INFRASTRUCTURE CASE STUDY:

Port Miami Tunnel

SUMMARY

PROJECT TYPE	YEAR
Tunnel	2014

DEAL STRUCTURE

Design-build-finance-operate-maintain agreement

TOTAL COST

$1.4 billion in payments to concessionaire over life of project

FINANCING

Senior bank debt, TIFIA loan, and private equity

FUNDING

Availability and milestone payments from the Florida Department of Transportation (supported by a mix of state and local funds) and development funds

PUBLIC BENEFIT

Route traffic out of downtown streets and improve air quality in downtown

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Background

The Port Miami Tunnel project was built through a public-private partnership (P3) that includes the design, building, financing, operation, and maintenance (DBFOM) of the project.[1] The Florida Department of Transportation (FDOT) is the owner and worked with Miami Access Tunnel (MAT) Concessionaire, the private consortium partner led by Meridiam Infrastructure. FDOT named MAT the best value proposer in 2007, and the partners closed the deal in October 2009. Construction began in May 2010. Tunnel mining began in November 2011. The project was opened to the public in August 2014.[2]

Project Description

The idea for the tunnel first surfaced in 1982 when a task force determined that such a structure should be built between the Port of Miami and I-395 via the McArthur Causeway in order to reroute port-bound traffic off of downtown streets. By 1984, a plan for the tunnel had been developed. This plan was shelved for a number of reasons, but largely due to the building of a cheaper, six-lane bridge between downtown and the port in the early 1990s. There was also a declining number of trips to the port that made the tunnel less important.[3] However, truck traffic remained routed through the central business district, and the plan for a tunnel remained a leading solution. The Federal Highway Administration (FHWA) eventually gave approval for the tunnel in December 2000. Further evaluation studies were then carried out and a P3 model was considered for project construction in 2005.

The project between FDOT and MAT is structured as a 35-year concession agreement, which included 55 months for design and construction being carried out by Bouygues Civil Works Florida. During construction, milestone payments were made by FDOT to support construction progress. After completion, the department began making availability payments to the concessionaire.[4] These payments will be contingent upon actual lane availability and service quality. The tunnel will be returned to FDOT in first-class condition at the end of the contract in October 2044.

The state agreed to pay for half of the capital costs (design and construction) and all of the operations and maintenance, while the remaining half is provided by Miami-Dade County and the City of Miami. The estimated total cost over the life of the project is $1.4 billion. Availability payments became the primary mechanism for payment to the consortium. These payments were to be paid to the concessionaire over the lifetime of the contract on an annual basis in amounts of $32.5 million and are contingent on the service quality and availability of the road and its accessibility. This also acts as an additional incentive for the concessionaire to abide by the quality requirements of the project throughout its contract term. As the project is funded by the FDOT and county and local governments throughout the lifespan of the project in milestone payments, no toll is collected for use of the tunnel.

The up-front capital sources were: $341 million in senior bank debt; $341 million in TIFIA loan; $80.3 million in equity contribution from the private consortium; $100 million in FDOT milestone payments during construction; and $209.8 million in FDOT development funds.[5]

Due to technical complication related to the ventilation fans in the tunnel, the project's completion was delayed by a few months at the end of the construction period. The contractor, Paris-based Bouygues, was required to pay a fine of $115,000 to MAT Concessionaire for every day the tunnel remained closed.[6] At the end of the 11-week delay, nearly $9 million in penalties were paid out. The FDOT also correspondingly delayed paying out the $32.5 million annual payments to MAT due to the delay in completion.[7]

Benefits and Criticisms

The benefits of this project are that it accommodates heavy cargo truck traffic coming in and out of the port, reducing congestion and air pollution on the streets of downtown Miami, and it connects in a more streamlined fashion the airport and cruise ship terminal. The project's partners were quite astute at involving the public and transparently communicating the project's value from its renewed inception in 2009. Partners ran a campaign directed at hiring local workers from the area code ("Operation 305")[8] around the Port facility, engaged the local Girl Scouts in a naming competition

for the tunnel boring machine, and set up kiosks across the city to help educate and engage residents in the project's timeline and benefits to the region. Of the project's nearly 7,000 employees, 83 percent were local Miami residents.

One criticism of the project was that it would be a tunnel to nowhere, only accommodating traffic to cruise ships, which would be heavy just a few days a week.

Further, the project was criticized during construction for failing to comply with environmental standards and protections of landscapes in South Florida. Contractors were criticized for dumping tunnel fills onto sensitive wetlands, missing the spot they were designated through permits to dump by a few 100 yards and damaging mangrove trees in the process. Critics waged that this was an example of why more, not less, government regulatory oversight is necessary for projects.

Takeaways

This project took decades to complete, but once the P3 process was initiated, it was delivered very efficiently, demonstrating how risk can be shared and minimized for the public. The only risk FDOT solely assumed, in fact, was in the political process of obtaining the appropriate intergovernmental agreements, obtaining the areas within the preliminary right-of-way plan, and procuring the legislative and regulatory authority for the award of the concession agreement. All financial risks were on the private partner; other risks such as relocating utilities, unforeseen construction issues, inflation, and excessive traffic were shared.

The Port Miami Tunnel was a very technically difficult project, but by using a strong, competitive bidding process, FDOT reduced their annual payments to $32.5 million, down from the pre-bid estimate of $38 million. This is also a good example of how availability payments can be used in place of tolling when user fees are not an attractive option.

Endnotes

1. Florida Department of Transportation, Port Miami Tunnel Project Overview, 2011. http://www.portofmiamitunnel.com/project-overview/project-overview-1/.
2. Ibid.
3. Erik Maza, "Port of Miami Tunnel Project Could Be South Florida's Big Dig," Miami New Times, June 2, 2010. http://www.miaminewtimes.com/news/port-of-miami-tunnel-project-could-be-south-floridas-big-dig-6552797.
4. Florida Department of Transportation, Port Miami Tunnel Financial FAQs, 2011. http://www.portofmiamitunnel.com/faqs/financial/.
5. Federal Highway Administration, "Project Profiles: Port of Miami Tunnel." http://www.fhwa.dot.gov/ipd/project_profiles/fl_port_miami_tunnel.aspx.
6. Glenn Garvin, "PortMiami Tunnel to remain closed another month or more," Miami Herald, June 18, 2014. http://www.miamiherald.com/news/local/community/miami-dade/article1967054.html#storylink=cpy.
7. Glenn Garvin, "Miami's port tunnel to open in August," Miami Herald, July 24, 2014. http://www.miamiherald.com/news/local/community/miami-dade/article1976873.html.
8. Lilly and Associates, "Port of Miami Tunnel: A New Standard in Transportation Infrastructure," 2015. http://www.shiplilly.com/white-papers/PortMiami-Tunnel-The-New-Standard-in-Transportation-Infrastructure.pdf.
9. U.S. Department of Transportation, "Case Studies of Transportation Public-Private Partnerships in the United States," 2007, Download.
10. Ibid.
11. Ibid.

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1225 Eye Street NW, Suite 1000 | Washington, D.C. 20005

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