



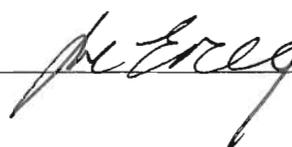
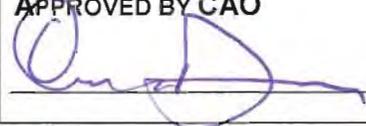
To: Public Works and Transportation Committee **Date:** May 23, 2014
From: Victor Wei, P. Eng.
 Director, Transportation **File:** 01-0150-20-
 THIG1/2014-Vol 01
Re: **George Massey Tunnel Replacement - Status Update and Proposed Project Objectives**

Staff Recommendation

1. That the proposed project objectives for the replacement of the George Massey Tunnel as described in the report be endorsed and forwarded to the Ministry of Transportation & Infrastructure for its consideration in the development of a preferred project scope of improvements.
2. That the above Council resolution and a copy of the above report be forwarded to TransLink, the Corporation of Delta and the Cities of Surrey, White Rock and Vancouver for information.

Victor Wei, P. Eng.
 Director, Transportation
 (604-276-4131)

Att. 2

| REPORT CONCURRENCE | | |
|---|---|---|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Intergovernmental Relations & Protocol Unit Economic Development Engineering Sustainability Policy Planning | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |  |
| REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE | INITIALS:  | APPROVED BY CAO  |

Staff Report

Origin

At the September 23, 2013 Council meeting, Council resolved:

That staff analyse the implications for Richmond with regard to the new bridge for the George Massey Tunnel replacement and report back.

Staff were also directed to report back with more information regarding:

- (i) the cost of the new bridge
- (ii) the details surrounding the new bridge's on/off ramps, including information regarding Richmond lands needed to facilitate the project
- (iii) the details regarding the overpass at Steveston Highway
- (iv) the opportunity to retain the George Massey Tunnel for public transit purposes
- (v) improvements to the Oak Street Bridge and Highway 99 corridor as it relates to traffic to and from the George Massey Tunnel.

Staff were further directed to examine the future of the Fraser River and its use as an industrial river.

This report provides the status of work undertaken to date on the George Massey Tunnel (the Tunnel) Replacement Project and next steps over the next several months. As a preferred design option for the new bridge has not yet been determined, there is insufficient information provided by the Ministry of Transportation and Infrastructure (MOTI) at this time to enable staff to respond to all of the referral items and, as such, anticipate reporting back periodically as new information becomes available. The referral regarding the future use of the Fraser River will be the subject of a separate future report as the response will require further consultation with external stakeholders such as Metro Vancouver and Port Metro Vancouver.

Analysis

Project Progress and Consultation to Date

Premier Clark announced in September 2012 that the Province would begin the process to replace the Tunnel. MOTI subsequently initiated a multi-phase consultation process in November 2012. In addition to the general public, stakeholders consulted include the relevant municipalities (Richmond, Delta, Surrey, and White Rock), TransLink, Port Metro Vancouver, Vancouver Airport Authority, the BC Trucking Association, and local Chambers of Commerce.

1. Phase 1: Understanding the Need (November-December 2012)

Phase 1 focused on understanding the need and potential constraints to develop the project scope and design requirements. A key theme from the Phase 1 consultation is that traffic congestion at the tunnel is a significant problem that is causing safety concerns and significant community and economic impacts. The top three factors identified for consideration in developing replacement options were:

- congestion reduction;
- economic growth, particularly given the importance of the Fraser River for marine transport and Asia-Pacific Gateway trade; and
- the inclusion of transportation alternatives.

