
TO: CITY MANAGER **DATE:** 2006 February 16

FROM: DIRECTOR PLANNING AND BUILDING **FILE:** PL 37500-07
Reference: Gateway Program

SUBJECT: PRELIMINARY REVIEW OF GATEWAY PROGRAM'S "PROJECT DEFINITION REPORT"

PURPOSE: To advise Council of current issues regarding the Gateway Program.

RECOMMENDATION:

1. **THAT** Council send copies of this report to members of the Transportation Committee, including the Bicycle Advisory Group, for their information.

REPORT

1.0 INTRODUCTION

On 2006 February 6, in response to the recent release of documents regarding the provincial Gateway Program of road construction, Council requested an update on that program. Selected events leading up to this are:

- **2005 May 30:** In response to a staff report (copy provided under separate cover) Council adopted motions opposing the twinning of the Port Mann Bridge as was proposed, requesting alternatives that better meet the objectives of the *Livable Region Strategic Plan (LRSP)*, and asking the Minister of Transportation to respond to various questions.
- **2005 July 28:** The Minister of Transportation responded (copy *attached*). The letter indicates that demand management measures such as High-Occupancy Vehicle (HOV) lanes, transit queue-jumper lanes, other designated lanes, ramp metering, and tolling are under consideration. The Minister also expressed a general commitment to minimizing environmental impacts, and to public consultation.
- **2006 January 31:** The Gateway Program released its *Project Definition Report (PDR)*. This is the first public document to describe the full Program in some detail since the creation of the Gateway Program office in 2003. Copies have been provided to Council under separate cover.

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- **2006 February 14:** The Gateway Program released several Companion Documents in support of the *PDR*. The Companion Documents cover: lane allocations, land use, road pricing, transit, cycling, and a travel survey conducted jointly with TransLink in 2004. For the most part, these are discussion documents that explore policy issues, but do not provide detailed analyses of project options. As these were released only one day prior to the deadline for this City report, the review to date of the Companion Documents has been cursory.

The current staff report provides an introductory overview of the *PDR*, and links it back to the questions that Council asked the Minister on 2005 May 30. This report also provides a preliminary indication of the current issues and benefits from the City's perspective. These are provided for discussion purposes at this time. It is intended that a subsequent staff report will form the basis for updating Council's position regarding the Gateway Program.

2.0 THE PROJECT DEFINITION REPORT

The *PDR* opens with an extensive discussion of the current situation. It discusses existing traffic volumes and congestion, population and employment growth, commuting patterns, expanding trade and tourism, truck movements to/from the ports, and other factors contributing to travel demand. It then goes on to indicate that, if no action is taken, traffic congestion can be expected to worsen over the next 25 years. However, the *PDR* does not indicate specific traffic volumes that could be expected.

The *PDR* places the Gateway Program in the context of other regional transportation plans (e.g., TransLink's *2005 – 2007 Three-Year Plan & Ten-Year Outlook*). It then explores a range of demand management options that could potentially be incorporated into the Gateway Program, such as transit priority, lane allocations, and road pricing (tolling). The *PDR* estimates that the Program will include \$50 million in pedestrian and cycling infrastructure (i.e., generally adjacent to roads that are being built or re-built). The budget also includes \$10 million to be cost-shared with municipalities for the construction of connecting bike routes (i.e., beyond the scope of the provincial road projects).

