

Kingston Third Crossing

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Keith Brownlie is a Senior Architect with 30 years of experience in the planning, design and construction of high-profile infrastructure projects and has an international reputation for bridge architecture.



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1 Abstract

Kingston Ontario is a city on the north eastern shore of Lake Ontario at the south end of the 202km long Rideau Canal, the oldest continually operated canal system in North America and a UNESCO World Heritage Site. The Cataraqui river forms the lower portion of the canal and separates central Kingston from its eastern suburbs.

The Third Crossing is a new 1.2km long multi-span two-lane highway bridge across the Cataraqui river, planned to increase east-west journey capacity and reduce congestion on existing routes and crossings. The project is intended to facilitate a significant increase in bike journeys, minimize maintenance liabilities and maximize service life.

The project is believed to be the first bridge in North America to adopt an Integrated Project Delivery (IPD) model, involving an alliance of the city, design and construction partners. The city's Preliminary Design was radically revised through the IPD process to bridge a significant affordability gap. Strict funding deadlines required the re-design to be completed within the short period allocated for validation of the original design. The IPD model allowed that undertaking to progress efficiently and keep the project on track in challenging circumstances.

The revised design addresses complex environmental, stakeholder and heritage issues. A key requirement to acknowledge the World Heritage asset is addressed with a weathering steel arched bridge spanning 100m across the river's boating channel to form a dynamic gateway to the canal.



Keywords: Kingston; Rideau Canal; UNESCO; Integrated Project Delivery; IPD; bridge architecture; arch; weathering steel

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