

WELCOME

George Massey Crossing Project

Thank you for your interest in the George Massey Crossing Project.

The purpose of this engagement is to provide an update and seek feedback on:

- Project work to date
- Planning process and how you can be involved
- Options development and technical analysis
- Upcoming Phase 1 improvements
- Next steps

Please submit your comments by February 26, 2020

Online at: masseytunnel.ca

In person: at today's **information session**

By email: GeorgeMasseyCrossingSCR@gov.bc.ca



**George Massey
Crossing Project**



Project Overview

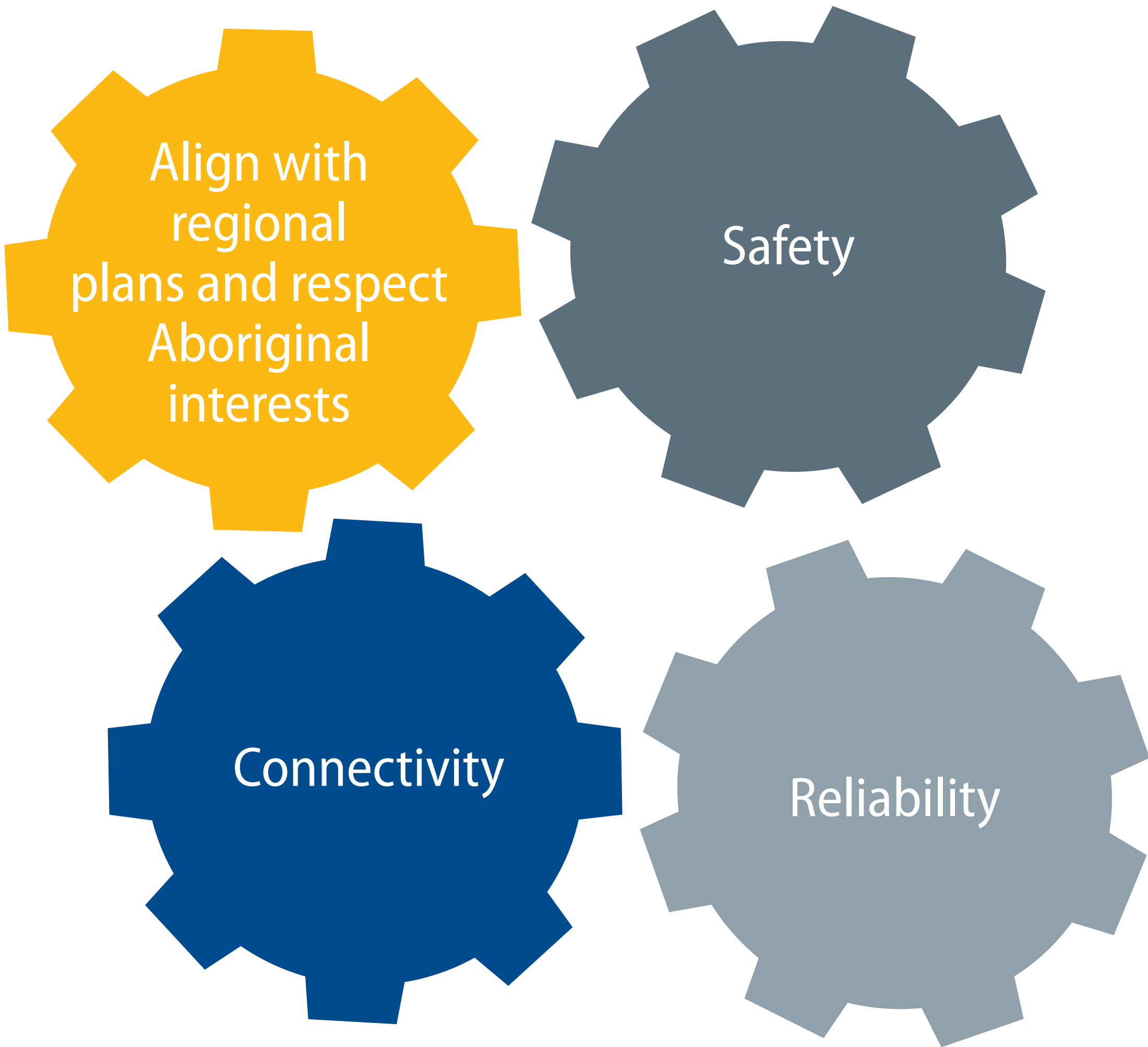
In December 2018, the Province committed to engaging with Indigenous groups and the region to identify an appropriate crossing solution for the tunnel, and to release a business case for a preferred solution by fall 2020. The planning and engagement process led by the Ministry of Transportation and Infrastructure includes:



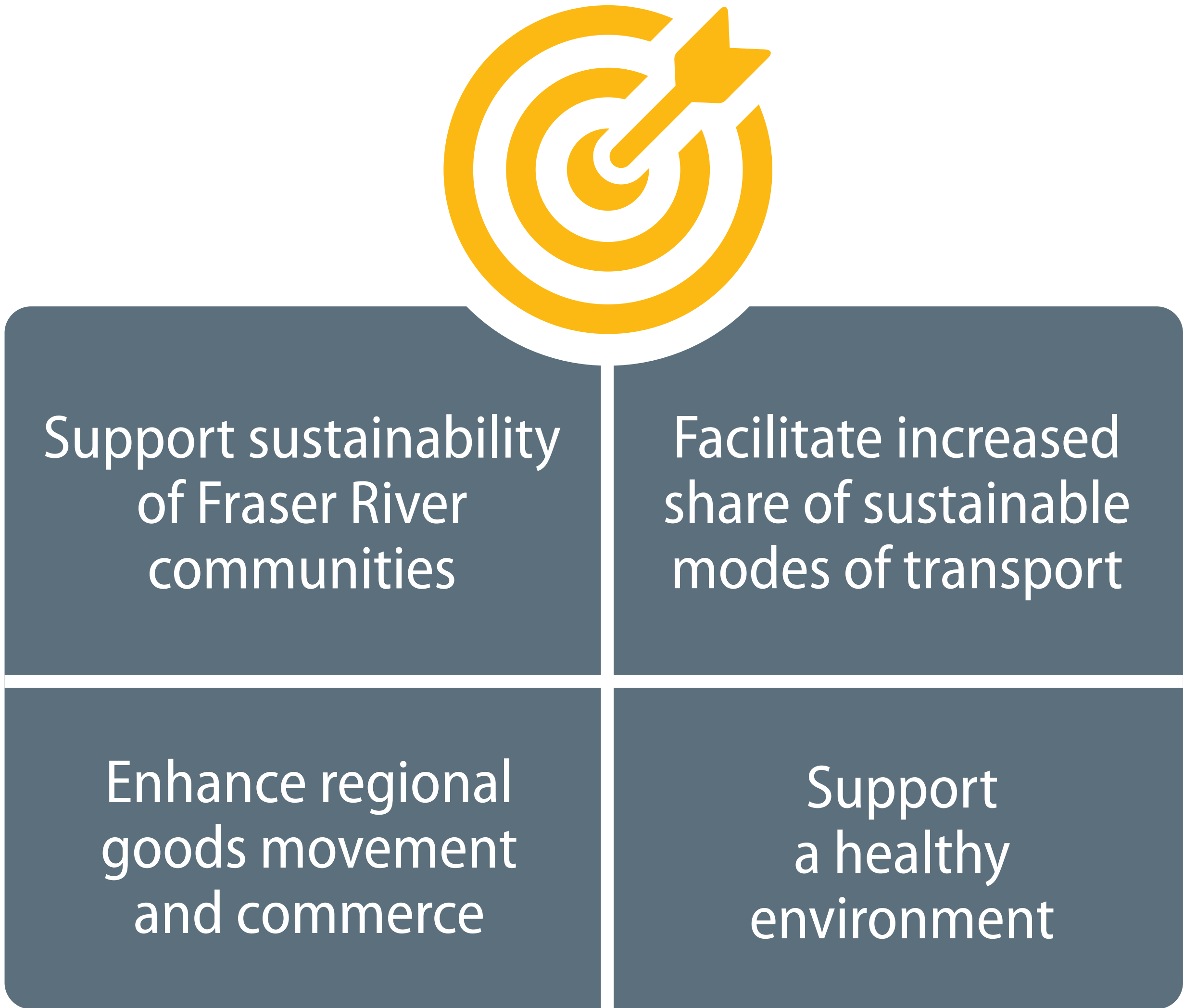
Shared Principles, Goals and Objectives

In April 2019, the Metro Vancouver Board endorsed these shared principles, goals and objectives, and established a Task Force to work with the ministry to develop and assess options.

PROJECT PRINCIPLES



PROJECT GOALS

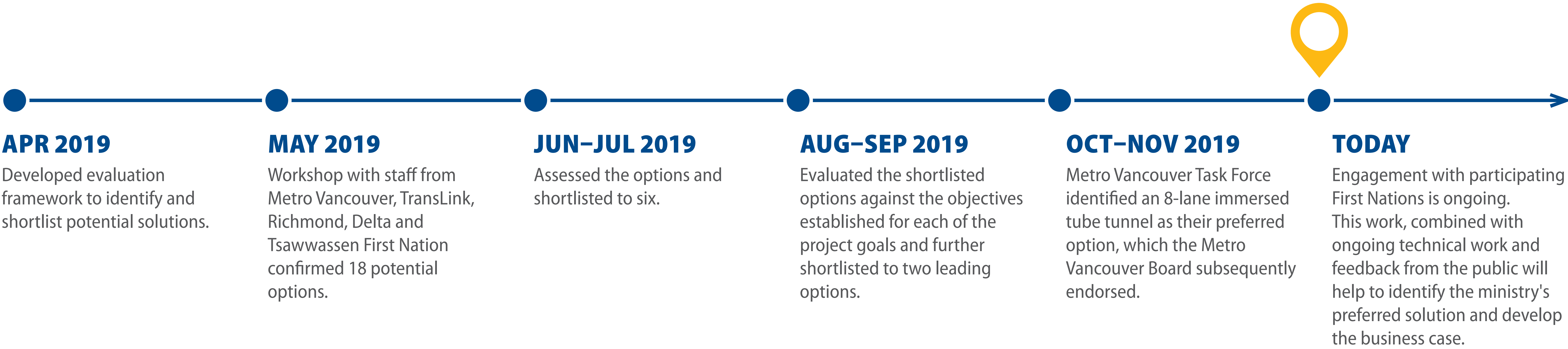


PROJECT OBJECTIVES

To measure effectiveness of potential options in achieving each goal.
(Please refer to the Technology Analysis Summary display board for details.)

The Project Principles, Goals and Objectives Engagement Summary Report is available on the Project website.

Potential Solutions: Process and Results to Date



OPTIONS ANALYSIS

THE 18 OPTIONS:

- Between 6 and 8 lanes, with consideration for counterflow
- With and without the existing tunnel
- Provision for transit, cyclists and pedestrians
- Range of structural technologies, including deep bored tunnels, immersed tube tunnels and long-span bridges

THE SIX SHORTLISTED OPTIONS:

All options include 2 lanes for transit and cycling/pedestrian paths.

- 8-lane deep bored tunnel with cycling/pedestrian paths in existing tunnel
- 8-lane immersed tube tunnel
- 8-lane bridge
- 6-lane deep bored tunnel with transit lanes and cycling/pedestrian paths in existing tunnel
- 6-lane immersed tube tunnel with transit lanes and cycling/pedestrian paths in existing tunnel
- 6-lane bridge with transit lanes and cycling/pedestrian paths in existing tunnel