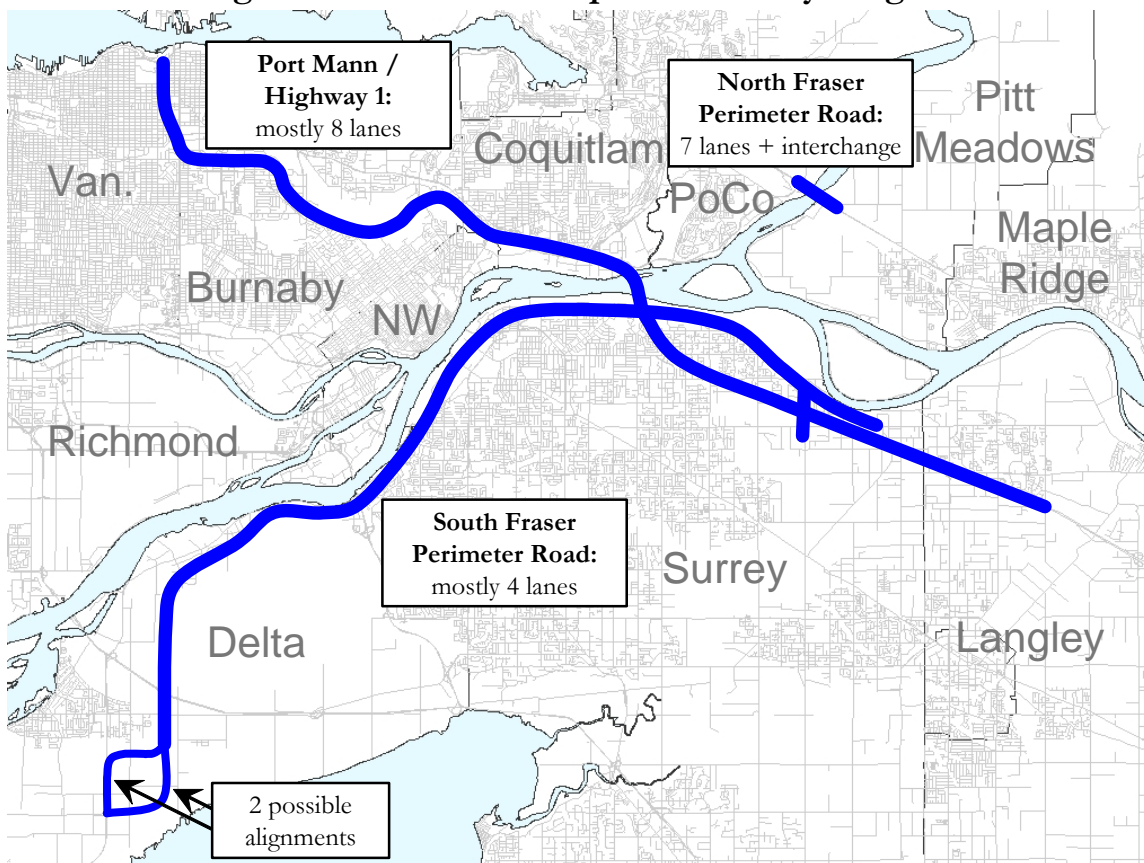
The three projects which comprise the Gateway Program are described in some detail in the *PDR*. However, they are essentially the same descriptions as provided to Council in the staff report of 2005 May 30. The three projects are illustrated in **Figure 1**. In general terms, they are:

- **Port Mann / Highway 1 (PMH1):** widening of Highway 1 from McGill Avenue in Vancouver to 216th Street in Langley, primarily to eight lanes. Six-lane sections from McGill Avenue to Grandview Highway, and from 200th Street to 216th Street in Langley. Possibly ten lanes (three "core" lanes plus two auxiliary lanes in either direction) near Willingdon interchange. Port Mann Bridges (existing plus a new parallel structure) to have eight lanes on opening day, with allowance for ten lanes. Lane allocations, such as HOV lanes, are discussed but not committed to. A possible opening-day scenario would be three general-purpose lanes and one HOV lane in either direction. Significant

improvements to interchanges and overpasses along the corridor. Estimated cost: \$1.5 billion.

- **South Fraser Perimeter Road:** a new limited-access road from approximately Highway 17 at Deltaport Way (in Delta) to Highway 1 at Highway 15 (and Golden Ears Bridge) in Surrey, primarily with four lanes. The route generally follows the south bank of the Fraser River. It would commence with a mixture of intersections and interchanges, upgrading to all interchanges as demand increases. Estimated cost: \$0.8 billion.
- **North Fraser Perimeter Road:** replacing the four-lane Pitt River swing bridge with a six-lane fixed bridge (plus a seventh lane eastbound for trucks, due to operational considerations), and construction of a Lougheed Highway / Mary Hill Bypass interchange. Other elements of the North Fraser Perimeter Road are either for delayed implementation or are TransLink's responsibility. Estimated cost: \$0.4 billion.

Figure 1: Current Concept for Gateway Program



Coupled with an additional contingency fund of \$0.3 billion (i.e., beyond the contingencies already contained in the above estimates), the complete Gateway Program is estimated to cost \$3.0 billion.

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The estimated traveller benefits of the Gateway Program are provided in the *PDR*, along with a more general discussion of the wider economic benefits. The benefit/cost ratio for the full Gateway Program is estimated at 3:1.

Of the three projects:

- The South Fraser Perimeter Road is most directly aligned with the *LRSP*, being shown explicitly in that document.
- The widening of the Pitt River Bridge to six lanes is contemplated in the *LRSP*, provided that additional lanes are reserved for buses and/or HOVs. The Gateway Program is proposing seven lanes (one of them for trucks), and likely would not have HOV provision on the bridge structure itself. The *PDR* indicates that "... public feedback during pre-design consultation overwhelmingly supported configurations having all general purpose lanes, primarily due to the lack of supporting HOV networks east and west of the bridge." It is unclear whether or not the existing HOV lane on westbound Lougheed Highway (in Pitt Meadows) would be retained. Gateway and TransLink staff are reportedly working on identifying transit priority measures for the Pitt River Bridge. It would also be designed structurally to accommodate future light rail transit.
- PMH1 is the most controversial project, widely perceived as being damaging to the growth strategy provisions of the *LRSP*. It is also of greatest interest to the City of Burnaby. The balance of this report will therefore focus on this project.

