



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Lloyd Bie, P.Eng.
Director, Transportation
Re: Update on George Massey Crossing Project

Date: June 7, 2021
File: 10-6350-06-03/2021-
Vol 01

Staff Recommendation

That the report titled "Update on George Massey Crossing Project" dated June 7, 2021 from the Director, Transportation be received for information.

Lloyd Bie, P.Eng.
Director, Transportation
(604-276-4131)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Communications	<input checked="" type="checkbox"/>	
Intergovernmental Relations & Protocol Unit	<input checked="" type="checkbox"/>	
Parks Services	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Sustainability & District Energy	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

At the May 18, 2021 meeting of the Public Works and Transportation Committee, the following resolution was carried:

That staff provide an update on the George Massey Tunnel replacement project at the June 22, 2021 Public Works and Transportation Committee meeting.

This report responds to the referral. A chronology of major milestones is provided in Attachment 1.

This report supports Council's Strategic Plan 2018-2022 Strategy #5 Sound Financial Management:

Accountable, transparent, and responsible financial management that supports the needs of the community into the future.

5.4 Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.

This report supports Council's Strategic Plan 2018-2022 Strategy #6 Strategic and Well-Planned Growth:

Leadership in effective and sustainable growth that supports Richmond's physical and social needs.

6.3 Build on transportation and active mobility networks.

Analysis

Long-Term Crossing Solution

The Province announced the replacement of the George Massey Tunnel in September 2012. In February 2017, the Ministry of Transportation and Infrastructure (the Ministry) was issued an Environmental Assessment Certificate to permit the construction and operation of a 10-lane bridge to replace the George Massey Tunnel, and to construct other highway and interchange improvements on Highway 99 in Richmond and Delta. During that time, the previous George Massey Tunnel Replacement Project and the scope of the proposed changes to the Steveston Interchange delayed the City's design and construction of the Gardens Agricultural Park.

In October 2017, the Ministry announced an independent technical review of the Tunnel corridor (the Review) and cancellation of the procurement process for construction of the 10-lane bridge. Following release of the Review in December 2018, the Ministry undertook consultation with regional municipalities and First Nations to identify new criteria and goals for a crossing that better aligns with regional plans. Two public information sessions were held in February 2020 as an update on the George Massey Crossing Project. Two options were presented: a new immersed eight-lane tunnel and a new eight-lane long-span bridge (Attachment 2).

The Ministry submitted business cases for the tunnel and bridge options to the Minister of Transportation and Infrastructure (the Minister) in December 2020 for a decision on the preferred technology for the long-term crossing solution. After five months, the business cases are still being reviewed by both the Minister and the Minister of State for Infrastructure. Despite repeated requests by staff, the the Ministry Project Team has not provided any update on the process or a scheduled date for the decision on the preferred technology.

The Province's Budget 2021 released in April 2021 identifies \$7.5 billion in transportation investments over the next three years that includes notional funding for "a final decision on the scope, budget, delivery and schedule for the George Massey Crossing and interim works projects." However, there is no comprehensive item in the current provincial budget. Media reports at the time indicated that the Province made a funding request to the federal government.

Since the release of the Review in December 2018, the Ministry has undertaken safety improvements to the existing tunnel and initiated scoping work on proposed interim improvements to address traffic congestion and safety issues along Highway 99, and improve transit and cycling connections. The status of these safety-related and interim projects is described below.

Safety and Reliability Improvements

In December 2018, the Ministry announced the following suite of safety improvements at the existing crossing to be undertaken from 2019 through 2020 at an estimated cost of \$40 million. Periodic partial and complete tunnel closures have been required during night-time hours to accommodate the work.

- Resurfacing and line painting on Highway 99 between Steveston Highway and the Highway 17 Interchange, which was completed in November 2019.
- The following safety improvements were initiated in mid-May 2020 and are now substantially complete with the contractor working on deficiency list items:
 - Improving tunnel drainage to reduce the risk to drivers from pooling water and ice on the road at tunnel entrances.
 - Converting tunnel and roadway lighting to the LED standard to increase visibility.
 - Upgrading the fire alarm, fire door, ventilation, and electrical systems to ensure reliability and ongoing safety within the tunnel.

