

# Burnt by bridges?

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Bridges are among the most decrepit pieces of the United States aging transportation infrastructure network. In 2011, the US Department of Transportation (DOT) deemed a quarter of the countrys spans either structurally deficient or functionally obsolete. States and municipalities, which are responsible for most bridges in the country, are turning to alternative financing methods, including design-build contracts, and availability concessions, for an unprecedented number of bridge rehabilitation, replacement and construction projects.

Planned availability deals include the Indiana Finance Authoritys \$1.45 billion Ohio River Bridges East End crossings, connecting Indiana and Kentucky, the Knik Arm Bridge and Toll Authoritys (KABATA) \$1.08 billion Knik Arm toll bridge in Alaska and the Port Authority of New York and New Jerseys (PANYNJ) \$1.6 billion Goethals Bridge replacement, which connects New Jersey and Staten Island. Transport Canada and the state of Michigans long- planned \$1.8 billion Detroit River International Crossing is also expected to use an availability structure, though Michigans legislature continues to hold up that project.

Design-build deals include the Kentucky Transportation Cabinets \$1.45 billion Ohio River Bridges downtown crossing between Indiana and Kentucky, the New York State Thruway Authority and New York State DOTs \$6 billion Tappan Zee bridge replacement, and the Port of Long Beachs \$750 million Gerald Desmond Bridge replacement in California. In addition, the Oregon DOT and Washington State DOT are planning a design-build contract for the Columbia River Crossing replacement between the two states, which could have a cost of up to \$3.5 billion. Other projects that might come to market as either concessions or design-build projects include the Ohio DOTs \$2.45 billion Brent Spence bridge replacement, which connects the state with Kentucky and Virginia DOTs \$4.5 billion Hampton Roads Bridge Tunnel project.

Bridges are much more complex pieces of civil engineering than stretches of road projects, making them prone to construction delays and cost overruns. Concession and design-build contractual structures provide granting authorities with increased cost certainty and less likelihood of construction delays. Its about risk transfer, said Chris Voyce, a senior managing director at Macquarie Capital Advisers in New York. Bridges tend to require much less in the way of land acquisition than roads, making them slightly less vulnerable to delays from that quarter.

## Design-build or concession?

Design-build contracts are commonplace in the US. Fred Kessler, a partner in Nossamans infrastructure practice, says that up to 50% of transportation construction projects on a value basis are built using design-build contracts, whereas long-term concessions are just beginning to gain a foothold in the market.

With familiarity comes speed. Public authorities can tender and award fixed-price, date-certain design-build contracts in shorter periods than they take to award concessions because of their comfort with the structure. The Long Beach port authority abandoned plans for a long-term concession based on tolling the bridge in favour of a design-build contract for the Gerald Desmond project. It said that the delays associated with the additional traffic studies and environmental documentation that the addition of a toll plaza would require were too lengthy and potentially costly.

New York governor Andrew Cuomo made a similar decision for the Tappan Zee bridge replacement. The state and authority have studied a replacement for more than a decade, and selected a design-build procurement method in order to get the bridge built as quickly as possible, after the US DOT agreed to speed up federal environmental approvals for the project. The state shortlisted Hudson River Bridge Constructors (Dragados/Flatiron Constructors/Samsung C&T/E&C Americas/Yonkers Contracting), Kiewit-Skanska-Weeks Joint Venture (Kiewit Infrastructure/Skanska/ Weeks Marine), Tappan Zee Bridge Partners (Bechtel Infrastructure/Tutor Perini) and Tappan Zee Constructors (Fluor/American Bridge/Granite Construction/Taylor Bros) for the contract in February, and set a deadline for proposals of 27 July.

A Tappan Zee concession may still be possible. Governor Cuomo included language in the New York State 2012-13 budget that allows its transportation agencies including the Thruway Authority and DOT to enter into long-term public-private partnerships with private financing. It is possible, though unlikely, that a the state and authority could award a design-build contract for the bridge in the third quarter in order to start construction quickly, and then tender and award a separate finance-operate-maintain contract.

Local regulations affect grantors choice of procurement methods in other states as well. Kentucky state law limits it to just design- build and design-bid-build contracts. This is understood to be one of the reasons why Kentucky and Indiana split the Ohio River Bridges project into two, and Kentucky opted for design-build over a long-term concession for its half of the project.

Increased US interest in concessions crops up the debate over infrastructure rehabilitation that rages in jurisdictions ranging from New York to the midwestern states and California. Bridges are easy to carve out for operational purposes from the rest of a regions road system, the public is usually more accepting of tolls on bridges and the private sector is usually well-placed to provide fixed construction prices and deadlines, as well as guarantee minimum levels of operations and maintenance performance over the concession term.

## Availability value

Availability-based concessions for bridges have similar advantages over real toll concessions as their equivalents for land- bound road assets. Availability deals give the public sector absolute control over toll rates and collection, which are always fraught political issues. Sponsors view availability deals as lower-risk, as do lenders, and both tend to reduce their return requirements accordingly, meaning that government finds it easier to demonstrate value for money.

The Indiana Finance Authority chose an availability deal for the East End Crossing because it allowed for the best risk allocation between the public and private sectors, greater cost savings over the life of the bridge, as well as a faster construction schedule, according to Kendra York, public finance director at the authority. Financing for the project could include about half of a \$1 billion TIFIA loan from the US DOT (the other half of which would go towards Kentuckys portion of the project), a private activity bond issue and private equity.