2. Phase 2: Exploring the Options (March-April 2013)

Based on Phase 1 consultation results and preliminary technical work, Phase 2 sought input on the draft project scope and goals, five potential replacement scenarios and on the criteria to evaluate the options. As shown in Table 1, Scenario 5 proposed maintaining the tunnel and constructing a new crossing in a new location roughly aligned with No. 8 Road. In response, Council resolved at its March 11, 2013 meeting to send a letter to MOTI formally opposing any proposed river crossing options that would significantly impact existing farm lands and communities, particularly Scenario 5. As one of the stakeholders consulted, Port Metro Vancouver (PMV) indicated its preference for the removal of the tunnel and a new high-level crossing that allows larger vessels to access industrial sites along the Fraser River (see Attachment 1).

Table 1: Potential GMT Replacement Scenarios

| Scenario | Ranking |
|--|----------------|
| 1 Maintain existing tunnel | Low Support |
| 2 Replace existing tunnel with new bridge | High Support |
| 3 Replace existing tunnel with new tunnel | Low Support |
| 4 Maintain existing tunnel and build new adjacent bridge | Medium Support |
| 5 Maintain existing tunnel and build new bridge in new No. 8 Rd corridor | Least Support |

Of the five scenarios, the highest support was for a new crossing along the Highway 99 corridor with preference for a new bridge. There was also a strong desire for transit, cycling and pedestrian improvements, including protecting the Highway 99 corridor for future rapid transit.

3. Preferred Replacement Option and Proposed Work Plan (September-December 2013)

In September 2013, the results of the Phase 2 public consultation were released and, on the same day, Premier Clark announced that the Tunnel would be replaced with a bridge (see Attachment 2) in the same corridor. Table 2 indicates the proposed timelines for the work program. Following an environmental assessment process, construction is planned to begin in 2017 with completion in 2022. A project office was opened at Ironwood Mall in January 2014 that includes an area for public information and interaction. Project inquiries can also be made by phone to 1-855-5-MASSEY (1-855-562-7739) or by e-mail to masseytunnel@gov.bc.ca. As of December 2013, staff meet approximately every two weeks with MOTI staff to discuss technical issues related to the planning and design process.

Table 2: Proposed Work Plan

| Work Plan Element | Timeline |
|--|-----------------------------|
| Draft scope and project definition report | Winter 2013- Spring 2014 |
| Public consultation re project definition report | Late Spring 2014 |
| Initiate environmental assessment process | Fall 2014 |
| Assessment of procurement models | 2015 |
| Retain contractor | Late 2015- Late 2016 |
| Design & Construction | 2017-2022 |

4. Project Scope and Definition (December 2013-June 2014)

The core project scope encompasses the new bridge, the interchanges at both ends (i.e., Steveston Highway and Highway 17A) and the removal of the tunnel. The broader project scope considers the Highway 99 corridor from Bridgeport Road in Richmond to the Canada/U.S. border in Surrey including all interchanges, as well as connections to other provincial highways, and regional and local routes. Improvements to the Oak Street Bridge are not part of the project scope. Over the next few months, MOTI will conduct additional technical work that will include:

- more detailed traffic analysis (e.g., current and forecast traffic volumes and patterns, transit options, origin-destination studies);
- structural and geotechnical considerations (e.g., review of soil conditions, rehabilitation and seismic upgrade of the Deas Slough, Rice Mill Road and CN Rail bridges, and at the Steveston Highway and Highway 17 overpasses across Highway 99);
- constructability reviews to ensure that traffic will be able to move throughout the corridor and tunnel while the replacement structure is built; and
- potential associated Highway 99 corridor improvements.

Stakeholder consultation during this time has included a workshop to obtain feedback on opportunities for local cycling improvements as part of the project scope. City staff and members of the Richmond Active Transportation Committee attended the workshop held at the project office on April 16, 2014. A follow-up meeting to discuss initial concepts is tentatively scheduled in late June 2014.

This phase of work will culminate with the preparation of a project definition report, which will identify a preferred scope of improvements including the number of lanes on the bridge and improvements to specific interchanges. A draft business case will also be prepared that will include a project cost estimate. The results of the above work are anticipated to be presented by MOTI for public discussion in late Spring 2014.