The goals for PMH1 are given in the *PDR* as:

- Reduce travel times for trips along the corridor and increase their predictability;
- Reduce congestion at entry and exit points to Highway 1;
- Reduce travel times for trips across the corridor and improve connections within and between communities;
- Improve access to and egress from the corridor for goods movement;
- Facilitate the introduction of transit service along the corridor and the improvement of transit service across the corridor;
- Expand HOV, cycling and pedestrian networks along or in the vicinity of the corridor; and
- Improve safety for vehicle operators and passengers, cyclists, and pedestrians.

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3.0 PUBLIC CONSULTATION FOR PMH1

Opportunities for public consultation are to be provided at three points in the project schedule:

- **Pre-design.** This is the current round of consultation. It focuses on potential demand management measures, cycling, and interchange improvement goals. It does not seek specific input on the proposed highway expansion. The deadline for public feedback is 2006 May 7.
- **Preliminary design.** Shows key interchanges and access features, and more information on demand management. It will deal with specific rather than conceptual alignments.
- **Detailed design.** Focuses on fewer areas, in more detail. Specific interchanges and access features. Also aesthetic features (landscaping, lighting) and mitigation measures. More analysis on the financial and technical feasibility of the project.

Public open houses along the Highway 1 corridor (from Vancouver to Abbotsford) are scheduled from February 17 to April 29 of this year. In Burnaby, they are:

- Saturday, March 4, 10 a.m. to 1 p.m., Eight Rinks, 6501 Sprott Street
- Wednesday, March 8, 6 p.m. to 9 p.m., Bonsor Recreation Centre, 6550 Bonsor Street

In addition, there are small-group meetings scheduled with various stakeholders.

The *PDR* anticipates that this round of consultation will be followed by an Environmental Assessment of this project under the harmonized provincial / federal process, in 2006 and 2007. Project procurement is estimated for 2007, with design and construction extending from 2008 to 2013.

4.0 COUNCIL'S PREVIOUS QUESTIONS

In adopting the 2005 May 30 report, Council asked several questions of the Minister of Transportation. The questions, and their apparent answers based on the *PDR* and the Minister's letter of 2005 July 28, are as follows.

1. Request that the Minister develop alternatives for PMH1 that better meet the objectives of the *LRSP*.

There are several aspects to this issue:

- a. **Growth management.** The *LRSP* takes the approach that development of the region can and should be managed, with growth focused within the Growth Concentration Area, and the Town Centres. The four "pillars" of the *LRSP* are: protect the green zone, build complete communities, achieve a compact metropolitan region, and increase transportation choice.

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It explicitly uses the provision of additional transportation capacity in some locations, and capacity restraint in others, to shape the growth of the region. In contrast to the *LRSP* approach, PMH1: is primarily the construction of more general-purpose road capacity, extends well beyond the Growth Concentration Area and promotes growth in outlying areas; promotes auto-oriented development, and will likely place additional development pressures on the Agricultural Land Reserve.

- b. **Additional capacity.** More specifically, PMH1 proposes additional vehicular capacity in the Highway 1 corridor generally, and at Port Mann specifically. The *LRSP* envisioned not more than six lanes (two HOV) for this whole corridor, as opposed to the eight or ten (with possible HOV) being proposed by the Ministry. The *LRSP* "... relies on public transit and other high occupancy forms of travel to provide the *additional* transportation capacity needed to respond to population and economic growth" (emphasis added) and envisions "...a transit-oriented and automobile-restrained transportation system".
- c. **Transportation demand management.** A key feature of the *LRSP* is the proposed use of various measures to shape transportation demand (using methods identified in *Transport 2021*, an underlying policy document) rather than just responding to it. The *PDR* discusses a range of possible demand management measures, including HOV lanes, transit-priority lanes, truck-priority lanes, queue-jumper lanes for priority vehicles at key congestion points, ramp metering, tolling, and High-Occupancy Toll lanes (HOV lanes that can be used by other vehicles upon payment of a toll). Some of the options are further discussed in the Companion Document *Lane Allocation Position Paper*, but without reference to the specific impacts that the options would have on traffic volumes.

In the *PDR*, it is concluded that "... consideration should be given to using tolling on the Port Mann / Highway 1 corridor as a congestion reduction measure and as a means of defraying the cost of improvements." A toll of \$2.50 on the Port Mann Bridge is given as an example. Also, preference is given to tolling all vehicles (rather than the High-Occupancy Toll concept, which would introduce more vehicles into already-busy HOV lanes).

