

## INFRASTRUCTURE CASE STUDY:

# *Goethals Bridge Replacement*



## SUMMARY

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PROJECT TYPE	YEAR
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Bridge replacement	2018
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### DEAL STRUCTURE

Design-build-finance-maintain agreement

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### TOTAL COST

\$1.4 billion plus annual payments of \$56.5 million over 40 years

### FINANCING

Private equity, TIFIA loan and private activity bonds

### FUNDING

User-paid toll and availability payments from the Port Authority

### PUBLIC BENEFIT

Replace obsolete/unsafe bridge at a critical access point between Staten Island and Elizabeth, NJ



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# Background

The current Goethals Bridge connects Staten Island, New York to Elizabeth, New Jersey, and is a critical access point for commuters and freight carriers alike as one of the three bridges connecting Staten Island to the mainland. However, the bridge is 85 years old and functionally obsolete. The lanes were built to a 10-foot standard (versus today's 12-foot standard) and there are only two lanes of traffic in each direction with no pedestrian or bicycle access.<sup>1</sup> The replacement bridge will have six 12-foot lanes, outer and inner shoulders, a pedestrian/bike path, and accommodations for future public transit.<sup>2</sup> The replacement bridge will also have new structural standards, seismic protections, and smart bridge technology.<sup>3</sup> The project delivery method is a design-build-finance-maintain (DBFM) structure. Construction began in May 2014, and projected completion is for late 2018.<sup>4</sup> The new bridge will be constructed alongside the old one, and the project will conclude with the demolition of the old Goethals Bridge.

## Project Description

The public partner for this project is the Port Authority of New York and New Jersey (PANYNJ). In mid-2010, they began the process by issuing a Request for Information, a preliminary to a Request for Proposals.<sup>5</sup> The private consortium that won the bid was the NYNJ Link Partnership, formed by Macquarie Infrastructure and Real Assets (MIRA) with a 90 percent interest and Kiewit Development Company (KDC) with a 10 percent interest. They were chosen because they offered the lowest cost to PANYNJ.<sup>6</sup> A public-private partnership was pursued because the Port Authority had neither the funds nor the public debt capacity to finance the high cost of the project, \$1.4 billion.<sup>7</sup>

The private partner will design and build the project, finance a significant portion of it, and provide maintenance for 35 years. Importantly, PANYNJ will control and collect all toll revenue. PANYNJ will own the bridge, set tolls, and manage day-to-day operations. The main role of the private partner is as a financier; they can be thought of as a creative way for the Port Authority to expand its public debt capacity. The NYNJ Link Partnership will be covering just over \$1 billion of the cost. It will put \$106.8 million in equity into the project, while taking out two loans: a \$473.7 million TIFIA direct loan,<sup>8</sup> and \$453.3 million in private activity bonds.<sup>9</sup>

PANYNJ will be paying a projected \$425.2 million. The Port Authority will also be repaying the NYNJ Link Partnership through availability payments derived from toll revenue over a 40-year period. These payments will be \$56.5 million per year, and will remain fairly constant.<sup>10</sup> This should be affordable for PANYNJ, as they already collect \$131.8 million/year (minus \$24.7 million/year in operating costs) on the old, 4-lane bridge.<sup>11</sup>

An availability payment can be defined as “a payment for performance made irrespective of demand.”<sup>12</sup> Availability payments may be appropriate when a project does not generate direct revenue, performance/operational outcomes are easy to define and measure, the government wishes to retain control over rate-setting, revenue and demand are not predictable, or when service quality is the priority over revenue maximization.<sup>13</sup> The public partner will make payments to the private partner over a long period of time on the condition that the terms of the contract are met.<sup>14</sup> This would normally entail meeting defined levels of quality and service. Because payments are tied to asset performance, operational risk is shifted to the private partner. In the case of the Goethals Bridge project, usage risk, which is often shifted to the private partner in a P3, remains with the Port Authority, which retains authority to collect tolls from the new bridge.

