

ACI Joins NCBC to Strengthen Collaboration, Advance Concrete Bridge Technology

by Dr. Trey Hamilton, American Concrete Institute



American Concrete Institute
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In early 2025, the National Concrete Bridge Council (NCBC) welcomed the American Concrete Institute (ACI) as its newest member. This membership aligns with ACI's mission to advance knowledge of concrete and its use, and ACI brings to NCBC valuable expertise for the continual improvement of concrete bridge technology.

"ACI's membership in NCBC will create synergies between ACI's broad expertise in concrete standards and education and NCBC's industry-specific focus on advocacy, research, and policy development," stated then-ACI President Michael J. Paul in January 2025. "Together, ACI and NCBC can drive improvements in bridge safety, durability, and sustainability, while enhancing workforce skills and industry knowledge. ACI's strategic alignment

with the NCBC will not only amplify its influence in the bridge sector but also ensure that concrete bridges remain a cornerstone of modern infrastructure."

A Shared History of Influence

ACI has long been a driving force in developing concrete design practices. The institute's leadership in load-and resistance-factor design (LRFD) methodologies laid the foundation for modern strength-based approaches to structural design. The American Association of State Highway and Transportation Officials (AASHTO) incorporated these principles into its bridge design specifications in the 1970s and ultimately adopted LRFD in 1994.

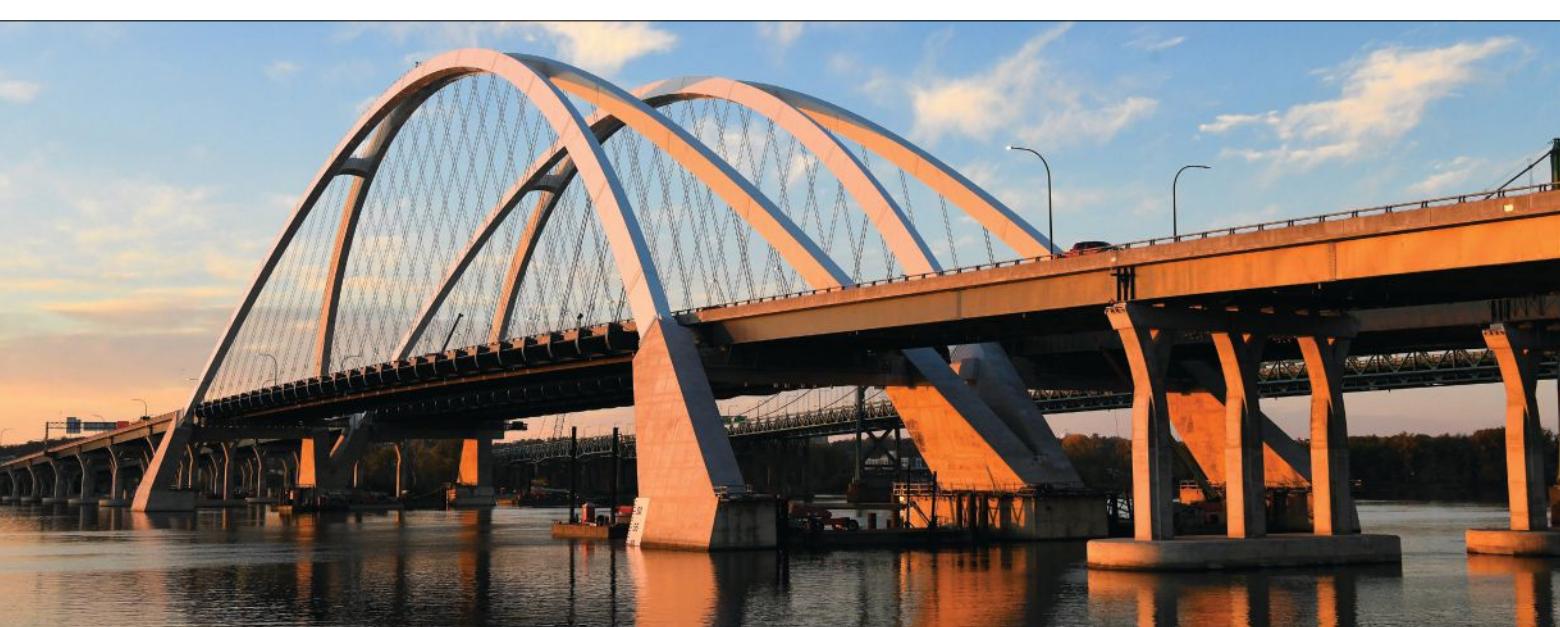
With these aligned efforts, ACI and AASHTO have historically worked in

parallel, with ACI focusing on buildings and materials and AASHTO focusing on bridges and transportation structures. By joining NCBC, ACI takes an important step toward greater collaboration, ensuring that expertise from both communities is effectively shared and applied where needed.