Other tolling schemes, such as distance-based tolling, are explored in the Companion Document, *Road Pricing Review*. Though not included in the *PDR*, it is important to clarify whether or not the Ministry considers distance-based tolling an option for PMH1, as this would have different implications for Burnaby than a point-toll on Port Mann. A recent press

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report quotes a not-yet-released technical report as recommending a combination of a Port Mann toll and distance-based tolling.¹

More broadly, there appears to be some acceptance of the essential role of demand management in maintaining mobility, with the *PDR* stating that “If the improved highway is not effectively managed through tolls and/or other congestion-reduction measures, analysis shows that it would reach current levels of congestion 5 to 10 years after project completion. Additionally, without these measures, the level of congestion in the corridor would make it difficult to offer improved transit services along the route.” This is a considerable departure from past provincial highway projects, which have focused exclusively on the construction of new capacity.

However, while a variety of demand management strategies are *discussed*, none of them are *committed* to at this point in the process. All demand management options are subject to the current public consultation process, and the subsequent decision of the Ministry.

- d. **Alternative modes.** Options for accommodating transit in the corridor include HOV lanes and the provision of priority access at selected interchanges.

The inclusion of a rail-based rapid transit line on the Port Mann Bridge is discussed in the *PDR*. The *LRSP* views rail-based transit as desirable in principle, but does not contemplate such a service along Highway 1. The *PDR* concludes that this is a poor location for rail-based transit, as the Highway 1 alignment is too far away from the town centres that would support such a high-capacity transit service. The *PDR* proposes to design the new Port Mann Bridge structurally to allow for the additional weight of light rail transit in the future, should such a service be deemed desirable.

The *PDR* proposes construction of pedestrian and cycling facilities on the new Port Mann Bridge, and on all new interchanges and overpasses crossing the freeway. This will significantly reduce the barrier posed by Highway 1 to cyclists and pedestrians in the study corridor.

Outstanding issues: the current proposal is in violation of the four “pillars” of the *LRSP* and calls for up to 150% more general-purpose capacity at Port Mann than is envisioned in the *LRSP*. Demand management appears to have support but is not committed to. The possible role of distance-based tolling needs to be clarified.

¹ Boei, William; “Twinning Tunnel Part of Victoria’s Long-Term Plan” in Vancouver Sun; 2006 February 16.

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2. Request that the Minister undertake a consultative process with the GVRD, TransLink and affected municipalities to ensure that any improvement plans for PMH1 are fully compliant with the underlying objectives of the LRSP.

The extent of compliance with the *LRSP* is addressed in the previous question. The consultative process is currently underway, but has not responded to Council's specific request for a joint consultative process to help ensure that the project elements are consistent with the *LRSP* objectives.

Outstanding issues: the current public consultation process is focused almost exclusively on possible demand management measures, and does not seek input on the merits of the freeway expansion or other solutions that might be contemplated. As noted above, lack of compliance with the LRSP is still a significant concern.

3. Will the Gateway Program evaluate options that would have no additional general-purpose capacity on the Port Mann Bridge and Highway 1 corridor?

The *PDR* focuses almost exclusively on a single concept which includes increased general-purpose capacity. The only non-expansion options discussed are the application of tolls, without *any* road or transit improvements. The *PDR* states that applying such a toll at Port Mann would divert too much traffic to the Pattullo Bridge, whereas the *LRSP / Transport 2021* approach of applying tolls to all the major water crossings in the region (in the absence of any new road or transit capacity beyond that shown in TransLink's 2005 – 2007 *Three-Year Plan & Ten-Year Outlook*) would be detrimental to the region's economic development.

However, there is no supporting documentation beyond these general statements. There is no evaluation of the positive and negative features of these concepts as compared with the current proposal. In addition, other possibilities are not explored. For example, the Port Mann Bridge for several years had an eastbound HOV / queue jumper lane that terminated just before the bridge, allowing priority vehicles to jump to the head of the queue. The same concept is still in use in both directions on the George Massey Tunnel. Such a concept in the westbound direction, merging into the general-purpose lanes before the bridge, could be tested for use by various priority vehicles, possibly including buses, HOVs, and trucks.

In addition, ramp metering (with direct-access bypass for priority vehicles) is very much in the tradition of *Transport 2021 / LRSP*. This concept is discussed in the report, but not in the context of retaining the existing highway width.

Outstanding issues: options that consider retention of the existing Port Mann configuration, or that allocate a higher proportion of any capacity increase to priority modes (transit, trucks, HOV) have not been evaluated as extensively or comprehensively as the capacity-expansion option.

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4. Will the Ministry amend its *Guidelines for Tolling* so that they are consistent with, and supportive of, a regional approach to tolling based on Transportation Demand Management?

The provincial *Guidelines for Tolling* are based on tolling solely to recover the cost of increased capacity, and require that a “reasonable untolled alternative” be available. This differs from the regional policy approach of: tolling all roads crossing a cordon to limit usage of those roads by single-occupant vehicles, continuing the tolling in perpetuity, and using the revenue to fund a variety of transportation projects including transit.

