

# CITY OF VANCOUVER

#### ADMINISTRATIVE REPORT

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RTS No.: 07115 VanRIMS No.: 13-1400-20 Meeting Date: March 11, 2008

TO: Standing Committee on Transportation and Traffic

FROM: General Manager of Engineering Services

SUBJECT: Downtown Streetcar - Report Back on Phase Zero Preliminary Engineering

# RECOMMENDATION

- A. THAT Council approve the replacement of the single-track infrastructure between Granville Island and the 2nd Avenue Canada Line Station to allow continued operation of the Downtown Heritage Railway on the alignment at a cost of \$8.5 million; source of funding to be:
  - i. \$500,000 as a funding contribution from CMHC Granville Island
  - ii. \$4,000,000 from the Southeast False Creek Project
  - iii. \$4,000,000 from existing Engineering Streets 2006-2008 Capital Budget;

AND THAT the funding of \$0.8 million to be approved in advance of the 2008 Capital Budget, source of funding to be the 2006-2008 plebiscite approved borrowing authority.

- B. THAT Council instruct staff to seek opportunities to develop the Downtown Streetcar Demonstration Project for the 2010 Olympic and Paralympic Winter Games using modern streetcar equipment and infrastructure.
- C. THAT Council approve up to \$1.0M to safeguard the streetcar alignment during the 1<sup>st</sup> Avenue reconstruction for modern streetcar operations including cost sharing with Metro Vancouver for the cost premiums of relocating the regional forcemain between Columbia Street and Quebec Street; source of funding to be provided from the existing Engineering Streets 2006-2008 Capital Budget.

# **CITY MANAGER'S COMMENTS**

In the reconstruction of 1<sup>st</sup> Avenue in Southeast False Creek, a right of way in the median has been reserved for a modern streetcar and provision is being made for returning the Downtown Heritage Railway (DHR) until the future of the full Downtown Streetcar project is determined. However, returning the DHR along 1<sup>st</sup> Avenue to Quebec and then Science World will be challenging to implement before the 2010 Winter Games.

In the meantime, a consultant has advised that continuation of the DHR requires major repairs and rehabilitation if the DHR service is to continue operating. Costs for repairing the entire DHR alignment from Granville Island to Science World are \$8.1 million, of which \$2.3 million is needed immediately for the section of track west of Cambie.

Alternatively, the same single-track west of Cambie could be upgraded for \$8.5 million to support both the DHR and a modern demonstration streetcar. As there is a potential opportunity for a streetcar demonstration project during the 2010 Winter Games, including a funding contribution from CMHC Granville Island, the General Manager of Engineering Services supports the latter option.

The decision for Council in the first instance is whether there is value in investing in repairing the rights of way to accommodate continuation of the DHR. The City Manager supports investment into maintaining ongoing DHR operations, in particular, the \$2.3 million required for the section of track west of Cambie. Beyond that is a question of whether it is more appropriate to allocate another \$5.7 million in City funding to either invest in continued DHR operations from Granville Island to Science World or to upgrade the track from Granville Island to the 2<sup>nd</sup> Avenue Canada Line Station to facilitate the streetcar demonstration project.

The City Manager has previously advised Council that it will take committed funding partners to realize the proposed Downtown Streetcar project. More comprehensive inclusion of the streetcar proposals into the region's transportation network needs to continue to be considered by TransLink as part of their Ten Year Plan and Long Range Strategy development processes. While TransLink has committed to examining the City's streetcar concepts and its potential opportunities for integration with any Broadway West Rapid Transit alternatives, no regional transportation funding has been committed for the Downtown Streetcar project.

The recommendation in this report may result in a modern streetcar demonstration project and this may be a positive step in attracting the senior government and Translink partnerships that should be a prerequisite to proceeding beyond the DHR scale. However, it may also create significant expectations among the public for the City to proceed with the Downtown Streetcar project on its own.