Interim Improvements

The Ministry also announced in December 2018 the initiation of scoping work for four interim improvements as preliminary solutions to help alleviate congestion on Highway 99 while planning for a long-term solution for the George Massey Crossing continues. Over the past two and a half years, staff have participated in discussions with the Ministry Project Team regarding the interim improvements located in Richmond. An overview of each interim improvement is provided below.

While scoping work and preparation of the tender documents are progressing on the interim improvements, funding for construction of the four projects has not been approved by the provincial Treasury Board. The Ministry Project Team cannot share any information on the timing of Treasury Board's review of the projects as Treasury Board dates and agendas are Cabinet confidential. The Ministry Project Team have indicated that the next opportunity for funding

approval is by the end of spring 2021. Should funding be approved, the Ministry Project Team intends to provide an overview of the projects to Richmond and Delta Councils and proceed with the procurement process, mobilization and construction.

Richmond: Steveston Highway-Highway 99 Interchange Improvements

This project will twin the existing Steveston Highway overpass. The new structure is anticipated to be located north of the existing overpass and the resulting five lane cross-section will comprise two eastbound lanes and three westbound lanes including a dedicated westbound to southbound left-turn lane (Figure 1). Additional improvements include:

- Northbound Off-ramp: dual left-turn lanes from northbound to westbound.
- Southbound Off-ramp: dual right-turn lanes from southbound to westbound.
- Active Transportation: enhanced pedestrian access to bus stops on the twinned overpass and on southbound Highway 99, and a multi-use pathway on each side of the twinned overpass.

