



Ministry of
Transportation
and Infrastructure

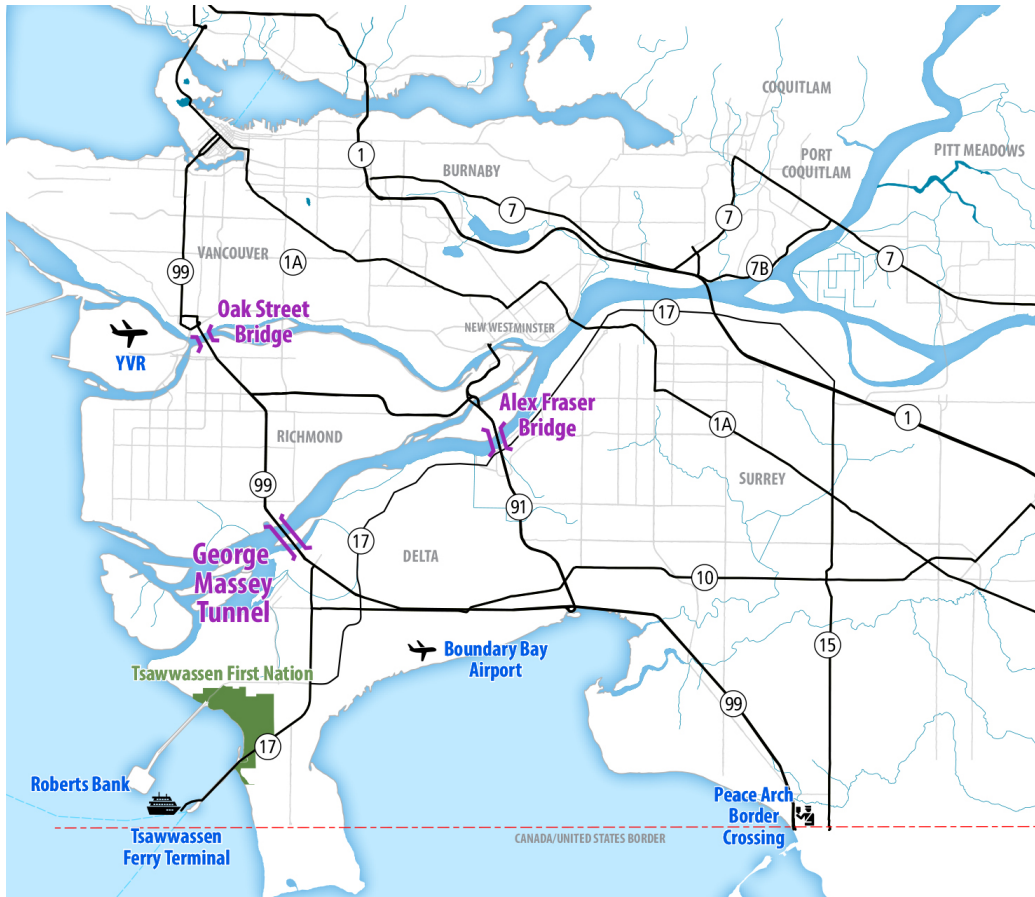
George Massey Crossing Program

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August 18, 2021

Introduction

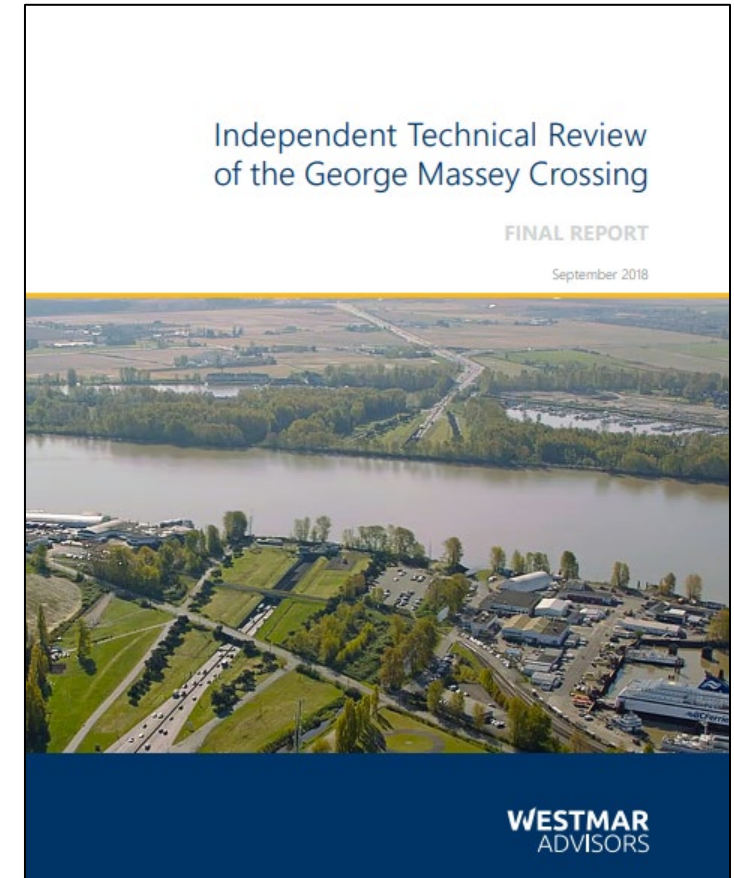


- Existing Tunnel opened in 1959
- Over the next 30 years, the population and employment of Metro Vancouver will increase by approximately 1.2 million people and 0.5 million jobs
- Almost 40% of that growth is planned for communities south of the Fraser River
- Vital corridor for the movement of goods and people
- Project to be aligned with regional multimodal transportation priorities

Independent Technical Review

September 2018

- Regional alignment
 - Absence of alignment contributed to stakeholder concerns
- Capacity/number of lanes
 - Need to improve travel time reliability in off-peak
 - 6 or 8 lanes would accommodate majority of traffic
- Median transit lanes
 - Elimination of median transit/stations would reduce complexity and cost of Steveston Interchange (and 17A)
 - No business case for future rail rapid transit
- Retrofitting Existing Tunnel
 - Seismic upgrade should be feasible
 - New ITT crossing (on its own or in conjunction with retrofit) should be cost competitive with a bridge