The City Manager RECOMMENDS that Council approve A to C, but with the following caveats: Council has not yet had an opportunity to debate and determine the extent of the City's ultimate funding commitment to the Downtown Streetcar project. However, in order to have an operating demonstration project in time for the 2010 Winter Games the recommended expenditures would have to be approved in advance of that discussion. In doing so it could be seen to be a tacit acceptance of the City's reasonability for all track infrastructure, and could raise perceptions both with the public and other funding contributors that the City is prepared to extensively assume the costs of building the streetcar network.

Before other substantial investments are made in the Downtown Streetcar system, Council should formally consider the broader issue of the City's limited role in funding this proposed new transit infrastructure, and the roles of other levels of senior government and TransLink.

#### COUNCIL POLICY

Since 1995, Council has consistently supported preserving rail corridors and the heritage electric rail transit service along the south side of False Creek, with the potential of providing regular service to link the employment, residential and activity nodes in the Downtown core.

In 1999, Council approved specific alignments and phasing for a Downtown Streetcar system and consideration of streetcar corridors to coincide with projects located along the routes.

In 2002, Council approved both the Downtown Transportation Plan and the Vancouver Transit Strategy recommending implementation of the Downtown Streetcar network with possible extensions to the False Creek Flats, Vanier Park, and along the Arbutus Corridor.

In 2004, Council approved undertaking the Downtown Streetcar Project Update including Market Research, Streetcar Benchmarking, and a Design, Layout, and Ridership Study.

In 2006, Council approved the next steps for the Downtown Streetcar project including completing Preliminary Engineering and Design for the Phase Zero section from Granville Island to Science World, and requested a report back on the detailed design including funding and implementation options.

In 2007, Council awarded the contract for Preliminary Engineering and Design for Phase Zero of the Downtown Streetcar to Hatch Mott Macdonald.

# **SUMMARY**

The purpose of this report is to report back as directed by Council on the Preliminary Engineering and Design of the Downtown Streetcar for the Phase Zero section between Granville Island and Science World. The findings of the preliminary engineering work are presented in the report including emerging opportunities and proposed next steps.

Currently, the Downtown Historic Railway (DHR) is a seasonal single-track system on which volunteers operate two heritage streetcars on weekends from Granville Island to Science World. The Downtown Streetcar is a proposed new transit system including double-track operation using modern equipment and integrated with the regional transit system.

Over the last year, Hatch Mott Macdonald (HMM) has been completing professional services related to both the Phase Zero preliminary engineering for the Downtown Streetcar and the reinstatement of the DHR service on 1<sup>st</sup> Avenue in SEFC. Key constraints and design concerns have been identified by HMM relating to the specific route characteristics of the various segments along the Phase Zero alignment. The work to date has proven to be a valuable exercise in determining how to best safeguard the alignment for both heritage and modern streetcar operations. As a result of this work and a reconsideration of the phasing issues for the work related to the DHR, staff have rethought the approach to this initiative. It will not be possible to replace the DHR east of Cambie until at least post 2010 and at the same time

there is a need to upgrade the track west of Cambie in order to keep that portion of the service active.

In addition, there is an interesting opportunity to use this upgraded corridor for a Downtown Streetcar Demonstration Project around the 2010 Olympic and Paralympic Winter Games period. Staff have been liaising with modern streetcar vehicle manufacturers to ascertain how realistic it would be to obtain two modern vehicles to temporarily showcase modern streetcar operations as envisioned for the ultimate Downtown Streetcar transit service.

If this opportunity it so to be pursued, additional upgrading of the track will be required on the section west of Cambie to Granville Island. Preliminary engineering work indicates that a complete replacement of the single DHR track with new tie and ballast infrastructure which would accommodate the operation of the DHR and/or a modern streetcar service would cost approximately \$8.5 million.