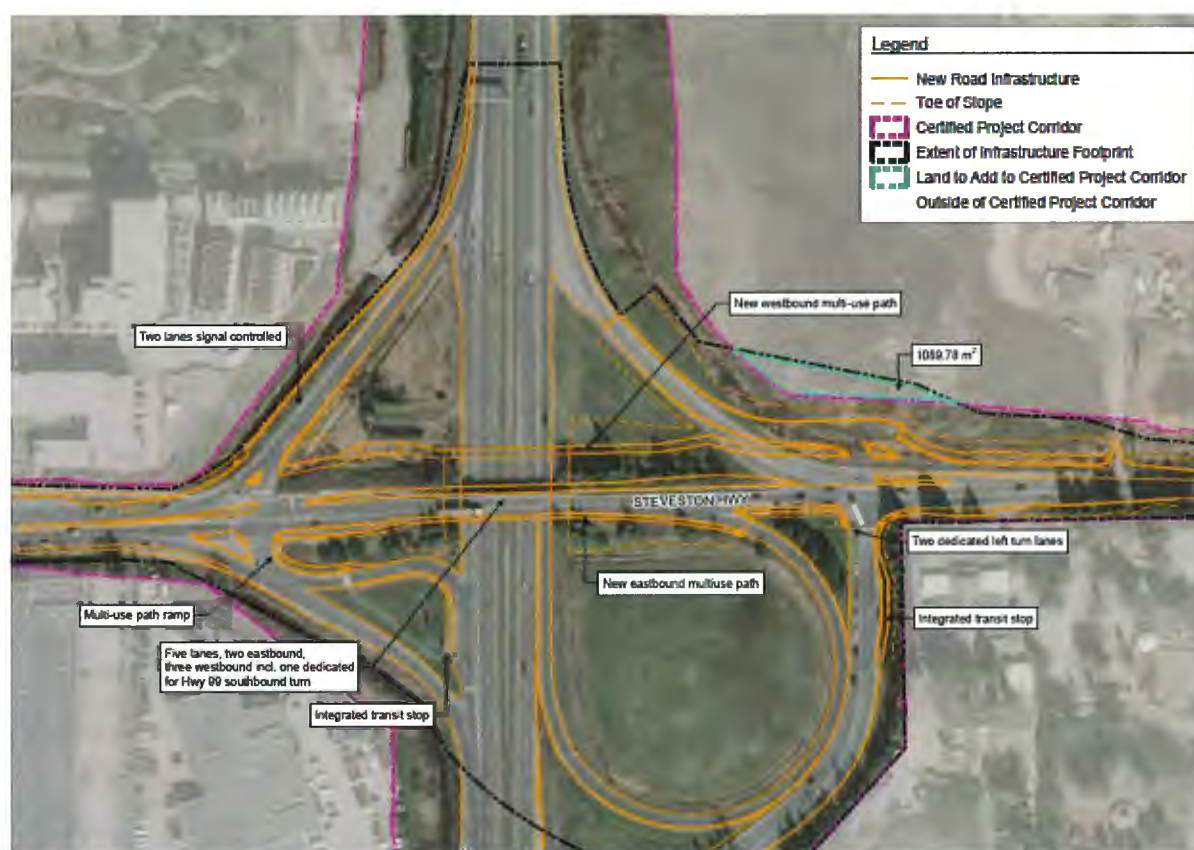


Figure 2: Steveston Highway-Highway 99 Interchange Improvements

It has been 2.5 years since the Ministry's December 2018 announcement that scoping work would begin immediately. While the work appears to be complete, funding for design and construction of the project has not been approved as of the time this report was written. The Ministry Project Team has indicated that the next opportunity for securing funding for the Steveston Interchange will be before the end of spring (June 20, 2021) and the project could be completed by summer 2025 if funding is approved at that time. If funding is not approved this spring it is likely the project will be

further delayed. As such, staff recommend that Council urge the Province to fund and implement this important project as quickly as possible if funding is not approved on or before June 20, 2021.

Richmond: Bridgeport Road Southbound Bus-Only On-Ramp to Highway 99

This project will improve bus speed and reliability by providing a new transit-only southbound connection from eastbound Bridgeport Road to the Sea Island Way on-ramp to southbound Highway 99 (Figure 2). Regional bus routes operating from Bridgeport Canada Line Station to south of the Fraser River will be redirected from Sea Island Way to Bridgeport Road thereby shortening the trip length and time spent in mixed traffic.

The project includes realignment and widening of the existing on-ramp, a new transit priority signal where the bus lane crosses Sea Island Way and active transportation improvements comprising new multi-use pathways. The improvements are wholly within Ministry right-of-way. Should provincial funding approval be granted in spring 2021, the Ministry Project Team estimates that the Bridgeport Road project will be completed in summer 2022.

