

TRB TRANSPORTATION RESEARCH BOARD

TRB Snap Search: Materials

TRB's involvement in research on Materials 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 Materials within the past year.

Specialty Reports

- [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

- [Consensus Study Reports](#)
 - [Recycled Plastics in Infrastructure: Current Practices, Understanding, and Opportunities](#)
- [CRP Special Releases \(CRP\)](#)
 - [Report 1](#) - Evaluation of the Asphalt Binder Quality Tester
 - [Report 3](#) - Evaluation of Ultra-High Performance Concrete Connections
- [National Cooperative Highway Research Program \(NCHRP\)](#)
 - [NCHRP 20-07/Task 374](#) - Guidelines for Selecting Sign Sheeting Materials for AASHTO M268
 - [IDEA Report 235](#) - High Bond Steel Fibers for Ultra High-Performance Concrete (UHPC)
 - [IDEA Report 229](#) - Laboratory Dielectric Measurement System (LDMS) for Asphalt Mixture Bulk Specific Gravity Determination
 - [IDEA Report 228](#) - A Retroreflective Road Lane Marking Tape 1,000X Brighter than Existing Technology
 - [IDEA Report 219](#) - A Novel Durable, Healable, and Conveniently Removable Pavement Marking Material Suitable for Both Permanent and Temporary Marking Uses
 - [IDEA Report 218](#) - Development of Three Point Bending Cylinder (3PBC) Asphalt Mixture Fatigue Test System
 - [IDEA Report 210](#) - Material Characteristics of Cu-Based Superelastic Alloys for Applications in Bridge Columns to Improve Seismic Performance
 - [Report 1060](#) - Ignition Furnace Correction Factors: Identifying Influences and Minimizing Variability
 - [Report 1048](#) - Corrosion Protection of Steel Bridges Using Duplex Coating Systems
 - [Report 1026](#) - Guidelines for Adjacent Precast Concrete Box Beam Bridge Systems
 - [Report 1007](#) - Evaluation of Bonded Concrete Overlays on Asphalt Pavements
 - [Report 987](#) - Ruggedness of Laboratory Tests for Asphalt Mixture Cracking Resistance
 - [Synthesis 603](#) - Practices for Steel Bridge Fabrication and Erection Tolerances
 - [Synthesis 598](#) - Curing Practices for Concrete Pavements
 - [Synthesis 595](#) - Practices for Assessing and Mitigating the Moisture Susceptibility of Asphalt Pavements
 - [Synthesis 586](#) - Use of Recycling Agents in Asphalt Concrete Mixtures

- [Web-Only Document 353](#) - Risk-Based Inspection and Strength Evaluation of Suspension Bridge Main Cable Systems
- [Web-Only Document 329](#) - Bonded Concrete Overlays on Asphalt Pavements: Resources for Evaluation
- [Transportation Research E-Circulars](#)
 - [E-Circular 280](#) - Glossary of Terms for Balanced Design of Asphalt Mixtures

