



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: September 19, 2006
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VanRIMS No.: 13-4300-01
Meeting Date: October 17, 2006

TO: Standing Committee on Transportation and Traffic

FROM: General Manager of Engineering Services

SUBJECT: West Broadway Street Rehabilitation and Transportation Improvements

RECOMMENDATION

THAT Council approve the plans for a major rehabilitation of West Broadway, including paving, sidewalk reconstruction, and the installation of pedestrian and bus bulges as described in this report, at a total estimated cost of \$3,650,000, and that Council approve funding from the following sources:

- That paving, at an estimated cost of \$1,000,000, be funded by \$1,000,000 from category A1a2 (Arterial Reconstruction - MRN Arterial Streets) in advance of the 2007 Streets Basic Capital Budget with funding provided from the 2007 TransLink MRN - OMR annual funding allocation, to permit commencement of the West Broadway pavement rehabilitation prior to the approval of the 2007 Streets Basic Capital Budget;
- That sidewalk reconstruction, at an estimated cost of \$1,500,000, be funded by \$1,500,000 from category A2b (Sidewalk Reconstruction) in advance of the 2007 Streets Basic Capital Budget with funding provided from the 2006-2008 borrowing authority approved by plebiscite, to permit commencement of the West Broadway sidewalk rehabilitation prior to the approval of the 2007 Streets Basic Capital Budget;
- That bus and pedestrian bulges construction, at an estimated cost of \$1,150,000, be funded by \$515,000 from category A4a2 (Arterial Improvements - Pedestrian, Transit and Neighbourhood Centres) of the 2006 Streets Basic Capital Budget, by \$60,000 from previously approved capital funding for pedestrian bulges at Carnarvon Street, and by funding be provided by TransLink and ICBC, subject to their approval.

FURTHER THAT subject to 2008 budget review, the Street Operations Maintenance Budget be increased by \$21,000, without offset, for maintenance of new landscaping areas.

GENERAL MANAGER'S COMMENTS

Rehabilitation of the street and sidewalks is required on West Broadway. Pedestrian and bus bulges are measures that provide improved pedestrian and transit facilities. The General Manager of Engineering Services recommends approval of these recommendations.

CITY MANAGER'S COMMENTS

The City Manager recommends approval of these recommendations.

COUNCIL POLICY

Funding for the rehabilitation and reconstruction of arterial roadways and sidewalks is approved by Council as part of the annual Streets Basic Capital Budget.

Council has adopted the Transport 2021 Regional Transportation Plan (1993), the Vancouver Transportation Plan (1997), and the Vancouver Transit Strategy (2002) which prioritizes transit and other non-auto modes to accommodate future increases in travel demand.

In 2005 Council approved the Vancouver & UBC Transit Plan - Final Draft Report, which included a recommendation that Council support the installation of Transit Priority measures on the Broadway corridor.

SUMMARY

This section of West Broadway, from Alma to Stephens, requires a major rehabilitation of the street and sidewalk due to deteriorating conditions and ongoing maintenance issues. The project will include paving, sidewalk reconstruction, and the installation of bus and pedestrian bulges at a total estimated cost of \$3,650,000.

The pavement in this section of West Broadway is deteriorating and repaving is required to maintain a safe driving surface, to protect the street asset, and to meet our obligations under the Major Road Network (MRN) program.

The sidewalk replacement program provides funding for the City's typical broom finished concrete sidewalk with an exposed aggregate utility strip. This treatment provides an even surface for vulnerable road users, particularly for people with visual or mobility impairments. Rehabilitation of the sidewalks in West Broadway is recommended as the trees in this area have grown extensive roots that in many sections have heaved the sidewalks creating trip hazards and puddles that impair pedestrian accessibility.

Installing bus and pedestrian bulges improves transit operations and the pedestrian environment, and furthers the implementation of the Vancouver Transportation Plan and the

Vancouver & UBC Transit Plan. Bus bulges will provide expanded boarding areas and easier bus movements, and pedestrian bulges will provide more pedestrian space and shorter road crossings. These transportation improvements will be coordinated with the sidewalk rehabilitation to provide an improved pedestrian environment for this area.

Options for funding an enhanced sidewalk treatment were explored, but responses from owners on West Broadway and the results of surveys of the local area have indicated that the majority of the area's property owners would not support funding a local improvement project.

