



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: October 10, 2006
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RTS No.: 06252
VanRIMS No.: 13-4200-10
Meeting Date: October 17, 2006

TO: Standing Committee on Transportation and Traffic
FROM: General Manager of Engineering Services
SUBJECT: Cambie Street Restoration - City Initiated Improvements

RECOMMENDATION

- A. THAT Council approve the following improvements to Cambie Street from West 7th Avenue to West 64th Avenue to be coordinated with the restoration of the road following the construction of the Canada Line:
- i. Lengthening of the northbound to westbound left turn bay at West 10th Avenue,
 - ii. Realignment of curbs and provision of a planted median from West 14th Avenue to West 17th Avenue
 - iii. Installation of pedestrian bulges at the following locations:
 - a) Southeast corner of Cambie Street and West 18th Avenue
 - b) Northwest corner of Cambie Street and West 17th Avenue
 - c) Southeast corner of Cambie Street and West 17th Avenue
 - iv. Elimination of the northbound to eastbound right turn channel and island at King Edward Avenue.
- B. Further to the approval of Recommendation A, THAT the total cost of \$380,000 to implement the improvements in A be funded from the 2006 Streets Basic Capital for Design and Construction of Geometric and Safety Modifications on Arterial Streets
- C. Further to the approval of Recommendation A, THAT, commencing in 2008, the annual Operating Budget for Signage be increased by \$1,150, without offset and

subject to 2008 Budget Review, for maintenance of the new signs and pavement markings.

- D. THAT Council approve the funding of \$170,000 from the City's 2006 Streets Basic Capital for Bicycle Network to widen the east roadway of Cambie Street:
- i. From West 49th Avenue to West 37th Avenue, a widening of up to 0.4 metres,
 - ii. From West 33rd Avenue to West 37th Avenue, a widening of up to 1.1 metres, and
 - iii. From West 33rd Avenue to West 29th Avenue, a widening of up to 1.4 metres,

To align the curb line to provide consistent lane widths, to provide sufficient road space for vehicles to navigate the curved roadway, and to provide sufficient space for general vehicles to share with cyclists.

- E. Further to the approval of Staff Recommendation D, THAT Council approve the implementation of bicycle facilities on Cambie Street, described in Table 1.
- F. Further to the approval of Staff Recommendation D and E, THAT funding of \$45,000 for the implementation of these bike facilities and parking changes be provided from 2006 Streets Basic Capital for Bicycle Network.
- G. Further to the approval of Staff Recommendation F, THAT, commencing in 2008, the annual Operating Budget for Signage be increased by \$4,500, without offset and subject to 2008 Budget Review, for maintenance of the new signs and pavement markings.

COUNCIL POLICY

On May 13th, 2003, Council reiterated its support for a Richmond/Airport-Vancouver (RAV) rapid transit line as a key element in helping the City achieve its environmental, transportation and liveability objectives as part of a comprehensive, carefully-developed, adequately-funded, long-term, regional strategic transportation plan. It was also approved that good bicycle access be provided at all stations and that providing bicycle access to and on the new Fraser River transit bridge be considered.

On May 27th, 1997, Council approved the Vancouver Transportation Plan which emphasized the need to provide more comfortable cycling and walking environments. Regarding Cambie Street, the plan specifically states:

"To maintain the key connections with the region and good cross-city road links, some roads will need to continue to provide a relatively high level of service for car drivers. Roads which connect with bridges, freeway ramps, and major destinations generally carry the heaviest traffic today, and are likely to in the future. Many of these roads now have parking restrictions at peak times. Existing parking restrictions would likely remain, and some additional measures to improve traffic flow and safety may be justified. These arterial roads would probably not be appropriate for bus or bike lanes. Cambie, Oak, Kingsway, 1st Avenue, Grandview-12th to Granville, are examples of these busiest roads which are important cross-city routes."

PURPOSE

This report seeks Council's approval to proceed with a design for Cambie Street that incorporates improvements to enhance the safety for all users of the street and to allow coordination with the restoration works following Canada Line construction to capitalize on cost efficiencies and cost savings.