Current & Upcoming Projects

- [Current Projects](#)
 - [ACRP 02-91](#) - Development of PFAS Source Differentiation Guidelines for Airports
 - [ACRP 02-93](#) - Guidebook for PFAS Management at Airports
 - [ACRP 04-28](#) - Developing Alternative Aircraft Arresting Systems
 - [NCHRP 09-63](#) - A Calibrated and Validated National Performance-Related Specification for Emulsified Asphalt Binder
 - [NCHRP 09-64](#) - Developing Laboratory Methods and Specifications to Test Tack Coat Materials
 - [NCHRP 09-65](#) - Capturing Durability of High Recycled Binder Ratio (RBR) Asphalt Mixtures
 - [NCHRP 09-66](#) - Performance Properties of Laboratory Produced Recycled Plastic Modified (RPM) Asphalt Binders and Mixtures
 - [NCHRP 09-68](#) - Recycled Asphalt Materials: Binder Availability and Its Impact on Mix Performance
 - [NCHRP 09-69](#) - Verifying Quantities of Materials Used in Asphalt Mixtures at Production Facilities
 - [NCHRP 10-103](#) - Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation
 - [NCHRP 10-104](#) - Recommendations for Revision of AASHTO M 295 Standard Specification to Include Marginal and Unconventional Source Coal Fly Ashes
 - [NCHRP 10-108](#) - Manual for Incorporating Nondestructive Testing (NDT) in Quality Assurance of Highway Pavement Construction
 - [NCHRP 10-114](#) - Developing Performance and Safety Specifications for Rejuvenating Seals
 - [NCHRP 10-116](#) - Quantifying Variability in Quality Characteristics of Pavements
 - [NCHRP 10-17](#) - GFRP Barrier Testing Evaluation and Repair Strategies
 - [NCHRP 12-120](#) - Stainless Steel Strands for Prestressed Concrete Bridge Elements
 - [NCHRP 12-121](#) - Guidelines for the Design of Prestressed Concrete Bridge Girders Using FRP Auxiliary Reinforcement
 - [NCHRP 18-19](#) - Rating Concrete Water Permeability Based on Resistivity Measurements
 - [NCHRP 18-20](#) - AASHTO LRFD Design, Installation, and Standard Practice of Testing for Cured In-Place Pipe Liners
 - [NCHRP 22-40](#) - Investigation of Material Requirements for Highway Guardrail Specifications
 - [NCHRP 20-44\(19\)](#) - Implementation of Proposed AASHTO Standards for Asphalt Binders and Mixtures
 - [NCHRP 20-44\(24\)](#) - Pilot Test of Proposed Standard Practice for Recycling Agents in Asphalt Mixtures Incorporating RAP and RAS
 - [NCHRP 20-44\(26\)](#) - Implementing Guide Specifications for the Construction of Chip Seals, Micro Surfacing, and Fog Seals
 - [NCHRP 22-56](#) - Development of Non-proprietary Prefabricated Solutions for Concrete Barrier Systems for Accelerated Bridge Construction
 - [NCHRP IDEA 20-30/IDEA 233](#) - Development of an Innovative Bio-Mediated Self-Healing Concrete Technology
 - [NCHRP IDEA 20-30/IDEA 235](#) - High Bond Steel Fibers for Ultra High Performance Concrete (UHPC)
 - [NCHRP IDEA 20-30/IDEA 240](#) - Stainless Steel Coated Rebar for Chloride Resistant Concrete Highways and Bridges
 - [NCHRP IDEA 20-30/IDEA 245](#) - Simple and Rapid Tests for Assessing Quality and Consistency of Reclaimed Asphalt Pavement (RAP) for Recycled Asphalt Mixture Applications
 - [NCHRP IDEA 20-30/IDEA 246](#) - Developing a Method for Selecting Low-Energy Mixing and Compaction Temperatures for Asphalt Mixtures Considering Asphalt Lubrication and Aggregate Characteristics
 - [NCHRP Synthesis 20-05/Topic 53-07](#) - Curing Practices for Concrete Pavements
 - [NCHRP Synthesis 20-05/Topic 53-10](#) - Contrast Pavement Markings Practices
 - [TFRS 01](#) - Quality Assurance (QA) Aspects of Performance Related Specifications (PRS)
- [Upcoming Projects](#)
 - [ACRP 02-103](#) - A Guide for Methods to Transition and Decontaminate PFAS from Firefighting Systems
 - [NCHRP 09-57B](#) - Field Validation of Laboratory Cracking Tests of Asphalt Mixtures
 - [NCHRP 09-67](#) - New Materials & Technology Deployment in Asphalt Pavement Structural Design
 - [NCHRP 10-116](#) - Quantifying Variability in Quality Characteristics of Pavements
 - [NCHRP 10-117](#) - GFRP Barrier Testing Evaluation and Repair Strategies
 - [NCHRP 10-124](#) - Development of Field Test to Determine Chip Seal Aggregate Embedment