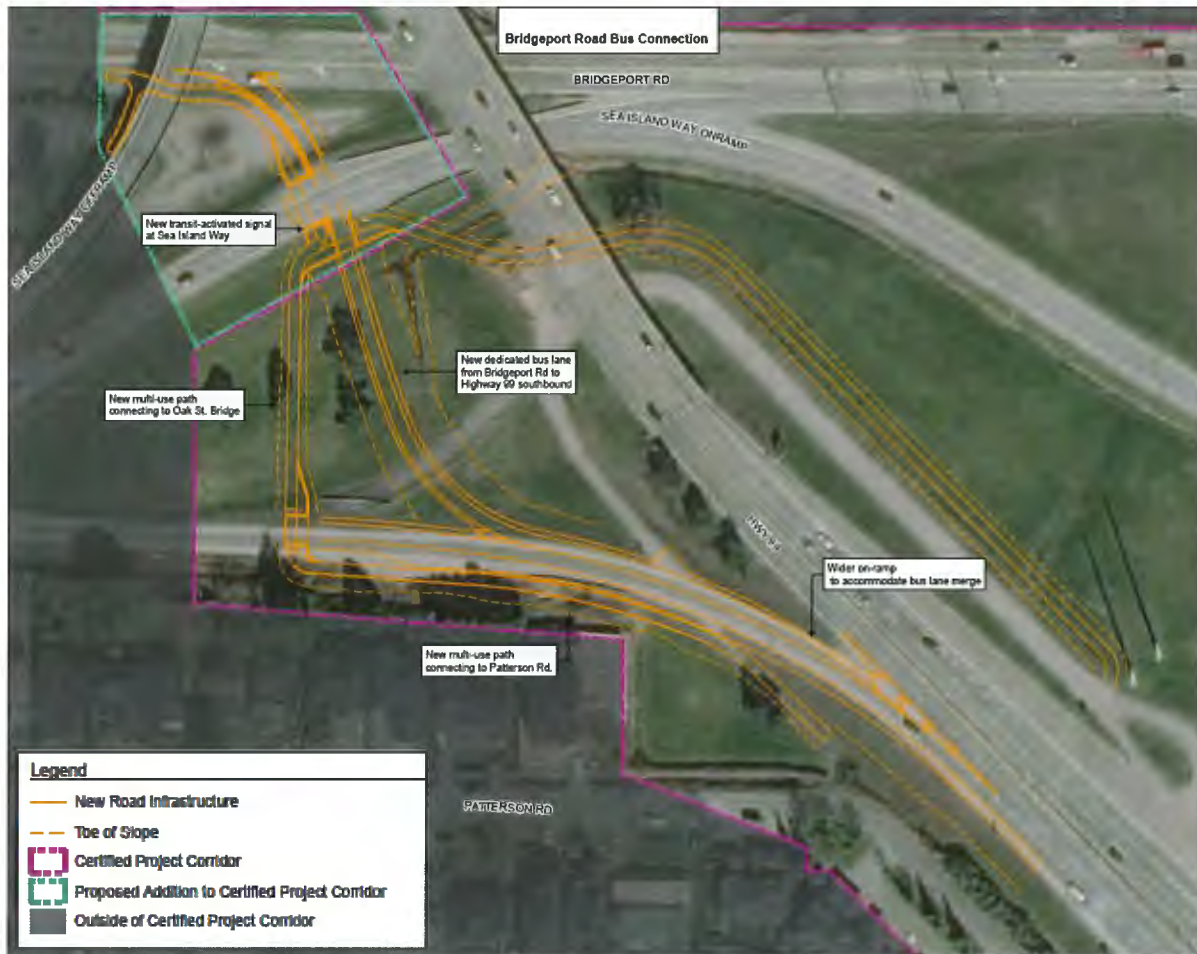


Figure 1: Bridgeport Road Southbound Bus-Only On-Ramp to Highway 99

Delta: Highway 17A-Highway 99 Interchange Improvements

The improvements will add lanes to improve transit connections and bicycle infrastructure upgrades (Figure 3). The project components include:

- Highway 99 northbound off-ramp widening for approximately 400 m to add a second lane for transit priority;
- Highway 99 northbound on-ramp widening for approximately 130 m to add a second lane for transit/HOV priority;
- Highway 17A widening and lane reconfiguration for approximately 550 m to support reconfiguration of the eastbound lanes for transit/HOV priority;
- Improvements to the Ministry's bicycle shuttle pullout on Highway 17A; and
- Improvements to cycling facilities along Highway 17A.