PURPOSE

This report summarizes the public process undertaken for the street rehabilitation and transportation improvement of West Broadway, and seeks approval of funding in advance of the 2007 Capital Budget for the rehabilitation of the roadway and sidewalks and approval of geometric changes to West Broadway to allow for the installation of pedestrian and bus bulges.

BACKGROUND

Broadway is one of the major arterial streets in Vancouver that form part of the region's Major Road Network (MRN). The pavement condition ratings between Alma and Stephens have fallen below the minimum standards and paving is required. The repaving project will be coordinated with underground utility renewals (Sewers and Waterworks), sidewalk rehabilitation, and bus and pedestrian bulges installations so that construction impacts in the community will be minimized.

The Kitsilano section of West Broadway between Alma and Larch is a key shopping area for the community. The last major rehabilitation of this area was completed thirty years ago in 1976 when the property owners on West Broadway funded a Local Improvement that included the installation of an enhanced sidewalk with pavers and ceramic tiles, street trees, and mini public spaces; these treatments did not perform well. The continuing growth of surface tree roots has resulted in uneven sidewalks that have many trip hazards and puddles. The pavers have settled and heaved, while the ceramic tiles have fractured and lost their coloured surfacing. The current condition of the sidewalks is such that a full rehabilitation is required to provide a safe, functional surface. There is broad agreement by City staff and residents that the pedestrian areas need rehabilitation.

West Broadway is a key transportation and transit corridor of the City. The rehabilitation work in the area provides an opportunity to reduce the cost and neighbourhood disruption of installing 12 bus and pedestrian bulges as part of the City's initiative to improve pedestrian and transit access. These improvements support the City's implementation of the Vancouver Transportation Plans and the Vancouver & UBC Transit Plan.

The community was engaged through the local business and resident associations, and through public workshops and meetings. Community input was sought on options to provide improved highlight treatments within the available City funding and to gather feedback on pursuing other enhanced treatments through a Local Improvement process.

DISCUSSION

Pavement Rehabilitation

West Broadway is one of the City's arterial streets on the region's Major Road Network (MRN). TransLink provides annual funding to the City to maintain and rehabilitate MRN roads. The pavement condition ratings for this section of West Broadway have fallen below the minimum standards that must be met and therefore rehabilitation of the pavement is required. The Sewers and Waterworks utilities also have underground infrastructure that requires rehabilitation in advance of the repaving project. Coordinating the utility activities with the pavement rehabilitation will help minimize construction impacts to the community and improves the life cycle of the street. The pavement rehabilitation will result in a new asphalt surface that will provide an improved driving surface and will extend the serviceable life of this asset.

Sidewalk Rehabilitation

Sidewalks will be replaced on both the north and south side of West Broadway from Waterloo Street to MacDonald Street, and on the south side of West Broadway from Trafalgar Street to Larch Street. There will be opportunities for some highlight treatments to the sidewalk area, including concrete stamps and highlight pavers, which can be accommodated within the project budget. The project budget also includes provisions to rehabilitate the existing mini public spaces.

The City's typical commercial area sidewalk treatment is a broom finished pedestrian walkway with an exposed aggregate utility strip next to the curb. This treatment provides a smooth surface suitable for all sidewalk users, particularly people with reduced vision or reduced mobility. The exposed aggregate strip provides a contrast to the walkway that helps to differentiate this area that is used for service items such as trolley poles, parking meters, bike racks, newspaper boxes, and street trees. These surfaces are also easy to maintain, especially for property owners and tenants.

The City arborist and staff from Engineering have completed a detailed assessment of every tree and have determined that approximately one third of the existing Linden trees will need to be replaced to facilitate the installation of a safe, functional sidewalk where heaving is occurring.

The trees that can be retained will receive root trimming to lessen the impact of problem roots and the tree pit openings will be expanded to accommodate future root growth. The arborist is currently reviewing new technologies, including ground penetrating radar, to map the existing root structures to help refine the tree replacement strategy. Staff will endeavour to retain as many trees as possible.

Replacement trees will be installed according to the City's current tree installation standards. The current standards help to reduce the impacts of future root growth. Revised tree pit designs provide for improved soil conditions to promote deeper root growth. Root barriers are installed in order to deflect root growth well below the sidewalk. The Vanessa Persian Ironwood has been proposed by the City arborist as a replacement tree because it is better suited to the growing conditions in this area and will complement the existing Linden trees. Additional trees will be planted where possible.