Summary of Key Points of Discussion to Date

Through bi-weekly meetings since December, 2013, key aspects of the project discussed to date between City and MOTI staff are noted below.

- Impacts on Land Use: MOTI indicates that the selected option has the least impact on farmland on both sides of the river. There would be no piers in the river and no dredging of the river will be required. Staff continue to provide input to MOTI to ensure that any impacts to existing land use in Richmond, particularly within the Agricultural Land Reserve, are minimized or nil. The full extent of the land requirements will not be known until a preliminary design is developed.
- Address Congestion: Staff have identified that the overall project must address traffic congestion along the entire corridor and not result in simply shifting it from one location to another (e.g., from the north end of the tunnel to the south end of the Oak Street Bridge).
- Steveston Highway-Highway 99 Interchange: MOTI anticipates construction of a new interchange rather than an upgrade of the existing interchange with some of the ramps on the

east side potentially being re-configured. MOTI is examining options that would enable elimination of the existing traffic light on the east side of the interchange to improve traffic flows (e.g., existing northbound Highway 99 off-ramp moved to the north side and re-configured as a cloverleaf). Staff have expressed the need for a safe and convenient drop-off area and connecting walkway for passengers accessing bus stops within the area of the interchange as TransLink envisions this location as a major passenger transfer point.

- Retention of Tunnel: MOTI advises that the core project includes removal of the tunnel as the new crossing will be more cost-effective due to on-going maintenance expenses associated with the tunnel.
- Origin-Destination Survey of Tunnel Traffic: Preliminary findings of recent field data collected by MOTI regarding traffic volumes through the GMT suggest that:
 - over 50 per cent of traffic is destined for Richmond; and
 - of the above 50 per cent, 17 per cent in the morning peak and 26-30 per cent in the mid-afternoon/evening peak is oriented to Steveston Highway west of Highway 99.

Staff are seeking further clarification and details to validate these findings.

- Bridge Design: At this time, MOTI envisions a cable stay bridge at a height similar to that of the Alex Fraser Bridge. Staff have suggested that consideration be given to incorporating design elements that would distinguish the new bridge as an iconic gateway to the region rather than simply constructing a copy of the Alex Fraser Bridge. MOTI also advise that the bridge will include provision for pedestrians and cyclists. Staff have requested that the project incorporate transit improvements (e.g., safe and convenient bus transfer points, potential kiss-and-ride site).
- Number of Lanes: While no decision had been made yet regarding the number of vehicle lanes, it appears that MOTI is pursuing either an eight- or ten-lane crossing comprised of the following in each direction:
 - three general purposes lanes (as in existing peak hour conditions);
 - one transit/HOV lane; and
 - one special purpose lane potentially for trucks (i.e., climbing lane) or provision for future rapid transit.

It is expected that before any decision is made on the number of lanes, a number of traffic modelling scenarios will be undertaken to test the sensitivity of travel demand by varying the number of lanes, rate of toll and interchange configurations.

- Funding & Potential for Tolls: MOTI have indicated that no decision has been made at this time on whether or not the new bridge would be tolled. However, it is conceivable that the new bridge will most likely be tolled, preceded by recent new major bridges such as Port Mann Bridge and Golden Ears Bridge, as a transportation demand management measure and means to recover project costs. Staff have further expressed to MOTI the need for a comprehensive review of the provincial tolling policy as the current model of tolling selected crossings is resulting in undesirable and unbalanced traffic demand across all crossings including the free alternatives. Indeed, the Province should undertake a review of its current tolling policy with the intent of moving to a policy of “mobility pricing” whereby a consistent approach to distance-based tolling across the entire region is applied that is fair, rational and efficient.
- Blundell Road-Highway 99 Interchange: While improvements along the Highway 99 corridor between Delta and Vancouver are anticipated, it is unknown at this time whether or

not a new interchange at Blundell Road would be part of this project. Staff have advised MOTI that the new interchange has been part of the Richmond *Official Community Plan* since 1999 and it is expected to be included for consideration as part of the project primarily for goods movement. As noted in Attachment 1, PMV has also expressed its desire for more direct access from Highway 99 to the Fraserport site.