BACKGROUND

The Canada Line project in Vancouver consists of:

- An underground tunnel from Waterfront Station in downtown Vancouver under Granville Street, Davie Street, False Creek, and Cambie Street to south of 64th Avenue;
- An elevated guideway from south of 64th Avenue across the Fraser River to Bridgeport Station in Richmond;
- A bus exchange at Marine Drive; and
- A total of 9 stations (and 2 future stations) along the Vancouver portion of the route.

The cut and cover tunnel portion of the Canada Line, from West 2nd Avenue to south of West 64th Avenue has the greatest impact at street level as it requires removal of the northbound roadway and the east curbs of both Cambie Street and the Cambie Heritage Boulevard.

The Canada Line Project is responsible to reinstate any City infrastructure that is impacted by their construction activities. As a result, there is an opportunity to review, design and implement improvements to Cambie Street in coordination with the restoration of the road to realize a cost savings on City initiated improvements. The City would be responsible for the incremental costs to implement these changes.

The 1997 Transportation Plan did not envision bicycle lanes on important cross-city routes that provide important regional connections such as Cambie Street. With the implementation of the Canada Line Project, and in particular the completion of the pedestrian and cycling bridge connection over the Fraser River, there is a new rationale to incorporate cycling improvements along this corridor that was not envisioned when the Transportation Plan was created.

DISCUSSION

Construction of the Canada Line Rapid Transit System is underway. Portions of the cut and cover tunnel between West King Edward Station and West 64th Avenue have been completed and the Canada Line contractors are ready to begin the restoration of Cambie Street.

A review of Cambie Street has identified a number of improvements that can be incorporated in the reinstated roadway that will enhance safety for all users of the street.

The boundaries of the suggested improvements occur between West 7th Avenue and West 64th Avenue. Details of the construction activity and sequencing of the segments to the north and south of these boundaries are currently being developed by the contractor. Improvements to those segments will be detailed for Council approval in a future report.

The proposed improvements to Cambie Street that have been finalized are detailed below:

Lengthening of the northbound to westbound left turn bay at West 10th Avenue to serve the growing healthcare precinct

The existing northbound left turn bay at West 10th Avenue is operating at capacity given its current left turning demand. As such, it is recommended that the existing northbound left turn bay at West 10th Avenue be extended by approximately 15 metres to accommodate future growth of the precinct. The length of the proposed extension of the left turn bay has been optimized to acknowledge that a portion of the trips generated by the precinct will likely be replaced by transit trips following the opening of the Canada Line. While the extension of the left turn bay is required to accommodate the growth of the healthcare precinct, it is expected that it would increase traffic on West 10th Avenue as development occurs. To mitigate the impact to the 10th Avenue Bikeway, additional signage and pavement markings will be installed to increase the visibility and prominence of this bike facility.

Realignment of curbs and provision of a planted median from West 14th Avenue to West 17th Avenue

The new developments and associated building lines for properties fronting Cambie Street from West 14th Avenue to West 17th Avenue have resulted in the dedication of once private property into public rights-of-way. Following Canada Line construction, the long term goal of creating a planted median in this section can be realized. This median would provide a planted green buffer in the centre of Cambie Street and enhance the public realm.

Installation of pedestrian bulges into cross streets at the intersection of Cambie Street at West 17th Avenue and West 18th Avenue

A total of 3 pedestrian bulges into east-west cross streets are proposed to shorten pedestrian crossings at cross streets, realign the skewed crosswalks across Cambie Street, increase visibility of pedestrians and provide additional boulevard space to enhance the pedestrian environment. These improvements will support the strong pedestrian activity in this area which is expected to increase upon opening of the Canada Line. According to a marketing survey, 52% of trips to the Cambie Village Business Area were made on foot. This percentage jumps to 75% when combined with other non-private vehicle modes such as trips using transit and cycling. The designs of the bulges will not impact the availability of on-street parking or other curb side uses.

Elimination of the northbound right turn lane and island at King Edward Avenue

This improvement is recommended to enhance safety, increase accessibility and shorten the crossings for pedestrians accessing the new Canada Line station and the Cambie Village business area to the north.