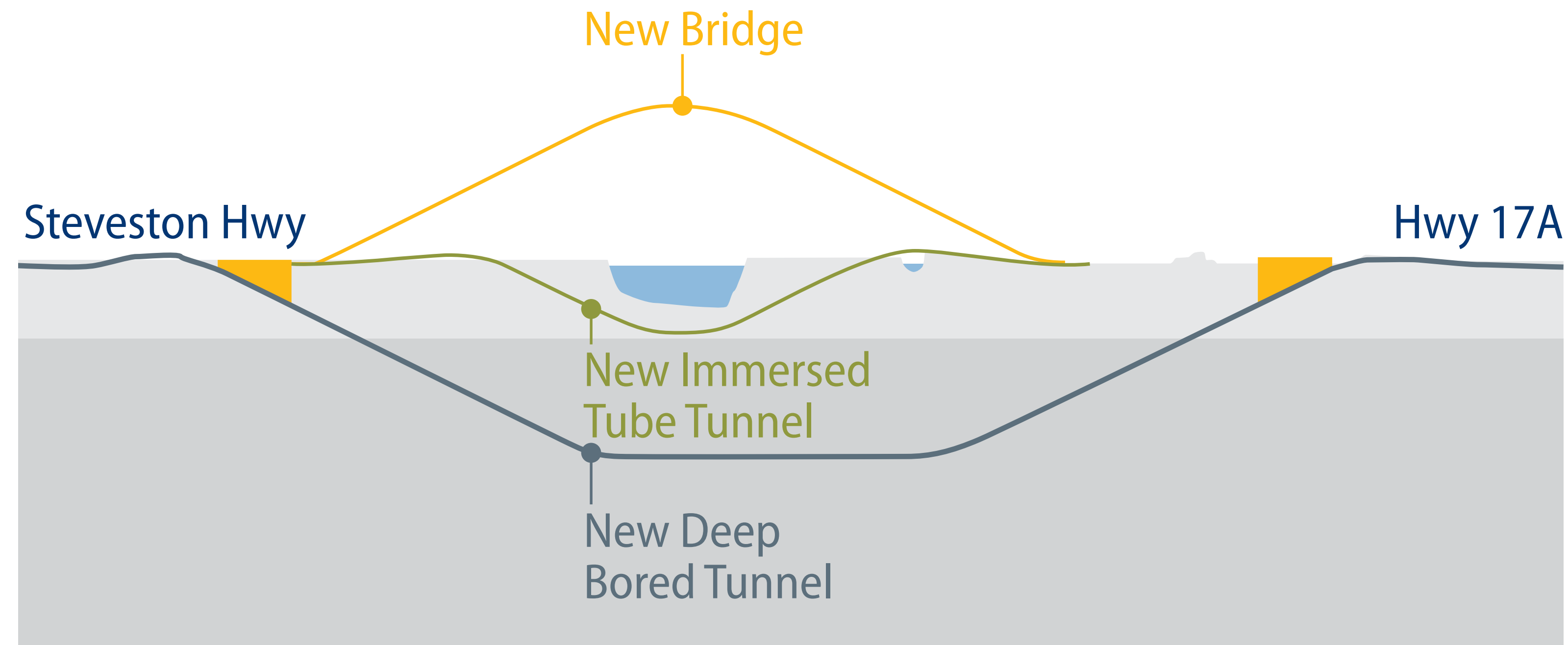
FINAL SHORTLIST:

