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## A 21st-Century Makeover for a 19th-Century Wonder

By [CHRISTINE NEGRONI](#)

The buds have barely appeared on the trees, but for Peter Melewski, the engineer charged with turning the historic Poughkeepsie-Highland Railroad Bridge into a 21st-century pedestrian walkway, the autumn deadline is fast approaching, with much still to be done.

When it opened in 1889, the Poughkeepsie-Highland bridge was the first Hudson River rail crossing north of New York City, intended as a more direct route to move freight between New England's industrial center and the Midwest's agriculture. At one time as many as 50 trains a day used the bridge, said Fred Schaeffer, a Poughkeepsie lawyer who heads the bridge renovation committee, [Walkway Over the Hudson](#).

"It was a key factor in the Industrial Revolution," Mr. Schaeffer said. In 1974, when the bridge traffic had dropped to just one train a day, a fire damaged a section of the deck, closing it for good.

In his book "Bridging the Hudson," Carleton Mabee, a professor at the State University of New York at New Paltz, writes that when the bridge was new the iron and steel structure was described as "built to last forever." Its four massive support legs were sunk so deep into the river bed that even now, engineers have found, they have not moved an inch.

In its early years it was one of the longest bridges in the world and, at 6,700 feet, is still impressively long, shorter by 2,200 feet than the Golden Gate Bridge and longer by the same amount than the Sydney Harbor Bridge. Its length and dizzying height, 212 feet, contribute to accolades even today. "It's phenomenal what they were able to achieve during that period," said Mr. Melewski, a partner in the engineering firm Bergmann and Associates. "It's quite a landmark. It had a lot of firsts."

That Mr. Melewski and others — a coterie of steelworkers, crane operators and cement layers — are even engaged in this \$35 million project to reopen the bridge to pedestrians, bicyclists and in-line skaters is notable, considering that earlier attempts to resuscitate it were stymied for years by bickering among preservationists over the best way forward. But once work began, it progressed agreeably and quickly.

Local residents were energized by the idea of uniting Dutchess and Ulster Counties with a multipurpose recreational trail. Businesses near the riverfront saw the project as a boon. The region is preparing for an influx of tourists eager to see the bridge, which will become part of the state park system.

"You remember the 'I Love Lucy' episode where she's on the candy assembly line, and the belt just keeps on going?" Mr. Melewski asked during an engineering walk-through of the site. There was no need to continue the analogy: That the project must progress in an assembly-line fashion was evident as the newly installed

concrete walkway panels gave way to a decidedly less substantial aluminum catwalk that shimmied in the breeze high over the river. From that point, repairs to the underlying structure must be completed before the deck panels can be installed.

Mr. Melewski was animated as he explained it all, with pencil diagrams and in commentary peppered with talk of trusses, piers and cross bracing. In the world of engineering, this is one of the sexier assignments.

“I hear from a lot of engineers when I go and do presentations — they say: ‘That is so cool. You’re so lucky to be working on that project.’” Mr. Melewski said, showing off the span from below. “Yeah, this is very cool. In my profession this is a once-in-a-lifetime project.”

Mr. Schaeffer said, “It took 20 years for it to materialize in the 1860s, and people laughed.” Construction progressed in fits and starts while ambitious plans were drawn and the economy faltered. That was then. His experience with the restoration, which began in 1993, was not much different. “People thought it was crazy idea in the beginning, but gradually everybody began to believe in it.”

The rebirth of the Poughkeepsie bridge did not really get going until 2007, when the Dyson Foundation, a local philanthropic group, donated \$2.1 million to pay for an assessment of just how damaging time and neglect had been. Special inspections were required — with engineers suspended from ropes to view the sides and support structures and scuba divers with sonar checking the condition of the piers.

“When the inspection came back, it was: This bridge is in fabulous condition — there’s no reason why it can’t be done with a small amount of bridge repair and a fair amount of work,” recalled Amy Husten, the executive director of Walkway Over the Hudson.

A fair amount of work it has been. “Most engineers would say it’s harder to do a bridge rehab than to design a new bridge because a new bridge — once you figure out the soils, you have a clean slate; everything is new and you know how it goes together,” he said. “But to take an old bridge and rehab it, that’s the hardest thing to do.”

With it established that repairing the bridge would be far less expensive than tearing it down, there was just one question left. Could the money be raised? It could.

“It became a partnership between federal and state government, businesses, foundations and it mobilized the whole community to get behind it,” Mr. Schaeffer said. “Everybody got behind it because they saw how good it was going to be.”

Mr. Melewski found the enthusiasm contagious, and soon he was committing Bergman and Associates to renovate the bridge in two years’ time. [The 400th anniversary of Henry Hudson’s exploration of the river](#), being celebrated with events throughout 2009, also became part of his inspiration.

“One of the reasons we got the project — we were the only idiots that said, ‘We can get this done,’ because most people in my office thought I was nuts,” he said. “And I wouldn’t have said it unless I thought we could do it.”