Road Widening

A review of the pre-construction road widths on the east side of Cambie Street has indicated that road widening is required to align curbs, to provide adequate lane widths to travel through the curved portions of the street around Queen Elizabeth Park, and to allow space for vehicles to share with cyclists. Road widening of between 0.1 metres and 1.4 metres is recommended between West 49th Avenue and West 29th Avenue. Approval of the widening at this time will allow the City to capitalize on the necessary street restoration.

Widening of Cambie Street adjacent to Queen Elizabeth Park may require that the east sidewalk be relocated partially into the park along Cambie Street. Discussions with Parks Board Planning staff have indicated their support for providing this space along Cambie Street adjacent to the park, particularly if it is used to accommodate a cycling facility. The detailed design of the replacement sidewalk will be subject to discussions with Parks staff on issues such as location, aesthetics, and acknowledgement to the adjacent plantings and frontage of the park.

Cambie Street Bicycle Integration

The City's existing transportation policies, as part of the 1997 Transportation Plan, do not recommend the installation of bike lanes on Cambie Street due to its role as a regional and cross-city connector. Since this policy was adopted, however, a number of significant regional investments into the Cambie corridor were approved in the form of the Canada Line rapid transit system and a pedestrian and cyclist bridge connection from Richmond.

As such, it is recommended that the Cambie corridor support these investments and be designed to enhance facilities for pedestrian, cyclist and transit modes. While Cambie Street will remain an important corridor for automobiles, it is expected that many of trips generated by the presence of the Canada Line, from future land use changes, and from new developments along the Cambie corridor will rely more heavily on transit, walking and cycling modes.

To maximize the benefit provided by both the Canada Line and the new Fraser River pedestrian and bicycle crossing attached to the Canada Line bridge, bicycle facilities are proposed for the Cambie Street corridor. The city's existing practice is to establish bicycle facilities that parallel major roadways in order to reduce conflicts between cyclists and general purpose vehicle traffic. In the case of the Cambie Corridor from 29th Avenue southwards, there are a number of major obstructions that prevent the creation of effective parallel bike routes. These obstructions include the off-set intersections across Marine Drive, Langara Golf Course, Oakridge Shopping Centre, Queen Elizabeth Park, and Children's and Women's Hospital. Given these challenges, bicycle facilities on Cambie Street would provide cyclists with the most direct route to many local destinations along the Cambie corridor, the new stations, as well as, into the downtown.

The proposal for bicycle integration along Cambie Street is to provide bicycle facilities from Kent Avenue to West 29th Avenue with a potential extension to King Edward Avenue. The bike facilities would provide connections to a number of east-west bike facilities including the future bikeway along West 59th Avenue, existing and future bike lanes on West 49th Avenue, the Midtown/Ridgeway bikeway on West 37th Avenue, and to the bike lanes on West 29th Avenue. At that point, northbound cyclists are able to use the bike lanes on West 29th Avenue to access the parallel bikeways on Heather Street or a potential

bikeway on Yukon Street to access Cambie Street Bridge and the downtown. Furthermore, an extension of the bike facilities on Cambie Street will be explored from West 29th Avenue to King Edward Avenue. The existing bicycle route network is attached in Appendix A.

A summary of the bicycle integration plan described in Staff Recommendation F is described below in Table 1. Typical plan views are shown in Appendix E.

Table 1 - Detailed Summary of the Recommended Option to Accommodate Bicycles on Cambie Street

| Street Boundaries | Type of Facility | | Widening Required | Curb Lane Regulations |
|--|------------------------------------|------------------------------------|-------------------------|---|
| | Southbound | Northbound | | |
| W King Edward to W 29 th | To be explored | | | |
| W 29 th to W 33 rd | Shared Wide Curb Lane | Bike Lane Adjacent to Curb | 1.4m (QE Park Frontage) | No Stopping Anytime |
| W 33 rd to W 37 th | Shared Wide Curb Lane | Shared Wide Curb Lane | 0.6m-1.1m | Parking Restrictions 7-9:30am northbound 3-6pm southbound |
| W 37 th to W 49 th | Shared Wide Curb Lane | Shared Wide Curb Lane | 0.1m-0.4m | Parking Restrictions 7-9:30am northbound 3-6pm southbound |
| W 49 th to Kent | Bike Lane beside full-time Parking | Bike Lane beside full-time Parking | N/A | Full-time parking |

FINANCIAL IMPLICATIONS

The total estimated cost of the improvements is \$595,000. Of this total, \$215,000 will be funded from 2006 Streets Basic Capital for Bicycle Network. The remaining \$380,000 will be funded from 2006 Arterial Improvements - Geometric and Safety Modifications.