8-lane immersed tube tunnel

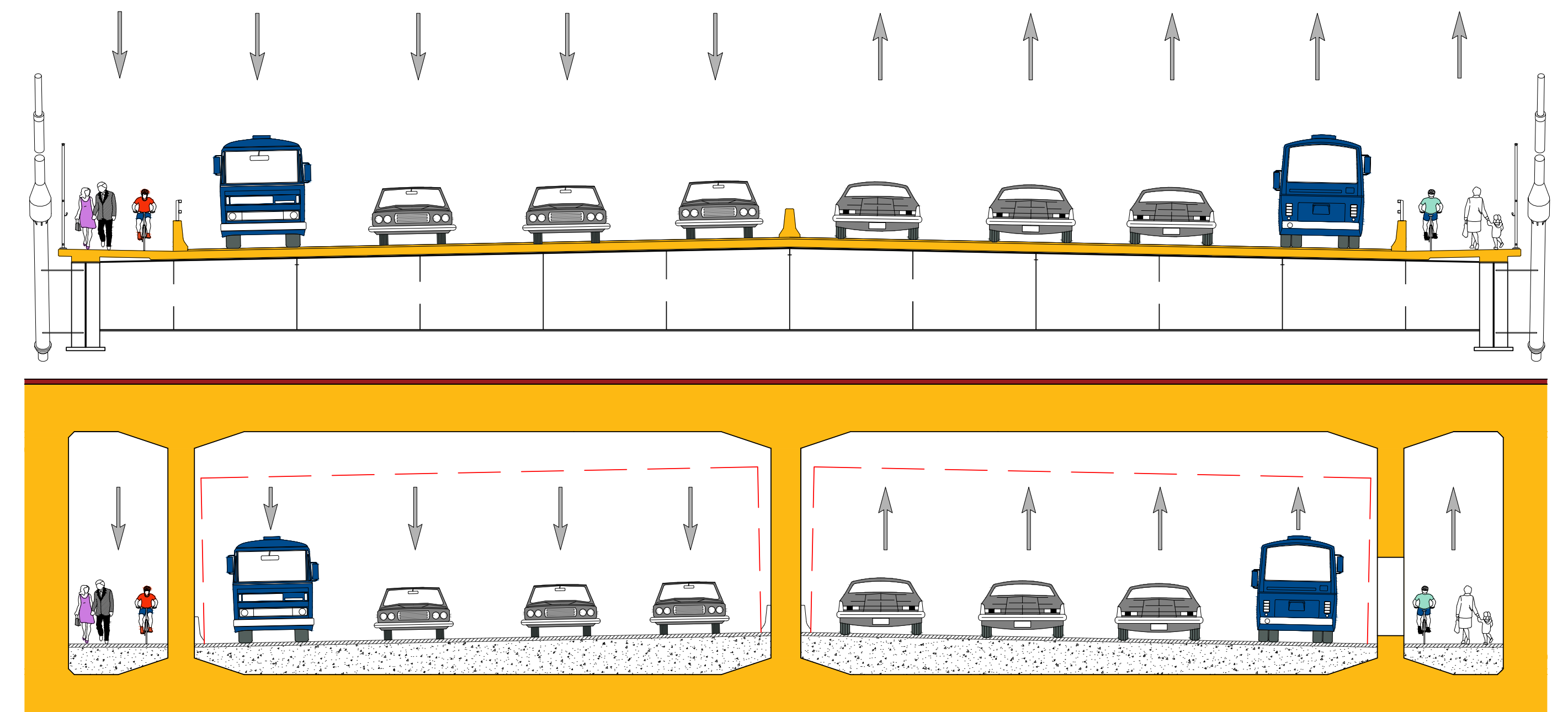
8-lane bridge

The long-list of options, evaluation framework and short-list of options are available on the Project website.

Highlights of Options Analysis to Date



Relative height/depths of options explored



Bridge lanes (top) and immersed tube tunnel lanes (bottom)

LANES

An 8-lane crossing with transit priority shortlisted.

- 6-lane crossing generates significant benefits in the off-peak direction on Hwy 99 and provides some peak direction benefits.
- 8-lane crossing with transit priority incentivizes transit use.
- 8-lanes without transit priority generates overall network benefits but limits transit benefits.

ACTIVE TRANSPORTATION

Active transportation was included in all options.

- All agencies supported incorporating pedestrian and cycling facilities.

EXISTING TUNNEL

The existing tunnel will remain for utilities only.

- If used for transportation, the existing tunnel requires costly upgrades and extends the environmental review timeline.
- During operations, the use of the existing tunnel would add up to five minutes for transit travel times and reduce transit reliability.

TRANSIT

One lane in each direction designated for transit was shortlisted.

- All agencies supported lane dedication to enhance transit reliability and convenience, and protect for future rail-based rapid transit.

TECHNOLOGY

Deep bored tunnel options eliminated.