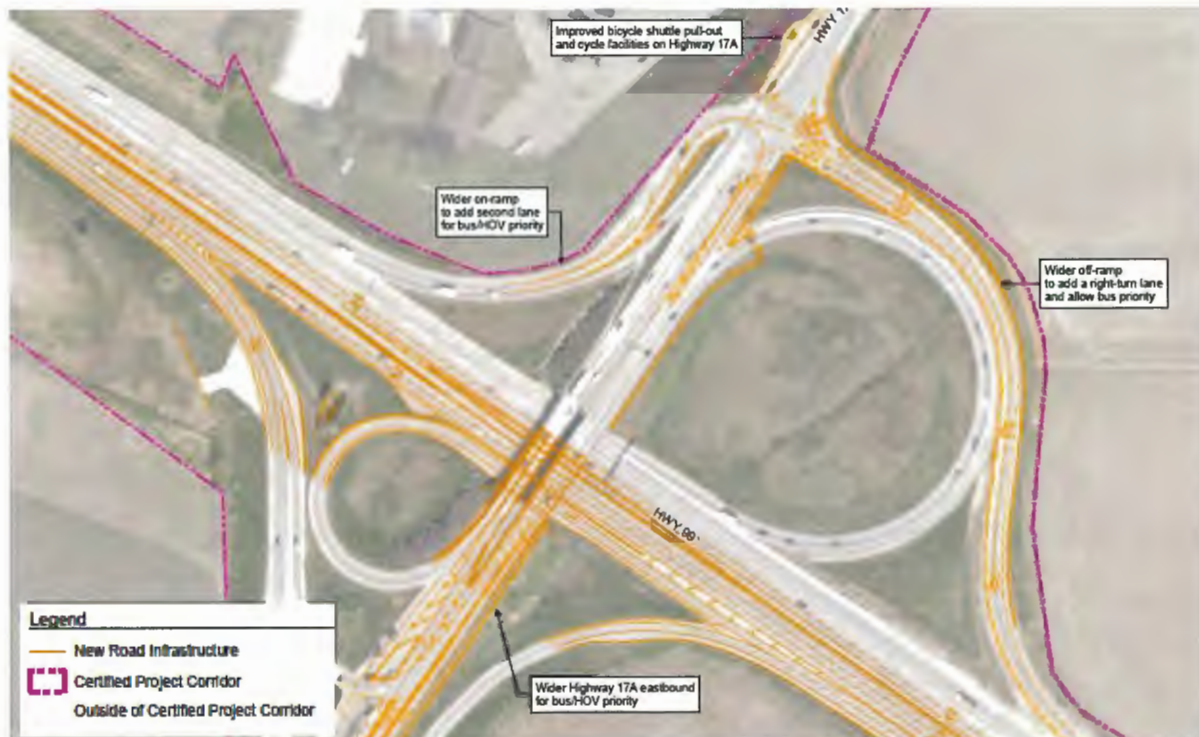


Figure 3: Highway 17A-Highway 99 Interchange Improvements

Delta: Extension of Highway 99 Shoulder Bus Lanes

This project extends the bus-on-shoulder facilities on Highway 99 between Highway 17A and Highway 10 (Figure 4):

- Northbound: from north of Highway 10 to current start of HOV lane on Highway 99 (2.5 km)
- Southbound: from Highway 17A to Highway 17 (3.5 km)
- Southbound: from Highway 17 to Highway 10 (3.5 km)

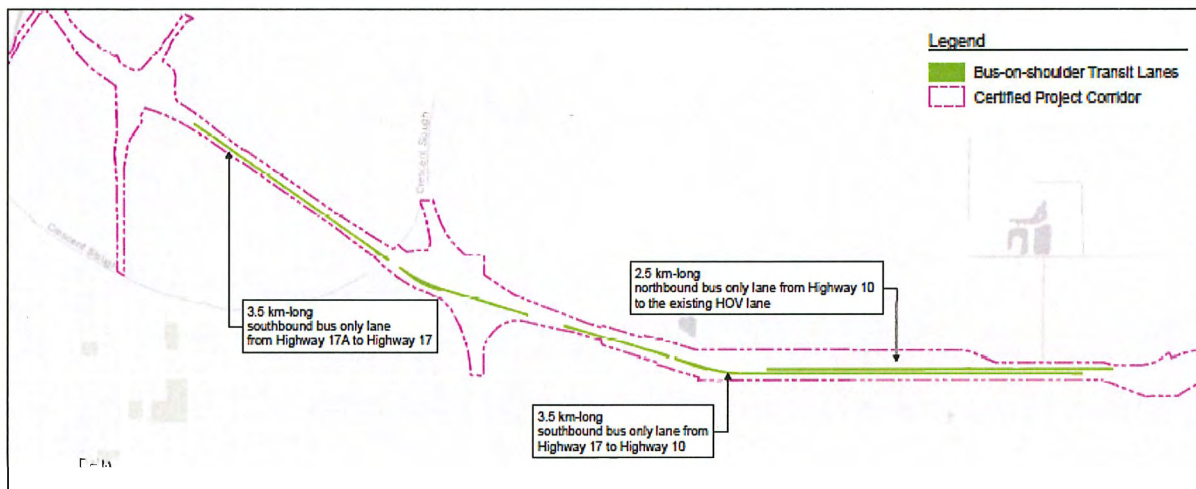


Figure 4: Extension of Highway 99 Shoulder Bus Lanes

Proposed Amendments to Approved Environmental Assessment Certificate

To enable construction of the interim improvements, the Ministry is seeking amendments to the approved Environmental Assessment Certificate (EAC) issued under the BC Environmental Assessment Act in February 2017 as part of the George Massey Tunnel Replacement Project. The proposed amendments have two key purposes as summarized in Table 1.

Purpose	Scope
Make Minor Alterations to Certified Project Corridor	<ul style="list-style-type: none"> Add lands required for the Bridgeport Road-Highway 99 improvements: approximately 4,500 m² of existing highway right-of-way. Add lands required for the Steveston Interchange improvements: 1,000 m² of private land in the Agricultural Land Reserve on the north side. In association with this addition, there is 12,000 m² of land on the same property that is no longer required for the project.
Change Scope of what can be Included in Site Preparation in Advance of Construction	<ul style="list-style-type: none"> Add the following language to the definition of activities that may proceed ahead of full completion of all pre-construction requirements in the EAC: <i>"It also includes roadway and structure construction and utility works in four priority areas of the Certified Project Corridor: Steveston and Highway 17A interchanges, Bridgeport on-ramp, and bus priority lanes between highways 17 and 10. Site Preparation and Advance Construction does not include works to initiate or construct the Fraser River crossing."</i>

The application process included a month-long public consultation period that closed on April 24, 2021. The Ministry will use the comments to develop its amendment application to the Environmental Assessment Office. Once submitted, the review process is anticipated to take four to six months.