The *PDR* discusses tolling for demand (congestion) management purposes, as opposed to just paying for new road capacity, which is more in keeping with the *LRSP / Transport 2021* and would appear to require an amendment to the provincial *Guidelines for Tolling*. However, the *PDR* also affirms the importance of the existing *Guidelines for Tolling* when rejecting tolls for the North and South Fraser Perimeter Roads. Further clarification is required.

A Companion Document to the *PDR* is *Road Pricing Review*, which considers a policy perspective rather than the specific impacts of tolling on PMH1. It observes that:

- The provincial *Guidelines for Tolling* only mention revenue generation; not congestion management.
- Existing road user charges (gasoline tax, vehicle registration fees) in North America are insufficient to cover total roadway costs.
- The public acceptability of road pricing improves significantly when the revenues are reserved for transport generally.
- Tolls represent a greater financial burden on lower-income motorists, but not necessarily more so than other funding sources such as gasoline taxes or general taxes. The imbalance can be reduced if the revenues are used to improve public transit.

As already noted, the *PDR* recommends against cordon tolling. It also does not contemplate the use of toll revenues for anything other than the specific highway project being tolled.

Outstanding issues: will tolling be continued in perpetuity for demand management purposes, and can toll revenues be used for other transportation projects such as transit?

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5. Will the Ministry commit that, for properties along the Highway 1 corridor in Burnaby, traffic noise generated by Highway 1 will be reduced below existing levels as a result of the PMH1 project?

Noise issues are to be addressed in the upcoming Environmental Assessment process. They are not evaluated in the *PDR*.

Outstanding issues: this Council question has not been answered. At the time of the last highway widening, the Ministry indicated that noise mitigation issues would be addressed as part of any subsequent major highway project.

6. Is there any evidence to support the Ministry's contention that the Port Mann / Highway 1 project will produce a net decrease in regional vehicle emissions?

This question was in response to statements by Gateway proponents (not Gateway Program reports) that emissions would be reduced. The *PDR* indicates that emissions from *congestion-related* idling will be reduced. However, it also acknowledges that increased capacity can lead to increased vehicular travel, and thus increased emissions. A regional air quality impact assessment is in progress. Results to date indicate that implementation of the Gateway Program will result in a 0.1% increase in total vehicle emissions, and a 0.7% increase in greenhouse gas emissions. These are increases in the regional emission totals, estimated for 2021, and are without implementing any demand management measures. The *PDR* indicates that there is the potential for such measures to reduce emissions to the point where the Gateway Program may have a net beneficial impact on regional emissions.

Outstanding issues: this assessment fails to address the issue of induced trips (new trips triggered by new land use patterns) which is explored further under Question 9.

7. What assurances is the Ministry prepared to offer regarding potential impacts in the Burnaby Lake area?

Water quality and other environmental impacts are to be addressed through the Environmental Assessment process. They are not evaluated in the *PDR*.

Outstanding issues: this Council question has not been answered.

8. Will the Ministry of Transportation commit to connectivity improvements to the municipal road network to accommodate the additional traffic moving to/from Highway 1 as a result of the PMH1 project?

This question is not addressed in the *PDR*, which largely does not show specific traffic volumes. The project would include reconstruction of all Highway 1 interchanges and overpasses in Burnaby. The *PDR* also includes construction of the Wayburne/Westminster overpass, from Canada Way to Still Creek Avenue, as a

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means to off-load traffic from the Willingdon overpass that is not destined to/from Highway 1.

It should be noted that the specific impacts of PMH1 on the municipal road network will depend on any demand management and tolling strategies that may ultimately be implemented.

Outstanding issues: this Council question has not been answered.

9. Will the Ministry include in its technical analysis of options, an evaluation of the impacts (as discussed in this report) of induced land use resulting from the project, rising gas prices due to global oil scarcity and evolving traveller attitudes to global warming?

This question encompasses three issues that have been raised with Gateway staff:

- a. **Induced land use.** It is generally accepted, both by the public and transportation professionals, that the construction of new transportation capacity exerts a shaping influence on the development of a city. A current example would be the rapid development of Brentwood Town Centre, triggered by construction of the Millennium Line. The City's plans and zoning for this area were adopted in 1996, but did not lead to rapid development of the area. Such development was strongly influenced by SkyTrain. The same is true for road projects, though they tend to induce land use that is more dispersed and auto-dependent.

The *PDR* indicates that "... transportation accessibility is only one of many factors that can contribute to changes in land use. Factors such as land availability, land prices, access to utilities, crime rates and zoning can have equal or greater impacts on land use. Better access to transportation facilities can facilitate, but not initiate, changes in land use patterns." The *PDR* goes on to state that future land use patterns will be governed primarily by the municipalities and the GVRD.

