



# I-64 Hampton Roads Bridge-Tunnel Expansion

## High-Level Project Screening Report

This report and recommendation is part of the high-level screening process used by VDOT Office of Public-Private Partnerships to assess the suitability of delivering a project under the Public-Private Transportation Act (PPTA) of 1995, as amended.

### PROJECT BACKGROUND

Date: May 9, 2017

Project Name: I-64 Hampton Roads Bridge-Tunnel Expansion

Sponsoring Agency: VDOT

Project Concept Source: Solicited

### VDOT P3 OFFICE RECOMMENDATION

Proceed with detail-level screening process?  Yes  No

#### Executive Summary recommendations from VDOT P3 Office:

The Hampton Roads District and the Office of Public Private Partnerships recommend the I-64 Hampton Roads Bridge-Tunnel Expansion Project (the "Project") proceed to a Detail-Level Screening. The Project meets high-level project screening criteria and should be evaluated as a candidate for PPTA delivery.

The Detail-Level Screening would be in accordance with the Implementation Manual and Guidelines for the Public-Private Transportation Act of 1995 (Nov. 2014) and recent changes under HB 2244 of the 2017 General Legislative session.

As noted in the body of this document, the proposed Project has the characteristics and suitability, when assessed against the project screening criteria, to be consistent with a candidate Project for delivery utilizing the PPTA. The Detail-Level Screening will consider elements of a business case including an intermediate traffic and revenue analysis that is currently under development by the Hampton Roads Transportation Accountability Commission ("HRTAC"), risk and financial feasibility analysis, preliminary cost and schedule review and life-cycle analysis. It will compare different delivery models under PPTA and the Virginia Public Procurement Act.

Agency Concurrence:  Yes  No

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Signature Date 6/5/17

Charlie A. Kilpatrick, P.E, Commissioner of Highways

Virginia Department of Transportation

## PRELIMINARY SCHEDULE

Past Activities	Date
Original FEIS and ROD issued for I-64 Hampton Roads Crossing Study	2001
Unsolicited PPTA proposal and competing proposals received	2010-11
PPTA procurement process terminated	2014
Initiation of SEIS as re-evaluation of 2001 FEIS and ROD	June 2015
Draft SEIS released evaluating Hampton Roads harbor crossing options	August 5, 2016
CTB approval of HRBT Expansion as SEIS preferred alternative	December 7, 2016
Final SEIS issued by FHWA and VDOT	April 25, 2017

Targeted Milestones	Date Expected
Record of Decision issued by FHWA	Summer 2017
Determination of Project procurement method	Summer 2017
Request for Qualifications issued	Fall 2017
Shortlist announced	Spring 2018
Request for Proposals issued	Summer 2018
Contract award	Summer 2019
Project completion	2024

## TRANSPORTATION NEED STATEMENT

**Description:** The Virginia Department of Transportation (the "Department"), in coordination with the Hampton Roads Transportation Accountability Commission ("HRTAC"), is developing the I-64 Hampton Roads Bridge-Tunnel (HRBT) Expansion ("Project"), which involves one of the most heavily congested facilities in the Hampton Roads regional transportation network. The only alternatives for crossing the Hampton Roads waterway, the Monitor Merrimac Memorial Bridge-Tunnel (MMMBT) and the James River Bridge, require a significant detour and are also often congested at peak travel times.

The Project consists of the design and construction of improvements to the I-64 corridor between I-664 in Hampton and I-564 in Norfolk to provide a consistent six-lane capacity throughout the corridor. This work includes several complex elements including a new Hampton Roads crossing approximately 3.5 miles long and generally parallel to the existing HRBT. Depending on the selected delivery method, the Project scope may also include any combination of financing, operations, and/or maintenance.

The Project configuration corresponds to Alternative A of the Hampton Roads Crossing Study (“HRCS”) Supplemental Environmental Impact Statement (“SEIS”), as approved by the Commonwealth Transportation Board (“CTB”) on December 7, 2016. The Draft SEIS illustrates a new three-lane tunnel as meeting the Alternative A requirements but does not preclude four lanes per direction on the HRBT. The CTB resolution committed that Alternative A will not include any permanent acquisition of Hampton University property and prohibits construction activities within a specified limit of disturbance around the Emancipation Oak in Hampton.

Any proposed tolling scenario will include high-occupancy toll (“HOT”) lanes operated 24 hours/day and 7 days/week, with no charge for vehicles with 3 or more passengers (“HOT-3”). Existing lanes at the HRBT will not be tolled.

#### SCREENING CRITERIA-DESIRABILITY

Complexity of Effectively Leveraging Private Sector Innovation/Expertise?