- [NCHRP 10-126](#) - Develop a Standard Testing Protocol for the Approval of Field-cured Products for Use on DOT Projects
- [NCHRP Synthesis 20-05/Topic 55-01](#) - Synthesis of Information Related to Highway Practices. State DOT Use and Policies on Implementation of Corrosion Resistant Reinforcing Bars
- [NCHRP Synthesis 20-05/Topic 55-05](#) - Synthesis of Information Related to Highway Practices. Use and Availability of Supplementary Cementitious Materials for Concrete
- [NCHRP Synthesis 20-05/Topic 55-06](#) - Synthesis of Information Related to Highway Practices. State DOT Certification Programs for Materials Testing Personnel
- [NCHRP Synthesis 20-05/Topic 55-14](#) - Synthesis of Information Related to Highway Practices. Pavement Maintenance Practices for Deteriorated Wide Cracks and Joints
- [NCHRP Synthesis 20-05/Topic 55-16](#) - Use of Sustainable Materials for Erosion and Sediment Control Practices

Reports from the [National Academies Press](#) on Materials

- [Transportation and Infrastructure » Materials](#)
- [NSF Efforts to Achieve the Nation's Vision for the Materials Genome Initiative: Designing Materials to Revolutionize and Engineer Our Future \(DMREF\)](#)
- [Frontiers in Synthetic Moiré Quantum Matter](#)
- [Corrosion of Buried Steel at New and In-Service Infrastructure](#)
- [Materials Science and Engineering in a Post-Pandemic World: A DoD Perspective](#)
- [Convergent Manufacturing: A Future of Additive, Subtractive, and Transformative Manufacturing](#)
- [Exploiting Advanced Manufacturing Capabilities: Topology Optimization in Design](#)

Committees & Panels

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TRB Standing Committees – Search by transportation mode and committee topic

- [ACP55](#) – Traffic Control Devices
- [AKB10](#) – Innovative Highway Structures and Appurtenances
- [AKB70](#) – Culverts, Buried Bridges and Soil Structure Interaction
- [AKG20](#) – Soil and Rock Properties and Site Characterization
- [AKG30](#) – Geo-Environmental and Climatic Impacts on Geomaterials
- [AKG40](#) – Mechanics and Drainage of Saturated and Unsaturated Geomaterials
- [AKG50](#) – Transportation Earthworks
- [AKG80](#) – Geosynthetics
- [AKG90](#) – Stabilization of Geomaterials and Recycled Materials
- [AKM10](#) – Production and Use of Asphalt
- [AKM20](#) – Binders for Flexible Pavement
- [AKM30](#) – Asphalt Materials Selection and Mix Design
- [AKM40](#) – Asphalt Mixture Evaluation and Performance
- [AKM50](#) – Advanced Concrete Materials and Characterization
- [AKM60](#) – Properties of Concrete and Constituent Materials
- [AKM70](#) – Durability of Concrete
- [AKM80](#) – Aggregates
- [AKM90](#) – Polymer Concretes, Adhesives, and Sealers
- [AKT30](#) – Pavement Maintenance

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

CRP Panels

- [D0967](#) - New Materials & Technology Deployment in Asphalt Pavement Structural Design
- [D0968](#) - Recycled Asphalt Materials: Binder Availability and Its Impact on Mix Performance
- [D0969](#) - Verifying Quantities of Materials Used in Asphalt Mixtures at Production Facilities
- [D10116](#) - Variability in Pavement Materials and Construction
- [D1783](#) - Implementation and Training Materials for the Highway Safety Manual, Second Edition
- [D205019](#) - LTPP Data Analysis: Feasibility of Using LTPP Data to Develop Relationships Between Laboratory- and Field-Derived Properties of Unbound Materials
- [D2240](#) - Update to AASHTO M180 and Associated Material Specifications
- [SN4905](#) - Synthesis of Impact of Asphalt Materials Lift Thickness on Pavement Quality

Councils

- [A001C](#) – Young Members Coordinating Council

Recent and Upcoming Events

[Upcoming Events](#) – In the Upcoming Events tab under Types, choose what event you are interested in, search titles by keyword

[TRB's Conference on Advancing Additive Manufacturing and Construction in Transportation](#)

November 7-8, 2024

Irvine, CA

[Past Events](#) - In the Past Events tab under Types, choose what event you are interested in, search titles by keyword

[International Conference on Road Weather and Winter Maintenance](#)

May 9-10, 2023

Washington, D.C.

[TRB International Conference on Low Volume Roads](#)

July 23-26, 2023

Cedar Rapids, IA

[TRB Webinar: Successful Environmental Justice Planning](#)

August 29, 2023

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