A Companion Document to the *PDR* is *Land Effects: Transportation and Land Use Linkages – A Literature Review*. It states that "... projects that produce significant travel time savings may have the larger influence on land use than those with smaller savings. High levels of travel time savings become increasingly difficult to provide within a mature and robust transportation network." The inference is presumably that this region has a "mature and robust transportation network", which may be true in general but is much more questionable at the major water crossings, where traffic is funnelled onto a small number of roads. PMH1 will likely produce travel time savings on the order of 30 minutes, which

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must surely qualify as a “significant time savings” and therefore likely to significantly affect land use patterns.

The literature review omits a number of documents in the professional literature which demonstrate the substantial role of transportation infrastructure in inducing land use.^{2,3,4} This literature suggests that PMH1 will detract from, rather than support, achievement of the land use pattern agreed to in the *LRSP*.

“The biggest force still driving the Auto City to ... accommodate the automobile rather than providing other options is the standard ‘black box’ transportation / land use model for calculating benefit-cost ratios on road projects. These are based on how a new or widened road will save time, reduce fuel, and lower emissions and road accidents. ... (T)hese benefits are illusory due primarily to ‘induced traffic.’”⁵

A separate Companion Document, *Road Pricing Review*, acknowledges the significance of induced traffic. It suggests that road pricing can be effective in containing demand, but observes that even tolled routes may still see substantial traffic increases.

Ultimately, the Gateway Program chose not to analyze the potential impact of induced land use on their projects. The Gateway analysis is thus based on the assumption that, for the next 25 years, no development decisions in the region will be affected by whether or not the Gateway Program is implemented. This is a key assumption, as it underlies such critical outcomes as the calculation of Gateway Program benefits and the impact on vehicle emissions.

This impact of transportation projects on the *LRSP* growth strategy is an issue that the GVRD is best positioned to evaluate at this time, based on considerations of induced land use and the range of other factors affecting the distribution of regional growth.

- b. **Peak oil.** As described in a report that Council received on 2006 January 16, society is moving towards a time when we will no longer be able to pull oil out of the ground as fast as we have in the past. We will be forced to reduce oil consumption. Since most of our oil is used for transportation, there will clearly be an impact on how we travel. Land use

² Hansen, M. and Huang, Y.; “Road Supply and Traffic in California Urban Areas”; Transportation Research: Part A, Vol. 31, No. 3; 1997 May.

³ Litman, T.; “Generated Traffic and Induced Travel – Implications for Transport Planning”; Victoria Transport Policy Institute; 2004.

⁴ Ramsey, S.; “Of Mice and Elephants”; ITE Journal; 2005 September.

⁵ Newman, Peter and Kenworthy, Jeffrey; “Sustainability and Cities”; 1998.

patterns are also likely to be affected. The literature indicates a significant probability that we may reach this oil “peak” prior to PMH1’s presently-scheduled completion date of 2013.

Concerns over the availability and price of gasoline have led to an unprecedented demand for smaller cars and more fuel-efficient hybrid cars, as well as increased demand for transit, and may also dampen demand for highway projects in the long term. This issue is not addressed in the *PDR*.

- c. **Evolving attitudes.** Transportation modeling is based on the notion that people in the future will make the same choices as people today, if faced with the same circumstances (i.e., people don’t change). In fact, society’s concern over issues such as global warming and peak oil continues to increase with each passing year. While travel demand in the Greater Vancouver at this point appears to be more related to population and employment growth than concerns over global warming and peak oil, some people in future years may make different travel choices from the ones they would make today and this may have implications for the demand for highway projects.

Outstanding issues: the Companion Document acknowledges that there is some evidence that transportation projects can induce new land use patterns, particularly where (as for PMH1) significant travel time savings are achieved. In spite of this, the Gateway Program has not included induced trips in their assessment of traffic and emission impacts. On the issues of peak oil and evolving attitudes, these Council questions have not been answered.

5.0 OTHER ISSUES

In addition to the questions that were posed last May and discussed above, there are other issues that need to be considered in the context of PMH1:

1. **Promotional literature.** The *PDR* focuses on promoting a single solution, rather than conducting a multiple-criteria comparison of alternatives. It therefore responds to the question, “What will be the result of spending \$1.5 billion in this way?” rather than “What is the best way to spend \$1.5 billion?” This ignores the experience of other agencies, such as BC Hydro’s Power Smart program, which demonstrate that demand management can be a significantly cheaper solution than the construction of new capacity. Similarly, the *PDR* does not look at what a \$1.5-billion investment in transit could do for this area, or how regional air quality might improve as a result.
2. **Incremental analysis.** Continuing in this vein, an investment decision should be based on disaggregating the Program into smaller elements for individual consideration. This would include not just splitting out the three major projects from each other, but also

looking at components within each project. What can be achieved with transit queue jumper lanes for the Port Mann Bridge (as TransLink has already committed to, by 2007, in their 2005 – 2007 *Three-Year Plan & Ten-Year Outlook*)? What are the stand-alone impacts of ramp metering (with bypass for priority vehicles)? How much of the project benefits can be achieved through these improvements, without some of the “big ticket” expenditures? Would a multi-criteria evaluation show other benefits arising from a package of transit and demand management measures? Some of this more rigorous analysis is contained in pre-Gateway studies, but a thorough analysis of a wide range of alternatives has yet to be undertaken.