- Westminster Highway-Highway 99 Interchange: MOTI advises that the existing overpasses are among the oldest along the Highway 99 corridor and, as such, may be candidates for replacement as part of the project.
- Local Road Improvements: Staff also expect that the project will call for the timely implementation of various local road improvements and have stressed that the respective responsibility for provincial and local road improvements should be clearly defined based on jurisdictional boundaries with allowance for local improvements triggered by the project to be included in the project scope. The overall planning and construction between the two jurisdictions should also be coordinated in a seamless manner with external funding (e.g., TransLink, PMV, ICBC) towards any local road improvements to be sought and maximized.

Proposed Project Objectives

In light of the upcoming next round of public consultation, it is important that any key improvement objectives from Richmond's perspective be identified prior to any key decisions made by MOTI on defining the project scope. As such, staff recommend that the following broad project objectives be endorsed and forwarded to MOTI for its consideration in the development of a preferred scope of improvements for the George Massey Tunnel Replacement.

- A. Land Use: ensure a net zero or positive impact to agricultural land.
- B. Support Regional Transportation Vision: TransLink's Regional Transportation Strategy Framework has target goals for 2045 of more than one-half of the region's trips to be by means other than private vehicle (versus 27 per cent in 2013) and for kilometres driven by auto to be reduced by one-third. Accordingly, any expanded peak-hour lane capacity on a new bridge should be dedicated to a specific use (e.g., transit, HOV, trucks) rather than open to general purpose traffic in order to adhere to these goals. Furthermore, the project should include effective improvements to support the increased use of transit, cycling, carpooling and walking in the vicinity of interchanges.
- C. Reduce Congestion: travel times, reliability and GHG emissions from idling vehicles should be improved, particularly at the Steveston Highway-No. 5 Road intersection where it has been consistently ranked as highest in Richmond for congestion and traffic safety concerns. Many major businesses, employees, residents, and visitors in this area have cited the tunnel traffic congestion as their biggest challenge to maintaining reasonable access. Furthermore, congestion should be improved along the entire corridor including connecting roadways and not be simply moved to further downstream of traffic flow.
- D. Supporting Connections: connecting pedestrian, cycling, transit, and related roadway improvements at both ends of the crossing and along Hwy 99 corridor, including replacement/upgrade of the interchanges within the highway right-of-way and local roadway tie-ins, should be included in the design, scope and budget of the overall project.
- E. An Iconic Bridge: being the first river crossing on Highway 99 entering into the western part of the region from the south, the new bridge should provide a provincial and regional legacy by

incorporating a creative architectural design to signify it as an iconic visual gateway and to celebrate its excellence in facilitating sustainable transportation.

Financial Impact

None.

Conclusion

The Ministry of Transportation & Infrastructure is working towards the release at the end of June 2014 of a draft project definition report for the George Massey Tunnel Replacement Project, which will be followed by a public consultation phase to allow comment on the report. Staff recommend that MOTI be forwarded the proposed broad project objectives for its consideration in the development of a preferred project scope of improvements to ensure Richmond's and regional interest is respected.



Joan Caravan
Transportation Planner
(604-276-4035)

JC:lce

Att. 1: Letter from Port Metro Vancouver to Ministry of Transportation & Infrastructure
Att. 2: Rendering of New George Massey Tunnel Replacement Bridge



April 26, 2013

Mr. Geoff Freer
 Executive Project Director
 George Massey Tunnel Replacement Project
 Ministry of Transportation and Infrastructure
 7351 Vantage Way
 Delta, BC V4G 1C9

Dear Mr. Freer:

Thank you for inviting Port Metro Vancouver's (PMV) participation in the Province's consultation process for the George Massey Tunnel Replacement Project. We recognize the importance of this project to improving the efficient movement of people and goods along the Highway 99 corridor in support of a number of regional objectives related to livable communities and a healthy economy. As the manager of Port lands throughout the region that are both served by this corridor and impacted by the Tunnel, our interests for this project are primarily related to the goods movement aspect. We appreciate this opportunity to provide our comments in the early stage of the project as you assess a range of different options for a future crossing and consider other improvements along the corridor.