In summary, staff recommend that Council approve replacement of the single-track infrastructure between Granville Island and the 2nd Avenue Canada Line Station (Recommendation A) including developing the Downtown Streetcar Demonstration Project for the 2010 Winter Games using modern streetcar equipment and infrastructure (Recommendation B). If approved by Council, detailed design of rebuilding the track infrastructure would need to begin immediately.

To minimize future construction costs and neighbourhood impacts, staff also recommend that up to \$1.0M be approved to safeguard the streetcar alignment during the 1<sup>st</sup> Avenue reconstruction for modern streetcar operations. This includes sharing with Metro Vancouver the incremental cost premiums of relocating the regional forcemain (Recommendation C).

#### **PURPOSE**

This report seeks Council approval to replace the single-track infrastructure between Granville Island and the 2nd Avenue Canada Line Station including the possible implementation of a Downtown Streetcar Demonstration Project for the 2010 Winter Games and the safeguarding of the streetcar alignment along 1<sup>st</sup> Avenue for modern streetcar operations.

### **BACKGROUND**

In 1996, a right-of-way along the south shore of False Creek from Granville Island to Cambie Street was purchased by the City from Canadian Pacific Railway (CPR). The City has developed this right-of-way into the Downtown Historic Railway (DHR). Operating since 1998, the DHR has enjoyed strong support from the public and numerous stakeholders.

In 2002, Council approved the Vancouver Transit Strategy which provides the City with a comprehensive long-term plan for future city and regional transit services. Some progress has been made on each of the City's transit initiatives and all will need to be completed to achieve citywide transit mode split targets and to make transit a preferred mode for all types of trips. The two key remaining transit initiatives yet to be realized are the extension of rapid transit to Central Broadway and the Downtown Streetcar.

In 2004, Council approved the Downtown Streetcar project update which focused on liaising with key stakeholders along the approved streetcar routings and producing four separate technical reports and studies:

- a benchmarking exercise on the characteristics of comparable streetcar systems
- tourism and recreational market research on the interest of visitors and local residents
- a design and layout study including ridership, cost, and revenue updates
- a comparative review of streetcar and local bus transit systems

In 2006, Council directed staff to continue the Downtown Streetcar project by seeking Senior Government funding, undertaking a public process, and exploring cost-sharing opportunities with other potential funding partners. Staff were also directed to report back on innovative funding options related to measurable benefits accruing to neighbourhood residents and businesses and to continue to work with TransLink on how to integrate the Downtown Streetcar with the regional transit system and transportation plans.

With respect to advancing more detailed designs, Council approved the completion of Preliminary Engineering and Design for the Phase Zero section from Granville Island to Science World including a maintenance facility. In 2007, Council awarded the contract for Preliminary Engineering and Design for Phase Zero of the Downtown Streetcar to Hatch Mott Macdonald (HMM).



## DISCUSSION

Currently, the DHR system is a seasonal single-track system on which volunteers operate two heritage streetcars on weekends from Granville Island to Science World. The Downtown Streetcar is a proposed new transit system including double-track operation using modern equipment and integrated with the regional transit system.

The Downtown Streetcar may one day provide a level of service and capacity between that of local bus and regional-scale rail transit (e.g. SkyTrain). Modern streetcars provide the capacity and priority necessary to attract new transit riders while enhancing liveability in the neighbourhoods they serve. The Downtown Streetcar is an important element of a sustainable transportation system that will support the Southeast False Creek (SEFC) neighbourhood.

Recently completed streetcar studies have provided Council, staff, and the public with a much better understanding of the Downtown Streetcar initiative. The streetcar system could begin with the implementation of the 3-km section (Phase Zero) from Granville Island to Science World, which could be upgraded from the existing DHR service to a modern streetcar system. The ridership forecasts for the Downtown Streetcar are expected to exceed some of Vancouver's most heavily used bus transit corridors by providing a direct year-round connection to two regional rapid transit lines, the Canada Line and the Expo Line, and Granville Island with its approximately 11 million visitors per year.

