Coronado Bridge San Diego, CA

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FHWA BRIDGE PRESERVATION EXPERT TASK GROUP STRATEGIC PLAN FY2025 – FY2030

ABSTRACT

The FHWA Bridge Preservation Expert Task Group Strategic Plan identifies strategic goals, strategies, and actions in the area of highway bridge preservation by working collaboratively with Federal, State, and local agencies, industry, and academia.

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FHWA Bridge Preservation Expert Task Group

The FHWA provides a forum through the Bridge Preservation Expert Task Group (BPETG) whereby practitioners can provide timely input to and coordination among stakeholders in the bridge community on strategies, practices, research, deployment, and professional development needs pertaining to preservation in the overall management of the national inventory of publicly owned highway bridges.

The composition of the BPETG may include at a minimum, representatives from the following entities.

- Federal Highway Administration (FHWA)
- State Highway Agencies and State Highway Agency representatives of Bridge Preservation Regional Partnerships
- The American Association of State Highway Transportation Officials (AASHTO) Committee on Bridges and Structures through its Technical Committees – such as Bridge Preservation, Safety and Evaluation, and Asset Management
- AASHTO Committee on Maintenance – Bridge Technical Working Group
- AASHTO Preservation Management Technical Services Program – Bridge Preservation Staff
- Transportation Research Board (TRB) – Chairs of Standing Committee on Management, Maintenance and Preservation of Bridges and Structures
- Academia – University Researchers with expertise in Bridge Preservation
- Industry – Contractors, Suppliers, Consultants, Associations, etc.
- County/local government

STRATEGIC PLAN – FY 2025 – 2030

The Strategic Plan – FY 2025 – 2030 outlines three strategic goals to guide the BPETG's work over this six-year period.

VISION

Bridge preservation today…for better bridges tomorrow.

MISSION

Advance and improve the state of the practice of highway bridge preservation by working collaboratively with Federal, State and local agencies, professional associations (AASHTO, TRB, etc.), industry, and academic institutions.

STRATEGIC GOALS

- **Goal A - Increase awareness and implementation of bridge preservation strategies nationwide**
- **Goal B - Foster research innovation and adoption of new technologies and materials to improve bridge preservation**
- **Goal C - Manage risk and improve the resilience of bridges**

Goal A - Increase awareness and implementation of bridge preservation strategies nation-wide

Strategy A1: Share cost effective bridge preservation practices

Action	Background	Outcome/Product
Document bridge preservation practices adopted by bridge owners	To promote preservation activities with an emphasis on construction quality, continue developing documents that share practices adopted by the States or bridge owners on preservation of decks, superstructures, substructures and culverts.	Summary Document/Example Specifications
Develop case studies	To increase the service life of existing highway bridges, develop case studies on cost-effective bridge preservation strategies.	Case Studies
Study next generation data framework for developing data-driven preservation performance estimates	To preserve bridges in good and fair condition, consistent and uniform records of maintenance and preservation actions over time are needed. This research will study bridge owner's current data collection practices and suggest a data framework that could be integrated with the existing bridge management systems.	Research Study
Promote use of nondestructive evaluation (NDE) and structural monitoring (SM) technologies for bridge preservation activities	States are beginning to use NDE and SM technologies to support selection and planning of preservation activities as early detection and quantification of changes in condition to support timely preservation treatments.	Webinars/Peer Exchanges
Identify strategies for cost effective Maintenance of Traffic and Traffic Control Plans for bridge preservation work	Bridge preservation actions involve traffic control plans. Facilitate discussions among stakeholders on direct and indirect project costs with context of delay tolerances and back-up queues.	Peer Exchange (multi-disciplinary)

Performance Plan Measures

- Conduct a webinar on NDE/SM technologies supporting bridge preservation by May 2026
- Publish one case study by September 2026
- Publish two summary documents on bridge preservation practices by December 2026
- Conduct one peer exchange by September 2027

Strategy A2: Promote bridge preservation as a component of asset and performance management

Action	Background	Outcome/Product
Integrate bridge preservation into asset management and transportation performance management	In accordance with 23 U.S.C 119, States must develop a risk- and performance-based asset management plan, these Transportation Asset Management Plans (TAMP) address their strategy to maintain their bridge network in a state-of-good-repair at the minimal practicable cost. Develop case studies and conduct peer exchanges to show the benefit of bridge preservation and the connection between bridge preservation and asset management.	Case Studies, Peer Exchanges
Support the development and deployment of bridge deck preservation tool	The Bridge Deck Preservation Tool will help improve the use of bridge preservation techniques in the bridge deck maintenance process by assisting engineers with the logical selection of maintenance actions. The tool will create a set of maintenance scenarios based on cost-effective actions implemented at the most efficient point in the deck's life cycle. This is a project level tool that will be hosted on FHWA's InfoBridge Portal and may provide alternative maintenance strategies for bridge decks.	Webinar or Workshop of Web-based Tool and track usage
Communicate how bridge preservation extends the life of a bridge	Develop a white paper or a fact sheet that outlines the benefits of bridge preservation actions and effect on life cycle cost analysis.	White paper
Develop information for legislators, stakeholders, and the public	Bridge preservation projects are critical to effective stewardship of highway infrastructure. Develop case studies/reports/ presentations that could help in promoting bridge preservation.	Case Studies/Reports