This project has potential to improve the efficiency of container truck movements along the corridor in at least two ways: reducing congestion that currently occurs at the tunnel and improving connectivity to nearby industrial lands. While trucks destined for or originating from a port facility currently account for a very small portion of total traffic travelling through the project area, their efficient movement is important to the competitiveness of this region's gateway. Replacement of the tunnel with a modern crossing can reduce congestion and improve this competitiveness, particularly if consideration is given to improving traffic flows at the interchanges on either side of the tunnel.

We were pleased to see the scope of the project now includes a longer section of the Highway 99 corridor. As you explore opportunities for improvements along the route, we encourage you to consider options to provide direct access from Highway 99 to major truck destinations nearby such as the busy and growing logistics hub along Blundell Road. Doing so would support several of the project's stated draft goals by diverting truck traffic away from local communities, reducing truck travel distances and related emissions, and facilitating trade through efficient goods movement.

This project can also expand trade opportunities for marine terminals along the Fraser River, located both on PMV managed land and on privately held sites, by improving vessel access to those terminals. The Fraser River is a thriving national asset, as economically significant to the Canadian economy as the St. Lawrence Seaway. The river economy generates more than \$4.6 billion in GDP annually, \$9.6 billion in economic output and generates 53,150 jobs. The single biggest challenge to growing or even just maintaining these benefits is the George Massey Tunnel.

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Mr. Geoff Freer
George Massey Tunnel Replacement Project
April 26, 2013
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The current depth of the Tunnel limits the maximum channel depth that can be achieved for the main arm of the Fraser River. With a continuing trend towards larger vessels in the shipping industry, the percentage of the total global fleet that can transit the river is decreasing. Established terminals up river of the Tunnel are already at risk of becoming obsolete as they are unable to accommodate these larger vessels. Similarly, the Tunnel deters new investment to expand or develop new marine terminals on vacant or underutilized industrial sites along the river. In our land-constrained region, it is critical that we make best use of existing industrial lands and support their continued viability. Replacing the tunnel with a new crossing that allows larger vessels to access industrial sites along the river would provide such support.

In summary, our preference is for a project design that enables container trucks to travel more efficiently, improves connections to riverfront industrial lands and provides sufficient channel clearances for existing and potential future vessels transiting the Fraser River. We recognize there are a number of options that could achieve these objectives in balance with objectives of other stakeholders. Of the options you've presented for the George Massey Tunnel itself, only Scenarios Two and Three have potential to address our last objective to provide sufficient channel clearances. We are happy to work with you to develop channel clearance criteria to advance either of these options. However, please note that there are many privately held industrial parcels along the Fraser River that we do not represent. We encourage you to consult with the owners of these parcels directly as they will have their own aspirations for their sites that may inform the design of a new crossing.

Once again, I'd like to thank you for this opportunity to provide feedback on the George Massey Tunnel Replacement Project. A modernized crossing and improved connectivity to industrial lands from the Highway 99 corridor will further expand trade opportunities for the Fraser River terminals well into the future, which in turn supports a strong economy and good local jobs for many years to come. Should you have any questions regarding the above, please contact either myself or Jennifer Natland, Manager, Development, at 604-665-9206 or Jennifer.natland@portmetrovancover.com.

Yours truly,

PORT METRO VANCOUVER



Robin Silvester
President and Chief Executive Officer

cc: Jennifer Natland, PMV

Rendering of New George Massey Tunnel Replacement Bridge



CNCL - 472