



To: Public Works and Transportation Committee
From: Gordon Chan, P. Eng.
Director, Transportation

To PW & T - April 24, 2003

Date: April 8, 2003

File: 0154-03

**Re: RICHMOND/AIRPORT-VANCOUVER RAPID TRANSIT PROJECT (RAVP) -
CONCLUSIONS OF PROJECT DEFINITION PHASE**

Staff Recommendation

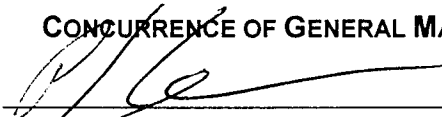
1. That Council endorse, as part of the regional road and transportation improvement priorities identified by TransLink, the implementation of a rapid transit system between downtown Vancouver, Richmond and the Vancouver International Airport that:
 - (a) is generally aligned along the corridors of Cambie Street, No. 3 Road and Grant McConachie Way respectively;
 - (b) is funded per a capital cost-sharing formula between the Government of Canada, the Province of BC, Vancouver International Airport Authority, TransLink, and the private sector;
 - (c) is operational by late 2009, given the project is approved in 2003; and
 - (d) has a minimum of five stations on the No. 3 Road branch of the line including locations at Bridgeport, Cambie Road, Alderbridge Way, Westminster Highway, and Cook Road/Park Road with provisions for a future station at Capstan Way.

2. That TransLink and the other contributing agencies be requested to incorporate the following as part of the further planning, proposal evaluation and detailed design activities:
 - (a) Cook Road/Park Road as the southern terminus with the design providing the flexibility to extend the system further south in the future when warranted;
 - (b) further investigation of the future timing of establishing a station at Capstan Way;
 - (c) provision in the design of Bridgeport Station and related infrastructure to accommodate a future direct connection between Richmond and the airport;
 - (d) a critical joint review of station and alignment design with City staff to best ensure consistency with City Centre urban design principles and objectives and to enhance community liveability;
 - (e) development and detailed review of a bus integration plan that meets the needs of both regional and local transit users;
 - (f) establishment of a regional transit exchange at Bridgeport Station that includes a primary park and ride facility to support the achievement of the projected ridership of the system;
 - (g) examination of the possibilities of establishing secondary park and ride facilities along No. 3 Road;
 - (h) identification of construction-related and on-going traffic impacts and the development of mitigation measures to address the concerns;

- (i) further public consultation on the detailed design of the system and the development of any measures to address identified concerns;
 - (j) the use of the Request for Proposals and community consultation processes to measure the relative benefits and costs of an at-grade versus grade-separated configuration prior to a final decision being made on choice of technology;
 - (k) the performance standards specified in the Request for Proposals being adhered to and, if demand warrants, being exceeded;
 - (l) cycling and pedestrian facilities being integrated into the system infrastructure including the provision of end-of-trip facilities and connections to existing cycling networks, the accommodation of cyclists and pedestrians on any new crossing over the Fraser River and the accommodation of bicycles in the rail cars; and
 - (m) all other conditions and objectives stipulated in the Project Definition Phase being achieved.
3. That should the project proceed, staff work with the RAVP Team to complete the tasks related to the various aspects of the project identified in Recommendation (2) and the RAVP Team report back on the outcome of this work prior to awarding the final contract.
4. That the above recommendations be conveyed to the participating agencies of the Richmond/Airport-Vancouver Rapid Transit Project.



Gordon Chan, P. Eng.
Director, Transportation
(Local 4021)

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Staff Report

Origin

A rapid transit line connecting downtown Vancouver, Richmond and the airport is one of four regional road and transportation improvement projects identified by TransLink as immediate priorities to meet the population growth demands, address congestion and provide broader travel options throughout the region. The four projects are: extending rapid transit to the North East sector; construction of a new road crossing of the Fraser River; replacement of the trolley bus fleet and bus expansion; and a Richmond-Airport-Vancouver rapid transit line.

In April 2001, staff reported on the overall conclusions of Phase 2 of the Richmond/Airport Vancouver Rapid Transit Project (RAVP), which examined the costs and benefits of building the line sooner (by 2010) versus later (by 2021). Phase 2 was subsequently extended to further analyse the potential of the project as a public private partnership (P3); staff reported on the conclusions of this work in March 2002. Following completion of the Phase 2 extension, the Project Definition Phase was initiated in April 2002 with the purpose of defining the project and its financial implications to a level such that the participating agencies can decide whether or not to proceed with the project.

The Project Definition Phase was completed in February 2003 and followed by a public consultation process during March 2003. During this time, the Project Director has provided updates, through the General Purposes Committee, on the results and conclusions of the Project Definition Phase as well as the public consultation. All of the reports completed for these phases of the project are available in their entirety on the RAVP web site at www.ravrapidtransit.com.

