EDITORIAL

Photo: PCI.

Take Risks and Fail Fast

William Nickas, *Editor-in-Chief*

A few months ago, during the time that I was writing this message, I was doing a project with my oldest daughter and needed a pocket knife. I opened a drawer and there was the Swiss army knife that was inscribed with "AASHTO Bridge 1998 - Nashville, Tennessee." That was my first annual business meeting of AASHTO Subcommittee on Bridges and Structures (SCOBS) as the Florida Department of Transportation (FDOT) voting member. It was also the meeting where I would finally meet those legendary "LRFD innovators." You see, I had worked at FDOT for a brilliant engineer, Paul Csagoly, who came from Ontario, Canada, where he was part of the first bridge code development team using the load and resistance factor design (LRFD) methodologies. He would talk about the risk a province took and how the United States needed a bridge code overhaul. I had only heard about the co-principal investigators, Dr. Kulicki and Dr. Mertz, who started working on this in the late 1980s. And I had only read about and used what the initial research team had assembled for this momentous task. But then, I would meet this most humble and approachable gentleman, Dr. Dennis Mertz.

That was the beginning of my view inside the codification process. As a new AASHTO committee person, to watch and support the AASHTO SCOBS leadership of initially David Pope from Wyoming with Jim Roberts from CalTrans, and later Mal Kerley from Virginia, move this new specification forward was very rewarding (and yes, sometimes rocky). It was also interesting to see how critical it was to get assurances from a network of experts, such as Dr. Dennis Mertz. With LRFD came a new interest in deployable and implementable research. FHWA was always working to attain a date certain for full deployment and see the state bridge units take things to a new height. And as I reflect, Dennis was critical to allowing the United States to take the risk of LRFD. As Gregg Fredrick, chief engineer of Wyoming Department of Transportation and Chairman of AASHTO SCOBS, wrote recently in an email, "We have lost a gem, but he will forever influence our industry" and how very correct this describes Dennis' legacy efforts. (Read more on page 51 "The *AASHTO LRFD Bridge Design Specifications: A Retrospective.*")

What risks might the bridge design and construction industry be exposed to in the future? Like many of you, I've seen the concept and opportunities for self-driving or even autonomous vehicles. Now with satellite data, that idea has progressed quickly from magnets in the pavement as guidance systems to GPS and sensors. The initial concept of magnets as a guidance system failed, but in teaming up with Google to use GPS, car manufacturing has shown promise. The further enhancements seen with vehicle to vehicle communication will further refine the opportunity. Now what does that have to do with bridge design and construction you might ask?

Construction equipment articles are explaining changes coming and asking why not autonomous construction? The current deployment effort is centered around new backhoe, roller and paving equipment, and changing the inspection of the construction process. Jeff Immelt, the chairman and CEO of General Electric, recently talked about changing their business culture. He said, "we may be a century-old company, but we need to move quickly, take risks, fail fast, and behave like a startup to keep winning." He goes on to say ". . .use technology to help our people stay connected and allow more automated decision-making so you can look at an app and see what is going on inside the company."

Bridge engineers do not like to fail, but thank goodness a team of U.S. engineers took a risk on giving us the framework of LRFD. In the future, we may have to take risks with intelligent materials and other strategies to improve our built and future infrastructure investments.

Cover
The Jeremiah Morrow Bridge is the first cast-in-place, concrete segmental box-girder structure owned by the Ohio Department of Transportatio and built by Kokosing Inc. Photo: OmniPro Services.

Publisher
Precast/Prestressed Concrete Institute
Robert Risser, President

Postmaster: Send address changes to *ASPIRE*, 200 W. Adams St., Suite 2100, Chicago, IL 60606. Standard postage paid at Chicago, IL, and additional mailing offices.

ASPIRE (Vol. 10, No. 4), ISSN 1935-2093 is published quarterly by the Precast/Prestressed Concrete Institute.

If you have a suggestion for a project or topic to be considered for *ASPIRE*, please send an email to info@aspirebridge.org