TRB Snap Search: Materials

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

Subject Webpage
- Materials Research at TRB

Recent Reports & Publications
- IDEA Projects
  - Safety IDEA Report 41 - Vibration-based Longitudinal Rail Stress Estimation Exploiting Acoustic Measurement and Machine Learning
  - Safety IDEA Report 33 - Adaptive Prestressing System for Concrete Crossties

- National Cooperative Highway Research Program (NCHRP)
  - NCHRP 20-44(04) - Implementing Products from NCHRP Research on Adhesive Anchor Systems
  - IDEA Report 206 - Determining Bridge Deck Chloride Quantities Using Ground Penetrating Radar
  - IDEA Report 207 - MILDGLASS: GFRP Strand for Resilient Mild Pre-Stressed Concrete
  - IDEA Report 204 - Biomimetic Antifreeze Molecules: A Novel Solution to Deicing Salts and Air-Entraining Admixtures
  - Legal Research Digest 80 - Buy America Requirements for Federal Highway Projects
  - Report 960 - Proposed AASHTO Practice and Tests for Process Control and Product Acceptance of Asphalt-Treated Cold Recycled Pavements
  - Report 946 - Procedures and Guidelines for Validating Contractor Test Data
  - Report 933 - Evaluating Mechanical Properties of Earth Material During Intelligent Compaction
  - Report 927 - Evaluating the Effects of Recycling Agents on Asphalt Mixtures with High RAS and RAP Binder
  - Report 750 - Strategic Issues Facing Transportation, Volume 7: Preservation, Maintenance, and Renewal of Highway Infrastructure
  - Synthesis 552 - Practices for Fabricating Asphalt Specimens for Performance Testing in Laboratories
  - Synthesis 544 - Concrete Technology for Transportation Applications

Current & Upcoming Projects
- Current Projects
  - NCHRP 01-61 - Evaluation of Bonded Concrete Overlays on Asphalt Pavements
  - NCHRP 09-57A - Ruggedness 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 09-64 - Developing Laboratory Methods and Specifications to Test Tack Coat Materials
- NCHRP 10-107 - Guide for Implementing Performance Specifications
- NCHRP 12-117 - Guidelines for Corrosion Protection of Steel Bridges Using Duplex Coating Systems
- NCHRP 12-120 - Stainless Steel Strands for Prestressed Concrete Bridge Elements
- 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 18-20 - AASHTO LRFD Design, Installation, and Standard Practice of Testing for Cured In-Place Pipe Liners
- NCHRP 20-07/Task 374 - Guidelines for Selecting Sign Sheeting Materials for AASHTO M268
- NCHRP 22-40 - Update to AASHTO M 180-18 and Associated Highway Guardrail Specifications
- NCHRP 20-44(18) - Validation of the PFC Performance-Based Mix Design Method
- 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 20-44(27) - Facilitating Balanced Mix Design Implementation
- NCHRP 25-57 - Breaking Barriers: Alternative Approaches to Avoiding and Reducing Highway Traffic Noise Impacts
- NCHRP IDEA 20-30/IDEA 229 - Lab Dielectric Measurement System for Asphalt Mixture Bulk Specific Gravity Determination
- NCHRP IDEA 20-30/IDEA 228 - A Retroreflective Road Lane Marking Tape 1,000X Brighter Than Existing Technology
- 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 Synthesis 20-05/Topic 52-17 - Use of Recycling Agents in Asphalt Concrete Mixtures
- 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 49-09 - Concrete Technology for Transportation Applications
- TFRS 01 - Quality Assurance (QA) Aspects of Performance Related Specifications (PRS)

- **Upcoming Projects**
  - ACRP 02-91 - Development of Forensic Guidelines and Tools for PFAS Source Differentiation at Airports
  - ACRP 02-93 - Guidebook for Environmental Management of PFAS at Airports
  - ACRP 04-28 - Investigating the Potential Alternative Materials and Configurations for EMAS Design
  - NCHRP 09-65 - Capturing Durability of High Recycled Binder Ratio (RBR) Asphalt Mixture
  - NCHRP 09-66 - Mechanical Properties of Laboratory Produced Recycled Plastic Modified (RPM) Asphalt Binders and Mixtures
  - NCHRP 09-67 - New Materials & Technology Deployment in Asphalt Pavement Structural Design
  - 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 12-121 - Guidelines for the Design of Prestressed Concrete Bridge Girders Using FRP Auxiliary Reinforcement

**Reports from the National Academies Press on Materials**
- Review of the Department of Energy's Plans for Disposal of Surplus Plutonium in the Waste Isolation Pilot Plant
- 2019-2020 Assessment of the Army Research Laboratory
- A Quadrennial Review of the National Nanotechnology Initiative - Nanoscience, Applications, and Commercialization
Committees & Panels

TRB Standing Committees – Search by transportation mode and committee topic
  o ACP55 – Traffic Control Devices
  o AKB10 – Innovative Highway Structures and Appurtenances
  o AKB70 – Culverts, Buried Bridges and Soil Structure Interaction
  o A KG20 – Soil and Rock Properties and Site Characterization
  o A KG30 – Geo-Environmental and Climatic Impacts on Geomaterials
  o A KG40 – Mechanics and Drainage of Saturated and Unsaturated Geomaterials
  o A KG50 – Transportation Earthworks
  o A KG80 – Geosynthetics
  o A KG90 – Stabilization of Geomaterials and Recycled Materials
  o AKM10 – Production and Use of Asphalt
  o AKM20 – Binders for Flexible Pavement
  o AKM30 – Asphalt Materials Selection and Mix Design
  o AKM40 – Asphalt Mixture Evaluation and Performance
  o AKM50 – Advanced Concrete Materials and Characterization
  o AKM60 – Properties of Concrete and Constituent Materials
  o AKM70 – Durability of Concrete
  o AKM80 – Aggregates
  o AKM90 – Polymer Concretes, Adhesives, and Sealers
  o AKT30 – Pavement Maintenance

Task Forces - Search for task force under committee here

CRP Panels
  o Project Panels Related to Materials

Councils
  o 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.)

  Second International Conference on 3D Printing and Transportation
  April 21, 2021
  Washington, DC

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

  2020 International Conference on Resource Sustainability: Sustainable Pavement Technologies*
  May 28, 2021
  Online

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

Past Webinars
  o 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:

  o 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