TRB Snap Search: Materials

TRB's involvement in research on Materials 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

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.

Subject Webpage

- Materials Research at TRB

Recent Reports & Publications

- Airport Cooperative Research Program (ACRP)
  - Synthesis 96 - Practices to Mitigate Alkali-Silica Reaction (ASR) Affected Pavements at Airports

- National Cooperative Highway Research Program (NCHRP)
  - IDEA Report 202 - Vertical Electrical Impedance Scanner for Concrete Bridge Deck Assessment without Direct Rebar Attachment
  - IDEA Report 199 - Using Medical X-Ray Machine to Determine the Service Life of Concrete
  - IDEA Report 197 - Nano-Enabled Multifunctional Concrete for Transportation Infrastructure
  - IDEA Report 195 - Development of an IDEAL Cracking Test for Asphalt Mix Design, Quality Control and Quality Assurance
  - IDEA Report 191 - Testing of In-Service Bridges Using Automated Ultrasonic Testing Methods
  - Report 927 - Evaluating the Effects of Recycling Agents on Asphalt Mixtures with High RAS and RAP Binder
  - Report 919 - Field Verification of Proposed Changes to the AASHTO R 30 Procedures for Laboratory Conditioning of Asphalt Mixtures
  - Report 914 - Measuring, Characterizing, and Reporting Pavement Roughness of Low-Speed and Urban Roads
  - Report 912 - Guidelines for Detection and Remediation of Soluble Salt Contamination Prior to Coating Steel Highway Structures
  - Report 907 - Design of Concrete Bridge Beams Prestressed with CFRP Systems
  - Synthesis 537 - Impact of Asphalt Thickness on Pavement Quality

- Transit Cooperative Research Program (TCRP)
  - IDEA Report 86 - Advanced Neutral Temperature Estimation using Solitary Waves (ANTEUSW)

- TRB Special Reports
  - Report 330 - Performance of Bridges That Received Funding Under the Innovative Bridge Research and Construction Program

- Transportation Research Circulars
  - E-Circular 251 - Relationship Between Laboratory Cracking Tests and Field Performance of Asphalt Mixtures
  - E-Circular 241 - Past, Present, and Future of Asphalt Binder Rheological Parameters

Current & Upcoming Projects

Updated 12/12/2019
• **Current Projects**
  - NCHRP 01-61 - Evaluation of Bonded Concrete Overlays on Asphalt Pavements
  - NCHRP 09-57A - Ruggenedness of Laboratory Tests to Assess Cracking Resistance of Asphalt Mixtures
  - NCHRP 09-63 - A Calibrated and Validated National Performance-Related Specification for Emulsified Asphalt Binder
  - NCHRP 12-117 - Guidelines for Corrosion Protection of Steel Bridges Using Duplex Coating Systems
  - NCHRP 18-17 - Entrained Air Void System for Durable Highway Concrete
  - NCHRP 18-18 - Design and Construction of Deck Bulb Tee Girder Bridges with UHPC
  - NCHRP 20-07 / Task 374 - Guidelines for Selecting Sign Sheeting Materials for AASHTO M268
  - NCHRP 20-07 / Task 412 - Adjustments to the Superpave Volumetric Mixture Design Procedure for Selecting Optimum Asphalt Content
  - NCHRP 22-40 - Update to AASHTO M 180-18 and Associated Highway Guardrail Specifications
  - NCHRP 20-44 (04) - Implementing Products from NCHRP Research on Adhesive Anchor Systems
  - NCHRP 20-44 (18) - Validation of the PFC Performance-Based Mix Design Method
  - NCHRP 25-57 - Breaking Barriers: Alternative Approaches to Avoiding and Reducing Highway Traffic Noise Impacts
  - NCHRP IDEA 20-30 / IDEA 220 - Bridge Deck Sealant Monitor: Thermal Sealcheck
  - NCHRP IDEA 20-30 / IDEA 219 - A Novel Durable, Healable and Conveniently Removable Pavement Marking Material Suitable for Both Permanent and Temporary Marking Uses
  - NCHRP IDEA 20-30 / IDEA 218 - Development of a Fast and Cost Effective Asphalt Mixture Fatigue Test System
  - NCHRP IDEA 20-30 / IDEA 210 - Material Characteristics of Cu-Based Superelastic Alloys for Applications in Bridge Columns to Improve Seismic Performance
  - NCHRP IDEA 20-30 / IDEA 207 - MILDGLASS: GFRP Strand for Resilient Mild Pre-Stressed Concrete
  - NCHRP IDEA 20-30 / IDEA 204 - Biomimetic Antifreeze Polymers: A Novel Biodegradable Deicing Salt Alternative
  - NCHRP IDEA 20-30 / IDEA 197 - Hexagonal Boron Nitride Reinforced Multifunctional Concrete for Transportation Infrastructure
  - NCHRP Synthesis 20-05 / Topic 51-09 - Portland Cement Concrete Pavement Joint Sealant Practices and Performance
  - NCHRP Synthesis 20-05 / Topic 51-08 - Practice and Performance of Cold In-Place Recycling and Cold Central Plant Recycling
  - NCHRP Synthesis 20-05 / Topic 50-14 - Practices for Fabrication Asphalt Specimens for Testing in Laboratories
  - NCHRP Synthesis 20-05 / Topic 49-09 - Concrete Technology for Transportation Applications
  - Safety IDEA Project 33 - Adaptive Prestressing System for Concrete Crossbeams