Commencing in 2008, it is proposed that the annual Traffic Operations Operating Budget for Signage be increased by \$5,650 for maintenance of the new signs and pavement markings.

The financial implications of the improvements are summarized in the table below:

| # | Improvement | Capital Cost Estimate | Annual Operating Budget Increase | Funding Source |
|-------|---|-----------------------|----------------------------------|---|
| Ai) | West 10 th Ave Left Turn Bay Extension | \$5,000 | N/A | 2006 Arterial Improvements - Geometric and Safety Modifications |
| Aii) | West 14 th Ave to West 17 th Ave Curb realignment and Installation of Planted Median | \$175,000 | \$1,000 | 2006 Arterial Improvements - Geometric and Safety Modifications |
| Aiii) | West 17 th Ave, West 18 th Ave 3 Pedestrian Bulges | \$120,000 | \$150 | 2006 Arterial Improvements - Geometric and Safety Modifications |
| Aiv) | King Edward Avenue Elimination of right turn lane and island | \$80,000 | N/A | 2006 Arterial Improvements - Geometric and Safety Modifications |
| | Subtotal | \$380,000 | \$1,150 | |
| D | West 29 th Ave to West 49 th Ave Road realignment & widening (0.1m to 1.4m) to enhance safety and accommodate bicycle facilities | \$170,000 | N/A | 2006 Bicycle Network |
| | Subtotal | \$170,000 | N/A | |
| E/F | Kent Ave to West 29 th Avenue Implementation of Bicycle Integration Plan | \$45,000 | \$4,500 | 2006 Bicycle Network |
| | Total | \$595,000 | \$5,650 | |

IMPLEMENTATION PLAN

The implementation of these improvements will be coordinated with the restoration of Cambie Street following the Canada Line cut and cover tunnel construction. Restoration between West 29th Avenue and West 33rd Avenue is currently underway. As such, it is necessary that Council decide on the improvements to Cambie Street to be able to maximize the cost savings that can be realized through close coordination with the reinstatement work. The scheduling of the restoration of the remaining segments will progress through to 2008.

PUBLIC CONSULTATION

Input from the community for improvements Ai) and Aiv) were gathered through two rounds of public open houses that occurred between February and April of 2006. At these Open Houses, improvements to areas around the stations (also known as station precincts) were displayed alongside the station designs and input was gathered through a comment form. The first round of open houses for the stations solicited ideas for improvements. The second open house showcased a detailed draft precinct plan that incorporated the input gathered from the first open house.

A total of 432 people attended two open houses that showcased improvements I and IV. Of the comment forms that were submitted, 95% of the respondents were either positive or neutral on the upgrading of the West 10th Avenue left turn bay. 85% of respondents were either positive or neutral on the removal of the right turn slip lane at King Edward Avenue.

A letter notification was delivered to residents and property owners affected by the proposed road widening requesting concerns or comments. No concerns or comments have been received to date. A sample notification letter is included in Appendix B.

Options for accommodating cyclists on Cambie Street were presented to the public during open houses in the spring of 2005. Of the respondents who indicated a preference, there was equal support shown for the option to have 'bridge to bridge' bicycle lanes (27% in favour) and the option to have 'bike lanes to West 37th Avenue (Ridgeway/Midtown Bikeway)'. A detailed summary of the responses is shown in Appendix C.

The Bicycle Advisory Committee was consulted through the Bicycle Network Subcommittee on the provision of bicycle facilities on Cambie Street on May 18th, 2005. The Bicycle Advisory Committee passed a motion to support the development of bike lanes for the full length of Cambie Street from Kent Avenue to the north end of the Cambie Bridge. The resolution is attached as Appendix D.