The Project Team is now seeking formal endorsement from the participating agencies to proceed with the project. This report recommends that Council endorse the implementation of a rapid transit system linking downtown Vancouver, Richmond and the airport and that staff and the Project Team work together to complete the specific tasks related to Richmond as part of the design, construction and implementation processes.

Analysis

1. Conclusions of the Richmond/Airport Vancouver Rapid Transit Project Study

The completion of the Project Definition Phase of the RAVP and the subsequent public consultation regarding those results concludes the analysis of the project to determine the financial viability of and public support for its immediate implementation. Should the partner agencies approve the project to proceed, subsequent activities will focus on the design, construction and operation of the system.

1.1 Project Definition Phase Conclusions

The Project Definition Phase comprised four components of analysis:

- *Technical* – the work confirmed that the system can be built to meet the defined performance standards, including those of capacity, travel time and reliability. Ridership forecasts estimate that the line will carry around 100,000 passengers per day in 2010 with a travel time of no longer than 30 minutes from central Richmond to Waterfront Station and 25 minutes

from the airport to Waterfront Station. While the technology of the system was not examined, as it will be determined as part of the competitive bidding process under a P3, it is likely that the system will have a mix of at-grade, elevated and underground segments. Cambie Street is the proposed alignment in Vancouver rather than Arbutus Street as the Cambie route is shorter, has more employment centres, generates higher ridership and revenues, and has a higher potential for future growth.

- Financial – capital costs are estimated at \$1.5-\$1.7 billion with operating costs covered by fare revenue, depending on the configuration. Contributions from the Government of Canada, the Province of BC, the Vancouver International Airport Authority, and TransLink, with the balance supplied by the private sector, could fund the line. Funding commitments from all parties are required by June 2003 if the project is to be completed by late 2009.
- Government Approval – the Project Team provided input into analysis by the Province of BC regarding an approval process for significant projects, such as RAVP, including environmental and municipal approvals.
- P3 Process – as proposed, the private sector would contribute capital funding and design, build and operate the system over a long-term operating contract. TransLink would receive the fare revenues and make them available to the operator for providing the service. A competitive bidding process will be used to select the private sector operator that specifies a rail system technology that best meets the performance standards.

1.2 Public Consultation Conclusions

A variety of qualitative and quantitative instruments were used to obtain feedback on the planned RAVP during the public consultation process held in March 2003:

- Open Houses – display boards and feedback forms were placed at Richmond and Vancouver City Halls, Vancouver International Airport and Richmond Centre Mall.
- Public Workshops – a total of three workshops were held in Richmond and Vancouver that included presentations and question and answer sessions. Feedback forms were collected at each workshop.
- Small Group Meetings – the Project Team held 17 meetings with community groups such as the Cambie Heritage Boulevard Society and the Greater Vancouver Gateway Council as well as representatives from shopping and employer centres along the corridors (e.g., Oakridge and Lansdowne Centres, Workers’ Compensation Board, Children and Women’s Health Centre).
- Web Site and Newspapers – an information piece and feedback forms were distributed in local papers and posted on the web site for the project.

Over 1,500 people participated in the process and approximately 1,300 feedback forms were received. There is strong support for the project as shown in the summarized results of the feedback forms in the table below.

Question	Response
Support Proceeding with Proposed Line	<ul style="list-style-type: none"> • 82% somewhat or strongly agree with the project proceeding at an estimated cost of \$1.5-\$1.7 billion
Support for the Proposed Route	<ul style="list-style-type: none"> • 73.2% support route in its entirety
Underground vs. At-Street vs. Elevated System	<ul style="list-style-type: none"> • 64.6% prefer elevated to at-street if underground is not possible • 71.1% prefer underground to elevated if at-street is not possible • 82.1% prefer underground to at-street if elevated is not possible

1.3 Overall Project Recommendation

A Richmond-Vancouver rapid transit link has been studied since the early 1970s and has been part of regional planning policy since 1980. Such a connection is also recognised and supported in the City's Official Community Plan and City Centre Transportation Plan. This latest series of studies confirms the need for a north-south transportation connection that serves major activity centres in corridors that have been experiencing significant population and employment growth over the past several years. The project is not only financially viable and technically feasible but also will provide significant economic and environmental benefits and has strong business and community support locally as well as genuine interest and support from all levels of government. Staff therefore recommend that the proposed project to implement a rapid transit system between downtown Vancouver, Richmond and the Vancouver International Airport, as defined by the Project Team in terms of general alignment, proposed station location, funding and timing, be endorsed.

2. Aspects to be Examined in Next Phase of Project

From the City's perspective, there are a number of aspects of the project that will require further analysis should the project receive approval to proceed. Staff propose to work with the Project Team to complete these tasks as part of the next phase of the project, which will involve planning, proposal evaluation and detailed design activities.