There will be opportunities to increase available planting areas by approximately 1050 square meters, particularly adjacent to the new pedestrian and bus bulges. The existing conifer hedges will be removed to improve pedestrian access and visibility, and more suitable low maintenance plants will be selected. Planting areas will be available to volunteers through the City's Green Streets program to provide opportunities for the community to maintain public plantings.

There are also opportunities for citizens or groups to undertake community public art projects, such as mosaics or stamps. These projects can be installed in coordination with the sidewalk and transportation improvements through the City's Community Public Art Program and the Park Board's Neighbourhood Matching Fund.

Transportation Improvements

Bus and pedestrian bulges are proposed for 12 intersections along West Broadway between Larch Street and Alma Street. These bulges will provide additional pedestrian spaces at bus stops and corners. Pedestrian bulges will shorten the crossing distance which improves pedestrian safety and also results in shorter red lights for buses and other traffic. Bus bulges will improve the efficiency of transit operations.

In coordination with bus and pedestrian bulge installations, the bus stops on the south side of West Broadway between Dunbar Street and Bayswater Street will be relocated one block to the east, and the north side bus stop west of Dunbar Street will be removed. These changes will improve pedestrian access by co-locating the bus stops at the traffic signals and are supported by TransLink.

CONSULTATION

Staff met with West Broadway businesses, property owners and community representatives starting in the fall of 2005 to introduce the various components of the proposed street rehabilitation and transportation improvements. In response to comments arising out of four community meetings, the project proposal was expanded to incorporate bulges on West Broadway between Macdonald Street and Larch Street, in addition to those proposed between Macdonald Street and Dunbar Street.

In January 2006, a public open house was held to present the West Broadway Street project and approximately 200 people attended. Comments submitted were generally supportive of sidewalk reconstruction, the addition of bus bulges, and landscaping opportunities. Local businesses were consulted about the bus stop relocations and did not raise any concerns. Concerns were raised regarding the necessity to replace trees and the replacement of the sidewalk pavers with typical concrete sidewalks. A summary of comments from the open house is found in Appendix A.

In reviewing the open house comments, staff adjusted the project schedule to allow further time for the exploration of options and consultation, as well as to accommodate a somewhat expanded project scope. Construction was delayed until January 2007.

In April 2006 a second set of public workshops was organized to provide further information on the project proposal and to explore remaining options with the community. The workshops, facilitated by a consultant, were attended by a total of 74 people. Staff also met with representatives of the Kitsilano resident associations and the West Broadway Business Association prior to the workshops. In May 2006 a final technical meeting was held with representatives from the resident associations, businesses and several citizens with technical backgrounds who expressed interest in pursuing alternatives to the project proposal. Proposed alternatives are discussed in the Alternatives/Options section of this report. The facilitator's summary of the comments from these public workshops and meetings is included in Appendix B. Interested parties have been sent a copy of this report and it is anticipated that some community members may wish to address their concerns and alternatives to the project proposal with Council.

Local Area Improvement

In the public meetings it was expressed by some members of the public that area residents might be willing to fund enhanced sidewalk enhancements on West Broadway. Staff undertook an initial pre-ballot sample survey of 120 property owners on selected streets adjacent to the 3000 block of West Broadway; 41 ballots were returned (34% response rate) and only 4 of these respondents (10%) supported funding an enhanced treatment through a local improvement. The local resident associations and some members of the public expressed some concerns with the project information and wording of this first survey, so staff undertook an additional survey to further clarify the neighbourhood's interest in pursuing a local improvement.

A second pre-ballot sample survey was developed and sent to 216 owners adjacent to the 3100 block of West Broadway between West 5th Avenue and West 13th Avenue. 106 ballots were returned (49% response rate) and only 18 of these respondents (17%) supported funding an enhanced treatment through a local improvement. In addition, the owners were also asked if they supported the rehabilitation of the sidewalks with typical finishes through the City's sidewalk replacement program funding and 84 respondents (79%) were in favour of this rehabilitation. This second pre-ballot letter and a detailed summary of these survey results are included in Appendix C.

In order to succeed, a local improvement requires the support of a majority of owners. Based on these two pre-ballot surveys, it is unlikely that local improvement would be successful at this time and therefore is not recommended.