Government Commitment

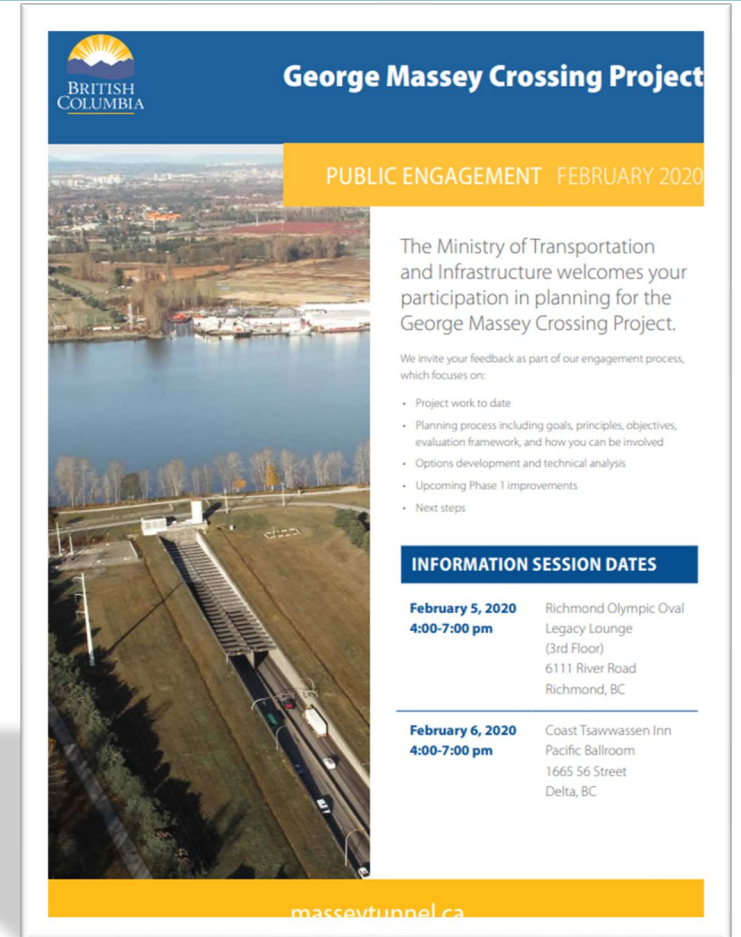
December 2018

- \$40 million in immediate safety improvements (completed 2021)
- Corridor Improvements – improve safety and reliability for transit and cycling (tendered June 2021)
- Crossing Solution – Business Case (completed December 2020, updated April 2021)



Engagement and Options Development

- Early 2019 – Broad Consultation
 - Engagement with Indigenous groups, local governments, TransLink and Metro Vancouver
 - Project Principles, Goals, Objectives finalized
- Late 2019/Early 2020 – Options Identification
 - July 2019: Metro Vancouver Task Force endorsed 6 options for further review
 - November 2019: Metro Vancouver Board endorsed 8 lane ITT as preferred crossing
 - February 2020: Public open houses on:
 - Bridge and ITT crossing options
 - Corridor improvements

A vertical poster for the George Massey Crossing Project. At the top, the British Columbia logo is on the left, and the title "George Massey Crossing Project" is on the right. Below the title, a yellow banner reads "PUBLIC ENGAGEMENT FEBRUARY 2020". The main body of the poster features a large aerial photograph of the crossing area, showing a river, a bridge, and a road. To the right of the photo, there is text inviting public participation and a list of focus areas. At the bottom right, there is a section titled "INFORMATION SESSION DATES" with two entries: one for February 5, 2020, at the Richmond Olympic Oval, and another for February 6, 2020, at the Coast Tsawwassen Inn. The website "masseytunnel.ca" is printed at the very bottom.

George Massey Crossing Project

PUBLIC ENGAGEMENT FEBRUARY 2020

The Ministry of Transportation and Infrastructure welcomes your participation in planning for the George Massey Crossing Project.

We invite your feedback as part of our engagement process, which focuses on:

- Project work to date
- Planning process including goals, principles, objectives, evaluation framework, and how you can be involved
- Options development and technical analysis
- Upcoming Phase 1 improvements
- Next steps

INFORMATION SESSION DATES

February 5, 2020 4:00-7:00 pm	Richmond Olympic Oval Legacy Lounge (3rd Floor) 6111 River Road Richmond, BC
February 6, 2020 4:00-7:00 pm	Coast Tsawwassen Inn Pacific Ballroom 1665 56 Street Delta, BC

