TRB Snap Search: Maintenance & Preservation

TRB’s involvement in research on Maintenance & Preservation from 2018-2019

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](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](http://www.trb.org/InformationServices/Snap.aspx) on TRB published research on Maintenance & Preservation within the past year.

Subject Webpage

- [Maintenance & Preservation Research at TRB](http://www.trb.org/InformationServices/Snap.aspx)

Recent Reports & Publications

- [Airport Cooperative Research Program (ACRP)](http://www.trb.org/InformationServices/Snap.aspx)
  - Report 155 - Guidebook for Advanced Computerized Maintenance Management System Integration at Airports
  - Synthesis 86 - Airport Operator Options for Delivery of FBO Services
  - [Web-Only Document 37](http://www.trb.org/InformationServices/Snap.aspx) - Research Roadmap in the Area of Airport Operations and Maintenance

- [IDEA Safety Projects](http://www.trb.org/InformationServices/Snap.aspx)
  - Report 35 - Non-contact Deflection Monitoring System for Timber Railroad Bridges
  - Report 32 - Railroad Bridge Inspections for Maintenance and Replacement Prioritization Using Unmanned Aerial Vehicles (UAVs) with Laser Scanning Capabilities

- [Letter Reports](http://www.trb.org/InformationServices/Snap.aspx)
  - [Long-Term Infrastructure Program](http://www.trb.org/InformationServices/Snap.aspx) - Letter Report: January 30, 2019
  - [Long-Term Infrastructure Program](http://www.trb.org/InformationServices/Snap.aspx) - Letter Report: January 23, 2018

- [National Cooperative Highway Research Program (NCHRP)](http://www.trb.org/InformationServices/Snap.aspx)
  - Report 912 - Guidelines for Detection and Remediation of Soluble Salt Contamination Prior to Coating Steel Highway Structures
  - Report 889 - Performance Measures in Snow and Ice Control Operations
  - Report 858 - Quantifying the Effects of Preservation Treatments on Pavement Performance
  - Synthesis 533 - Very Short Duration Work Zone Safety for Maintenance and Other Activities
  - Synthesis 531 - Automated Pavement Condition Surveys
  - Synthesis 530 - Construction and Rehabilitation of Concrete Pavements Under Traffic
  - Synthesis 525 - Practices in One-Lane Traffic Control on a Two-Lane Rural Highway
  - Synthesis 521 - Investment Prioritization Methods for Low-Volume Roads
  - Synthesis 517 - Corrosion Prevention for Extending the Service Life of Steel Bridges
  - [Web-Only Document 259](http://www.trb.org/InformationServices/Snap.aspx) - Guidelines to Improve the Quality of Element-Level Bridge Inspection Data
  - [Web-Only Document 251](http://www.trb.org/InformationServices/Snap.aspx) - Spot Painting to Extend Highway Bridge Coating Life: Volume 1: Guidance
  - [Web-Only Document 251](http://www.trb.org/InformationServices/Snap.aspx) - Spot Painting to Extend Highway Bridge Coating Life: Volume 2: Research Overview
• **TRB Special Reports**
  o **Report 330** - Performance of Bridges That Received Funding Under the Innovative Bridge Research and Construction Program
  o **Report 323** - In-Service Performance Evaluation of Guardrail End Treatments

• **Transportation Research Circulars**
  o **E-Circular 246** - Structural Monitoring
  o **E-Circular 228** - Rebuilding and Retrofitting the Transportation Infrastructure