A second meeting with the Bicycle Network Subcommittee took place on October 5, 2006. At that meeting, the Bicycle Network Subcommittee agreed to recommend to the Bicycle Advisory Committee that they recommend to City Council that northbound Cambie Street be widened and bike lanes be installed between Kent Avenue and West 49th Avenue as recommended in the Engineering Department report dated October 5, 2006, and further that a permanent bike lane and full time parking be installed on northbound Cambie Street between 33rd and 49th Avenues.

The Bicycle Advisory Committee has consistently supported the provision of bicycle lanes on Cambie Street from Kent Avenue to the north end of the Cambie Bridge. Staff believe the proposed design detailed in Recommendation E reflects the best balance between competing road uses at this time. Future changes could be made as conditions dictate.

CONCLUSION

The construction of the Canada Line presents an opportunity for the City to capitalize on cost savings associated with improving the design of Cambie Street upon reinstatement of the road. The improvements detailed in this report support pedestrian access to station sites, encourage pedestrian visits to the Cambie Village business area, accommodate cyclists on Cambie Street as an alternative to the existing bikeway network and enhance safety of the road network. It is important that a decision be made at this time so that the City can realize savings by coordinating City improvements with Canada Line street reconstruction.

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Appendix A - Existing Bicycle Route Network



Sample Notification Letter for Road Widening



CITY OF VANCOUVER
ENGINEERING SERVICES
T.R. Timm, P.Eng., General Manager

This notice contains important information which may affect you. Please ask someone to translate it for you.

此通告刊載有可能影響閣下的重要資料。請找人爲你翻譯。
ਇਸ ਨੋਟਿਸ ਵਿਚ ਮਹੱਤਵਪੂਰਨ ਜਾਣਕਾਰੀ ਹੈ ਜੋ ਕਿ ਤੁਹਾਡੇ ਲਈ ਜ਼ਰੂਰੀ ਹੋ
ਸਕਦੀ ਹੈ। ਕਿਰਪਾ ਕਰਕੇ ਕਿਸੇ ਨੂੰ ਇਸ ਦਾ ਉਲੱਥਾ ਕਰਨ ਲਈ ਆਖੋ।

**Thông báo này có tin tức quan trọng có thể ảnh hưởng đến quý vị. Xin
nhờ người phiên dịch hộ.**

**Este aviso contiene información importante que puede afectarle personalmente. Pídale
a alguien que se lo traduzca.**

**Ce document contient des renseignements importants qui pourraient vous concerner.
Veuillez demander à quelqu'un de vous le traduire.**

September 29, 2006

Dear 4900-5200 Block Cambie Street Property Owner/Resident/Business Owner:

RE: Cambie Street Road Restoration and Selected Widening

As you know, the construction of the Canada Line Project is well underway.

The City of Vancouver is now looking ahead to determine the restored designs for Cambie Street and the Cambie Heritage Boulevard.

Restoration of the road following the Canada Line construction will provide the City with an opportunity to create a safer environment for all users of the street, including pedestrians and the mobility impaired, cyclists, transit passengers, trucks and general vehicle traffic.

On your block of Cambie Street, road widening of up to 1.3 metres is required to align the road and provide adequate lane widths, particularly on the approaches to major intersections and bends in the road.

The City will be seeking Council approval for these changes on October 17th, 2006. For Council meeting information, please visit:
http://vancouver.ca/ctyclerk/councilmeetings/meeting_schedule.cfm

Sample Notification Letter for Road Widening - continued

For additional details regarding the restored design of Cambie Street, please do not hesitate to contact me at donny.wong@vancouver.ca.