masseytunnel.ca

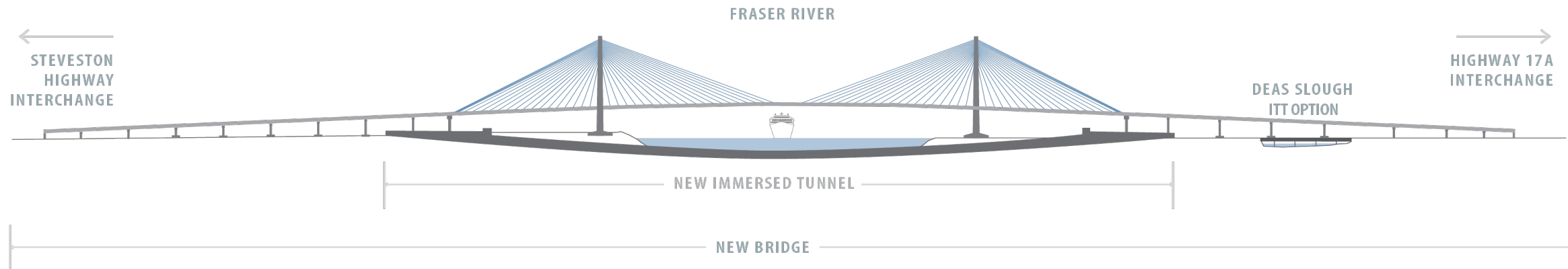
George Massey Crossing Business Case

Business Case Overview

- Crossing Service Delivery Options (8 lane bridge vs 8 lane tunnel)
- Corridor Improvements
- Procurement Analysis
- Implementation Plan

Due Diligence

- Business Case reviewed by independent advisory panel



Technical Analysis – Existing Tunnel

Previous Discussion

- Existing Tunnel does not have to be removed
- May be potential future uses of Existing Tunnel (as utility corridor or part of future crossing)

Analysis Completed

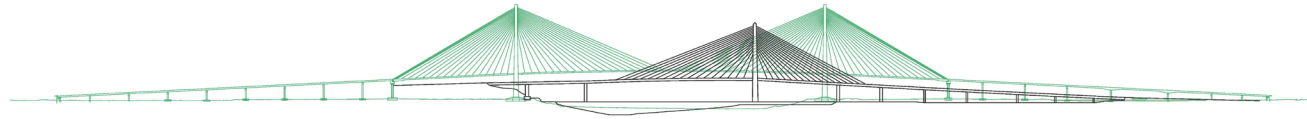
- Core sampling and lab tests
- Seismic performance analysis

Outcome

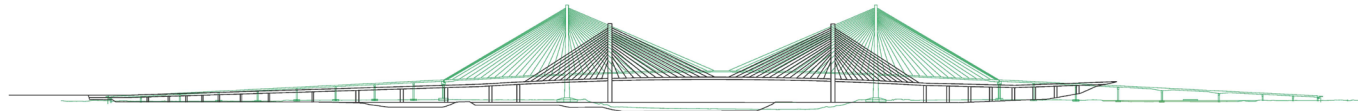
- Does not meet current seismic standards
- Evidence of Alkali-Silica Reaction
- Removal required for Bridge or Tunnel Crossing
- Working with BC Hydro on relocating their transmission line



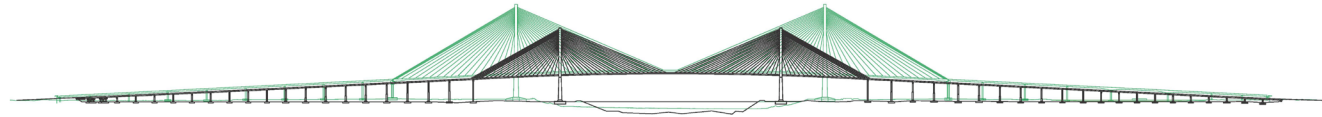
Technical Analysis – Bridge Height



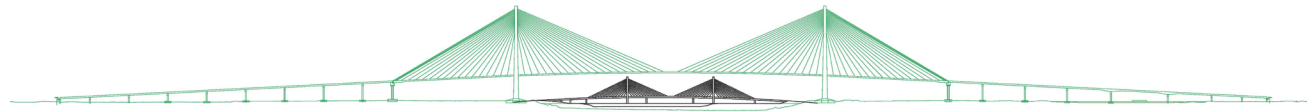
Pattullo Bridge Replacement



Port Mann Bridge



Alex Fraser Bridge



Pitt River Bridge

Green Bridge – Estimated width and height of new 8 lane GMC Bridge

Technical Analysis – Immersed Tube Tunnel

Previous Discussion

- A new ITT would need to be deeper than existing George Massey Tunnel

Analysis Completed

- Engagement with stakeholders and Transport Canada

Outcome

- Depth equal to that of the Existing Tunnel will meet navigational requirements
- Reduced cost of ITT