3. **Project goals.** The very name “Gateway Program” emphasizes the role of Vancouver as a gateway for the overseas movement of goods and people. The competitiveness of Vancouver as a “gateway” has often been given as a key reason for PMH1 and the other projects. However, very little long-distance freight travels by road. Of all the peak-hour truck trips on our roads, only a small minority begin or end their trips outside the Lower Mainland. Trucking is primarily a means of *local* goods movement, with longer trips relying more on rail. It is interesting to note that, while making some mention of alternate modes, the PMH1 goals emphasize improvements that facilitate the movement of *all* modes, including single-occupant vehicles. The PMH1 goals omit any statements regarding the environment (air pollution, greenhouse gases, waterway impacts, noise, etc.) or the shaping of land use patterns.
4. **Commitment to demand management.** As noted above, the *PDR* acknowledges that demand management measures are essential if the highway is not to quickly fill up again. However, there is no commitment to implementing such measures, or to maintaining them in perpetuity (i.e., in the case of tolls, even after the project has been paid for). All such measures are subject to the public consultation process. Similarly, the use of tolling for demand management may conflict with the use of tolling to pay for the project (i.e., a toll rate designed to limit demand might not maximize revenues), which could weaken the commitment to demand management.
5. **Future expansion?** The current concept is to provide eight lanes on the Port Mann Bridges on opening day, with allowance for subsequent ten-laning. This is reminiscent of the Alex Fraser Bridge, which opened with four lanes in 1986 and then went to six lanes after only three years. While often discussed as an eight-lane crossing, the regional impacts need to be considered in the context of a ten-lane connection.

The *PDR* states that the new Port Mann Bridge will be designed structurally to accommodate a possible future light rail transit line, while also stating that this corridor “... is not the right location for high capacity rail transit relative to future transit demands based on existing and expected development”. The lack of viability of rail transit in this corridor suggests that the bridge’s surplus structural capacity could be used for ten-laning, rather than light rail transit.

6. **HOV lanes.** While it appears that HOV lanes will be considered on all the eight-lane sections of PMH1, there is no mention of their possible inclusion on the six-lane sections: McGill to Grandview and 200th to 216th. The proposed widening of these sections under the Gateway Program would seem the ideal opportunity to implement HOV lanes, and is consistent with past Highway 1 practice of including HOV lanes as part of the widening to six lanes. It also facilitates future extension of HOV lanes beyond the PMH1 project. Implementing HOV lanes in the six-lane sections would be consistent with the high HOV usage in the corridor today, and would also create the possibility of converting lanes on the Second Narrows Bridge to HOV use.
7. **Transit priority.** TransLink has already committed to constructing transit queue-jumper lanes at Port Mann Bridge in 2007. Is it possible for this work to still go ahead, or does implementation of the Gateway Program mean that such lanes would be delayed until 2013 (assuming that Gateway ultimately commits to queue-jumpers)?
8. **Incomplete cycling infrastructure.** Details are provided in the next section of this report.
9. **Road pricing.** While the public consultation is based on point-tolling of the Port Mann Bridge, the Companion Document *Road Pricing Review* also discusses distance-based tolling. This has different implications for the region, and for Burnaby. It is important to determine whether or not distance-based tolling is being contemplated for PMH1.
10. **Environmental impacts.** As previously noted, there have yet to be specific commitments regarding noise mitigation or water quality impacts. To expand on this theme:
 - a. Noise mitigation needs to address not only additional noise from PMH1, but also increases resulting from the previous round of highway expansion. Mitigation should be in a manner that is aesthetically pleasing (e.g., decorative walls or landscaping).
 - b. The project should seek to enhance passage beneath the freeway for aquatic and terrestrial wildlife.
11. **Documentation.** While the Gateway Program has recently released Companion Documents which explore some *PDR* topics in more detail, they do not cover such important topics as traffic projections, traffic and mode choice impacts (of PMH1 in general and demand management schemes in particular), and the calculations of the costs and benefits of the Gateway Program. On these topics, supporting documentation has not been provided. The public consultation is thus not being conducted in the context of technical findings on these topics, but rather on the basis of "What do you like?"
12. **Procurement.** The *PDR* is silent on the method of project procurement (implementation) that would be used. The possibility exists that procurement would be in

the form of a Public Private Partnership (P3). This has several implications, not the least of which is that the current round of public consultation may be the last time that the Gateway Program seeks Council's input prior to the signing of a contract. P3 projects also have issues regarding transparency, adaptability, limitations on competing projects, and public- vs. private-sector priorities. It is therefore important to determine whether or not a P3 approach is being contemplated for PMH1.

