TRB Snap Search: Bridges & Other Structures

TRB's involvement in research on Bridges & Other Structures from 2020-2022

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 Bridges & Other Structures within the past two years.

Subject Webpage

- Bridges & Other Structures Research at TRB

Specialty Report

- Critical Issues in Transportation 2019
- COVID-19 Addendum to Critical Issues in Transportation
- Racial Equity Addendum to Critical Issues in Transportation

Recent Reports & Publications

- Innovations Deserving Exploratory Analysis (IDEA)
  - Safety Report 39 - Non-Contact Scour Monitoring System for Railroad Bridges
  - Safety Report 37 - Measuring Behavior of Railroad Bridges under Revenue Traffic using Lasers and Unmanned Aerial Vehicles (UAVs) for Safer Operations: Implementation

- National Cooperative Highway Research Program (NCHRP)
  - NCHRP 20-44(04) - Implementing Products from NCHRP Research on Adhesive Anchor Systems
  - NCHRP IDEA 20-30/IDEA 208 - Determining Bridge Deck Chloride Quantities with Ground Penetrating Radar
  - IDEA Report 220 - Bridge Deck Sealer Monitor: Thermal Sealcheck
  - IDEA Report 205 - Bio-Inspired "MRI" of Concrete Bridges using Waveform-Based Ultrasonic Tomography
  - IDEA Report 202 - Vertical Electrical Impedance Scanner for Concrete Bridge Deck Assessment without Direct Rebar Attachment
  - Letter Report - Long-Term Infrastructure Program – January 2, 2020
  - NCHRP 20-07/Task 424 - AASHTO Guidelines for the Operation of Movable Bridges from Remote Locations
  - Report 971 - Revised Clear-Water and Live-Bed Contraction Scour Analysis
  - Report 965 - Mitigation of Weldment Cracking in Steel Highway Structures Due to the Galvanizing Process
  - Report 962 - Proposed Modification to AASHTO Cross-Frame Analysis and Design
  - Report 958 - Electrochemical Test Methods to Evaluate the Corrosion Potential of Earthen Materials
  - Report 951 - AASHTO Load Rating Provisions for Implements of Husbandry
  - Report 950 - Proposed AASHTO Guides for Bridge Preservation Actions
  - Report 949 - Proposed AASHTO Guidelines for Performance-Based Seismic Bridge Design
  - Report 935 - Proposed AASHTO Seismic Specifications for ABC Column Connections

Updated 05/24/2022
- **Synthesis 580** - Practices for Ensuring the Smoothness of Concrete Bridge Decks
- **Synthesis 577** - Collaborative Practices for Performance-Based Asset Management Between State DOTs and MPOs
- **Synthesis 571** - Load Rating of Bridges and Culverts with Missing or Incomplete As-Built Information
- **Synthesis 566** - Practices for Bridge Approach Systems
- **Synthesis 562** - Repair and Maintenance of Post-Tensioned Concrete Bridges
- **Synthesis 556** - Asset Management Approaches to Identifying and Evaluating Assets Damaged Due to Emergency Events
- **Synthesis 551** - Highway Hydraulic Engineering State of Practice
- **Synthesis 546** - Use of Weigh-in-Motion Data for Pavement, Bridge, Weight Enforcement, and Freight Logistics Applications
- **Synthesis 544** - Concrete Technology for Transportation Applications
- **Web-Only Document 307** - Recommended Guidelines for the Selection of Test Levels 2 Through 5 Bridge Railings

**Transportation Research Circulars**
- **E-Circular 273** - History and Future Perspectives on Foundation Design for Transportation Structures
- **E-Circular 272** - Technology Exchange on Local Roads Bridge Programs
- **E-Circular 257** - Primer on Bridge Load Testing