Indiana will make \$432 million in either milestone payments or a substantial completion payment to the concessionaire during the construction. The Indiana DOT, which will oversee the design- build-operate-maintain portion of the project, will provide the funds to the grantor over the first eight years of the concession. The Louisville and Southern Indiana Bridges Authority will collect tolls on the bridge, and use the proceeds to make availability payments, but INDOT will cover any shortfall.

The 12.6km project involves building a new East End bridge between Indiana and Kentucky, a new road connecting the Lee Hamilton Expressway and the Gene Snyder Freeway and a new tunnel in eastern Jefferson county, Indiana. Responses to the authority's request for qualifications for the 30- to 40-year design- build-finance-operate-maintain concession were due on 9 April.

As long as the entity making availability payments has a strong credit profile, concession companies can raise debt with lower margins than they would with a toll project. The margins will usually be low enough to be readily comparable with the cost at which states and municipalities can borrow in the municipal bond market. The concession will also have to provide project sponsors with a return on equity, but the project will have a low enough risk profile to keep this return to a minimum. An availability structure allows sponsors to finance the majority of capital expenditures with debt at a small premium to the procuring authority, which means you get a lower cost of capital, said Macquaries Voyce.

The advantage of toll over availability structures is particularly acute for greenfield projects with unproven revenue potential. The 16km greenfield Knik Arm bridge project, which includes a 2.4km tunnel, a 2.5km bridge and about 11km of approach roads, was launched as a real toll concession in 2007 but only received two statements of qualification, from Bouygues/URS and Macquarie/Kiewit. However, when KABATA relaunched the project as an availability deal in 2011 it received six SOQs, from consortiums featuring Bechtel/CSEC/China State Construction International, Cintra, Hochtief/ACS Infrastructure, InfraRed Capital Partners/Bouygues, Meridiam/Kiewit and Plenary/John Laing.

Revenue risk explained the lack of enthusiasm for a real toll Knik Arm concession. The bridge will connect the municipality of Anchorage to Matanuska-Susitna (Mat-Su) borough, across the Knik Arm, in order to open up Mat-Su to new development. KABATA and its supporters claim that limits on the amount of land available for development in the municipality, and a projected 17% increase in the population of the metropolitan area by 2020, make the bridge necessary. However, even with these projections, development in Mat-Su is not expected to generate enough traffic on the bridge to cover costs until five or ten years after it opens, according to the authority's own traffic studies.

The authority will fund its availability payments for the Knik Arm bridge from a project reserve account funded with toll revenues and an expected \$150 million appropriation from the state of Alaska. Financing for the project could include a \$306 million 2011 financial year TIFIA loan and a PAB issue of up to \$600 million. The authority shortlisted consortiums that featured Hochtief/ACS Infrastructure, Infrared Capital Partners/Bouygues, Meridiam/Kiewit in October 2011 and plans to release the request for proposals in the second quarter of 2012.

### Debt for complexity

Sponsors prefer to use a combination of TIFIA loans and PAB issues to finance bridge concessions because of their low interest rates and tax-exempt status. But bank loans with a wide lender group and mini-perm structure are still competitive for projects, and there are limits to the availability of TIFIA and PAB debt. US DOT is authorised to provide up to \$1.1 billion in TIFIA loans annually and a total of \$15 billion in PAB allocations. Grantors asked for \$4.43 billion in TIFIA letters of interest for bridge projects, including the Ohio River Bridges and Knik Arm bridge projects, for fiscal year 2012, while US DOT has awarded \$8.09 billion in PABs allocations.

The last US transport PPP to close with a combination of TIFIA and PAB debt was the \$2.7 billion I-635 managed lanes concession in Texas, whose sponsors are Cintra, Meridiam and the Dallas Police and Fire Pension System. The financing included a \$615 million senior PAB issue with a 2040 maturity, that has an interest rate of 7% and an \$850 million subordinated TIFIA loan with a tenor of 40 years and an all-in interest rate of 4.22%. Grantors and sponsors will have a better idea of where the market is for these debt sources when Macquarie and Skanska can close their \$2.1 billion Midtown tunnel project in Virginia and Hochtief and Meridiam can close their \$360 million Presidio Parkway phase two concession in California. Both of these deals will use a combination of TIFIA and PABs, if they close in the second quarter.

Payment schedules could also affect the financing options for bridge concessions. Milestone payments are better suited to bank loans, while substantial completion payments are a better fit for bond deals.

The financing for Abertis and Goldman Sachs Infrastructures \$1.136 billion Autopistas Metropolitanas de Puerto Rico toll road concession gives sponsors an idea of how the bank market will support a toll concession. It included a \$750 million club loan and a \$75 million capital expenditure facility that each has a seven- year tenor, a bullet maturity and priced at 250bp over Libor, with step-ups to 350bp over Libor by maturity. The debt, from a 12 bank club, closed in September 2011.

Anne Rabin, a senior vice president at Hochtief PPP Solutions North America, says that bridges pose greater engineering challenges than a road and cannot be opened in phases. Their complexity means that grantors have to carefully define their design, construction, operations and maintenance needs, and sponsors have to pick consortium members more carefully. The lumpy nature of bridge projects means they have greater upfront financing requirements.

American bridges are not getting any younger. An increasing number of authorities are likely to look at alternative procurement and financing options as an increasing number of structures need to be replaced. But sponsors want to know whether grantors will stick to the design-build deals with which they became comfortable in the 1990s, or turn to concessions, despite the positive noises they have recently made.

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