TRB Snap Search: Maintenance & Preservation

TRB’s involvement in research on Maintenance & Preservation from 2020-2021

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

- Airport Cooperative Research Program (ACRP)

- IDEA Projects
  - Safety IDEA Report 41 - Vibration-based Longitudinal Rail Stress Estimation Exploiting Acoustic Measurement and Machine Learning
  - Safety IDEA Report 39 - Non-Contact Scour Monitoring System for Railroad Bridges

- Letter Reports
  - Long-Term Infrastructure Program - Letter Report: January 2, 2020

- National Cooperative Highway Research Program (NCHRP)
  - IDEA Report 208 - Determining Bridge Deck Chloride Quantities Using Ground Penetrating Radar
  - Report 950 - Proposed AASHTO Guides for Bridge Preservation Actions
  - Report 750 - Strategic Issues Facing Transportation, Volume 7: Preservation, Maintenance, and Renewal of Highway Infrastructure
  - Synthesis 556 - Asset Management Approaches to Identifying and Evaluating Assets Damaged Due to Emergency Events
  - Synthesis 555 - Estimating and Contracting Rock Slope Scaling Adjacent to Highways
  - Synthesis 553 - Performance-Based Pavement Warranty Practices
  - Synthesis 544 - Concrete Technology for Transportation Applications
  - Web-Only Document 288 - Standard Definitions for Common Types of Pavement Cracking

- Transit Cooperative Research Program (TCRP)
  - IDEA Report 94 - Evaluation of Transit Vehicle Brake Inspection through Ultrasonic Emissions Analysis
  - Synthesis 150 - Third Rail Insulator Failures: Current State of the Practice

Current & Upcoming Projects

- Current Projects

Updated 12/07/2020
- Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation
  - Safety IDEA Project 37
  - NCHRP Synthesis 20
  - NCHRP IDEA 20
  - NCHRP 18
  - NCHRP 14
  - NCHRP 10
  - NCHRP 09
  - NCHRP 06A
  - NCHRP 02
  - ACRP 09-11
  - ACRP 08
  - ACRP 07
  - ACRP 06
  - ACRP 05
  - ACRP 04
  - ACRP 03
  - ACRP 02
  - ACRP 01

- Rapid Airfield Concrete Pavement Slab Replacement and Patching
- Airfield Pavement Markings - Effective Techniques for Removal and Temporary Applications
- Evaluation of Bonded Concrete Overlays on Asphalt Pavements
- Workforce 2030--Attracting, Retaining, and Developing the Transportation Workforce: Design, Construction, and Maintenance
- Implementation of Life-Cycle Planning Analysis in a Transportation Asset Management Framework
- Guide for Snow and Ice Control Operations
- Ruggedness of Laboratory Tests to Assess Cracking Resistance of Asphalt Mixtures
- A Guidebook for Risk-Based Construction Inspection
- Verification of Traffic Speed Deflection Devices' (TSDDs) Measurements
- Guidelines for Risk-Based Inspection and Strength Evaluation of Suspension Bridge Main Cable Systems
- Guide for the Formulation of Long-Range Plans and Budgets for Replacement of Highway Operations Equipment
- Proposed AASHTO Guide for Bridge Preservation Actions
- Permanent Vegetation Control Treatments for Roadside
- Determining the Impact of Connected and Automated Vehicle Technology on State DOT Maintenance Programs
- Guide Construction Specifications for Cold In-place Recycling and Cold Central Plant Recycling
- Guide Specifications for the Construction of Slurry Seals, Scrub Seals, and Tack Coats
- Implementation Assessment of 3R Design Guidelines
- AASHTO LRFD Design, Installation, and Standard Practice of Testing for Cured In-Place Pipe Liners
- Fix It, Sign It, or Close It: State of Good Repair in an Era of Budget Constraints
- LTTP Data Analysis: Significance of As-Constructed Asphalt Pavement Air Voids to Pavement Performance
- A Guide for Incorporating Maintenance Costs into a Transportation Asset Management Plan
- MRI Bridge Analysis and Multi-Modal Imaging Using Optimal Multi-Coil Resonant Coupling
- Fatigue Crack Inspection Using Computer Vision and Augmented Reality
- Mixed Reality Assisted Infrastructure Inspections
- A Smart IoT Proximity Alert System for Highways
- Practices for Assessing and Mitigating the Moisture Susceptibility of Asphalt Pavements
- Practice and Performance of Cold In-Place Recycling and Cold Central Plant Recycling
- Repair and Maintenance of Post-Tensioned Concrete Bridges
- Maintenance and Surface Preparation Activities Prior to Pavement Preservation Treatments
- Highway Infrastructure Inspection Practices for the Digital Age
- Current Practices in Bridge Asset Management Decision-Making
- Practices for Ensuring Bridge Surface Smoothness
- Use of Pavement Data Collection Technology for Pavement Data Quality Management and MAP-21 Target Setting
- Use of Safety Management Systems in Managing Highway Maintenance Worker Safety
- Rehabilitation of Culverts and Buried Storm Drain Pipes
- Use of Smart Work Zone Technologies for Improving Work Zone Safety
- Use of Recycling Agents in Asphalt Concrete Mixtures
- Development of a Fatigue Load for Railway Bridges
- Laser-based Non-destructive Spike Defect Inspection System
- Onboard High-Bandwidth Fiber Optic Sensing System for Broken Rail Detection
- Measuring Behavior of Railroad Bridges under Revenue Traffic using Lasers and Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation
- Fatigue Life Extension of Thermite Welds by Porosity Minimization
- Transit Traction Power Cables: Replacement Guidelines
- Fix It, Sign It, or Close It: State of Good Repair in an Era of Budget Constraints
• **Upcoming Projects**
  - 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 06-19 - Develop a Guidebook for the Use of Non-Chemical Methods for Removing Snow and Ice from Roadways
  - NCHRP 08-136 - Guidance on Using Performance-Based Management Approaches for Maintenance
  - NCHRP 12-122 - Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection
  - NCHRP 13-09 - Guideline for Decision Making for Repair vs. Replacement of Highway Maintenance Equipment
  - NCHRP 14-45 - Guidelines for Response Planning, Assessment, and Rapid Restoration of Service of Bridges in Extreme Events
  - NCHRP 14-46 - Rumble and Mumble Strip Preservation Treatment Options
  - NCHRP 20-102[28] - Preparing Transportation Agencies for Connected and Automated Vehicles in Work Zones
  - NCHRP 20-123[07] - Update proposed Manual for the Maintenance of Roadways and Bridges
  - NCHRP 25-63 - Evaluating and Improving Current Practices for Temporarily Deterring Bat Use of Bridges and Similar Structures
  - TCRP D-20 - Insulated Joint Failure Investigation Mitigation