Advancing Bridge-Focused Knowledge

ACI maintains more than 120 technical committees addressing every aspect of concrete design and construction. Four of those committees are directly focused on bridges: ACI 341 Performance-Based Seismic Design of Concrete Bridges; ACI 342 Evaluation of Concrete Bridges and Bridge Elements; ACI 343 Concrete Bridge Design (a joint committee with the American Society of Civil Engineers); and ACI 345 Bridge Construction and

The Interstate 74 Mississippi River Bridge in Bettendorf, Iowa, won first place in the 2023 ACI Excellence in Concrete Construction Awards. Photo: ACI Excellence in Concrete Construction Awards.





The Los Angeles Bureau of Engineering's Sixth Street Viaduct is a cast-in-place concrete network tied arch that sets a new threshold for seismic safety and expands the utility of urban bridges. Photo: ACI Excellence in Concrete Construction Awards.

Preservation. Additionally, many other ACI committees develop knowledge and standards relevant to bridge design and maintenance. For example, the work of ACI 440 Fiber-Reinforced Polymer Reinforcement on internal and external reinforcement has supported bridge strengthening and new construction practices.

The expertise of ACI's volunteers, many of whom work in bridge design, construction, or research, extends well beyond the formal bridge committees. Through NCBC, these experts will now have a stronger path to engage with AASHTO's Committee on Bridges and Structures, fostering the direct exchange of knowledge and addressing gaps in technical guidance.

NCBC and ACI: Working Together to Benefit the Bridge Community

By combining their distinct yet complementary missions, ACI and the other members of NCBC can achieve substantial synergies. ACI's role as a professional organization and thought leader in the global concrete industry aligns well with NCBC's advocacy and efforts to promote concrete bridges as a sustainable and reliable solution for public infrastructure. Through collaboration, ACI joins the other members of NCBC in leveraging their shared commitment to advance concrete knowledge and innovation while addressing the specific needs of the concrete bridge community.

Together, NCBC member organizations work to ensure that concrete bridges continue to meet the highest standards

of safety, durability, and environmental sustainability. ACI's global technical expertise, professional education, and certification programs can support the NCBC's efforts to enhance the skills of engineers, contractors, and owners in the bridge sector. At the same time, NCBC's focus on bridge-specific issues and industry advocacy can help ACI members stay informed about the latest trends, research, and policies affecting the concrete bridge industry. The following key points highlight the strategic advantages and collaborative benefits of ACI's membership in NCBC for the concrete bridge industry:

- Strategic alignment: ACI's strategic plan emphasizes the dissemination and advancement of concrete knowledge, with a particular focus on building mutually beneficial alliances. Membership in NCBC aligns with ACI's goal to enhance its influence and effectiveness within the concrete bridge industry.
- Enhanced collaboration: NCBC's established relationships with the Federal Highway Administration (FHWA) and AASHTO present a strategic opportunity for ACI. AASHTO's preference for a unified voice from the concrete industry through NCBC underscores the importance of ACI's participation to ensure that the institute's expertise and standards are available to assist AASHTO in its development of standards and guidance related to concrete bridge design, construction, and maintenance.
- Mutual benefits: NCBC's broad industry network and influence will improve the visibility and applicability of ACI's extensive

The History of ACI

Established in 1904 as the National Association of Cement Users and renamed the American Concrete Institute in 1913, ACI is a 501(c)(3) nonprofit organization that was created to bring consistency, safety, and technical guidance to the growing use of concrete in construction. From its earliest building regulations for reinforced concrete to the internationally adopted *Building Code Requirements for Structural Concrete* (ACI 318), the institute has shaped how concrete is designed, specified, and built worldwide.

Headquartered in Farmington Hills, Mich., with a regional office in Dubai, and resource centers across the United States, ACI serves more than 40,000 members in over 120 countries through 90 chapters and 350 student chapters. For more than a century, ACI has been a leading global authority for the development, dissemination, and adoption of consensus-based standards, technical resources, and educational, training, and certification programs.

expertise and resources, which will be of mutual benefit to ACI and the concrete bridge community. ACI's membership in NCBC will ultimately support both organizations' goals of advancing concrete bridge technology and elevating the performance and reliability of infrastructure systems.

Looking Ahead

By joining NCBC, ACI formalizes its role as a collaborative partner in advancing the state of practice for concrete bridges. Together, NCBC and ACI are well positioned to influence standards, foster innovation, and improve the durability and performance of the nation's bridge infrastructure. Thank you to NCBC for welcoming ACI to the council. We look forward to the opportunities that this partnership will bring to our member organizations and the entire bridge community. 

Dr. Trey Hamilton is senior engineer for the American Concrete Institute. Hamilton is past chair of ACI Technical Activities Committee and ACI Committee 423 Prestressed Concrete. Retired from the University of Florida, Hamilton is a fellow of both the American Concrete Institute and the Post-Tensioning Institute.