- 2.1 Southern Terminus – Cook Road/Park Road is designated as the current southern terminus but the design of the system should provide the flexibility to extend the system further south in the future when warranted.
- 2.2 Capstan Way Station – Capstan Way is currently identified as a future station and further analysis is required to determine the implementation strategy and timing for a station at this location.
- 2.3 Direct Connection to Airport – as currently defined, the system will require passengers travelling between Richmond and the airport to transfer at Bridgeport Station. The design of Bridgeport Station and the related infrastructure should allow for the provision of a future direct connection between Richmond and the airport when warranted by demand.
- 2.4 Urban Design Review – a critical joint review of station and alignment design involving City staff will be required to ensure consistency with City Centre urban design principles and objectives and to enhance community liveability. Design considerations for the system and stations include minimizing noise, visual and vibration impacts, incorporating crime prevention and personal safety measures, and ensuring full accessibility for all users.
- 2.5 Bus Integration – staff involvement in the development and detailed review of a bus integration plan will help provide a smooth transition for transit passengers upon introduction of the new service and ensure that the needs of both regional and local transit users are met.

- 2.6 Transit Exchange – a regional transit exchange at Bridgeport Station that includes a primary park and ride facility is an integral component required to support local and regional bus and rail passengers and ensure the system achieves its projected ridership.
- 2.7 Park and Ride Facilities – in addition to the primary park and ride facility at Bridgeport Station, the possibility of establishing secondary park and ride facilities along No. 3 Road should be examined.
- 2.8 Traffic Impacts – construction-related and on-going traffic impacts need to be identified and mitigation measures developed to address the concerns, which recognize that two travel lanes and signalized left-turn lanes in each direction should be maintained on No. 3 Road.
- 2.9 Public Consultation – further public consultation will be required on the detailed design of the system and the development of any measures to address identified concerns.
- 2.10 Vertical Alignment – the Request for Proposals process provides an opportunity to measure the relative benefits and costs of an at-grade versus grade-separated configuration.
- 2.11 Performance Standards – the performance standards specified in the Request for Proposals should be adhered to and, if demand warrants, be exceeded.
- 2.12 Pedestrian and Cyclist Facilities – where feasible, cycling and pedestrian facilities should be integrated into the system infrastructure including end-of-trip facilities and connections to existing cycling networks, the accommodation of cyclists and pedestrians on any new crossing over the Fraser River and the accommodation of bicycles in the rail cars.
- 2.13 Project Definition Phase Objectives – all other conditions and objectives stipulated in the Project Definition Phase should be achieved, such as finalizing the governance structure, approvals process and project delivery model.

3. Next Steps

Various reports that request a decision on whether or not to proceed with the RAVP will be presented to Richmond and Vancouver City Councils in April 2003. Assuming that the project is endorsed by these agencies, and that the Province of BC, TransLink and the Vancouver International Airport Authority have previously agreed in principle to contribute up to \$900 million to the project, the remaining element required to proceed with the project is a formal commitment from the Government of Canada to contribute \$450 million to the project. The Project Team has indicated that funding decisions from all parties are required by June 2003 if the project is to be completed by late 2009.

Financial Impact

Current staff participation in the project forms part of regular departmental programs and does not require additional resources other than occasional overtime costs to the City when staff attend meetings outside of regular office hours. Should the project proceed, all costs related to

the implementation of the proposed Richmond/Airport-Vancouver rapid transit system are to be borne by the funding partners noted above. Some indirect local capital expenditures may be required to complement the service and these items will be presented for Council approval as part of the annual Capital Works Program process. Similarly, some local operating expenditures, such as retaining external expertise to review and/or participate in the urban design process, may be required. These items will be submitted for Council approval as part of future operating budget requests.

Conclusion

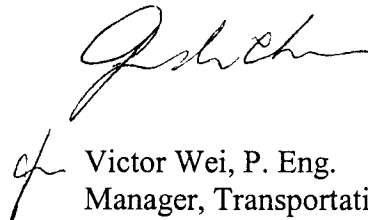
The objective of the Project Definition Phase of the RAVP was to define the requirements for a rail rapid transit line and to identify a structure, including public and private sector participation, to build and pay for the line as defined. This work was completed in February 2003 and the results conveyed to and feedback obtained from the public during March 2003. These processes demonstrated the technical and financial feasibility of the project as well as its broad public support.

The Project Team is now seeking formal endorsement from the participating agencies to proceed with the project. This report recommends that Council endorse the implementation of a rapid transit system linking downtown Vancouver, Richmond and the airport as part of the full implementation of all four regional priority road and transportation improvement projects identified by TransLink. The report also recommends that staff continue to work with the Project Team to complete the various tasks related to Richmond as part of the design, construction and implementation processes.



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