Yes       No       TBD

As noted above, the scope of the Project has complex elements and can benefit from private sector innovation and expertise as it involves:

- Design and construction of a parallel tunnel (either as a bored or immersed tube alternative), bridges in a marine environment and highway improvements in a constrained urban environment;
- Complex maintenance of traffic and sequence of construction requirements in an urban, congested corridor and an active marine navigational corridor;
- Potential tolling integration and back-office services for a HOT facility with dynamic toll rates;
- Ongoing routine and major maintenance expenses for the tunnel and tolling equipment, and the opportunity to optimize the life-cycle cost;
- Coordination with federal agencies along the corridor such as the United States Navy and Coast Guard, US Army Corps of Engineers and National Marine Fisheries Service which will require specific permits for construction;
- Potential utilization of private sector financing, which may include private activity bonds, bank financing and equity contributions;
- Potential coordination with the Transportation Infrastructure Finance and Infrastructure Act (TIFIA) Office to request a federal loan or loan guarantees as applicable on the Project.

In all of these areas, the private sector has the ability to leverage its financial, technical and managerial resources to control the overall risks associated with the Project and bring greater value to the Commonwealth.

Consistent with Federal Requirements?

Yes       No       TBD

The Project is being developed along an existing Interstate and will require consistency with Federal requirements and involvement by the Federal Highway Administration ("FHWA") and Federal permitting agencies, such as the US Army Corps of Engineers. The following activities are currently under development with Federal agencies:

- The Department, in cooperation with the FHWA, is preparing the HRCS SEIS under the National Environmental Policy Act (NEPA). Due in part to the time that has lapsed since earlier studies, the SEIS reevaluates the findings of the Final Environmental Impact Statement ("FEIS") and Record of Decision ("ROD") that were approved by FHWA in 2001. The purpose of the HRCS is to consider alternatives that relieve congestion at the I-64 HRBT in a manner that improves accessibility, transit, emergency evacuation, and military and goods movement along the primary transportation corridors in the Hampton Roads region, including the I-64, I-664, I-564, and Route 164 corridors.

The Draft HRCS SEIS is available at

[http://hamptonroadscrossingstudy.org/learn\\_more/hrcs\\_draft\\_seis.asp](http://hamptonroadscrossingstudy.org/learn_more/hrcs_draft_seis.asp)

- In addition, it is possible the Project may receive Federal funds. Accordingly, the Department will also be coordinating with the Virginia Division of the FHWA to develop, review and approve other documents such as a potential Memorandum of Understanding for tolling the facility, a Project Management Plan and Financial Plan under the Major Project Guidance and other relevant documents required to develop the Project with Federal funding.

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Accelerated Project Development?

Yes       No       TBD

For large projects which have the potential to be a Public-Private Partnership (P3) project, the Department's policy is to evaluate multiple project-delivery options to identify the approach that generates best value for the Commonwealth. Some of the options considered for the Project are:

- Design-build ("DB") agreement;
- Design-build-finance-operate-maintain ("DBFOM") revenue-risk toll concession; and,
- Design-build-operate-maintain ("DBOM") concession<sup>1</sup>.

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<sup>1</sup> Based on preliminary analysis and feedback received from the industry as part of the Request for Information process, the DBOM option is highly unlikely to be advanced for further analysis.

Given the fact that the Commonwealth is able to fully fund/finance the Project, it is not clear whether a P3 delivery model may accelerate Project development compared to non P3 delivery models. Answering this question requires a more detailed analysis of the commercial structure of the options in the Detail-Level Screening.

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**Satisfies Public Transportation Need?**

Yes       No       TBD

The Project is part of the larger “East-West Corridor” identified in the VTrans 2040 as a Corridor of Statewide Significance. A facility designated as a Corridor of Statewide Significance demonstrates characteristics such as multiple modes of transportation available to its users; an extended freight corridor; connectivity among regions, states and/or major activity centers and a high volume of travel, to name a few.

In addition, the purpose of the Project is to relieve congestion in the Hampton Roads region in a manner that improves accessibility, transit, emergency evacuation, and military and goods movement along the East-West Corridor in the Hampton Roads region. The Project is expected to address the following public transportation needs:

- Accommodate travel demand – capacity is inadequate on the East-West Corridor, contributing to congestion at the HRBT;
- Improve transit access – the lack of transit access across the Hampton Roads waterway;
- Increase regional accessibility – limited number of water crossings, inadequate highway capacity, and severe congestion decrease accessibility;
- Address geometric deficiencies – insufficient vertical and horizontal clearance at the HRBT contribute to congestion;
- Enhance emergency evacuation capability – increase capacity for emergency evacuation, particularly at the HRBT;
- Improve strategic military connectivity – congestion impedes military movement missions; and
- Increase access to port facilities – inadequate access to interstate highway travel in the Study Area Corridors impacts regional commerce.

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**Addresses Priorities in State, Regional and/or Local Transportation Plan?**

Yes       No       TBD

As noted above, the Project is within a Corridor of Statewide Significance as identified in VTrans 2040, which is Virginia's statewide long-range multimodal policy plan that establishes visions, goals and investment opportunities.

