To: GVTA Board of Directors

From: Glen Leicester, Vice-President, Planning

Date: July 11, 2006

Subject: Response to GVRD Board Questions on the Provincial Gateway Program

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Staff Recommendation:
That the GVTA Board receives this report for information and directs staff to forward a copy of this report to the Greater Vancouver Regional District Board.

PURPOSE

The purpose of this report is to respond to a request from the GVRD Board for the GVTA Board to offer advice on certain aspects, including the phasing, efficiency and cost-effectiveness of the Port Mann/Highway #1 component of the Province's proposed Gateway Program and the recently-released Project Definition Report.

BACKGROUND

At its April 21, 2006 meeting the GVRD Board passed a number of resolutions arising from the GVRD Land Use and Transportation Committee's (LUTC) consideration of a GVRD staff report (Attachment A). While the GVRD Board decided to refer the majority of the GVRD staff recommendations to member municipalities for comment, it passed the following two-part resolution that requested advice from the GVTA Board on the specific issue of widening the Port Mann Bridge and Highway #1:

'That the GVRD Board request the GVTA Board to advise the Board on the implications of the proposals to twin the Port Mann Bridge and widen Highway 1 ahead of the timing assumed within the regional growth management strategy, specifically with regards to:

1. *Whether proceeding with these projects in a similar time frame as other provincial government transportation projects within Greater Vancouver, and regional transportation priorities identified in the GVTA's Strategic Transportation Plan and 10-Year Outlook, is the most efficient and cost-effective phasing of these initiatives for achieving regional transportation objectives;*

2. *Whether deferring these projects and proceeding with the currently committed Golden Ears Bridge, replacement of the Pitt River Bridge, improved transit connections to the regional rapid transit system and the introduction of transportation demand management measures such as tolls, would adequately address the need to improve the movement of people and goods in this corridor.'*

Each of the GVRD Board questions is discussed in the following section.

DISCUSSION

Context

Before responding to the specific questions it should be noted that the Livable Region Strategic Plan (LRSP) did not include specific proposals to twin the Port Mann Bridge. What the Livable Region Strategic Plan did call for was that there would be HOV lanes in either direction across the bridge plus 2 general-purpose traffic lanes in each direction. In total this amounted to 6 lanes (the current bridge is only wide enough to accommodate 5 lanes – 4 general purpose plus an eastbound HOV lane).

It should also be noted that this 6-lane configuration of the Port Mann Bridge was not assumed to exist in isolation. It formed one of a series of objectives including, by 2006, the provision of three rapid transit lines (Vancouver - Richmond, New Westminster - Coquitlam and Central Broadway - Lougheed Town Centre), approximately 1800-1900 buses, progress in moving towards road pricing in the region's road system, and a number of other transportation demand management measures.

Review of the GVRD Questions

Each of the GVRD Board questions is discussed below. In both cases clear 'technical' responses are challenging to prepare. This is due to several factors including (i) the general nature of the questions, (ii) the fact that not all aspects of the Gateway Project are yet fully defined (e.g. lane allocation or other priority for transit) and (iii) the considerable amount of technical work that would be required to fully analyse the project.

Question 1: *Whether proceeding with these projects in a similar time frame as other provincial government transportation projects within Greater Vancouver, and regional transportation priorities identified in the GVTA's Strategic Transportation Plan and 10-Year Outlook, is the most efficient and cost-effective phasing of these initiatives for achieving regional transportation objectives*

Providing a full response to this multifaceted question is complicated due to a number of considerations. First the GVTA's *Strategic Transportation Plan and 10-Year Outlook* deals largely with only those matters under the control of the GVTA and *Transport 2021* and the LRSP provide a broader regional context. However, the GVTA's *Strategic*

Transportation Plan and 10-Year Outlook is not a transportation plan for all agencies in the region and does not include the Provincial Ministry of Transportation.

