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³² Photo in the public domain published by Nyttend https://commons.wikimedia.org/wiki/File:Arroyo_Bridge_replacement.jpg

³³ PABs are tax-exempt debt instruments allocated by the U.S. Department of Transportation (DoT) to qualifying authorities, for projects that leverage private investment. The aggregate amount of tax-exempt bonds that can be allocated by the DoT is capped at USD 15 billion. The aim of the PAB facility is to attract greater private sector investment in transportation infrastructure by reducing the cost of capital for eligible projects by providing tax-exempt debt instruments.

Following the unilateral termination, DP World commenced arbitration against Djibouti before the London Court of International Arbitration. DP World accused Djibouti of breaching the agreement by revoking DP World's exclusive rights and developing a partnership with CMHI on other port projects. DP World also denied the allegations of corruption, noting that the agreement was approved by the Djibouti parliament. The arbitral tribunal found in favor of DP World, finding that the contract with the government of Djibouti is still valid and binding. The Tribunal awarded DCT USD 385 million plus interest for Djibouti's breach of DCT's exclusive rights and another USD 148 million for historic non-payment of royalties, plus costs and fees incurred in arbitration. DP World is also pursuing litigation against CMHI before courts in Hong Kong SAR, China. A wholly publicly owned

Djiboutian company called SGTD now runs the Doraleh Container Terminal.³¹

This project highlights why prospective private partners may express concerns over the possibility of expropriation when entering into PPPs, especially in emerging PPP markets where there is little or no past practice. The private partner to a PPP is likely to insist on robust, contractual protections in the event of such adverse government actions with equally reliable dispute-resolution mechanisms, including international arbitration, as well as assurances that any ensuing court or arbitral award is enforceable against the public partner. While the public partner to a PPP may have legitimate reasons to terminate the partnership early, the private partner needs to be sure its financial interests are protected in the event of such a decision.

Roads, Tunnels, and Bridges

15. Bundled Bridge Replacement, Pennsylvania, United States



Photo Credit³²

Background

The State of Pennsylvania needed to replace a series of small bridges spread throughout the state. The Pennsylvania Department of Transportation (PennDOT) selected bridges based on the need for replacement and a set of deliverability considerations, including minimizing disruption to the public; minimizing changes to existing alignment; maintaining existing profiles; limiting impact to utilities, waterways, and other users; and minimizing environmental impacts. Through this process, more than 2,000 bridges were screened, and 558 were selected. PennDOT then aggregated the repair and maintenance of these bridges into a single PPP project under its old bridges' rehabilitation program. While the average investment cost for each individual bridge was estimated to be as low as USD 2 million, the aggregate project was large enough to attract

serious investors and significant competition, which may not have been the case with multiple, smaller projects.

Project Structure

The winning bidder of PennDOT's public tender for the aggregated bridges project was Plenary Walsh Keystone Partners (PWKP), a consortium that includes companies specializing in large infrastructure projects and local construction companies. The resulting PPP agreement has a duration of 28 years, with 42 months of construction, 25 years of contracted maintenance, and an estimated value of USD 1.1 billion. Other key stakeholders in the project include the local governments where the bridges are located.

The project is financed through a combination of tax-exempt Private Activity Bonds (PABs)³³

issued by PennDOT worth USD 793 million, plus private equity contributions totaling USD 58 million. The financing is to be repaid through milestone payments linked to the achievement of prescribed levels of work, totaling around USD 224 million, and periodic availability payments that include both a fixed element (90 percent) and a CPI-indexed element (10 percent) of around USD 35 million. The performance-based availability payments were set to begin once construction of the bridges had been substantially completed, to incentivize early completion of construction. A portion of the milestone and availability payments due will be used by PennDOT to pay the PAB purchasers. Accordingly, payment of the PABs is linked to the achievement of required asset performance levels.

Lessons Learned

By bundling, the project achieved economies of scale for due diligence, project preparation, and the tendering process, and thereby saved time

and money. Specifically, it is estimated that the efficiency inherent in bundling numerous projects together will save taxpayers approximately 30 percent of what it would otherwise have cost to replace the bridges. In addition, this project will address a sizeable portion of the structurally deficient bridges in the state. Logistically, this would have taken an estimated ten to fifteen years for PennDOT to complete on its own. Instead, the private partners assume the construction risk and can better mobilize a large-scale construction effort than the resource constrained PennDOT.

Although the project is considered a success in terms of clearing PennDOT's backlog of bridge repairs, progress has proven somewhat slower than expected, with the completion date moved from 2017 to 2019. Challenges such as higher than anticipated costs, difficulties obtaining right-of-way access, and issues related to utility coordination have been cited as causes of the delay.³⁴

³⁴ GIH. 2017. "Pennsylvania Rapid Bridge Replacement Project." GitHub. Accessed January 25, 2019. https://github-webtools.s3.amazonaws.com/local-umbraco/media/1455/gih_showcaseprojects_penn-bridges_art_web.pdf;

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³⁵ Glabb (https://commons.wikimedia.org/wiki/File:Hangzhou_Bay_Bridge_South.JPG), „Hangzhou Bay Bridge South“, <https://creativecommons.org/licenses/by-sa/3.0/legalcode>

16. Challenging Case: Hangzhou Bay Bridge, China



Photo Credit³⁵

Background

To showcase China's rapid development and further stimulate growth, Ningbo and Jiaying municipal governments decided to pursue the construction of a trans-sea bridge connecting the two municipalities in 1993. The trans-sea bridge was expected to help boost economic development in the Yangtze River Delta, known as the Golden Industrial Triangle.

Project Structure

In 2001, after nearly a decade spent completing feasibility studies and designing the bridge, the Ningbo and Jiaying municipal governments and 17

private enterprises jointly set up a project company called Ningbo Hangzhou Bay Bridge Development Co. Ltd. The project company was tasked to build the bridge under a Build-Operate-Transfer (BOT) scheme with a concession term of 30 years. The project company would be responsible for delivering and managing the bridge over the life of the project, including preparation, financing, construction, operation, maintenance, and transfer; as well as overseeing and coordinating related projects and ancillary facilities. The project company invested RMB 11.8 billion (USD 1.42 billion) in the project, of which RMB 149 million (USD 18 million) was provided by the 17 private enterprises.