In addition, the project is identified as one of the "Hampton Roads Regional Transportation Priority Projects" by the Hampton Roads Transportation Planning Organization ("HRTPO") and the HRTAC. The Project, along with several other projects, was included in Amendment 2 to the 2040 Long Range Transportation Plan and reflects the HRTPO Board action on January 19, 2017 in which the Board approved amendments to include the Preferred Alternative from the HRCS SEIS.

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**Project Efficiencies through PPTA Delivery?**

Yes       No       TBD

Under a PPTA delivery, it is anticipated that project efficiencies could be identified in several areas:

- Utilizing a single contracting instrument for the financing, design, construction, maintenance, and operation of the facility would allow the Department to have a single point of contact with the private sector and not have to administer multiple contracts with varying levels of risk allocation and liability. If the Project is not privately financed, a design-build contract could achieve similar efficiencies for the design and construction activities.
- In addition, the Department could include the rehabilitation and operations/maintenance of the existing tunnels under the proposed contracting instrument;
- Due to private sector's higher appetite for revenue risk, advancing as a privately financed project could yield higher revenue projections and thus provide additional financial resources such as private sector equity investment, reducing the need for public funding.

It is anticipated that some of these project efficiencies may also be achieved through non-PPTA delivery methods. The Detail-Level Screening will further assess the extent of these possibilities.

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**Ability to Transfer Risk? (Including high-level description of what project risks might exist)**

Yes       No       TBD

Based on the available information, it is not clear whether advancing the Project via a competitive P3 procurement under the PPTA, utilizing a toll concession structure, would transfer sufficient financial risks to be commercially feasible and generate value for the Commonwealth. However, there might be other commercial structures through which part of traffic and revenue risk may be transferred to third parties.

Regardless of delivery method, the Project will transfer significant design and construction risks to the private sector. These risks include the complexity of bored or immersed-tube tunneling, bridge construction in a marine environment, highway expansion in a congested urban corridor and constraints related to adjacent properties such as Naval Station Norfolk and Hampton University. As noted above, this is a transfer of risk that could be similar to each delivery method, though there may be additional risk transfer in the areas of Right of Way acquisition, change order and management of contractors under a commercial structure that includes private equity. Also, there might be opportunities to realize efficiencies if the private sector also has long-term operations and maintenance (O&M) obligations under a PPTA agreement.

In addition, under an agreement utilizing the PPTA, it is anticipated the Commonwealth will transfer long term risks associated with lifecycle maintenance, handback, and routine maintenance and operation of the new facility and possibly the existing Department assets (tunnels, bridges and roadway).

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**Funding Requirement?**

Yes       No       TBD

Because the existing lanes will remain toll-free regardless of the commercial structure, the Project will require some amount of public funding, which is currently allocated in HRTAC's financial plan. Under a tolled managed lane scenario, the Project will be able to generate revenue to partially offset this public subsidy. The Detail-Level Screening, Value for Money analysis and Finding of Public Interest will provide additional information on potential sources of public funding (HRTAC, state, federal, TIFIA, VTIB) and private financing (bank debt, private activity bonds and equity) and will provide greater insight as to the financial viability, capital costs and long-term life cycle costs/benefits of potentially delivering the Project under the PPTA.

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**Ability to Raise Capital?**

Yes       No       TBD

If delivered as a tolled project, the Project would be developed as a dynamically tolled managed lane facility, with HOT lanes operated 24 hours/day and 7 days/week, and no charge for vehicles with 3 or more passengers. This offers the ability to generate revenue and raise capital to partially offset HRTAC's subsidy. However, it appears that the amount of private financing that can be invested in the Project based on that toll revenue under a toll concession model may cover only a minor portion of overall cost of the Project. The existing general purpose lanes will remain as an adjacent free alternative to the managed lanes, which will impact revenue generation, except in the peak AM/PM hours and seasonal (for summer beach travelers) congested travel periods.

It must be noted that while there is the ability to raise capital at the HRBT facility through the use of dynamically tolled managed lanes, the ability to generate significant revenue to offset the projected capital, financing and O&M cost for development and operation of the Project will be reduced by the adjacent toll-free general purpose lanes and minimal periods of significant congestion.

Additional detailed financial analysis is needed to better understand the optimal amount of capital that can be raised under different commercial structures.

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## LIST OF REFERENCES

<http://www.vtrans.org/vtrans2040.asp>

[http://www.vtrans.org/significant\\_corridors.asp#what](http://www.vtrans.org/significant_corridors.asp#what)

<http://hamptonroadscrossingstudy.org/documents>

[http://www.virginiadot.org/VDOT/Business/asset\\_upload\\_file230\\_111461.pdf](http://www.virginiadot.org/VDOT/Business/asset_upload_file230_111461.pdf)

[http://www.virginiadot.org/VDOT/Business/asset\\_upload\\_file32\\_111461.pdf](http://www.virginiadot.org/VDOT/Business/asset_upload_file32_111461.pdf)