Second, there are many targets for transit use and the implementation of a number of policy actions in the *Transport 2021* Plans, but these are now almost 13 years old. Nonetheless, the LRSP sets out the objective of 'increasing transportation choice' with an explicit goal of increasing travel by transit[1]. A third consideration is the nature of the Province's Program Definition Report (PDR) which, in large part sets out what the Province proposes to do to address what implicitly MoT and many others see as a clear problem that needs to be addressed with a specific single course of action. A further factor is that it is not yet certain what features the project will include, e.g: the timing of all of initiatives (the PDR does provide an indication of the timing of most of the projects), or the extent of transit priority or other lane allocations. These considerations alone influence the outcomes that may arise from the project.

As a consequence, in order to fully answer the GVRD Board's first question would require GVTA staff to identify and evaluate a series of alternative courses of action, phasing, etc. It is beyond the resources of the GVTA to mount such as an extensive technical exercise, which would take many months to complete, even if resources were available. However in order to gain some insight, staff has undertaken some high-level sketch forecasting/modelling of the effects of the full Gateway Program on travel demand, with and without the Port Mann/Highway #1 component.

For the purpose of this analysis, forecasts have been made for the year 2011, assuming that all the Gateway Program facilities were completed at that time[2]. It is stressed that this work is cursory because, as noted earlier, a number of factors have yet to be defined in relation to the Gateway Program, including detailed phasing of elements of the program and lane allocation of other priority measures for transit, HOV or trucks. Nonetheless some general observations may be made:

- **Impact on Transit Use** – The project, based on a fixed land use pattern, would appear to have only a limited downward effect on transit use – likely to be less than one percent of overall regional transit ridership. If the project induced

[1] While a more detailed set of objectives and related actions was included in the joint GVRD/Provincial Transport 2021 Plans that were adopted by the GVRD the fall of 1993, they have not necessarily been actively pursued. For example, targets related to the pricing and supply of parking have not been pursued, Similarly while Transport 2021 set out modal share targets for transit for the years 2006 and 2021, these have proved to be unachievable in the absence of the implementation by all levels of government of the suite of actions related to land use, and the management of both transportation demand and supply (including the use of tolls to fund transportation and manage demand)

[2] In reality the facilities would be phased over a number of years, and probably would not be complete by 2011, but assuming that they were all completed by 2011 provides insight to their collective impact on the transportation system for a date close to 2006. This is useful because there is considerable data regarding actual travel patterns and volumes today.

changes in land use that were less conducive to transit use, then the effects may be greater.

The impact on transit use would vary across the region with some increased effect in the Northeast Sector and South of Fraser. For example, the widening of Highway #1 with all lanes as general-purpose traffic lanes, may reduce the projected AM peak hour volumes on the Evergreen LRT Line by up to 80 people or 5% of the westbound ridership in 2011. Similarly, the transit volumes in the peak direction (from Surrey to New Westminster) on the Expo SkyTrain line across the SkyBridge are estimated to decrease by up to approximately 500 trips or 9% in the AM peak hour in 2011. If HOV lanes and express bus services were introduced on Highway #1 then the changes would be expected to be lower.

It should be noted that the figures provided above represent order-of-magnitude estimates. To provide more refined estimates would require detailed definition of future lane configurations, express bus services etc.

- **Traffic on Highway #1** – The actual volumes of traffic that would use Highway #1 would depend on a range of factors including tolling, lane allocation and transit services. It would also be affected by the timing on upgrades to the Mary Hill Bypass. The GVTA's forecasting model is also a peak-hour only model (i.e. it deals only with one peak hour, 7:30-8:30 am). This is important because it is not known to what extent any increase in capacity would allow people who now travel outside this one-hour period to travel within the busiest hour, rather than being new automobile trips. Not surprisingly, some of the greatest effects on traffic volumes appear to be occurring west of the Port Mann Bridge, largely because the use of a widened Highway #1 would be 'free' in this section. This work also shows that similar effects would be seen on the Mary Hill Bypass as and when it is upgraded. Again this is largely due to the facility being 'free' at the point of use[3].