ALTERNATIVES/OPTIONS

Several options were suggested in the public meetings regarding enhanced sidewalk treatments and other options to retain additional trees.

It was suggested in the public meetings that installing pavers or reusing pavers, instead of the proposed concrete surfaces, in the sidewalk area would allow for the retention of more trees. Staff, including the City's arborist, reviewed this option and do not agree that this would allow for the retention of additional trees as it does not address the key issue of removing existing roots that interfere with levelling the sidewalk. Pavers are also more expensive to

install, and the conditions in this area will likely result in future heaving or settling of pavers that will require more extensive maintenance, than standard finishes.

Some people had suggested that installing structural soils (large size aggregate soils with high organic material content) and root barriers with existing trees would encourage deeper root growth and would save more trees. The City does use structural soils where appropriate and root barriers are a part of our new street tree installation standards. However, installing these measures with existing mature trees would be unsuitable since they could not be installed without damaging or removing the existing tree roots.

Root trimming was also presented as an option to eliminate the need to replace trees. This method will be used on West Broadway, but the success of root trimming is very dependent on the root structure of each individual tree. Based on the City's experience with Linden trees over the last 30 years, it is still anticipated that about one third of the existing trees will still need to be replaced.

Other options such as installing valley gutters or trench gutters were also reviewed. These options will not work with the level sidewalks in this area. These drainage options require higher levels of maintenance, would impact existing tree roots, or would not provide adequate water drainage in these pedestrian areas.

FINANCIAL IMPLICATIONS

Funding for the West Broadway Street Rehabilitation and Transportation Improvements project will be from the Streets Basic Capital Budget (BCB) Programs. Utility rehabilitation work will be funded separately by the utilities and will be reported accordingly.

Paving costs are estimated at \$1,000,000 and funding of \$1,000,000 is recommended to be allocated from the A1a2 Arterial Reconstruction - MRN Arterial Streets Program in advance of the 2007 BCB submission; TransLink provides funds annually through their MRN-OMR program to maintain the pavement quality on MRN arterial streets, and 2007 program funding is expected to be \$3,000,000.

Sidewalk reconstruction costs are estimated at \$1,500,000 and funding of \$1,500,000 is recommended to be allocated from the A2b Sidewalk Reconstruction Program in advance of the 2007 BCB submission; the 2006-08 Capital Plan provides \$4,700,000 of debenture funding of which \$1,700,000 was allocated in the 2006 Streets BCB.

Bus and pedestrian bulges costs are estimated at \$1,150,000. Funding of \$515,000 is recommended to be allocated from the A4a2 Arterial Improvements - Pedestrian, Transit and Neighbourhood Centres Program from the 2006 BCB. In 2003, Council approved funding from the 2003 BCB A4a Arterial Improvement - Enhancements at Pedestrian Crossings program for the bulge at Carnarvon and Broadway and \$60,000 of that funding is recommended to be transferred to this project as this bulge is included in the West Broadway project. The balance of the funding is proposed to be funded by TransLink and ICBC, subject to their approval. If this external funding is not approved, Transportation staff will report back with revised funding sources for these transportation improvements.

In addition to the capital costs for this project, there will be operating costs associated with the landscaping of the pedestrian and bus bulges to provide basic annual maintenance. It is recommended that subject to the 2008 budget review, the Streets Operations Maintenance Budget be increased by \$21,000, without offset, commencing in 2008.

CONCLUSION

The West Broadway sidewalk rehabilitation and the pedestrian and bus bulge enhancements will further support the goals of the City's Transportation Plan to promote pedestrian and transit options for Vancouver residents and will improve accessibility for all sidewalk users, especially vulnerable road users. This project will meet the City's obligations to maintain the MRN arterial network and will improve the local neighbourhood centre. Overall, staff feel that the current proposal balances costs and the desires of the residential and commercial communities to see this street improved.

* * * * *

WEST BROADWAY STREET RENEWAL
January 21, 2006
Open House - Summary of Comments

Article I. Question #1: Sidewalk Reconstruction

The sidewalks along W. Broadway are in poor condition, having been heaved up by tree roots. Sidewalk reconstruction is proposed for Larch to Stephens (south side only) and Macdonald to Waterloo (north and south sides). What are your comments on this proposal?