Given the immediate timing of construction of 1<sup>st</sup> Avenue in SEFC and the 2<sup>nd</sup> Avenue Canada Line Station, it was important to finalize Preliminary Engineering and Design to accommodate the future modern streetcar in the street right-of-way while minimising construction costs and neighbourhood impacts. The scope of the preliminary engineering and design generally includes revised cost estimates and civil design plans for the Downtown Streetcar from Granville Island to Science World including a maintenance facility. This includes plan and profile drawings and typical sections of sufficient detail to make funding decisions based on high-priority engineering issues and construction timelines.

Over the last year, HMM has been completing professional services related to both the Phase Zero preliminary engineering for the Downtown Streetcar and the reinstatement of the DHR service on 1<sup>st</sup> Avenue in SEFC. The work to date has been a valuable exercise in minimizing future construction costs and design issues and safeguarding the streetcar alignment for modern equipment and track infrastructure.

Key constraints and design concerns have been identified by HMM throughout their preliminary engineering work. Most of the significant issues were influenced by the route characteristics specific to the following three segments along the Phase Zero alignment:

1. False Creek South (6<sup>th</sup> Ave.) Corridor: Granville Island to Wylie Street

Southeast False Creek (1<sup>st</sup> Ave.) Corridor: Wylie Street to Ontario Street
Science World (Quebec Street) Corridor: Ontario Street to the Maintenance Facility

## 1. False Creek South (6th Ave.) Corridor: Granville Island to Wylie Street

There are relatively few design constraints along the False Creek South corridor located on the old CPR right-of-way from Granville Island east to Heather Street. Over this section the

existing DHR could be upgraded over time to a modern streetcar system with a variety of incremental phasing options. From Heather Street to Wylie Street the corridor runs across PEF owned land and the final routing here may have to be changed as a result of the comprehensive review of development and transportation issues in the area. However, there was one significant finding that staff were not anticipating related to the track's current condition for ongoing DHR operations.

HMM conducted a full rail safety inspection of the existing DHR track along this corridor and has advised the City that a minimum of \$2.3 million should be allocated to repair and rehabilitate the track in order continue operation of the DHR. Although past practice has been to do minimum maintenance for the existing DHR track given its limited seasonal operations, this is no longer considered to be sufficient given the conditions noted during this recent more detailed assessment. HMM's recommendation is to completely rebuild this section of track with new tie and ballast infrastructure at a cost above these minimum requirements.

# 2. Southeast False Creek (1st Ave.) Corridor: Wylie Street to Ontario Street

Complete reconstruction of 1<sup>st</sup> Avenue began in the fall of 2007 with removal of the existing DHR track infrastructure as part of the SEFC redevelopment. Although the DHR will not be able to operate through SEFC this summer, a new single DHR track was designed by HMM so that it could be reinstalled within the planned centre median for continued operation of the DHR to Science World, originally expected to be for the seasonal operation in 2009.

The 1<sup>st</sup> Avenue construction schedule and its limited street right-of-way defined many of the DHR track replacement and modern streetcar design parameters. Wherever possible, the new DHR track alignment was designed to accommodate a future modern streetcar without significant upgrade. However, from a budget perspective, it is only feasible for the SEFC project to replace the single DHR track in the centre median for heritage rail operation. Additional sources of funding beyond the SEFC project are required to upgrade the track system to accommodate accessible modern streetcars, as envisioned for the Downtown Streetcar system.