**Current & Upcoming Projects**

• **Current Projects**
  o **ACRP 02-87** - Determining Airfield Pavement Deicer and Anti-Icer Contributions to Airport Stormwater
  o **ACRP 09-15** - Building Information Modeling (BIM) Beyond Design
  o **ACRP 09-17** - Collecting, Applying, and Maintaining Pavement Condition Data at Airports
  o **ACRP 09-18** - Rapid Airfield Concrete Pavement Slab Replacement and Patching
  o **ACRP 09-19** - Airfield Pavement Markings - Effective Techniques for Removal and Temporary Applications
  o **NCHRP 01-61** - Evaluation of Bonded Concrete Overlays on Asphalt Pavements
  o **NCHRP 02-25** - Workforce 2030--Attracting, Retaining, and Developing the Transportation Workforce: Design, Construction, and Maintenance
  o **NCHRP 02-26** - Implementation of Life-Cycle Planning Analysis in a Transportation Asset Management Framework
  o **NCHRP 09-57A** - Ruggedness of Laboratory Tests to Assess Cracking Resistance of Asphalt Mixtures
  o **NCHRP 10-102** - A Guidebook for Risk-Based Construction Inspection
  o **NCHRP 12-115** - Guidelines for Risk-Based Inspection and Strength Evaluation of Suspension Bridge Main Cable Systems
  o **NCHRP 13-06** - Guide for the Formulation of Long-Range Plans for Replacement Needs and Budget of Highway Operations Equipment
  o **NCHRP 13-07** - Guide to Calculating Ownership and Operating Costs of Department of Transportation Vehicle and Equipment Fleet
  o **NCHRP 14-36** - Proposed AASHTO Guide for Bridge Preservation Actions
  o **NCHRP 14-41** - Permanent Vegetation Control Treatments for Roadsides
  o **NCHRP 15-50(01)** - Implementation Assessment of 3R Design Guidelines
  o **NCHRP 20-06/Topic 24-05** - Fix It, Sign It, or Close It: State of Good Repair in an Era of Budget Constraints
  o **NCHRP 20-24(124)** - Performance Management Reporting Peer Exchange
  o **NCHRP 20-44(05)** - Dissemination of "NCHRP Domestic Scan 14-01: Leading Management Practices in Determining Funding Levels for Maintenance and Preservation"
  o **NCHRP 20-50(18)** - LTPP Data Analysis: Significance of As-Constructed Asphalt Pavement Air Voids to Pavement Performance
  o **NCHRP 20-50(19)** - LTPP Data Analysis: Feasibility of Using LTPP Data to Develop Relationships Between Laboratory- and Field-Derived Properties of Unbound Materials
  o **NCHRP 20-83(03)A** - Long-Range Strategic Issues Affecting Preservation, Maintenance, and Renewal of Highway Infrastructure
  o **NCHRP IDEA 20-30/IDEA 200** - Rapid Rehabilitation of Highway Slopes using Seeded Microbial Bio-Cement
  o **NCHRP IDEA 20-30/IDEA 202** - Vertical Impedance Scanner for Concrete Bridge Deck Assessment without Direct Rebar Attachment
  o **NCHRP IDEA 20-30/IDEA 204** - Biomimetic Antifreeze Polymers: A Novel Biodegradable Deicing Salt Alternative
  o **NCHRP IDEA 20-30/IDEA 205** - MRI Bridge Analysis and Multi-Modal Imaging Using Optimal Multi-Coil Resonant Coupling
  o **NCHRP IDEA 20-30/IDEA 208** - Determining Bridge Deck Chloride Quantities with Ground Penetrating Radar
  o **NCHRP Synthesis 20-05/Topic 49-04** - Very Short Duration Work Zone Safety for Maintenance and other Activities
  o **NCHRP Synthesis 20-05/Topic 49-06** - Design and Maintenance Practices for Urban Freeway Roadside Vegetation
  o **NCHRP Synthesis 20-05/Topic 50-09** - Performance Based Pavement Warranty Practices
  o **NCHRP Synthesis 20-05/Topic 50-13** - Estimating and Contracting Rock Slope Scaling Adjacent to Highways
  o **NCHRP Synthesis 20-05/Topic 50-15** - Asset Management Approaches to Identifying and Evaluating Assets Damaged Due to Emergency Events
  o **Safety IDEA Project 36** - Onboard High-Bandwidth Fiber Optic Sensing System for Broken Rail Detection
  o **Safety IDEA Project 37** - Measuring Behavior of Railroad Bridges under Revenue Traffic using Lasers and Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation
  o **Safety IDEA Project 38** - Fatigue Life Extension of Thermite Welds by Porosity Minimization
  o **Safety IDEA Project 39** - Non-contact Scour monitoring for Railroad Bridges
Safety IDEA Project 41 - Vibration-based Longitudinal Rail Stress Estimation Exploiting Contactless Measurement and Machine Learning
TCRP C-24 - Transit Traction Power Cables: Replacement Guidelines
TCRP E-12 - Guidance for Calculating the Return on Investment in Transit State of Good Repair
TCRP J-05/Topic 18-05 - Fix It, Sign It, or Close It: State of Good Repair in an Era of Budget Constraints
TCRP Synthesis J-07/Topic SD-05 - Third Rail Insulator Failures - Current State of the Practice
Transit IDEA J-04/IDEA 94 - Evaluation of Transit Vehicle Brake Inspection Through Ultrasonic Emissions Analysis

