TRB's involvement in research on Maintenance & Preservation from 2019-2020

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 on TRB published research on Maintenance & Preservation within the past year.

**Subject Webpage**

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

**Recent Reports & Publications**

- **Airport Cooperative Research Program (ACRP)**
  - Report 203 - Guidelines for Collecting, Applying, and Maintaining Pavement Condition Data at Airports
  - Synthesis 96 - Practices to Mitigate Alkali-Silica Reaction (ASR) Affected Pavements at Airports
  - Synthesis 94 - Attracting Investment at General Aviation Airports Through Public-Private Partnerships

- **IDEA Safety Projects**
  - Report 35 - Non-contact Deflection Monitoring System for Timber Railroad Bridges

- **Letter Reports**
  - Long-Term Infrastructure Program - Letter Report: January 30, 2019

- **National Cooperative Highway Research Program (NCHRP)**
  - IDEA Report 202 - Vertical Electrical Impedance Scanner for Concrete Bridge Deck Assessment without Direct Rebar Attachment
  - 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
  - Synthesis 540 - Leveraging Private Capital for Infrastructure Renewal
  - Synthesis 539 - Landscape Development and Management Practices for Urban Freeway Roadsides
  - Synthesis 537 - Impact of Asphalt Thickness on Pavement Quality
  - Synthesis 534 - Emerging Technologies for Construction Delivery
  - Synthesis 533 - Very Short Duration Work Zone Safety for Maintenance and Other Activities
  - Synthesis 531 - Automated Pavement Condition Surveys

- **Transit Cooperative Research Program (TCRP)**

Updated 12/12/2019
• **TRB Special Reports**
  o **Report 330** - Performance of Bridges That Received Funding Under the Innovative Bridge Research and Construction Program

• **Transportation Research Circulars**
  o **E-Circular 254** - Workshop on the Use of Traffic Speed Deflection Device Data in Network- and Project-Level Pavement Decisions
  o **E-Circular 246** - Structural Monitoring

**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 09-18** - 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 13-07** - 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 14-42** - Determining the Impact of Connected and Automated Vehicle Technology on State DOT Maintenance Programs
  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 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 51-07** - Practices for Assessing and Mitigating the Moisture Susceptibility of Asphalt Pavements
  o **NCHRP Synthesis 20-05 / Topic 51-08** - Practice and Performance of Cold In-Place Recycling and Cold Central Plant Recycling
  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 51-14** - Repair and Maintenance of Post-Tensioned Concrete Bridges
  o **NCHRP Synthesis 20-05 / Topic 50-15** - Asset Management Approaches to Identifying and Evaluating Assets Damaged Due to Emergency Events
  o **NCHRP Synthesis 20-05 / Topic 51-16** - Maintenance and Surface Preparation Activities Prior to Pavement Preservation Treatments
  o **Safety IDEA Project 36** - Onboard High-Bandwidth Fiber Optic Sensing System for Broken Rail Detection
Safety IDEA Project 37 - Measuring Behavior of Railroad Bridges under Revenue Traffic using Lasers and Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation

Safety IDEA Project 38 - Fatigue Life Extension of Thermite Welds by Porosity Minimization

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

ACRP 09-20 - Consequences of Delayed Maintenance of Airport Assets

ACRP Synthesis 11-03/Topic S09-09 - Automated Pavement Condition Survey Practices at Airports

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 13-08 - Guideline for Decision Making for Repair vs. Replacement of Highway Maintenance Equipment

NCHRP 14-43 - Guide Construction Specifications for Cold In-place Recycling (CIR) and Cold Central Plant Recycling (CCPR)

NCHRP 14-44 - Guide Specifications for the Construction of Slurry Seals, Scrub 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 20-102(28) - Best Practices in Work Zones for AVs and CVs

NCHRP 23-08 - Guidelines for Incorporating Maintenance Costs into a Transportation Asset Management Plan

Reports from the National Academies Press on Maintenance & Preservation

A Research Review of Interventions to Increase the Persistence and Resilience of Coral Reefs

In-Time Aviation Safety Management - Challenges and Research for an Evolving Aviation System

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

AHR55 - 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.)

- **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

- **2020 International Conference on Winter Maintenance and Surface Transportation Weather and Winter Maintenance National Peer Exchange**
  
  September 21, 2020
  
  Atlanta, Georgia

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

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 (PubIndex) Database** – The papers, articles and reports published by the Transportation Research Board, Highway Research Board, Strategic Highway Research Programs or the Marine Board - [pubindex.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