• **Upcoming Projects**
  - NCHRP 09-64 - Developing Laboratory Methods and Specifications to Test Tack Coat Materials
  - NCHRP 10-107 - Guide for Implementing Performance Specifications
  - NCHRP 10-103 - Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation
  - NCHRP 10-104 - Evaluating Use of Unconventional Fly Ash Sources in Highway Concrete
  - NCHRP 12-120 - Stainless Steel Strands for Prestressed Concrete Bridge Elements
  - 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 20-44 (24) - Pilot Test of Proposed Standard Practice for Recycling Agents in Asphalt Mixtures Incorporating RAP and RAS
  - NCHRP IDEA 20-30 / IDEA 199 - Using Medical X-Ray Machines to Determine the Service Life of Concrete
  - TFRS 01 - Quality Assurance (QA) Aspects of Performance Related Specifications (PRS)

**Reports from the National Academies Press on Materials**
  - Frontiers of Materials Research
  - High-Entropy Materials, Ultra-Strong Molecules, and Nanoelectronics
  - Data-Driven Modeling for Additive Manufacturing of Metals

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

**TRB Standing Committees** – Search by transportation mode and committee topic
- AFO00 – Design and Construction Group
- AFF80 – Structural Fiber Reinforced Polymers
- AFK00 – Asphalt Materials
- AFK10 – Critical Issues and Emerging Technologies in Asphalt
- AFK20 – Asphalt Binders
- AFK30 – Non-Binder Components of Asphalt Mixtures
- AFK40 – Surface Requirements of Asphalt Mixtures
- AFK50 – Structural Requirements of Asphalt Mixtures
- AFK60 – Concrete Materials
- AFN00 – Concrete Materials
- AFN10 – Basic Research and Emerging Technologies Related to Concrete
- AFN20 – Properties of Concrete
- AFN30 – Durability of Concrete
- AFN40 – Concrete Materials and Placement Techniques
- AFP00 – Geological and Geoenvironmental Engineering
- AFP20 – Geotechnical Site Characterization
- AFP30 – Soil and Rock Properties
- AFP40 – Geo-Environmental Processes
- AFP60 – Engineering Behavior of Unsaturated Geomaterials
- AFP70 – Aggregates
- AFS10 – Transportation Earthworks
- AFS40 – Subsurface Soil-Structure Interaction
- AFS70 – Geosynthetics
- AFS80 – Stabilization of Geomaterials and Recycled Materials
- AHD25 – Sealants and Fillers for Joints and Cracks
- AHD40 – Polymer Concretes, Adhesives, and Sealers
- AHD55 – Signing and Marking Materials

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

**CRP Panels**
- Project Panels Related to Materials

**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.)

- **Geosynthetics 2020: Case Studies**
  *March 8, 2020*
  Charleston, South Carolina

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

- **Second International Conference on 3D Printing and Transportation**
  *November 18, 2020*

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

**Past Webinars**
- Materials

**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](http://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](http://pubsindex.trb.org)

**Research in Progress (RiP) Database** – Current or recently completed transportation research projects - [rip.trb.org](http://rip.trb.org)

**Research Needs Statements (RNS)** – Research needs as identified by TRB Technical Activities standing committees - [rns.trb.org](http://rns.trb.org)

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