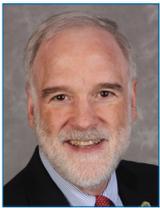


Structurally sound

Sarah Fister Gale



Reid Castrodale always wanted to be an engineer. “I loved math and I was kind of nerdy, so engineering had to be it,” he says. In high school, he set his sights on the five-year co-op program in civil engineering at the Georgia Institute of Technology in Atlanta. In the program, students spend half of their time in class and half of their time working in the field.

He started classes the summer he graduated from high school. “I didn’t see any point wasting the summer,” he says.

That fall he landed a co-op position with the Southern Railway in Charlotte, N.C., and he ended up working with the railway throughout the program, doing track layout design, surveying, and drafting. During those quarterly gigs, he discovered a love for structures.

When he graduated in 1979, he landed a job with Burns and McDonnell in Kansas City, Mo., doing structural design for a steel mill and concrete water and wastewater treatment facilities. It was the first time he got to design structures using precast, prestressed concrete double tees, and he was hooked. “I thought precast was really cool,” he says.

But Castrodale quickly felt pulled back to academia. He imagined that one day he would become a civil engineering professor, so he went to the University of Texas at Austin to pursue a master’s degree and ultimately his PhD. During his time at UT, he conducted research on shear and high-strength concrete for precast, prestressed concrete bridge girders. “It was all about timing,” he says of his work on precast concrete structures.

After completing his PhD work in 1987, Castrodale took a job with Ralph Whitehead Associates Inc. in Charlotte, N.C., as a design engineer, where he spent six years designing highway and railway structures and developing software for bridge design and analysis.

During this time, Castrodale joined PCI and became a member of the Committee on Bridges, and later the Bridge Producers Committee, in an effort to get more involved in the precast concrete community. “When you join PCI, you shouldn’t just go to the conventions,” he says. “The committees are where you learn and build relationships with people who will become your friends and you can lean on later on.”

Castrodale has been an active member of the PCI community ever since. He became chair of the bridge committee within three years of joining and has given dozens of presentations at local and national PCI events.

He later worked as a consultant to the institute, where he helped identify issues in the American Association of State Highway and Transportation Officials’ AASHTO *LRFD Bridge Design Specifications* related to precast concrete and provided suggested revisions that were adopted into the specifications. He also contributed to the *PCI Bridge Design Manual* and reviewed several modules of a series of training courses developed by the AASHTO/PCI team for the Federal Highway Administration. He was recognized as a Fellow of PCI in 2001.

In 1993, Castrodale joined the Portland Cement Association in Skokie, Ill., where he spent four years developing and teaching seminars on concrete bridge technology. Then he returned to Whitehead in 1997 as senior engineer, where he worked on many major bridge projects.

During this time, he served as the principal investigator for a groundbreaking National Cooperative Highway Research Project on the extension of span ranges for precast, prestressed concrete girders. The work became part revisions adopted in the AASHTO Technical Committee for Concrete Design. “We did a lot of good work on that project,” he says. He also started work as the bridge consultant for Georgia/Carolina PCI, a position he has held for more than 20 years.

In 2005, Castrodale went to work for Carolina Stalite Co. in Salisbury, N.C., to promote lightweight concrete for bridges but eventually he decided to venture out on his own as an industry consultant.

Castrodale Engineering Consultants continues to provide services related to prestressed concrete, accelerated bridge construction, and utilization of lightweight concrete for bridge and other applications. When he’s not consulting on projects, Castrodale teaches seminars and provides expert support in the development of design manuals and specifications.

He remains an active member of the PCI community, though he says that the institute could use some new blood. “My generation are still the chairs of most of the committees,” he says. “We need the next generation to move into leadership roles.” He hopes a new crop of engineers and precasters will bring a fresh perspective to the organization and help push innovation forward in the use of new material and design strategies.

He also urges them to “toot their own horn” by writing articles for *Aspire*, which he has helped edit for the past eight years. “It doesn’t matter if it’s about a big project or a small one,” he says. “If you have an idea or a great project story to share, just reach out.” 