The preliminary engineering work along this corridor provided an opportunity to define spatial requirements for streetcar operations as part of the 1<sup>st</sup> Avenue construction tendering and design. Determining these refinements is a tangible example of how construction costs and neighbourhood impacts have been minimized if these design constraints were only identified at a future date. Specific safeguarding or cost reduction examples along 1<sup>st</sup> Avenue include:

- Defining technical vehicle specifications for a modern streetcar and how these would interact with the DHR vehicles operating at the same time including widening the median as needed to accommodate a modern and DHR double-track streetcar system
- combining the street lighting poles with the structural requirements for the overhead contact system (OCS) to allow for a cross span wire system necessary for both the DHR and modern streetcar traction power operation
- resolving utility conflicts for water, sanitary, storm, hydro, and the district heating system including determining a potential relocation of Metro Vancouver's forcemain that could assist in minimizing future impacts

• identifying targeted additional street right-of-way needs for modern streetcar operation to achieve more functional and accessible stations without compromising pedestrian sidewalks, bike lanes, or public realm design

# 3. Science World (Quebec Street) Corridor: Ontario Street to the Maintenance Facility

Similar to the False Creek South Corridor, the existing DHR track along Quebec Street is generally in poor condition and completely rebuilding the track is preferred to the investment required to repair and rehabilitate the track to an acceptable condition. However, reconstruction of the DHR track along the modern streetcar alignment is limited by the need for property acquisition at 1<sup>st</sup> Avenue and Quebec Street. This property requirement was defined as part of the SEFC ODP but is not expected to be realized prior to 2010.

Other design constraints or parameters include the integration of the modern streetcar alignment with Science World expansion plans and the Expo Deck replacement, consideration of bike lanes on Quebec Street and the Metro Vancouver forcemain from 1<sup>st</sup> Avenue to Terminal Avenue, and accommodation of functional and accessible stations around SkyTrain columns at both Science World and Pacific Boulevard.

A review of the earlier design for the maintenance yard underneath the viaducts identified some concerns regarding the amount of storage space for modern vehicles and its operational performance. A revised layout has been finalized by HMM that still accommodates up to five modern streetcars, two maintenance bays, nominal parking for staff, material storage, and bidirectional movements into the facility.

#### OPPORTUNITIES AND NEXT STEPS

HMM has essentially completed its scope of work to deliver Preliminary Engineering and Design for both the DHR and the Downtown Streetcar for the Phase Zero alignment between Granville Island and Science World including a maintenance facility. Track infrastructure cost estimates were completed by HMM for ongoing DHR operations and future Downtown Streetcar construction options. First and foremost, the work to date has proven to be a valuable exercise in determining how to best safeguard the alignment for both heritage and modern streetcar operations.

As a result of this work and a reconsideration of the phasing issues for the work related to the DHR, staff have rethought the approach to this initiative. It is challenging and not easy to replace the DHR east of Cambie until at least post 2010 and at the same time there is a need to upgrade the track west of Cambie in order to keep that portion of the service active. In addition, there is an interesting opportunity to use this upgraded corridor for a Downtown Streetcar Demonstration Project around the 2010 Winter Games period.

#### **Downtown Streetcar Demonstration Project**

Staff have been liaising with modern streetcar vehicle manufacturers to gauge their interest and ascertain how realistic it would be to obtain two modern vehicles for a Downtown Streetcar Demonstration Project. Discussions have been positive to date given the shared vision of the City and modern vehicle providers to collaborate in delivering an accessible and

reliable transportation project in Vancouver that enhances the Games experience for residents, visitors, businesses, Olympic and Paralympic families, athletes, and media.

The primary objective of the demonstration project would be to temporarily showcase modern streetcar operations as envisioned for the ultimate Downtown Streetcar transit service. It would also provide an important accessible, frequent and dedicated transit service between Granville Island and the Canada Line to support Granville Island's event planning and activation during the 2010 Winter Games.

It is likely that an agreement can be reached with a modern vehicle provider to lease, operate and maintain modern streetcars at their cost for a 60- to 90-day demonstration project between Granville Island and the 2nd Avenue Canada Line Station. If a final partnership agreement with a preferred modern vehicle provider cannot be realized in advance of any significant capital works, the new single-track infrastructure will still provide the opportunity to augment DHR operations during the 2010 Winter Games.

