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# The Engineer's Role as Advocate

William Nickas, *Editor-in-Chief*

Last year's unconventional election cycle caused me to think of the unique responsibility that we have as engineers to educate governmental leadership about how EVERY bridge contributes to the mobility of people and goods. Bridges, of course, directly impact the health of our economy. In a 2009 *ASPIRE*<sup>TM</sup> perspective article, author Andy Herrmann wrote about the ASCE *America Infrastructure Report Card*. Overall, the nation's bridges received a letter grade of "C+." In a 2017 evaluation, ASCE reported just a modest improvement for the bridge sector of our nation's assets.

Our internal industry discussions alone will not have an impact on governmental priorities. One way that awareness is raised is when a nonconstruction news entity publishes statistics showing the condition of bridges in your areas. Your community may turn to you, their trusted bridge engineer friend, to help them understand the significance of the data. As a resource, look at this great article with interactive graphics, published by the *Washington Post*: <http://tinyurl.com/z3zxej7> (Note: this URL may be selected directly from the electronic version of *ASPIRE* available at [www.aspirebridge.org](http://www.aspirebridge.org).)



People often hear about how 130,000 of our nation's 601,000 bridges are "deficient." The public does not always understand nuanced terms, such as functional obsolescence or structurally deficient bridges. But everyone understands when a local bridge is closed or posted for lower capacity. For 50 years (1960 through 2009), the United States built an average of 9100 bridges per year. During the most recent five years, the United States has averaged fewer than 6800 new bridges per year. I hope this editorial or similar articles you read will be your call to action to help raise public awareness and return bridge-

replacement construction funding to appropriate levels to improve our national economy.

We have all seen a programmatic focus on the preservation and renewal of the interstate and primary systems by federal and state infrastructure asset managers. The utilization of federal funds is tied to these highway systems. What about the condition of the local system? Many of the structures were created during the early twentieth century. When freight leaves the primary system, will there be detours and restrictions before it reaches the local consumer? Are there obstacles to the movement of emergency vehicles? What funding sources will take care of the local orphan bridges? It is all too apparent that these structures need additional investment.

In the last issue of *ASPIRE* (Winter 2017, p. 10), the perspective article by Ed Wassermann and the late Dennis Mertz explains the difference between design life and service life. Both terms are clearly important. Extending or even meeting service-life expectancy requires periodic interventions. Some bridge types require more frequent expenditures than others. In this issue of *ASPIRE* (p. 38), an article by Hank Bonstedt explores the data in the National Bridge Inventory and notes the progression of span ranges achieved by concrete bridges.

I am always pleased to see interest in public awareness of infrastructure and how the collective-transportation industry works to support our goal of a safe, mobile society moving people and goods efficiently and effectively. Likewise, it is important for engineers to share how our industry is working hard to help all stakeholders build more-resilient structures with lower life-cycle costs, all the while minimizing construction interruption to the motoring public. Let's all work to accelerate the dissemination of all available technical knowledge not only to designers everywhere, but also to the field personnel who must faithfully implement our best designs. Our goal is to arm everyone with a comprehensive library of outstanding concrete solutions. 

**Editor-in-Chief**

William N. Nickas • [wnickas@pci.org](mailto:wnickas@pci.org)

**Managing Technical Editor**

Dr. Reid W. Castrodale

**Technical Editor**

Dr. Kris M. Brown

**Program Manager**

Nancy Turner • [nturner@pci.org](mailto:nturner@pci.org)

**Associate Editor**

Emily B. Lorenz • [elorenz@pci.org](mailto:elorenz@pci.org)

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**Ad Sales**

Jim Oestmann

Phone: (847) 838-0500 • Cell: (847) 924-5497

Fax: (847) 838-0555 • [joestmann@arlpub.com](mailto:joestmann@arlpub.com)

**Reprints**

Lisa Scacco • [lscacco@pci.org](mailto:lscacco@pci.org)

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Robert Risser, President

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*For more information on the country's infrastructure grade, see the Transport Topics article at <http://tinyurl.com/zyph747>*



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