

*Concrete Connections* is an annotated list of websites where information is available about concrete bridges. Links and other information are provided at [www.aspirebridge.org](http://www.aspirebridge.org).

## IN THIS ISSUE

<https://www.fhwa.dot.gov/bridge/nbi.cfm>

<https://www.fhwa.dot.gov/bridge/mtguide.cfm>

The Perspective on page 6 delves into National Bridge Inventory (NBI) data to review market share and performance of the concrete bridge inventory. Both links provide more information about the NBI; the second one also provides access to downloadable data sets from 1992 to 2024.

<https://rosap.ntl.bts.gov/view/dot/68881>

This is a link to download the University of Nebraska-Lincoln report *Truck Platooning Effects on Girder Bridges: Phase II – Service*. The Professor's Perspective on page 42 is the third in a series dedicated to investigating the statistical reliability indices that should be used to accommodate truck platoons.

<https://highways.dot.gov/research/long-term-infrastructure-performance/ltbp/nondestructive-evaluation-structural-health-monitoring>

Siva Corrosion Services (SCS) is the subject of the Focus article on page 9. SCS specializes in materials and corrosion engineering with the goal of extending the service lives of bridges. They use a variety of nondestructive testing techniques and offer structural health monitoring services and corrosion-control designs. This is a link to a Federal Highway Administration webpage that lists resources for nondestructive evaluation and structural health monitoring.

<https://www.soundtransit.org/system-expansion/federal-way-link-extension>

[https://www.youtube.com/watch?v=2sBY0YVe\\_t8](https://www.youtube.com/watch?v=2sBY0YVe_t8)

Structure C, a long-span, cast-in-place concrete segmental bridge, that is part of Sound Transit's Federal Way Link Extension, is the subject of the Project article on page 12. Concrete segmental construction offered the best solution for a section of the route that passes through an extremely challenging site. The first link leads to the Sound Transit webpage for the Federal Way Link Extension, which has project maps, news, and updates. The second link is a flyover video of the project from 2023.

<https://oasis.pci.org/Public/Catalog/Home.aspx?Criteria=177&Option=734>

The Concrete Bridge Technology article on page 22 covers basic concepts of strain compatibility in concrete components. The PCI eLearning Course T130: Flexural Design of Precast, Prestressed Concrete—Strength Limit States can be accessed via this link. This free course covers the simplified method and strain-compatibility method for flexural design of precast, prestressed concrete beams.

<https://asbi-assoc.org>

Preliminary design and span layout considerations for concrete segmental box-girder bridges are the subject of the Concrete Bridge Technology article on page 28. The American Segmental Bridge Institute offers many design resources for concrete segmental bridges on their website.

<https://www.fhwa.dot.gov/bridge/composite/cpdi.cfm>

This is a link to a Federal Highway Administration (FHWA) webpage about fiber-reinforced polymer (FRP) composite technology, which provides additional links to various reports, articles, and design information for FRP components. Advances and development of corrosion-resistant FRP reinforcement for concrete structures are the subject of the Creative Concrete Construction article on page 31.

[https://www.fhwa.dot.gov/resourcecenter/teams/structures-geotechnical-hydraulics/MCFT\\_for\\_Load\\_Rating\\_Examples.pdf](https://www.fhwa.dot.gov/resourcecenter/teams/structures-geotechnical-hydraulics/MCFT_for_Load_Rating_Examples.pdf)

This is a link to the *Modified Compression Field Theory (MCFT) for Shear Load Rating—Pretensioned Example* published by the FHWA. Concrete bridge shear load rating is the subject of the FHWA article on page 50.

<https://doi.org/10.15554/pcij69.6-03>

The NCBC Spotlight on page 34 highlights the 70th Anniversary of the Precast/Prestressed Concrete Institute. The *PCI Journal* has published a list of 70 influential papers and other items that have contributed to the growth of precast, prestressed concrete industry, including many on bridge technology.

## OTHER INFORMATION

<https://static.tti.tamu.edu/tti.tamu.edu/documents/0-6958-R1.pdf>

This is a link to a technical report developed by Texas A&M Transportation Institute titled *Developing Performance Specifications for High-Performance Concrete*. The report presents research results and tools to evaluate the expected durability of high-performance concrete mixtures in bridge decks.

<https://store.transportation.org/Item/PublicationDetail?ID=5250>

This is a link to the listing for the free download of the recently published *Resources for Concrete Bridge Design and Construction, 1st Edition*. The publication is the first product developed under an agreement between the American Association of State Highway and Transportation Officials and the National Concrete Bridge Council.