asset Management Plan
  - NCHRP 25-63 - Handbook on Deterring and Excluding Bats from Transportation Structures
  - NCHRP IDEA 20-30/IDEA 223 - Fatigue Crack Inspection Using Computer Vision and Augmented Reality
  - NCHRP IDEA 20-30/IDEA 222 - Mixed Reality Assisted Infrastructure Inspections
  - NCHRP IDEA 20-30/IDEA 226 - A Smart IoT Proximity Alert System for Highway Work Zone Safety
  - NCHRP IDEA 20-30/IDEA 234 - Field Test & Evaluation of A Solar Snow Fence
  - NCHRP Synthesis 20-05/Topic 53-02 - Practices to Motivate Safe Behaviors with Highway Construction and Maintenance Crews
  - NCHRP Synthesis 20-05/Topic 53-04 - Practices for the Collection, Use, and Management of Utility As-Built Information
  - NCHRP Synthesis 20-05/Topic 53-16 - Critical Findings for Tunnel Functional Systems
  - NCHRP Synthesis 20-05/Topic 54-01 - Practices to Identify and Mitigate PFAS Impacts on Highway Construction Projects and Maintenance Operations
  - NCHRP Synthesis 20-05/Topic 54-02 - Outsourcing Stormwater Best Management Practice Inspection & Maintenance Activities
  - Safety IDEA Project 43 - Augmenting Reality for Safer Inspections of Railroad Infrastructure and Operations
  - TCRP C-24 - Transit Traction Power Cables: Replacement Guidelines

• **Upcoming Projects**
  - ACRP 09-22 - Guidance for Small Airports on Safe Maintenance of Airfield Electrical Systems
  - NCHRP 01-62 - Impact of Flooding and Inundation on the Resiliency of Pavements
  - NCHRP 08-136 - Guidance on Using Performance-Based Management Approaches for Maintenance
  - NCHRP 10-112 - Guidelines for Digital Technologies and Systems for Remote Construction Inspection for Highway Infrastructure Projects
  - NCHRP 10-114 - Developing Performance and Safety Specifications for Rejuvenating Seals
  - NCHRP 14-36(01) - Implementation of Bridge Preservation Actions
  - NCHRP 14-45 - Guidelines for Response Planning, Assessment, and Rapid Restoration of Service of Bridges in Extreme Events
  - NCHRP 14-47 - Tools and Technology for Roadside Landscape Asset Management
- Implementation of the research results of NCHRP Project 15-61: “Applying Climate Change Information to Hydrologic and Hydraulic Design of Transportation Infrastructure”
- NCHRP 20-44(50) - Implementation of Asphalt Pavement Raveling Detection Algorithm
- NCHRP 20-50(22)A - LTPP Data Analysis: Guidelines to Improve Use of FWD and Longitudinal Profile Measurements
- NCHRP 23-13(03) - Guide on Truck Rest and Service Areas for Critical Supply Chain Delivery
- NCHRP 25-65 - Successful Approaches in Preparing Convincing Section 106 Effect Determination
- NCHRP Synthesis 20-05/Topic 53-09 - Use of Unmanned Aerial Systems for Highway Stormwater Inspections
- NCHRP Synthesis 20-05/Topic 54-04 - Mobile Devices as a Tool for Digitalized Project Documentation and Inspection
- NCHRP Synthesis 20-05/Topic 54-14 - Artificial Intelligence Applications for Automated Pavement Condition Evaluation
- NCHRP Synthesis 20-05/Topic 54-18 - Wintertime Pavement Maintenance Practices
- TCRP D-20 - Insulated Joint Failure Investigation Mitigation

Reports from the National Academies Press on Maintenance & Preservation
- Transportation and Infrastructure » Maintenance and Preservation
- Evaluation of the Transport Airplane Risk Assessment Methodology
- Biodiversity at Risk: Today’s Choices Matter
- America’s Geoheritage II: Identifying, Developing, and Preserving America’s Natural Legacy
- Service Life Assessment and Predictive Modeling for an Aging Critical Infrastructure

Committees & Panels

Sign-up to be a committee "Friend"

TRB Standing Committees – Search by transportation mode and committee topic
- ACP10 - Regional Transportation Systems Management and Operations
- ACP55 - Traffic Control Devices
- AKB40 - Testing and Evaluation of Transportation Structures
- AKC60 - Asphalt Pavement Construction and Rehabilitation
- AKD30 - Geo-Environmental and Climatic Impacts on Geomaterials
- AKM90 - Polymer Concretes, Adhesives, and Sealers
- AKP10 - Pavement Condition Evaluation
- AKR10 - Maintenance and Operations Management
- AKR20 - Roadside Maintenance Operations
- AKR30 - Maintenance Fleet and Equipment
- AKR40 - Winter Maintenance
- AKR50 - Road Weather
- AKT10 - Pavement Management Systems
- AKT20 - Pavement Preservation
- AKT30 - Pavement Maintenance
- AKT40 - Structures Maintenance
- AKT50 - Bridge and Structures Management
- AKT60 - Bridge Preservation
- AKT70 - Maintenance Management Systems
- AME60 - Historic and Archeological Preservation in Transportation
- AR050 - Railroad Infrastructure Design and Maintenance
- AR060 - Rail Transit Infrastructure Design and Maintenance

Task Forces - Search for task force under committee here

CRP Panels
- D08136 - Guidance on Using Performance-Based Management Approaches for Maintenance
- D1308 - Guideline for Decision Making for Repair vs. Replacement of Highway Maintenance Equipment
- D1427 - Guidelines for a Comprehensive Preventive Maintenance Plan for Tunnel Owners and Operators
- D1442 - Determining State DOT Maintenance Program Implications of Connected and Automated Vehicles
- D1446 - Guidelines for Maintenance and Construction of Rumble Strips
Recent and Upcoming Events

**Upcoming TRB Conferences** – Use left hand menu to filter events

- **International Conference on Road Weather and Winter Maintenance**
  *May 9-10, 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*

**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 - 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