If this opportunity it so to be pursued, additional upgrading of the track - beyond the \$2.0 million identified above - will be required on the section west of Cambie to Granville Island. Preliminary engineering work indicates that a complete replacement of the single DHR track with new tie and ballast infrastructure and stations which would accommodate the operation of the DHR and/or a modern streetcar service would cost approximately \$8.5 million.

# Granville Island Support for Downtown Streetcar Implementation

Granville Island representatives are interested in the proposed Downtown Streetcar and see it as an important high-capacity transit solution and a key piece of transit infrastructure needed for their visitors, patrons, and employees, as well as Emily Carr students, faculty and staff. To assist in advancing the Downtown Streetcar project, the Granville Island office of Canada Mortgage & Housing Corporation (CMHC) contributed \$65,000 to the Preliminary Engineering and Design work recently completed by HMM.

Staff have been discussing with Granville Island staff their ongoing support for the Downtown Streetcar including the mutual benefits of pursuing the Streetcar Demonstration Project. Subject to Council approval to develop the streetcar demonstration line, Granville Island will seek approval to include a contribution of \$500,000 in their capital plan for the 2008/2009 fiscal year towards the reconstruction of the Granville Island station and adjacent track infrastructure to support ongoing DHR operations as well the demonstration project. Ensuring the completion of the proposed modern streetcar demonstration service to Granville Island for the Games will provide the estimated tens of thousands of daily visitors, media, and athletes a viable alternative to the private automobile for accessing the Island.

#### IMPLEMENTATION PLAN AND RECOMMENDATIONS

## **Funding Strategy**

The funding required for rebuilding the DHR single-track along the False Creek South corridor would typically be considered as a submission as part of the upcoming 2009 - 2011 Capital Plan. However, this process will not be finalized until the opportunity to build the streetcar demonstration project has been missed. An alternate funding strategy is therefore

recommended to ensure that the Downtown Streetcar Demonstration Project is achieved for the 2010 Winter Games and in advance of the next Capital Plan timeline.

If approved by Council, the \$4.0 million commitment being made by the PEF towards the single-track DHR replacement along 1<sup>st</sup> Avenue would be used as one source of funding for the upgrading of the track west of Cambie. This contribution would relieve the PEF from contributing toward reconstructing the single DHR track in the 1<sup>st</sup> Avenue centre median east of Cambie and would provide more unencumbered vehicle movement during the exclusive-use period as the Athletes' Olympic Village.

With the Granville Island and PEF contributions of \$4.5M, there is still an unfunded balance of \$4.0 million needed to achieve the total of \$8.5 million required to fund the streetcar demonstration project. Staff have completed a review of appropriate existing sources of capital, in particular from the existing capital budget, and are recommending that \$4.0 million in funding be reallocated to this project from the Engineering Capital Budget, A4 - Transit and Safety.

# **Design and Construction Strategy**

Detailed design of rebuilding the track infrastructure for long-term DHR operations along the False Creek South corridor would need to begin immediately to achieve completion of the streetcar demonstration project by the target date of November 30, 2009. Commencing detailed design right away would provide sufficient time to complete construction of the new single track and passing loop while ensuring the schedule provides time to test modern streetcar operations in advance of the 2010 Winter Games.

As part of the procurement process for Preliminary Engineering and Design, HMM was selected with a provision that they may be retained for future detailed design work. Staff have been satisfied with the quality of heritage and modern streetcar design and experience that HMM and its team have provided to date. Discussions between staff and HMM are proceeding regarding the potential extension of their professional engineering services into the detailed design of the Streetcar Demonstration Project. This will ensure that there is a seamless transition into this next phase of work and provide staff greater flexibility in adopting and managing changing requirements with HMM later into the design process.

In summary, staff recommend that Council approve replacement of the single-track infrastructure between Granville Island and the 2nd Avenue Canada Line Station (Recommendation A) including developing the Downtown Streetcar Demonstration Project for the 2010 Olympic and Paralympic Winter Games using modern streetcar equipment and infrastructure (Recommendation B).