Comment sheets received:	82		
Non-support:	7	(9%)	Do not support sidewalk reconstruction at cost of trees.
Support :	62	(76%)	Support sidewalk reconstruction, provide suggestions.
No response:	13	(16%)	

Section 1.01 Summary

- Non-support related to loss of trees associated with sidewalk construction.
- General support for sidewalk reconstruction. Some favoured brushed concrete for accessibility reasons, but most favoured use of pavers, either just in the utility strip or as many as possible.

Article II. Question #2: Tree Replacement

To help create safer sidewalks, the City is proposing that approximately 35-40% of the existing Linden trees be replaced. What are your comments on this proposal? What is important to you about the tree environment on W. Broadway (species, amount, size, height etc.)?

Comment sheets received:	82		
Non-support:	39	(48%)	Do not remove any trees.
Support :	34	(41%)	Retain as many existing trees as possible.
No response:	9	(11%)	

Section 2.01 Summary

- Considerable opposition to replacement of existing trees, particularly if they are still deemed healthy.
- Desire to retain as many existing trees as possible, maintain street character. Shade identified as an important characteristic of tree canopy.
- Many suggestions offered including permeable pavers, structural soil, drainage (wider grates and bricks), concrete collar, structured concrete, design of tree pits, root trimming, more open soil space.

Article III. Question #3: Bus/Pedestrian Bulges

These localized sidewalk widenings at intersections are proposed between Larch and Dunbar to improve pedestrian safety and increase transit efficiency. What are your comments on this proposal?

Comment sheets received:	82		
Non-support:	12	(15%)	Do not support bus/pedestrian bulges.
Support:	56	(70%)	Support bus/pedestrian bulges.
No response:	13	(16%)	

Section 3.01 Summary

- Majority support for bus/pedestrian bulges. Recognition of benefits to pedestrians and transit, including users.
- Some concerns about blocking of traffic lane, cars changing lanes to avoid bus

Article IV. **Question #4: Landscaping**

There are some landscaping opportunities for W. Broadway, the side streets and mini public spaces at Trutch, Bayswater and Mackenzie. What do you think of the existing landscaping? What would you like to see? Any other comments or suggestions?

Comment sheets received: 82

Non-support:	4	(5%)	Low support for landscaping and/or changes.
Support:	59	(72%)	Provide suggestions to improve landscaping.
No response:	19	(24%)	

Section 4.01 Summary

- Strong support for landscaping opportunities as proposed.
- Some concerns about maintenance and attracting the homeless.
- Existing public space at Broadway and Bayswater is a positive one.
- Suggestions to review spaces at Collingwood, Waterloo (public art opportunity?), Larch.

Article V. **Question #5: Community Public Art**

Community public art opportunities will be created at corner bulges and at mini public spaces at Trutch, Bayswater and Mackenzie. Possibilities include mosaics and concrete stamps. What comments or suggestions do you have?

Comment sheets received: 82

Non-support:	6	(8%)	Low support for community public art proposals.
Support:	59	(72%)	Support community public art, provide suggestions.
No response:	17	(21%)	

Section 5.01 Summary

- Strong support for community public art opportunities as proposed.
- Many suggestions to get local community, schools, artists involved.
- Some comments that mosaics are not art, concrete stamps boring.
- Some maintenance concerns.

Article VI. **Question #6: Other**

Do you have any comments about other proposed project components (sewer and water work, bus stop relocations, street furniture, electrical upgrade etc.)? Any other comments?

Comment sheets received: 82

Non-support:	27	(33%)	
Support:	32	(39%)	
No response:	24	(30%)	

Section 6.01 *Summary*

- Parking meters was raised as an issue: concerns included more parking on side streets to escape the meters, pushing more traffic into residential areas, cash grab.
- Suggestions for parking meter revenue to go toward maintenance of sidewalks, landscaping and trees.
- Bus shelters (Viacom) identified as a concern re: design, not providing shelter from rain or snow even with roof cover and back, wet benches, maintenance.
- Concern of increased costs to local businesses.
- Maintenance (including vandalism) of garbage, sidewalk, landscaping an important issue.
- More benches and litter receptacles requested.
- Advertising for open house was inadequate - expand consultation area.
- Desire to retain existing street character.
- Outlets for street lighting for Christmas etc.