**Current & Upcoming Projects**

**Current Projects**
- **NCHRP 08-139** - Guide for Preventing and Mitigating the Risk of Bridge and Tunnel Strikes by Motor Vehicles
- **NCHRP 12-95A** - Proposed AASHTO Guidelines for Adjacent Precast Concrete Box Beam Bridge Systems
- **NCHRP 12-115** - Guidelines for Risk-Based Inspection and Strength Evaluation of Suspension Bridge Main Cable Systems
- **NCHRP 12-116A** - Proposed AASHTO Specifications for Design of Piles for Downdrag
- **NCHRP 12-117** - Guidelines for Corrosion Protection of Steel Bridges Using Duplex Coating Systems
- **NCHRP 12-118** - Design and Construction Specifications for Bonded and Unbonded Post-Tensioned Concrete Bridge Elements
- **NCHRP 12-119** - MASH Railing Load Requirements for Bridge Deck Overhang
- **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 12-122** - Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection
- **NCHRP 12-123** - Proposed AASHTO Guideline for Load Rating of Segmental Bridges
- **NCHRP 20-123(10)** - AASHTO Committee on Bridges and Structures Strategic Plan, Operating Guidelines, and Research Roadmap Development
- **NCHRP 22-33** - Multi-State In-Service Performance Evaluations of Roadside Safety Hardware
- **NCHRP 22-35** - Evaluation of Bridge Rail Systems to Confirm AASHTO MASH Compliance
- **NCHRP 22-41** - Proposed Modification to AASHTO LRFD Bridge Design Specifications, Section 13—Railing
- **NCHRP 22-43** - Proposed AASHTO Guidelines for Implementation of MASH for Sign Supports, Breakaway Poles, and Work Zone Traffic Control Devices
- **NCHRP 23-08** - A Guide for Incorporating Maintenance Costs into a Transportation Asset Management Plan
- **NCHRP 24-48** - A Methodology for Determining Scour Depth around Structures in Gravel-bed Rivers
- **NCHRP 25-61** - Development of On-Bridge Stormwater Treatment Practices
- **NCHRP 25-63** - Handbook on Deterring and Excluding Bats from Transportation Structures
- **NCHRP IDEA 20-30/IDEA 210** - Material Characteristics of Cu-Based Superalistic Alloys for Applications in Bridge Columns to Improve Seismic Performance
- **NCHRP IDEA 20-30/IDEA 213** - SEAHIVE – Sustainable Estuarine and Marine Revetment
- **NCHRP IDEA 20-30/IDEA 215** - Achieving Resilient Multi-Span Bridges by using Buckling-Restrained Braces
- **NCHRP IDEA 20-30/IDEA 222** - Mixed Reality Assisted Infrastructure Inspections
- **NCHRP IDEA 20-30/IDEA 223** - Fatigue Crack Inspection Using Computer Vision and Augmented Reality
- **NCHRP IDEA 20-30/IDEA 227** - Adjustable Cross-frames for the Erection of Steel Girder Bridges
- **NCHRP IDEA 20-30/IDEA 230** - Automated Data and Feature Extraction from Bridge Plan
NCHRP IDEA 20-30 / IDEA 235 - High Bond Steel Fibers for Ultra High Performance Concrete (UHPC)
NCHRP Synthesis 20-05 / Topic 52-02 - Current Practices in Bridge Asset Management Decision-Making
NCHRP Synthesis 20-05 / Topic 52-05 - Implementation of Subsurface Utility Engineering for Highway Design and Construction
NCHRP Synthesis 20-05 / Topic 53-11 - Resilient Design with Distributed Rainfall Modeling
NCHRP Synthesis 20-05 / Topic 53-12 - Practices for Adding Bicycle and Pedestrians Access on Existing Vehicle Bridges
NCHRP Synthesis 20-05 / Topic 53-13 - Practices for Steel Bridge Fabrication and Erection Tolerances
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 45 - Development of a Fatigue Load for Railway Bridges

Upcoming Projects
NCHRP 10-111 - Guide for 3D Model Viewers for Construction Inspection
NCHRP 12-124 - Design of Stud Shear Connectors in Composite Steel Bridges
NCHRP 14-45 - Guidelines for Response Planning, Assessment, and Rapid Restoration of Service of Bridges in Extreme Events
NCHRP 20-123(16) - Roadmap for AASHTO Bridge Railing MASH Updates to Support Future Vehicle Fleet Transformation
NCHRP 22-56 - Development of Non-proprietary Prefabricated Solutions for Concrete Barrier Systems for Accelerated Bridge Construction
NCHRP Synthesis 20-05 / Topic 54-11 - Quality Control Checks for Bridge and Structure Analysis Models
NCHRP Synthesis 20-05 / Topic 54-19 - Practices for Controlling Tunnel Leaks

Reports from the National Academies Press on Bridges & Other Structures
Service Life Assessment and Predictive Modeling for an Aging Critical Infrastructure
Evolving the Geodetic Infrastructure to Meet New Scientific Needs
A Vision for NSF Earth Sciences 2020-2030

Committees & Panels

Sign-up to be a committee "Friend"

TRB Standing Committees – Search by transportation mode and committee topic
AKB00 - Bridges and Structures
AKB10 - Innovative Highway Structures and Appurtenances
AKB20 - Steel Bridges
AKB30 - Concrete Bridges
AKB40 - Testing and Evaluation of Transportation Structures
AKB50 - Seismic Design and Performance of Bridges
AKB60 - Tunnels and Underground Structures
AKB70 - Culverts, Buried Bridges and Soil Structure Interaction
AKC40 - Construction of Bridges and Structures
AKC70 - Fabrication and Inspection of Metal Structures
AKM50 - Advanced Concrete Materials and Characterization
AKG70 - Foundations of Bridges and Other Structures
AKM60 - Properties of Concrete
AKM70 - Durability of Concrete
AKT40 - Structures Maintenance
AKT50 - Bridge and Structures Management
AKT60 - Bridge Preservation
AR050 - Railroad Infrastructure Design and Maintenance
AR060 - Rail Transit Infrastructure Design and Maintenance
B0024 – Research and Technology Coordinating Committee
B0147 – Bridge Data Analysis Working Group
B0162 - Review of Federal Highway Administration Infrastructure R&D – Expert Task Group on Bridges

Task Forces - Search for task force under committee here
CRP Panels
  o Project Panels Related to Bridges and Other Structures

Councils
  o A001C – Young Members Coordinating Council

Recent and Upcoming Events

Upcoming TRB Conferences – Use left hand menu to filter events
Upcoming Cosponsored Events - Conferences cosponsored by TRB are denoted with an asterisk

International Conference on the Bearing Capacity of Roads, Railways, and Airfields*
  June 28, 2022
  Trondheim, Norway

International Conference on Bridge Maintenance, Safety, and Management*
  July 11, 2022
  Barcelona, Spain

National Hydraulic Engineering Conference*
  August 16, 2022
  Atlanta, GA

Bridge Engineering Institute Conference*
  June 17, 2023
  Rome, Italy

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

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

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
- 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