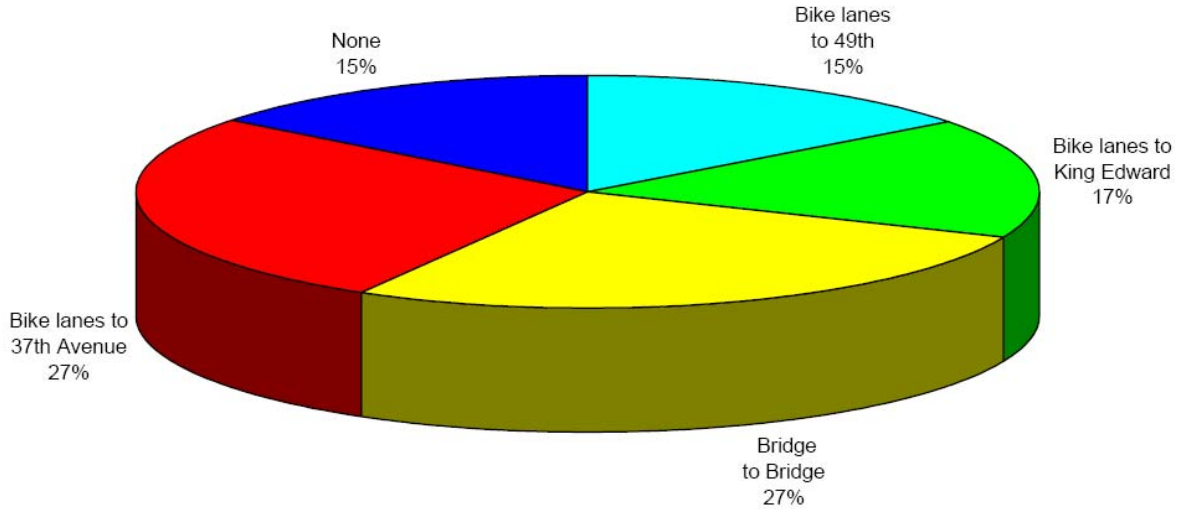
For Canada Line construction updates and information, please contact Colleen Sondermann, Community Liaison for the Canada Line Project at colleen.sondermann@intransitbc.ca.

Yours truly,

Donny Wong, P.Eng.
Transportation Engineer

donny.wong@vancouver.ca
Phone: 604.871.6690
Fax: 604.871.6497

Bicycle Integration



Cambie Bike Lane Options

The two Cambie bike lane options that had the most support were bike lanes along Cambie from the Fraser River to False Creek and bike lanes along Cambie from the Fraser River to 37th Avenue (both options had equal support). From the written commentary it is apparent that there is a very mixed response to the idea of bike lanes along Cambie. Many people wrote that they think bike lanes are a great opportunity to further provide commuter cyclists with a more convenient, direct route. Many others wrote that they think bicycle routes should be kept to residential streets for safety and congestion reasons. There is mixed reaction to reducing vehicle and/or parking lanes in order to accommodate bike lanes.

| Cambie Bike Lane Options | Percent |
|---|---------|
| Bridge to Bridge | 27.1% |
| Bike lanes to 37th Avenue | 27.1% |
| Bike lanes to King Edward | 16.7% |
| Bike lanes to 49th | 14.6% |
| None (Use an existing bike route to connect to the bike bridge) | 14.6% |

BAC Resolution of May 18, 2005 Regarding the RAV Rapid Transit Project

5. Reports of Subcommittees

(a) Bicycle Network Subcommittee

Peter Stary, Engineering Services, distributed the notes from the May 3, 2005, meeting and provided an overview. Committee actions are noted below under the specific topic headings:

1) RAV Rapid Transit Project

RESOLVED

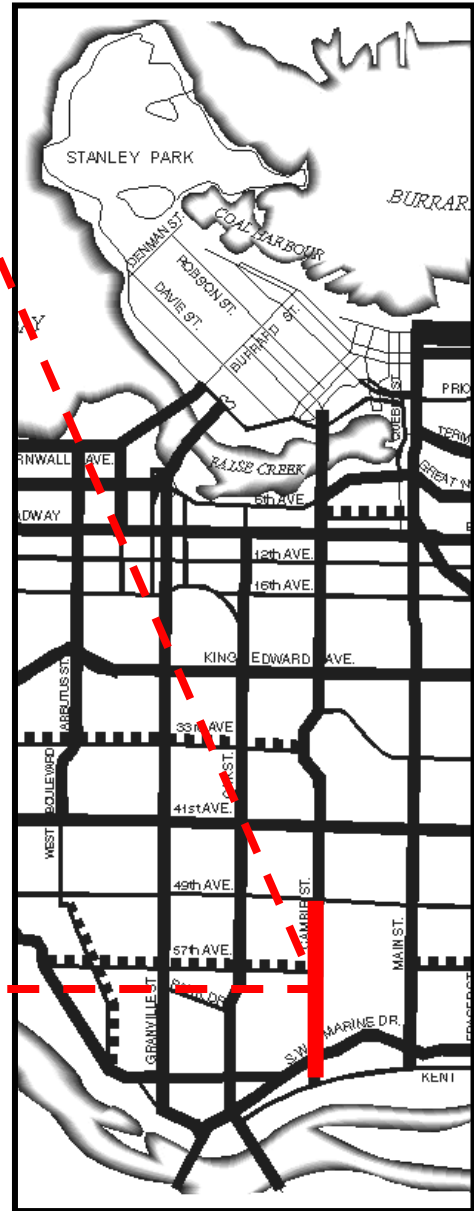
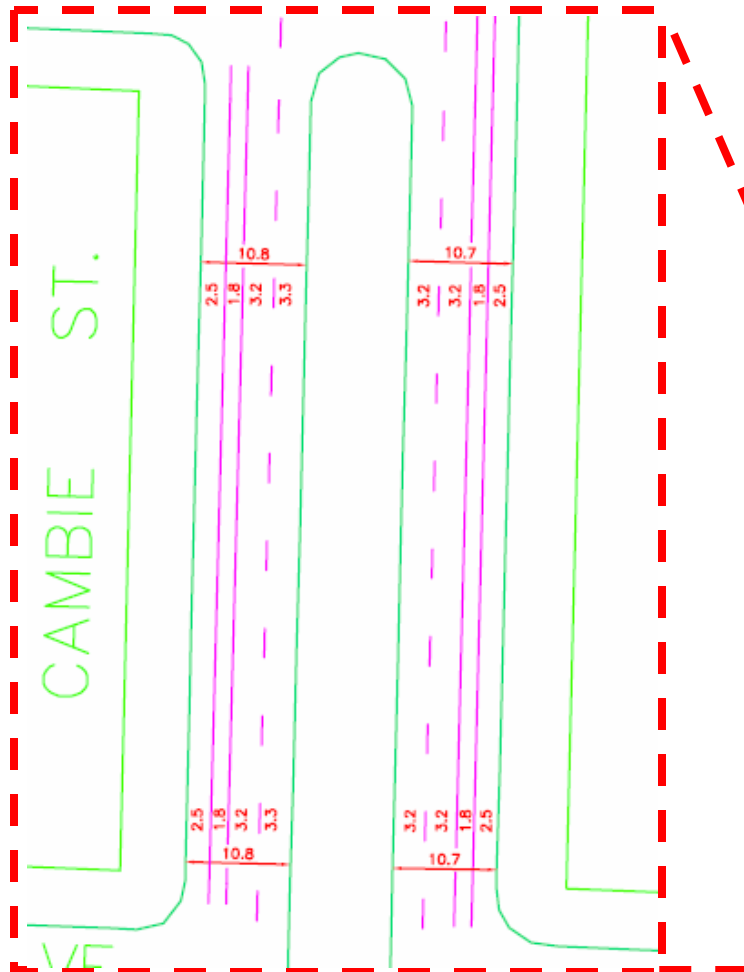
THAT the Bicycle Advisory Committee recommends that, in regard to proposed bicycle facilities associated with construction of the RAV line along the Cambie Street right-of-way:

- a preferred bike lane design for the full length of Cambie from Kent Avenue to the north end of Cambie Bridge be developed; and
- in view of the additional transportation capacity provided by RAV that the reduction of space for cars on Cambie be supported in accordance with Vancouver Transportation Plan and Cool Vancouver objectives and to create space where needed by bicycles.