- To avoid liquefiable soils, maintain buoyancy and maintain a reasonable grade, a deep bored tunnel would have to be constructed to a depth of 78 meters – more than double the depth of the existing tunnel.
- The tunnel would extend beyond the Hwy 17 and Steveston Hwy interchanges, creating a need for new and complex connections on either side at significantly higher cost.
- Risk of sink holes during construction.

Technology Analysis Summary

The following table summarizes the analysis of technologies using a multiple accounts evaluation process and the framework based on the project goals.

GOAL	DEEP BORED TUNNEL	IMMERSED TUBE TUNNEL	BRIDGE
SUPPORT COMMUNITY SUSTAINABILITY <i>Safety, access, congestion, cultural values, connections, Agricultural Land Reserve and productivity, schedule, shared decisions</i>	<ul style="list-style-type: none">Schedule and public safety risk of sink holeImpact on agricultural landLongest schedule for completionSignificant ground densificationNot possible to connect to River Road West <div></div>	<ul style="list-style-type: none">Minimal to no river impact after constructionMinimal property impact <div></div>	<ul style="list-style-type: none">Shortest scheduleNoise, visual and shading effectsLimited property effectsLand-side footprint (for piers) <div></div>
INCREASE SHARE OF SUSTAINABLE MODES <i>Enhance transit service, walking and cycling connections; encourage HOV, protect for future rail transit</i>	<ul style="list-style-type: none">Longer distance for all traffic, including transit, due to interchange impactsToo steep for cyclists and pedestrians <div></div>	<ul style="list-style-type: none">Transit, cyclists and pedestrians are well-servedCyclists and pedestrians protected from the elements <div></div>	<ul style="list-style-type: none">Transit, cyclists and pedestrians are well-servedCyclists and pedestrians must climb first; exposed to the elements <div></div>
ENHANCE REGIONAL GOODS MOVEMENT <i>Goods movement reliability, support tourism, protect fishing and industrial land productivity</i>	<ul style="list-style-type: none">Reduced off-peak congestionLonger travel distancesRoad network impacts during construction <div></div>	<ul style="list-style-type: none">Reduced off-peak congestion <div></div>	<ul style="list-style-type: none">Reduced off-peak congestion <div></div>
SUPPORT A HEALTHY ENVIRONMENT <i>Avoid loss of habitat; improve habitat, recreation, GHGs</i>	<ul style="list-style-type: none">Minimal in-river impact, but unavoidable sink hole risk <div></div>	<ul style="list-style-type: none">Significant in-river effects for constructionGreatest opportunity for enhancements <div></div>	<ul style="list-style-type: none">Minimal in-river impactsHabitat loss and recreational area loss for pier construction <div></div>

ALIGNED**SOMEWHAT ALIGNED****NOT ALIGNED**

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



Be sure to view the flythrough animation!

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



Be sure to view the flythrough animation!

Environmental, Cultural and Heritage Considerations

The Province is committed to sound environmental management. The selected project option will be subject to a formal and rigorous environmental review process, with additional and focused consultation.

The environmental assessment will include a detailed review of environmental, cultural and heritage considerations; ongoing engagement with participating First Nations; and recommendations for mitigation measures to address impacts.

Recognizing potential for environmental effects, the ministry is exploring opportunities to enhance the Fraser River as part

of the project, such as fish, wetland and marshland habitat creation and enhancement, improved water quality management, etc.

Fisheries workshops with participating First Nations are scheduled to take place this winter.



What ideas do you have?