WEST BROADWAY STREET RENEWAL
Public Workshops April 20 & 22, 2006

FACILITATOR SUMMARY OF PUBLIC COMMENTS

Key points that emerge from the workshop discussions, comment sheets and evaluation forms:

- There remains a considerable contingent of active residents who attended the workshops, but remain unconvinced about the City's justification for tree replacement and the inability to incorporate reused and/or new pavers into sidewalk treatments. This remains, even after seeing supporting information and hearing from staff. One community group in particular (West Kitsilano Residents Association) and numerous individuals feel strongly about these issues. Feelings are particularly deep about the loss of 66 Linden trees.
- There is another group of attendees, both citizens and businesses, who are very concerned about both of the above issues, but after considering the information, are simply urging the City staff to (a) consider all possible options before proceeding, both technical and funding options, and (b) save as many trees as possible and incorporate as many pavers as possible.
- There is a considerably smaller group of attendees who feel strongly that upgrading is needed and should proceed as soon as possible, at the least possible cost. Several businesses are in this group.
- Many specific suggestions were made about all the issues, some of which staff responded to at the workshop by explaining that they had been considered, and some of which they agreed to look into.
- Despite the considerable frustration expressed by some participants, both in the meetings, comment sheets and evaluations, many people also appreciated the opportunity to learn more about the process, to talk directly to responsible staff, and to discuss options with fellow citizens.
- Several key concerns emerged regarding the public process for this project, including:
 - Desire for more publicity on the street and other public places, e.g., community centres, stores, cafes, and better signage to help people find the meeting and attract passers-by.
 - Desire for more information on the budget and costs of various options, to allow them to see what has gone into the decision and how much limitation and/or leeway is left.
 - Strong expressed sense from a considerable number of participants that decisions were already made and very little was left to discuss or influence. Most participants were uninterested in commenting at this time on remaining design options being presented within the budget, preferring to address these refinements once larger concerns about tree retention and use of pavers are addressed.

Despite the above, participants provided many specific suggestions regarding tree pits, landscaping, bus bulge treatments, mini-parks and public art that could be considered by City staff.



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

July 6, 2006

Dear West Broadway Property Owner and Kitsilano Residents

RE West Broadway Renewal Project Proposed Local Improvement

The City of Vancouver has held a series of public meetings and open houses since 2005 to inform owners (business & residential) and residents in the West Broadway area of the future street renewal project. This work is being entirely funded by the City's Capital Works programs.

At the public meetings, some community members expressed interest for a sidewalk treatment above the City standard which is a broom finished concrete surface. The suggested change was for concrete pavers and other enhancements. This could be accommodated, however, the higher costs would have to be funded by owners in the area through a Local Improvement levy. Certain affected owners have expressed to the City that they are satisfied with the standard treatment and do not want to contribute. However, other community members informed the City that the community was prepared to contribute towards additional enhancements.

To determine the level of support of owners to fund the additional improvements, we have selected your block as a test area to be representative of the community. Please read the following explanation and details of the proposal.

Introduction

Several components of the City's infrastructure on West Broadway including sidewalks, roads, water pipes and sewer pipes are aging and in need of replacement. The sidewalks in particular are in poor condition, having been heaved up by the tree roots. Accordingly, Engineering Services is planning a rehabilitation project for the Broadway corridor in 2007 from Alma Street to Larch Street.

The City is proposing to replace the sidewalks with broom finished concrete and exposed aggregate concrete in the utility strip where appropriate. Some of the trees would be replaced, and areas for planting and community public art would be provided.

Proposal/Treatments

The sidewalks will be replaced on both the north and south side of West Broadway from Waterloo Street to MacDonald Street, and on the south side of West Broadway from Trafalgar Street to Larch Street. This addresses the problem of uneven sidewalks heaved by tree roots creating trip hazards and puddles in the sidewalks. The existing sidewalk will be replaced with City standard "broom finish" concrete and exposed aggregate finish (figure 1). Where

appropriate the City also intends to install some decorative highlight pavers and leave space for concrete stamps and community public art (see figures 3 & 4).