- **Effects on the Pattullo Bridge** – In undertaking forecasts of travel on Highway #1, the model also generated forecasts of travel on other links in the regional network, including the Pattullo Bridge. The work undertaken appears to confirm that there is likely to be some diversion of trips to the free Pattullo Bridge, especially in the reverse-peak direction, where there is sufficient capacity to accommodate growth. These potential increases may compound some of the existing traffic problems[4] on the Bridge and serve to highlight the challenge of

[3] The introduction of tolls on one project, outside the context of the reaffirmation and actions on a clearly defined approach to transport pricing system-wide in the region could compromise the ability of the region to pursue its previously statedobjectives. That having been said, some of the more challenging aspects of the LRSP/Transport 2021 such as widespread use of tolling, have not been pursued.. This being the case, it may be that the province's approach to tolling represents a more pragmatic approach in the absence of actions to implement a broader pricing regime.

[4] More traffic volumes on the Pattullo Bridge as well as more opposing traffic flows.

tolling only the Port Mann Bridge and constructing the SFPR, which makes such diversion to a free Pattullo crossing easier to achieve.

Question 2: *Whether deferring these projects and proceeding with the currently committed Golden Ears Bridge, replacement of the Pitt River Bridge, improved transit connections to the regional rapid transit system and the introduction of transportation demand management measures such as tolls, would adequately address the need to improve the movement of people and goods in this corridor.*

This question is somewhat easier to respond to because it is clearly targeted at seeking a response related to the specific issue of addressing the need to '*improve the movement of people and goods in this corridor,* i.e: Highway #1/Port Mann. While there can be little doubt that proceeding with the Golden Ears Bridge, replacement of the Pitt River Bridge may offer some reduction in congestion in the Highway #1/Port Mann corridor, it is staff's view that any reduction in congestion in this corridor arising from those projects would be modest at best.

Given the present chronic congestion at the Port Mann Bridge with (for much of the day) far more vehicles wanting to use it than there is capacity, it is staff's view that it would be impractical to provide the much needed bus services between Surrey and Coquitlam regional town centres and along Highway #1 from Langley and Surrey to connect to the Millennium Line at Braid Station. Staff have been unable to explore the effects of the introduction of bus queue jumpers on the feasibility of such services as this would require some significant functional planning work to determine their technical feasibility and the simulation of the effects on general traffic.

In order to examine the introduction of tolls on other existing facilities would be no small exercise and it is beyond the ability of existing staff resources to undertake an extensive assessment of the impact, which would require both quantitative and qualitative (opinion) research. However it is staff's view that tolls alone, even with additional demand management and other transit investments, would probably not be able to fully offset what, from a purely traffic perspective, are clear deficiencies that persist for 12 to 14 hours per day.

As such, staff are not able at this time to suggest an alternative package that *would adequately address the need to improve the movement of people and goods in this corridor*. A more thorough examination into possible alternative scenarios without the Port Mann Bridge twinning or widening of Highway #1 west of the Bridge would require considerable time, and would require the involvement of the province.

CONCLUSION

This report has attempted to respond to the request from the GVRD Board for the GVTA Board to offer advice on certain aspects including the phasing, efficiency and cost-effectiveness of the Port Mann/Highway #1 component of the Province's proposed Gateway Program.

In response to the first question, staff are unable to fully address the issues raised due to the considerable time and effort it would take to complete the necessary technical work. Nonetheless, some limited commentary is provided on the effects on transit use, traffic on Highway #1 and the Pattullo Bridge. The extent of these effects would vary depending on detailed aspects of the Gateway Program such as lane allocation for HOV or transit and express buses services on Highway #1.

With respect to the second question regarding the effects of a series of initiatives on congestion in the Highway #1/Port Mann corridor, staff conclude that it is probably unlikely that the measures described in the GVRD Board resolution would adequately address the congestion of goods and people in the corridor, noting that not all aspects of the question could be examined properly in the time available.