Performance Plan Measures

- Conduct webinar on Bridge Deck Preservation Tool by December 2025
- Conduct a joint meeting between FHWA Bridge Preservation Expert Task Group, AASHTO Bridge Preservation Technical Committee, and AASHTO Asset Management Technical Committee by May 2026
- Publish white paper on benefits of bridge preservation by October 2026

Strategy A3: Develop educational materials on bridge preservation

Action	Background	Outcome/Product
Develop web-based training	Develop online training courses based on documents and research developed by the BPETG that may be hosted by the National Highway Institute or AASHTO Technical Training Solutions.	Web-based Training
Provide States with tools to successfully engage local agencies in bridge preservation	Develop a case study and support States to host peer exchanges based on lessons learned from States that are effectively delivering technical assistance to their local bridge owners. For example, California Department of Transportation has established a Cross Agency Asset Management Forum that brings bridge preservation practitioners from State, FHWA, city, county, academic, and consultants together to discuss bridge preservation and asset management topics.	Case Studies, Peer Exchanges
Synthesize existing bridge courses being offered by colleges	Develop a synthesis report on colleges that provide courses on bridge preservation in addition to traditional civil engineering degree curricula such as graduate courses, certificate programs, January session, etc.	Synthesis of findings and sharing best practices
Identify format for mentoring early career bridge engineers in bridge preservation	Facilitate discussion between early career and experienced bridge preservation practitioners, including maintenance staff to gather knowledge on various preservation actions.	Peer Exchange
Develop a bridge preservation resource guide	A resource guide that provides references on various bridge preservation topics.	Resource Guide Document

Performance Plan Measures

- Develop a resource guide document by March 2027
- Conduct two peer exchanges by May 2027
- Develop three web-based training by September 2028

Goal B - Foster research innovation and adoption of new technologies and materials to improve bridge preservation

Strategy B1: Support research and implementation of new research findings for bridge preservation technologies

Action	Background	Outcome/Product
Assist other research sponsors to promote bridge preservation technologies and materials used for preservation.	Since BPETG has members representing various TRB Technical Committees Chairs, AASHTO Committee on Bridges and Structures, Committee on Maintenance and Regional Partnerships, it is proposed that the group discuss, and sponsor bridge preservation research need statements (RNS) that have national significance.	Sponsor RNS/ Review RNS/ Author RNS
Focused research on life-cycle cost analysis (LCCA) of bridge preservation actions	LCCA is generally performed during initial design of bridges, but during the service life of a bridge, each preservation action has its own life cycle cost analysis. Additional research is needed to understand the service life extension and benefits of preservation actions.	Roadmap on LCCA research / Case study on Preservation-Cycle Cost Analysis (PCCA) as defined in the AASHTO Guide to Bridge Preservation Actions

Performance Plan Measures

- Review and sponsor research to appropriate technical committees yearly
- Develop case study on PCCA by September 2026

Strategy B2: Support research and implementation of research findings for new bridge preservation materials

Action	Background	Outcome/Product
Evaluating bridge preservation nonproprietary materials efficacy	Durability of bridge preservation products impacts bridge service life. A standardized product evaluation procedure for materials used in various preservation actions is needed.	Synthesis Study
Promote measures for tracking new materials performance	New materials performance evaluation can take years or decades, and thus good tracking measures are needed.	Report

Performance Plan Measures

- Publish report or synthesis study by December 2029

Goal C - Manage risk and improve the resilience of bridges

Strategy C1: Provide tools and information to support bridge owners risk management

Action	Background	Outcome/Product
Document best practices on Scour countermeasures for preserving bridges	Perform a study of states' bridge scour countermeasures and their effectiveness as preserving bridges.	Synthesis Study
Demonstration of risk management in bridge preservation	States are required to consider extreme weather and resilience as a part of the life cycle planning (LCP) and risk management within a State asset management plan (23 CFR 515 Asset Management Plans). See FHWA LCP Guidance for more information. NCHRP Synthesis 20-05/ Topic 56-07 – Practices for Incorporating Risk into Bridge Management Plans is ongoing.	Webinar

Performance Plan Measures

- Conduct a webinar or publish a primer on demonstrating risk management in bridge preservation by September 2028

Strategy C2: Provide tools and information to improve the resilience of highway infrastructure

Action	Background	Outcome/Product
Promote the concepts of Service Life Design	Conduct workshops on Service life design principles to improve the design of highway bridge infrastructure with enhanced durability performance. The objective of service life design is to complete an assessment of the prevailing environmental conditions and corresponding potential deterioration mechanisms affecting structural elements, and to design those elements accordingly to achieve a target service life duration.	Workshops
Review Synthesis Report Topic 55-01 State DOT Policies and Practices on the Use of Corrosion Resistant Reinforcing Bars	The objective of this synthesis is to document policies and practices used by State departments of transportation (DOTs) related to the use of corrosion resistant reinforcing bars, which will delay the onset of corrosion and the subsequent deterioration of bridge decks and other structural elements. Material producers have been meeting this challenge by developing bars with improved corrosion resistance by providing bars with different coatings, steel compositions, and alternate materials.	Synthesis Report, and identify/ develop potential follow-on RNS

Performance Plan Measures

- Conduct four workshops on Service Life Design by December 2025.

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