Upcoming Projects
- NCHRP 06-18 - Guide for Snow and Ice Control Operations
- NCHRP 10-105 - Protocols for Traffic Speed Pavement Deflection Measuring Devices: Calibration and Structural Assessment
- NCHRP 13-09 - Guideline for Decision Making for Repair vs. Replacement of Highway Maintenance Equipment
- 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 (CIR) and Cold Central Plant Recycling (CCPR)
- NCHRP 14-44 - Construction Specifications for Pavement Treatments--Slurry Seals and Tack Coats
- NCHRP 14-45 - Model Procedures for Post-Event Bridge Damage Assessment and Engineering Evaluation
- NCHRP 18-20 - Structural Design Methodology for Cured In Place Pipe (CIPP) Liners In Gravity Stormwater Conveyance Conduits
- NCHRP 23-08 - Guidelines for Incorporating Maintenance Costs into a Transportation Asset Management Plan
- NCHRP Synthesis 20-05/Topic 51-07 - Practices for Assessing and Mitigating the Moisture Susceptibility of Asphalt Pavements
- NCHRP Synthesis 20-05/Topic 51-14 - Repair and Maintenance of Post-Tensioned Concrete Bridges
- NCHRP Synthesis 20-05/Topic 51-16 - Proper Maintenance Before Pavement Infrastructure Preservation

Reports from the National Academies Press on Maintenance & Preservation
- In-Time Aviation Safety Management - Challenges and Research for an Evolving Aviation System
- High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations
- Bolting Reliability for Offshore Oil and Natural Gas Operations

Committees & Panels
Sign-up to be a committee "Friend"

TRB Standing Committees – Search by transportation mode and committee topic
- AFD10 - Pavement Management Systems
- AFD20 - Pavement Condition Evaluation
- AFF40 - Testing and Evaluation of Transportation Structures
- AFH60 - Asphalt Pavement Construction and Rehabilitation
- AFP50 - Seasonal Climatic Effects on Transportation Infrastructure
- AH000 - Operations and Preservation Group
- AH010 - Surface Transportation Weather
- AHB55 - Work Zone Traffic Control
- AHD00 - Maintenance and Preservation
- AHD10 - Maintenance and Operations Management
- AHD15 - Maintenance and Operations Personnel
- AHD18 - Pavement Preservation
- AHD20 - Pavement Maintenance
- AHD25 - Sealants and Fillers for Joints and Cracks
- AHD30 - Structures Maintenance
- AHD35 - Bridge Management
- AHD37 - Bridge Preservation
- AHD40 - Polymer Concretes, Adhesives, and Sealers
- AHD45 - Corrosion
- AHD50 - Roadside Maintenance Operations
- AHD55 - Signing and Marking Materials
- AHD60 - Maintenance Equipment
- AHD65 - Winter Maintenance
Task Forces - Search for task force under committee here

CRP Panels

Project Panels Related to Maintenance & Preservation

Councils

A0040T – Young Member Council

Recent and Upcoming Events

Upcoming Conferences - Left hand menu “upcoming conferences by topic”
(Conferences cosponsored by TRB are denoted with an asterisk.)

12th TRB International Conference on Low-Volume Roads
September 15-18, 2019
Kalispell, Montana

GeoMEast International Conference 2019: "Sustainable Civil Infrastructures: Beyond the Horizon"*
November 10, 2019
Cairo, Egypt

Transportation Resilience 2019: 2nd International Conference on Transportation System Resilience to Natural Hazards and Extreme Weather
November 13, 2019
Washington, D.C.

International Conference on Advances in Materials and Pavement Performance Prediction (AM3P)*
May 27, 2020
San Antonio, Texas

10th International Conference on Bridge Maintenance, Safety, and Management (IABMAS2020)*
June 28, 2020
Sapporo, Japan

International Conference on Managing Pavement Assets (ICMPA)*
August 23, 2020
Chicago, Illinois

12th International Conference on Concrete Pavements*
August 30, 2020
Minneapolis, Minnesota

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:

TRID – The world's largest and most comprehensive bibliographic source on all modes and disciplines of transportation - trid.trb.org
Publications Index (PubsIndex) Database – The papers, articles and reports published by the Transportation Research Board, Highway Research Board, Strategic Highway Research Programs or the Marine Board - pubsindex.trb.org

Research in Progress (RiP) Database – Current or recently completed transportation research projects - rip.trb.org

Research Needs Statements (RNS) – Research needs as identified by TRB Technical Activities standing committees - rns.trb.org

Contact the Library at TRBLibrary@nas.edu or 1 (202) 334-2989