## Benefits and Criticisms

The Goethals Bridge Replacement project is a critical infrastructure investment to replace a nearly century-old bridge. The new project is also designed to be environmentally friendly, with bike/pedestrian lanes and the capacity for public transit in the future. The project manager for the new Goethals Bridge noted that they are taking care to have a minimal environmental impact.<sup>15</sup> The bridge project is projected to create 2,250 direct jobs and generate \$872 million in total economic activity for the region.<sup>16</sup> The fact that the Port Authority will retain control of tolling signals stability

for the project's future. Furthermore, since the new bridge is being built alongside the old one, there will be minimal delays and closures during construction.<sup>17</sup>

One criticism that could be leveled at this project is that the current availability payment rate will likely provide the private partner with an extremely high profit. That being said, it is unlikely that PANYNJ would ever have been able to finance the project without the financial partnership.

## Takeaways

This project demonstrates how a DBFM model can be utilized to help government agencies meet public needs, without giving up control of infrastructure assets. With the help of a private partner, a port authority that had exhausted its public borrowing authority was able to secure an additional \$1 billion in financing, and now an aging bridge is being replaced. The DBFM model provides an alternative to public authorities that are skeptical about ceding control of tolling and operations to a private partner.

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## Endnotes

1. Port Authority of New York and New Jersey, "About the Goethals Bridge Replacement Project." <http://www.panynj.gov/bridges-tunnels/goethals-bridge-replacement-about.html>.
2. U.S. Department of Transportation, Federal Highway Administration, "Project Profiles – Goethals Bridge Replacement," 2014. [http://www.fhwa.dot.gov/ipd/project\\_profiles/ny\\_goethals.aspx](http://www.fhwa.dot.gov/ipd/project_profiles/ny_goethals.aspx).
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4. Ibid.
5. Peter Samuel, "Goethals Bridge out for 30 to 40-year availability contract," Toll Roads News, 2010. <http://tollroadsnews.com/news/goethals-bridge-out-for-30-to-40yr-availability-contract-by-panynj>.
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7. Martin Z. Braun and Freeman Klopott, "Kiewit, Macquarie Picked to Lead Goethals Bridge Project," Bloomberg Business, April 23, 2013. <http://www.bloomberg.com/news/articles/2013-04-24/kiewit-said-to-be-selected-to-lead-new-goethals-bridge-project>.
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9. U.S. Department of Transportation, Federal Highway Administration "Project Profiles – Goethals Bridge Replacement," 2014. [http://www.fhwa.dot.gov/ipd/project\\_profiles/ny\\_goethals.aspx](http://www.fhwa.dot.gov/ipd/project_profiles/ny_goethals.aspx).
10. Ibid.
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12. Dr. Silviu Dochia and Michael Parker, "Introduction to Public-Private Partnerships With Availability Payments," Jeffrey A. Parker & Associates, Inc., 2009. [http://www.pwfinance.net/document/research\\_reports/9%20intro%20availability.pdf](http://www.pwfinance.net/document/research_reports/9%20intro%20availability.pdf).
13. Ibid.
14. Joseh Seliga, Berend Paasman, Boudewijn Jansen, Mayer Brown LLP and HSH Nordbank and Rebel Group, <https://www.mayerbrown.com/files/Publication/f83f06cf-20b5-4152-974b-3d561728c0b9/Presentation/PublicationAttachment/735ab7d8-3c8f-4b0f-92e4-d298819cf896/11266.pdf>.
15. Vincent Barone, "Behind the scenes: A new Goethals Bridge comes into sight," Staten Island Live, August 7, 2015. [http://www.silive.com/news/index.ssf/2015/08/a\\_new\\_goethals\\_bridge\\_comes\\_in.html](http://www.silive.com/news/index.ssf/2015/08/a_new_goethals_bridge_comes_in.html).
16. Port Authority of New York and New Jersey, "About the Goethals Bridge Replacement Project." <http://www.panynj.gov/bridges-tunnels/goethals-bridge-replacement-about.html#faqsGBRQu07>.
17. Suburban News, "Update on Goethals Bridge Replacement Project," NJ.com, April 24, 2015. [http://www.nj.com/suburbannews/index.ssf/2015/04/update\\_on\\_goethals\\_bridge\\_repl.html](http://www.nj.com/suburbannews/index.ssf/2015/04/update_on_goethals_bridge_repl.html).



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