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.

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- Opportunities for information exchange on current transportation research and practice
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**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.

**Specialty Report**

- [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**

- **Innovations Deserving Exploratory Analysis (IDEA)**
  - [Safety Report 45](#) - Development of a Fatigue Load for Railway Bridges
  - [Safety Report 42](#) - Railroad Tunnel Inspections for Maintenance and Replacement Prioritization Using Untethered Ground Penetrating Radar and LIDAR Capable Unmanned Aerial Vehicles (UAVs)
  - [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)**
  - [IDEA Report 220](#) - Bridge Deck Sealer Monitor: Thermal Sealcheck
  - [IDEA Report 210](#) - Material Characteristics of Cu-Based Superelastic Alloys for Applications in Bridge Columns to Improve Seismic Performance
  - [IDEA Report 205-A](#) - Bio-Inspired "MRI" of Concrete Bridges using Waveform-Based Ultrasonic Tomography
  - [Report 1049](#) - Corrosion Protection of Steel Bridges Using Duplex Coating Systems
  - [Report 1045](#) - Improved Cross-Frame Analysis and Design: Wide-Flange T-Shape Sections
  - [Report 1031](#) - Determining Scour Depth Around Structures in Gravel-Bed Rivers
  - [Report 1026](#) - Toughness Requirements for Heat-Affected Zones of Welded Structural Steels for Highway Bridges
  - [Report 1024](#) - Evaluation of Bridge Rail Systems to Confirm AASHTO MASH Compliance
  - [Report 999](#) - Design and Construction of Deck Bulb Tee Girder Bridges with UHPC Connections
  - [Report 994](#) - Use of 0.7-in. Diameter Strands in Precast Pretensioned Girders
  - [Report 989](#) - Reliability-Based Geotechnical Resistance Factors for Axially Loaded Micropiles
  - [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

Updated 10/16/2023
- Report 607 - Critical Findings for Tunnel Functional Systems
- Report 602 - Resilient Design with Distributed Rainfall-Runoff Modeling
- Synthesis 604 - Practices for Adding Bicycle and Pedestrian Access on Existing Vehicle Bridges
- Synthesis 603 - Practices for Steel Bridge Fabrication and Erection Tolerances
- Synthesis 601 - Practices for Local Calibration of LRFD Geotechnical Resistance Factors
- Synthesis 585 - Bridge Element Data Collection and Use
- Synthesis 581 - Rehabilitation of Culverts and Buried Storm Drain Pipes
- 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
- Web-Only Document 353 - Risk-Based Inspection and Strength Evaluation of Suspension Bridge Main Cable Systems
- Web-Only Document 326 - Design Guidelines for Test Level 3 through Test Level 5 Roadside Barrier Systems Placed on Mechanically Stabilized Earth Retaining Walls
- Web-Only Document 315 - Details of the Study on the Use of 0.7-in Diameter Strands in Precast Pretensioned Girders
- Web-Only Document 314 - Updating the AASHTO LRFD Movable Highway Bridge Design Specifications
- Web-Only Document 307 - Recommended Guidelines for the Selection of Test Levels 2 Through 5 Bridge Railings

- Transportation Research Circulars
  - E-Circular 282 - Building Information Modeling for Bridges and Structures: From Design to Construction Workshop
  - E-Circular 273 - History and Future Perspectives on Foundation Design for Transportation Structures
  - E-Circular 272 - Technology Exchange on Local Roads Bridge Programs

Recently Completed Projects/Final Reports/Pending Publication
- NCHRP 12-119 - MASH Railing Load Requirements for Bridge Deck Overhang
- NCHRP 22-41 - Proposed Modification to AASHTO LRFD Bridge Design Specifications, Section 13—Railing
- NCHRP IDEA Project 215 - Achieving Resilient Multi-Span Bridge by using Buckling-Restrained Braces
- NCHRP IDEA Project 221 - Development of In Situ Cyclic Borehole Shear Soil Test Device
- NCHRP IDEA Project 222 - Mixed Reality Assisted Infrastructure Inspections
- NCHRP IDEA Project 223 - Fatigue Crack Inspection Using Computer Vision and Augmented Reality
- NCHRP IDEA Project 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

Current & Upcoming Projects
  - Current Projects
    - NCHRP 08-139 - Guide for Preventing and Mitigating the Risk of Bridge and Tunnel Strikes by Motor Vehicles
    - NCHRP 10-111 - Guide for 3D Model Viewers for Construction Inspection
    - 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 12-120 - 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 12-124 - Design of Stud Shear Connectors in Composite Steel Bridges
    - NCHRP 14-36(01) - Implementation of Bridge Preservation Actions
    - NCHRP 14-45 - Guidelines for Response Planning, Assessment, and Rapid Restoration of Service of Bridges in Extreme Events
    - NCHRP 20-30/IDEA 243 - Establishing NDE Protocols for Use in Early Age Bridge Deck Preservation Strategies
- Development of Guidance for Non-Standard Roadside Hardware Installations
- Proposed AASHTO Guidelines for Implementation of MASH for Sign Supports, Breakaway Poles, and Work Zone Traffic Control Devices
- Crashworthiness of Roadside Hardware on Curbed Roadways
- Development of Non-proprietary Prefabricated Solutions for Concrete Barrier Systems for Accelerated Bridge Construction
- Safety Risks of Occupant Compartment Damage During Crashes
- A Guide for Incorporating Maintenance Costs into a Transportation Asset Management Plan
- Development of On-Bridge Stormwater Treatment Practices
- Handbook on Deterring and Excluding Bats from Transportation Structures
- Mixed Reality Assisted Infrastructure Inspections
- Adjustable Cross-frames for the Erection of Steel Girder Bridges
- Automated Data and Feature Extraction from Bridge Plan
- A Real-Time Ice Warning System Empowered by Dielectric Ice Sensors for Bridges
- Practices for Adding Bicycle and Pedestrians Access on Existing Vehicle Bridges
- Quality Control Checks for Bridge and Structure Analysis Models
- Practices for Controlling Tunnel Leaks
- Practices to Enhance Resiliency of Existing Culverts
- Permitting, Design, and Construction Practices for Aquatic Organism Passage
- Practices for Managing Selected Ancillary Transportation Assets
- Detecting and Mitigating Low-Level DC Fault Currents in Transit Systems (Phase II TCRP Project D-17)