6.0 BENEFITS FOR BURNABY

While there are clearly some issues of concern for Burnaby, there is also the potential for significant benefits from the Gateway Program to the transportation system in Burnaby. While detailed technical material has not yet been released, benefits are likely to fall into the following categories:

1. **Reduced traffic on parallel routes.** Traffic volumes on parallel roads, such as Lougheed Highway and Canada Way, may be reduced for a few years as traffic on these routes would be more encouraged to use Highway 1 as an east-west route through Burnaby.
2. **Interchange safety.** The interchanges at Grandview, Willingdon, Sprott, Kensington, and Stormont (Gaglaridi) have not been significantly improved since Highway 1 was constructed in the early sixties. These interchanges were not designed to accommodate the traffic volumes they are handling today, creating major safety issues for vehicles coming on and off the highway onto the municipal street system. These issues would be addressed by the Gateway Program. The overpasses of Highway 1 would also be upgraded to meet current seismic standards.
3. **Bike and pedestrian crossings.** Highway 1 currently acts as a significant barrier to north-south travel in Burnaby, especially for cyclists and pedestrians. The interchanges and overpasses of Highway 1 were designed to facilitate vehicular traffic only, with high-speed ramps increasing the danger for bike and pedestrian traffic. The Gateway Program would upgrade the interchanges and overpasses of Highway 1 to provide cycling provision and sidewalks.

The *PDR* indicates that \$50 million (about 2% of the total budget) is for pedestrian and cyclist facilities. It further states that cyclists and pedestrians will be accommodated on the new Port Mann Bridge and at all Highway 1 interchanges and overpasses. The Companion Report *Cycling Plan Overview* identifies two possible packages of cycling improvements, designated as Options A and B. Option A consists primarily of on-street bike lanes. Option B includes Urban Trails, but scales back the implementation of bike lanes to one direction (either northbound or southbound) with on-street cyclists in one direction being forced onto the Urban Trail. This more costly Option is contingent on corresponding municipal upgrades (i.e., building Urban Trails that would link up to the new highway crossings) and on consultation with the public, municipalities, and stakeholders.

City staff are of the view that the interchange and overpass linkages should include on-street bike lanes in both directions at all crossings, plus Urban Trails at those locations shown in the Official Community Plan. This is what the City would do if this was a municipal project. As with the rest of the City's network, the provision of both bike lanes and Urban Trails allows for a much wider range of cyclists to be accommodated in a safe and comfortable manner, and provides for the seamless continuity of both networks throughout Burnaby. Since the new bridges will probably not be revisited for another 50 years, this is the best time to add such infrastructure. However, even Gateway's more generous Option B does not provide this level of amenity to cyclists.

4. **Transit connections.** The Willingdon and Sprott overpasses are major transit routes across the highway. The provision of a new Willingdon overpass will create the ability to implement HOV lanes on Willingdon Avenue across Highway 1, linking existing HOV lanes to the south with proposed ones to the north. Similarly, reconstructing the Sprott overpass to a four-lane standard will facilitate transit connections between Metrotown (via City Hall) and North Burnaby including the Sperling SkyTrain station.
5. **Noise.** There may be opportunities to address the noise impacts of the highway on Burnaby residents which would not be available if the PMH1 did not exist.
6. **Marine Way HPV lane.** The City has recently made application for federal funding from Infrastructure Canada and the Pacific Gateway Fund to expand the capacity of Marine Way to accommodate a High Priority Vehicle (HPV) lanes for trucks. Construction of the Gateway and/or TransLink sections of the North Fraser Perimeter Road would enhance support for Burnaby's application for federal cost-sharing on Marine Way, which would be considered the westerly extension of the North Fraser Perimeter Road through Burnaby to Vancouver.

7.0 CONCLUSION

This preliminary report has provided a summary of information contained in the Gateway Program's *Project Definition Report*, including some reference to the just-released Companion Documents, with respect to the questions posed by Burnaby Council on 2005 May 30. It has raised other issues and discussed the potential benefits of the Gateway Program to Burnaby. It is anticipated that a subsequent staff report will form the basis for updating Council's position regarding the Gateway Program.

To: City Manager
From: Director Planning and Building
Re: Preliminary Review of Gateway Program's "Project
Definition Report"
2006 February 16..... Page 18

It is recommended that Council send copies of this report to members of the Transportation Committee, including the Bicycle Advisory Group, for their information.

J.S. Belhouse
DIRECTOR PLANNING AND BUILDING

SR:jc
Attachment

Copied to: Director Engineering