Technical Analysis – Active Transportation

Previous Discussion

- Multi-use path on both sides of crossing

Analysis Completed

- Engagement with cycling advocates
- Configuration analysis

Outcome

- Separated tube (5 metres) on one side of crossing with bi-directional multi-use path



Technical Analysis – Transit

Previous Discussion

- Exploration of need for rail rapid transit

Analysis Completed

- Engagement with TransLink and Metro Vancouver to determine future transit needs
- Technical study on infrastructure required

Outcome

- Future rail rapid transit not warranted; improvements will focus on bus rapid transit
- Significant cost increase to accommodate clearances and infrastructure



Technical Analysis - Cost Comparison

Analysis Completed

- Estimates for replacement of Existing Tunnel with Bridge or immersed tube tunnel prepared by experienced Quantity Surveyor and subject to due diligence review
- Estimates comparable:
 - Bridge - 3X the length of the immersed tube tunnel (2,805 metres vs 1,054 metres, of which 660 metres is immersed tube tunnel elements)
 - Higher contingencies for the immersed tube tunnel structure versus the bridge structure

Estimated Costs

- Immersed Tube Tunnel: \$4.15 billion
- Bridge: \$4.22 billion



Technical Analysis – Estimated Schedule Comparison

Immersed Tube Tunnel

Corridor Improvements Construction:

- 2021-2025

Immersed Tube Tunnel Construction:

- 2026-2030

Bridge

Corridor Improvements Construction:

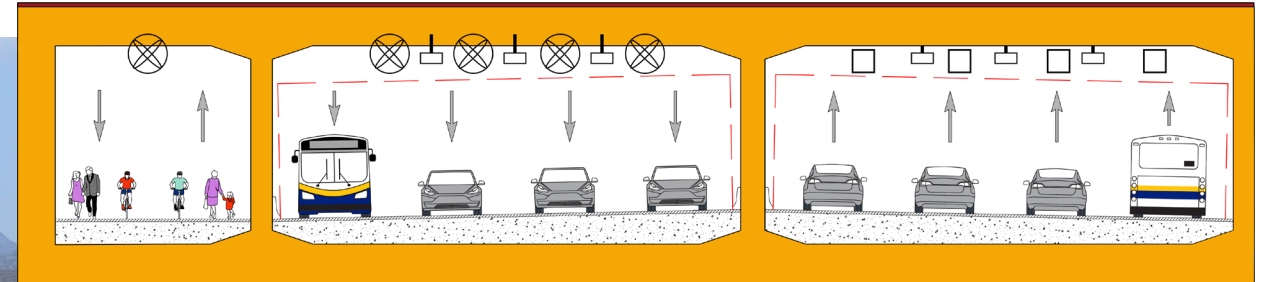
- 2021-2025

Bridge Construction:

- 2024-2028



Future Crossing – New Immersed Tube Tunnel



Budget: \$4.15 B
Completion: 2030

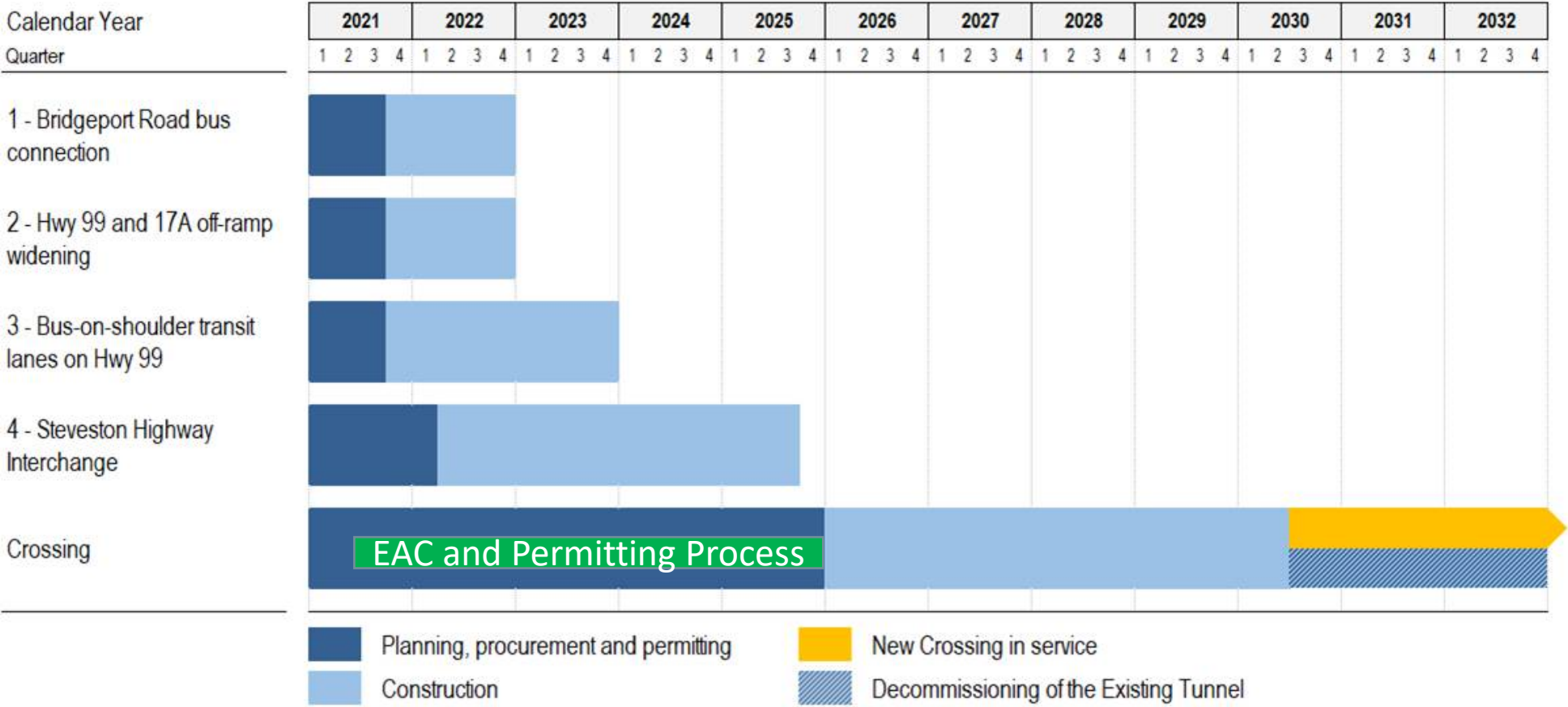
Corridor Improvements

- Steveston Interchange Project
 - Budget: \$88 million
 - Completion: 2025
- Bridgeport Road Transit Ramp
 - Budget: \$6 million
 - Completion: 2022
- Highway 99 & 17A Offramp Widening
 - Budget: \$7 million
 - Completion: 2022
- Highway 99 Bus on Shoulder
 - Budget: \$36 million
 - Completion: 2023



Steveston Interchange Project – Design Concept

Schedule



Indigenous Engagement

- Since 2019, engagement with 12 Indigenous groups
- January 2019-present
 - Collaboration on 5 environmental studies
 - Provided updates on technical work to initiate advanced environmental studies
 - Discussed Indigenous perspectives on potential Crossing options
- Next steps
 - Work collaboratively through the Environmental Assessment process
 - Advance discussions on stewardship of the Fraser River
 - Develop monitoring plans for archaeological, ecological and cultural oversight
 - Identify employment and contracting opportunities

Next Steps

- Corridor Improvements
- Environmental Assessment process
- Ongoing engagement with Indigenous groups, municipalities, and stakeholders





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Thank you