CARRIED UNANIMOUSLY

Typical Cambie Street Configurations Proposed for Bicycle Integration

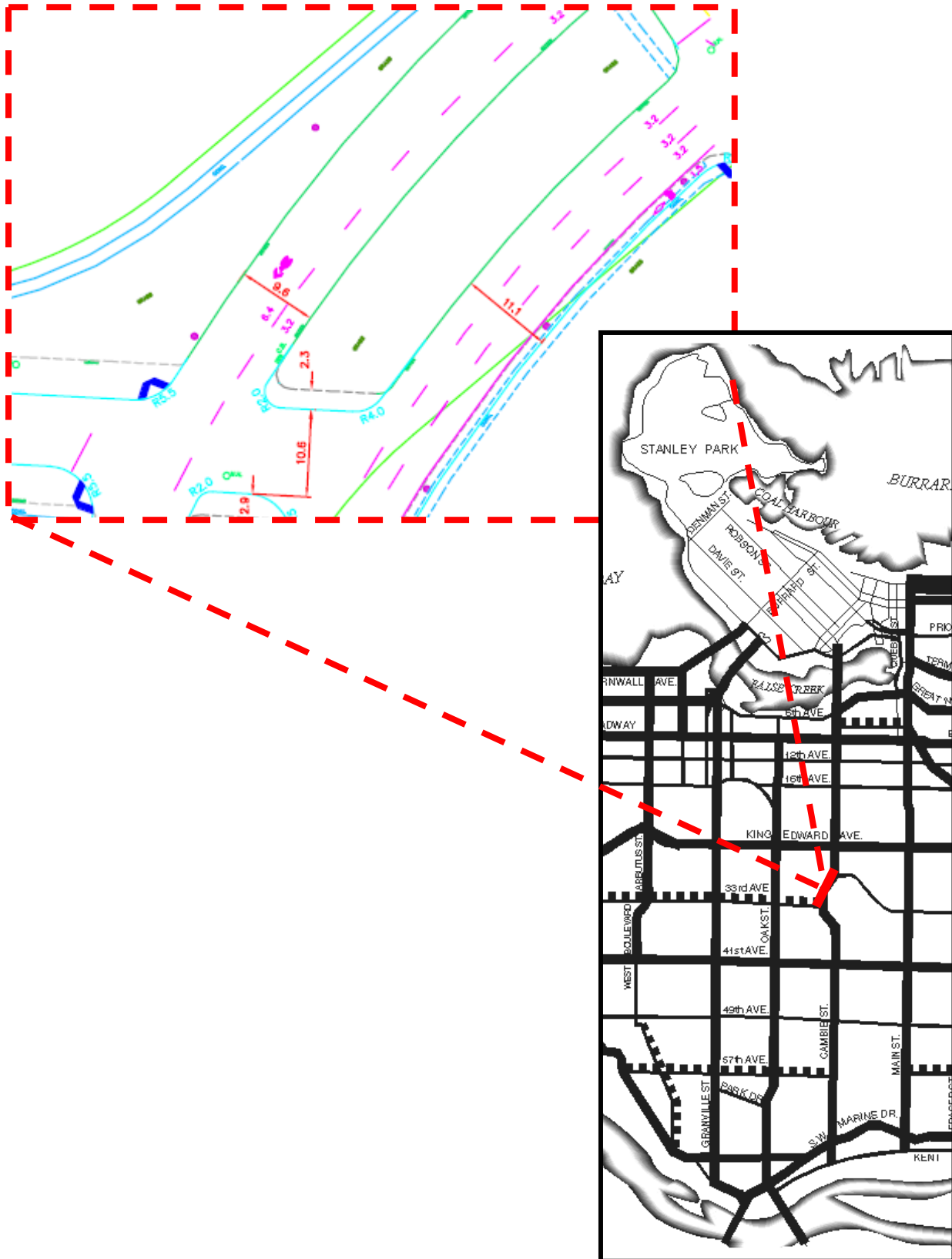
West 49th Avenue to Kent Avenue
Bike Lanes Adjacent to Full Time Parking



Typical Cambie Street Configurations Proposed for Bicycle Integration - continued

West 33rd Avenue to West 29th Avenue

Dedicated Bike Lane Northbound with Shared Wide Curb Lane Southbound



Typical Cambie Street Configurations Proposed for Bicycle Integration - continued

West 49th Avenue to West 33rd Avenue
Shared Wide Curb Lane in Both Directions