Figure 1- City Standard Broom Finish Concrete



Figure 1a - Detail of Broom Finish Concrete with exposed aggregate concrete



Figure 2- Concrete Unit Pavers



Figure 2a - Detail of Concrete unit pavers with exposed aggregate concrete



Figure 3 - Decorative Highlight Pavers

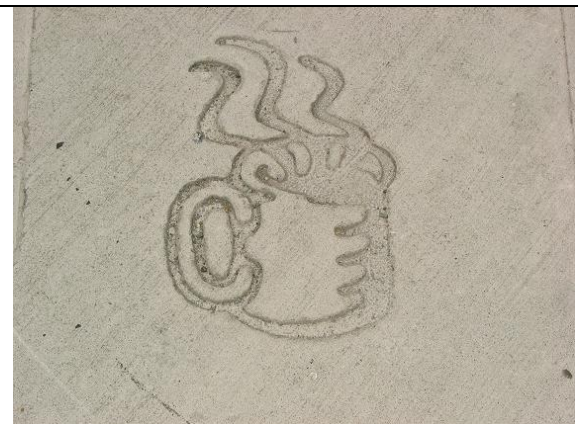


Figure 4 - Concrete Stamps Example



PRE-BALLOT

TYPE OF PROJECT: Enhanced Sidewalk Treatment on West Broadway from
Larch Street to Waterloo Street - Area Improvement Survey

The purpose of this pre-ballot is to determine the level interest in the area around
West Broadway to pay for an enhanced treatment on West Broadway.
This ballot does not commit you to any payments.

Please mark the appropriate box for each question. I (We) would:

A. Support rehabilitating the sidewalks on West Broadway (no additional cost to
owners)

SUPPORT

NOT SUPPORT

B. Support funding an enhanced treatment (e.g. pavers) on West Broadway
through a local area improvement

SUPPORT

NOT SUPPORT

Registered Owner to sign:

1. OWNER _____ / _____
PLEASE PRINT PLEASE SIGN

2. OWNER _____ / _____
PLEASE PRINT PLEASE SIGN

Property Address: _____ Phone: _____

Date: _____

Please return in the attached envelope to:

Engineering Services
Street Design Branch
C/o Peter Brennert
453 W. 12th Avenue
Vancouver, B.C. V5Y 1V4

No later than July 21, 2006

Or you may fax this ballot to Local Improvements at (604) 871-6191
If you have any questions please call (604) 873-7314

** THANK YOU FOR YOUR ASSISTANCE **

PRE-BALLOT RESULTS SUMMARY

Pre-ballots were sent to 216 owners in the 3100 blocks of W 5th Ave to W 13th Ave. 106 responses were received, for a response rate of 49%.

Summary of Overall Ballot Results:

	Question A – Rehabilitation		Question B – Enhanced Treatment	
	Count	%	Count	%
Support	84	79%	18	17%
Not Support	14	13%	80	75%
Spoiled	8	8%	8	8%
Totals	106	100%	106	100%

Summary by Response to Questions:

Question A – Rehabilitation	Question B – Enhanced Treatment	Count	% Total
Support	Support	8	7.5%
Not Support	Support	3	2.8%
Support	Not Support	69	65.1%
Not Support	Not Support	11	10.4%
Support	Spoiled	7	6.6%
Spoiled	Support	7	6.6%
Spoiled	Spoiled	1	0.9%
Total		106	100%

Summary of Ballot Results by Street Surveyed:

Street	Question A – Rehabilitation (City Funded)						Question B – Enhanced Treatment (Local Improvement)						Total
	Support		Not Support		Spoiled		Support		Not Support		Spoiled		
Trutch	5	71%	1	14%	1	14%	1	14%	4	57%	2	29%	7
Balaclava	10	100%	0	0%	0	0%	1	10%	7	70%	2	20%	10
W 5th	8	100%	0	0%	0	0%	0	0%	8	100%	0	0%	8
W6th	6	100%	0	0%	0	0%	0	0%	6	100%	0	0%	6
W7th	5	56%	1	11%	3	33%	5	56%	4	44%	0	0%	9
W8th	8	50%	8	50%	0	0%	2	13%	13	81%	1	6%	16
W Broadway	7	100%	0	0%	0	0%	1	14%	6	86%	0	0%	7
W10th	8	89%	0	0%	1	11%	0	0%	8	89%	1	11%	9
W11th	6	75%	1	13%	1	13%	3	38%	5	63%	0	0%	8
W12th	13	76%	2	12%	2	12%	4	24%	13	76%	0	0%	17
W13th	8	89%	1	11%	0	0%	1	11%	6	67%	2	22%	9
TOTAL	84	79%	14	13%	8	8%	18	17%	80	75%	8	8%	106