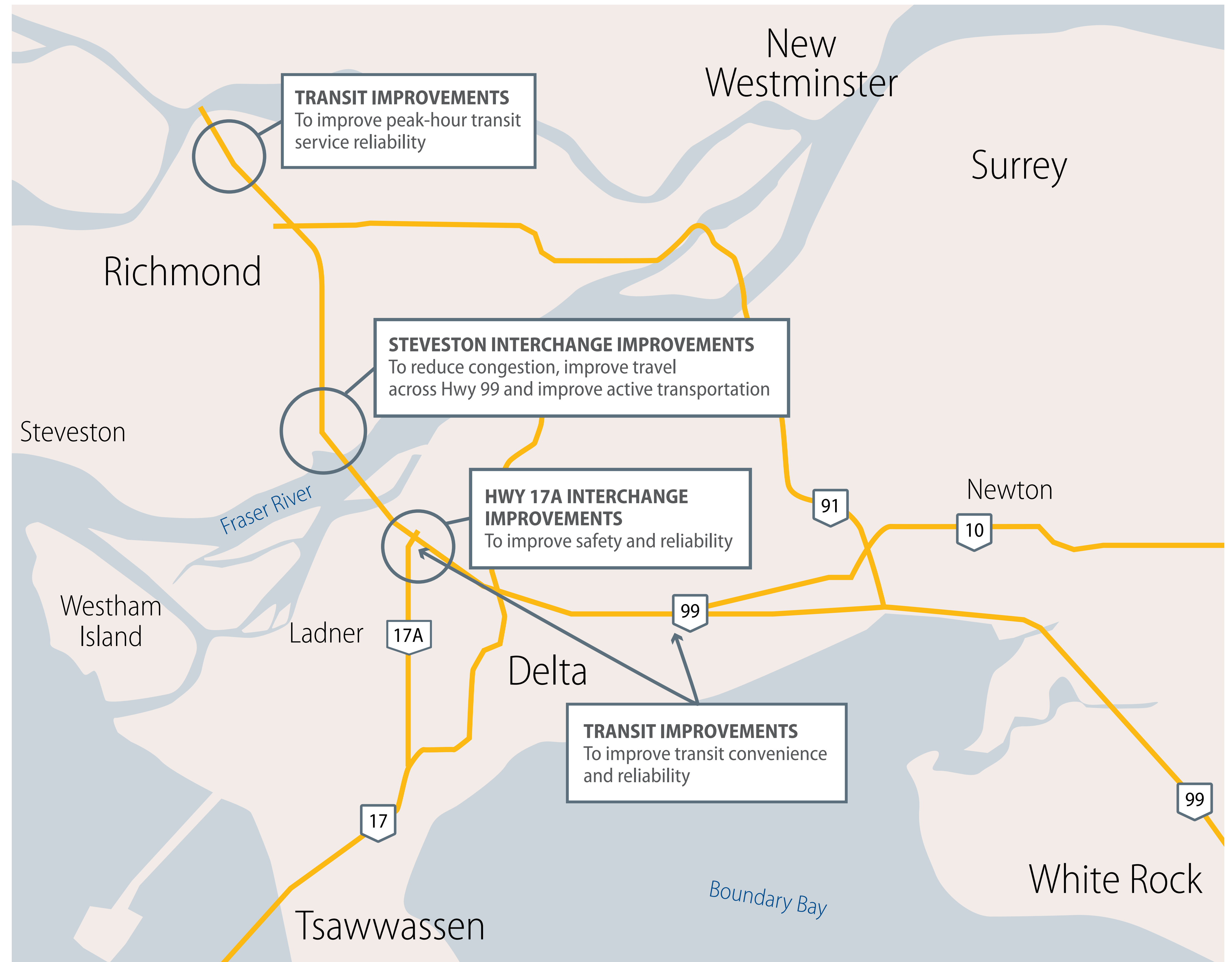
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Keeping People Moving: Phase 1 Improvements in Progress

With immediate safety improvements underway, the Province is collaborating with the region, local municipalities and participating First Nations to develop interim improvements (Phase 1) as a preliminary solution to address congestion on Highway 99. These will be completed while planning for a long-term solution (Phase 2) continues.

Options under consideration are shown in the map.



Phase 1 improvements are expected to be tender-ready by fall 2020.

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Next Steps

Target Timeline *Subject to completion of engagement and funding*



FOR MORE
INFORMATION:

VISIT THE PROJECT WEBSITE
masseytunnel.ca

SIGN UP FOR E-UPDATES
GeorgeMasseyCrossingSCR@gov.bc.ca

Thank you for participating. Please complete a comment form (available here and online) by February 26, 2020.