Liberty Bridge

FROM LIFE SUPPORT TO SUPPORTING LIFE

The Liberty Bridge has been a landmark structure and Pittsburgh icon since it opened in 1928, with a parade five miles long. However, by 2014, the bridge was in poor condition. It could no longer carry trucks and had become a poster-child for America’s infrastructure crisis. Sixty Minutes, profiling America’s neglected infrastructure, highlighted the bridge. Referring to Liberty Bridge and others like it, Ray LaHood, United States Secretary of Transportation, stated plainly: “Our infrastructure is on life support right now.”

PennDOT and HDR responded with a rehabilitation project that preserves the structure and meets current engineering and accessibility standards, using innovations including:

• Accelerated bridge construction techniques to replace a bridge deck the size of three football fields while minimizing traffic impacts

• A new Exothermic grid deck—the first ever used in Pennsylvania

This complex, urban project was made more challenging by an accidental construction fire that heated and buckled a primary truss member, crippling the bridge and requiring immediate closure. Working around the clock, a first-of-its-kind jacking frame was designed, fabricated and installed to straighten the warped member and re-open the bridge in just 24 days.

Thanks to innovative solutions, today Liberty Bridge is off life support. The new bridge will support life in Pittsburgh for generations, with an ADA accessible sidewalk permitting all people to enjoy crossing this historic structure.

Title:
Liberty Bridge | Pittsburgh, PA

Client/Owner:
Pennsylvania Department of Transportation | Bridgeville, PA

Entrant:
HDR | Pittsburgh, PA