# Safeguarding the Streetcar along 1st Avenue

Although staff's recommended priority of investing in new streetcar infrastructure is focused between Granville Island and the 2nd Avenue Canada Line Station by 2010, there are a number of outstanding design concerns related to the 1<sup>st</sup> Avenue reconstruction. In particular, there is a cost-effective opportunity to relocate Metro Vancouver's forcemain along 1<sup>st</sup> Avenue between Columbia Street and Quebec Street which would ultimately be located directly beneath the centre median. Relocating the regional forcemain during the 1<sup>st</sup> Avenue street reconstruction is considered to be of significant value and of mutual benefit to

both the City and Metro Vancouver given the long-term use of the median for modern streetcars.

Given that the City is already committed to funding the full reconstruction costs for 1<sup>st</sup> Avenue, Metro Vancouver should cost share on at least 50% of the incremental cost premium to relocate the regional forcemain. By contributing to the forcemain relocation, Metro Vancouver will ensure that it has a well-bedded and easily accessible new pipe that will not affect DHR or modern streetcar operations in the event of any future emergency pipe repairs.

Other safeguarding needs during the current 1<sup>st</sup> Avenue reconstruction that will avoid much higher constructions costs in the future include provisions for advanced conduit installation for modern streetcar operations with other communication conduits already being constructed and provisions for the street lighting poles that can accommodate the cross span wire system necessary for modern streetcar traction power operations.

To minimize future construction costs and neighbourhood impacts, staff recommend that up to \$1.0M be approved to safeguard the streetcar alignment during the 1<sup>st</sup> Avenue reconstruction for modern streetcar operations including sharing with Metro Vancouver the incremental cost premiums of relocating the regional forcemain (Recommendation C).

#### FINANCIAL IMPLICATIONS

The total construction cost for the Streetcar Demonstration Project is expected to be \$8.5M including design, construction management, and contingencies. It is proposed that this be funded as follows:

- i. \$500,000 as a funding contribution from CMHC Granville Island
- ii. \$4,000,000 from the Southeast False Creek Project
- iii. \$4,000,000 from the Engineering Streets 2006-2008 Capital Budget

In addition, up to \$1.0M is required to safeguard the modern streetcar alignment along 1st Avenue during its reconstruction. This includes at least 50% cost sharing with Metro Vancouver on the incremental cost premiums for relocating the regional forcemain between Columbia Street and Quebec Street.

It is proposed that the following funding sources be utilized to provide the necessary funding of \$5.0 million:

## FUNDING CONTRIBUTION FROM ENGINEERING CAPITAL BUDGET (2006-08)

PROGRAM	AMOUNT
Arterial Reconstruction (BCB 2006/07)	3,150,000
Arterial Reconstruction (DCL 2006/07)	800,000
Arterial Reconstruction (2008 in advance)	800,000
Bus Slabs and Landings (BCB 2006/07)	250,000
TOTAL CONTRIBUTION	\$5,000,000

These combined funds provide enough capital funding to complete the streetcar demonstration project for the 2010 Winter Games between Granville Island and the 2nd Avenue Canada Line Station including a passing track and two modern streetcar stations.

Some of the planned Streets capital projects will not be completed in 2008 or 2009 as crews are running at full capacity and there is limited availability of qualified contractors. Those projects that are not scheduled to be completed and for which the funding has been reallocated to this project, will be rescheduled and funded from future capital plans.

#### CONCLUSION

Staff recommend that detailed design begin immediately replacement of the existing DHR track infrastructure between Granville Island and the 2nd Avenue Canada Line Station with the ability to deliver a streetcar demonstration project for the 2010 Winter Games; that \$8.5M be allocated to support the design and construction of the aforementioned demonstration project; and that a maximum of \$1.0M be allocated to safeguard the modern streetcar alignment along 1st Avenue.

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