

Pennsylvania Rapid Bridge Replacement



Americas

Transport

Plenary is the project sponsor, financial arranger, and 80% equity investor for the Pennsylvania Rapid Bridge Replacement Project; the first public-private partnership to bundle multiple bridges in a single procurement in the U.S.

Plenary achieved Substantial Project Completion on the Pennsylvania Rapid Bridge Replacement Project on January 2nd, 2019. The USD\$1.12B project, including four years and \$899M of design and construction work, has replaced 548 bridges throughout predominantly rural areas of the state. In 2015, the Pennsylvania Department of Transportation (PennDOT) selected these bridges from a pool of thousands of bridges in poor condition to be completely replaced as part of the largest ever, multi-asset P3 to be awarded in North America.

Project facts

Location Multiple Locations, Pennsylvania, USA	Client Pennsylvania Department of Transportation	Value (NPV) US\$1.12 billion
Our role Project sponsor Equity investor Financial arranger	Financial close date March 2015	Completion date January 2019
Contract terms Design, build, finance and maintain for 28 years	Awards <ul style="list-style-type: none">• Best North American PPP, 2015 IJGlobal Awards• Best Transport Project, 2015 P3 Bulletin• Northeast Region's Deal of the Year, 2015 The Bond Buyer• PPP Deal of the Year North America, 2014 Infrastructure Investor	Project website parapidbridges.com

Additional downloads

[PA Rapid Bridge Replacement Project Featured in Area Development Magazine](#)

Through a competitive process, Plenary was awarded the Design, build, finance and maintain (DBFM) contract with price and schedule risk as well as bridge maintenance and lifecycle requirements extending 25 years following construction completion. While the design and construction phases of the project are wrapping up with only 10 bridges remaining to build, Plenary will be conducting ongoing bridge maintenance activities throughout the term of the agreement.

The bundling of bridges was beneficial to local users and also to Pennsylvania taxpayers. PennDOT estimates it would have taken 8-12 years to replace these bridges through its traditional procurement process.



Design and construction features

Plenary Walsh Keystone Partners managed the accelerated replacement of 558 bridges.

Bridge designs and components were standardized as much as possible to facilitate efficient design approvals, permitting, materials procurement, and construction.

The Walsh Granite JV was responsible for procuring key materials and bridge components in order to benefit from economies of scale while allowing the bridge subcontractors to focus on efficient bridge construction.

Traffic control plans were developed for each bridge to provide adequate access and staging of materials and equipment, while minimizing the impact the communities and traveling public.

Innovations

This was the first multi-asset PPP to be undertaken in the US.

At a par value of \$721.5M, this was the largest issuance of Private Activity Bonds for a P3 transaction.

This was the first PPP project in the US to utilize a performance bond with an accelerated adjudication period, which S&P credited in their ratings rationale as providing greater certainty to investors.

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As part of its bid, PWKP developed Alternative Technical Concepts to achieve PennDOT’s goals and maximize value for the Project.

These alternate proposals provided a solution that would expedite bridge replacements, reduce construction costs, minimize impacts to traffic and reduce maintenance requirements.

Local economic impacts

The construction plan envisioned that the majority of bridge construction work would be performed by approximately 18 different Pennsylvania-based subcontractors. A local approach that saw the design and construction of the bridges completed within PennDOT’s challenging 36-month program. The majority of construction personnel were members of various local trade unions.

The large quantity of construction materials required for the project was primarily sourced from suppliers and fabricators located in and near Pennsylvania, providing a large and steady volume of orders over the 3-year construction period.