Reports from the [National Academies Press](https://www.nap.edu) on Maintenance & Preservation
  - [Effectiveness and Impacts of Dust Control Measures for Owens Lake](https://www.nap.edu/catalog/17684-effectiveness-and-impacts-of-dust-control-measures-for-owens-lake)

**Committees & Panels**

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

**TRB Standing Committees** – Search by transportation mode and committee topic
  - ACP55 - Traffic Control Devices
  - AKB40 - Testing and Evaluation of Transportation Structures
  - AKC60 - Asphalt Pavement Construction and Rehabilitation
  - AKG30 - 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
  - AR050 - Railroad Infrastructure Design and Maintenance
  - AR060 - Rail Transit Infrastructure Design and Maintenance

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

**CRP Panels**
  - [Project Panels Related to Maintenance & Preservation](https://www.trb.org/CRP/Pages/default.aspx)

**Councils**
  - A001C – Young Members Coordinating Council

**Recent and Upcoming Events**

**Upcoming Conferences** - Left hand menu “upcoming conferences by topic”

(Conferences cosponsored by TRB are denoted with an asterisk.)

**10th International Conference on Bridge Maintenance, Safety, and Management (IABMAS2020)**
  *April 11, 2021*
Sapporo, Japan

**2021 NAEP Annual Conference and Training Symposium***
May 16, 2021
Phoenix, AZ

**International Conference on Managing Pavement Assets (ICMPA)**
June 8, 2021
Chicago, IL

**10th International Conference on Structural Health Monitoring of Intelligent Infrastructure***
June 30, 2021
Porto, Portugal

**International Symposium on Frontiers of Road and Airport Engineering***
July 12, 2021
Delft, the Netherlands

**GeoChina 2021 International Conference***
July 19, 2021
NanChang, Jiangxi, China

**12th International Conference on Concrete Pavements***
August 29, 2021
Minneapolis, MN

**Webinars** – View upcoming webinars, suggest a webinar or add registration information

**Past Webinars**

- **Maintenance and Preservation**

**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
- **Research Needs Statements (RNS)** – [rns.trb.org](#) - Research needs as identified by TRB Technical Activities standing committees
- **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](mailto:TRBLibrary@nas.edu)