**Upcoming Projects**
- Design and Repair of Glass Fiber Reinforced Polymer Concrete Bridge Barriers
- Effective Timelines and Contractual Strategies for Accelerated Bridge Construction Projects
- Guidelines for the Application of Ground Modification Methods for Highway Structures
- Update Bridge Construction Requirements
- Earthquake-Induced Bridge Displacements
- Roadmap for the Transformation to Computer Simulation-Based Assessment of Bridge Railings
- Roadmap to Update Section 9 of the AASHTO LRFD Bridge Design Specifications
- Construction Strategies and Techniques for Planned Bridge Replacements in Complex Scenarios
- Bridge Construction Inspection Training Resources and Practices
- Determination of Actual Derailment Loads on Transit Bridges

**Reports from the National Academies Press on Bridges & Other Structures**
- Transportation and Infrastructure » Bridges and Other Structures
- Corrosion of Buried Steel at New and In-Service Infrastructure
- Equitable and Resilient Infrastructure Investments
- Service Life Assessment and Predictive Modeling for an Aging Critical Infrastructure

**Committees & Panels**

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**TRB Standing Committees** – Search by transportation mode and committee topic
- Bridges and Structures
- Innovative Highway Structures and Appurtenances
- Steel Bridges
- Concrete Bridges
- Testing and Evaluation of Transportation Structures
- Seismic Design and Performance of Bridges
- Tunnels and Underground Structures
o **AKB70** - Culverts, Buried Bridges and Soil Structure Interaction
o **AKC40** - Construction of Bridges and Structures
o **AKC70** - Fabrication and Inspection of Metal Structures
o **AKM50** - Advanced Concrete Materials and Characterization
o **AKG70** - Foundations of Bridges and Other Structures
o **AKM70** - Durability of Concrete
o **AKT40** - Structures Maintenance
o **AKT50** - Bridge and Structures Management
o **AKT60** - Bridge Preservation
o **AR050** - Railroad Infrastructure Design and Maintenance
o **AR060** - Rail Transit Infrastructure Design and Maintenance
o **BA0162** - Review of Federal Highway Administration Infrastructure R&D – Expert Task Group on Bridges

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

**CRP Panels**
- **D10121** - Performance-based Specification for the Application of Ground Modification Methods for Bridges, Retaining Structures, and Associated Geotechnical Features
- **D10137** - NCHRP Project Panel on Specifications for New Construction and Rehabilitation of Movable Bridges
- **D1094** - Mitigation of Weldment Cracking of Highway Steel Structures due to the Galvanizing Process
- **D1095** - Toughness Requirements for Heat-Affected Zones of Welded Structural Steels for Highway Bridges
- **D12118** - Structural Design and Analysis of Post-Tensioned Concrete Structures with Flexible Fillers
- **D12123** - Proposed AASHTO Guideline for Load Rating of Segmental Bridges
- **D12124** - Design of Stud Shear Connectors in Composite Steel Bridges
- **D12126** - Design Method for High-Load Multi-Rotational Disc Bearings for Bridges
- **D12127** - Load Rating and Posting of Long-Span Bridges
- **D2007424** - Best Practices for the Operations of Movable Bridges from Remote Locations
- **D2563** - Handbook on Deterring and Excluding Bats from Transportation Structures
- **SN5318** - Moisture Measurement for Foundations and Slopes for Pavements and Structures
- **TD24** - Determination of Actual Derailment Loads on Transit Bridges

**Councils**
- **A001C** – Young Members Coordinating Council

**Recent and Upcoming Events**

**Upcoming TRB Conferences** – Use left hand menu to filter events

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

**TRB Webinar: Using Ultra-High Performance Concrete for Bridges**
*October 18, 2023*

**TRB Webinar: Geotechnical Exploration and Workflow for Scour and Erosion Risk Assessment**
*October 26, 2023*

**TRB Webinar: Demonstrated Performance of Buried Bridges**
*October 31, 2023*

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**National Conference on Transportation Asset Management**
*July 8-11, 2023*

**Boston, MA**

**Marine Transportation System Innovative Science and Technologies Toward Greater Sustainability**
*June 19-22, 2023*

**Washington, D.C.**

**National Aviation System Planning Symposium**
*May 15-18, 2023*
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- 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

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