Financial Impact

None.

Conclusion

The process to replace the George Massey Tunnel extends back to September 2012 under the previous provincial government. The new provincial government elected in October 2017 re-started the process and now, nearly four years later, there is still no decision regarding the technology of the new crossing. The business cases regarding the preferred option has been with the Minister for five months without any update to the City or other stakeholders. In the interim, staff continue to engage with the Ministry Project Team and advocate for the City's interests regarding the Richmond-based components of the Phase 1 improvements of the Massey Crossing Project and the long-term Phase 2 solution.



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JC:jc

- Att. 1: Recent Activities for George Massey Crossing Project
2: Phase 2: Options for Long-Term Solution

Major Milestones for George Massey Crossing Project

Date	Activity
Sep 2012	Premier announces George Massey Tunnel (the Tunnel) to be replaced
Sep 2013	Premier announces the Tunnel to be replaced with bridge in the same corridor
Dec 2015	Ministry of Transportation and Infrastructure (the Ministry) releases Project Definition Report with detailed Project scope: <ul style="list-style-type: none"> • 10-lane bridge • new Steveston Hwy and Hwy 17A interchanges • median HOV/transit lanes • decommission Tunnel
Feb 2017	EA certificate issued for Project and ALC application approved
Sep 2017	Ministry announces independent technical review (the Review) of the Tunnel corridor and cancellation of procurement process for construction of 10-lane bridge
Sep 2018	Review delivered to the Minister of Transportation and Infrastructure (the Minister)
Dec 2018	Minister releases Review of the George Massey Tunnel Replacement
Oct 15, 2019 General Purposes Committee	Ministry's project team presents concepts of crossing options: <ul style="list-style-type: none"> • Deep Bored Tunnel • Immersed Tube Tunnel • Long Span Bridge <p>Committee endorses a new 8-lane immersed-tube tunnel including two dedicated transit lanes with a multi-use path as the preferred option for purposes of public engagement. Committee also supports a request to the Province to develop further plans to improve transit along the entire Highway 99 corridor to enhance transit speed, reliability and capacity.</p>
Nov 2019	Immersed tube tunnel unanimously endorsed by Metro Vancouver Board as the preferred option
Feb 2020	Ministry's project team conducts public engagement on two short-listed options: <ul style="list-style-type: none"> • 8-lane bridge • 8-lane immersed tube tunnel
Sept 15, 2020 UBCM	City discussion with then Minister Claire Trevena requesting confirmation of an immersed tube tunnel as the preferred option and to expedite the work to ensure all construction for the new crossing completed by 2025-2026
Dec 2020	Business case completed and received by new Minister Rob Fleming following provincial election
Feb 5, 2021	Metro Vancouver George Massey Crossing Task Force, which reports to the Finance and Inter-government Committee of the Metro Vancouver Board, convenes closed meeting with Ministry staff
Apr 25, 2021	Media reports that a draft funding request and the draft business case were submitted to the federal government
May 25, 2021	Ministry submits application to BC Environmental Assessment Office for administrative amendment to approved Environmental Assessment Certificate for the George Massey Tunnel Replacement Project

Options for Long-Term Solution

Immersed Tube Tunnel Concept**Key Considerations:**

- Separated and covered multi-use pathways
- Similar grade as bridge
- Low property impact
- Improved connectivity within Deas Island Regional Park
- In-river impacts during construction
- Potential for in-river habitat enhancement
- Ventilation system designed to modern standards
- Emergency systems designed to modern standards, including fire detection, response and communications
- Shorter crossing, compared to bridge
- Comparable cost to bridge

Est. Schedule:

- 3 years for environmental review
- 5 years for construction

**Long-span Bridge Concept****Key Considerations:**

- Separated multi-use pathways
- Similar grade as tunnel
- Land-side property impacts, including Deas Island Regional Park
- No piers in the Fraser River; however, piers required in Deas Slough
- Long-term noise, light, visual and shading effects
- Local construction expertise
- Longer crossing, compared to a tunnel
- Comparable cost to immersed tube tunnel

Est. Schedule:

- 1–2 years for environmental review
- 5 years for construction

