CITY OF **VANCOUVER**

POLICY REPORT
TRANSIT AND TRAFFIC

Report Date:	March 10, 2006
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Meeting Date:	March 21, 2006

TO: Standing Committee on Transportation and Traffic

FROM: General Manager of Engineering Services and Director of Current Planning

SUBJECT: Granville Street Redesign Concept Approval

RECOMMENDATION

A. THAT Council approve advancing the "Modified Enhanced Existing" concept to the final design stage with modifications to maintain vehicular access along the 900 block as now and to increase occasional vehicular access through the mall by expanding the eligibility of Granville Mall access permits.

B. THAT staff report back on the resources required for undertaking the final detailed design and consultation process, including a schedule for completion and funding sources.

CONSIDERATION:

Staff and consultants have examined several options that would permit general purpose vehicle access to wide sidewalks, referred to as flexible boulevards. Staff cannot recommend any of the flexible boulevard concepts as they oppose the City's transportation priorities which favour pedestrians, cyclists and transit over the private vehicle. Furthermore, in fact, Engineering Services staff recommend against any of the flexible boulevard concepts because of impacts to transit efficiency and risks associated with mixing vehicles and pedestrians. If, however, Council chooses to proceed with the "flex" concept despite the staff recommendation, an appropriate resolution would be:

C. THAT Council approve advancing the "Modified Flex" concept, as described in this report, to the final design stage with modifications to allow potential vehicular access along the sidewalks between Robson and Dunsmuir and to allow varied traffic operations on a segment-by-segment basis.

CITY MANAGER'S COMMENTS

Council's original direction in 2002 included the following specific criteria:

> **"***redesign options shall enhance the transit and pedestrian environment in the downtown".*
>
> **"***Options for the redesign of Granville Street may or may not include the introduction of autos to the mall portion of the street"*

These directions from Council are well aligned with the City's Transportation Policy priorities which put pedestrians first, and transit second, with general purpose car traffic at the bottom of the list. Staff do not recommend compromising these priorities in order to satisfy the desire to introduce cars onto Granville Mall, however Council may wish to do so.

The business community, specifically the DVBIA, continues to support an option that would introduce automobiles onto Granville Mall. The option they are proposing is the worst of all of the options in terms of delay to Transit. In common with all of the other options that include cars, it involves sharing the sidewalks between pedestrians and automobiles.

In the event that Council is convinced that the benefits of finding a way to introduce cars justify an exception to these policies, staff have attempted to develop an option that has the greatest flexibility to respond to future conditions and the least impact on these transportation priorities. That option is represented by the "modified flex boulevard option" which is put forward for consideration, but not recommended.

COUNCIL POLICY

Vancouver CityPlan (adopted June 1995) includes directions on "Transit, Walking, & Biking as a Priority". Specifically, the plan called for putting "transit, walking, and biking ahead of cars to slow traffic growth in their neighbourhoods and improve the environment" and that "although the car will continue to play an important transportation role, car use will be less convenient and more costly than it is today".

The Vancouver Transportation Plan (adopted May 1997) confirmed the City's transportation priorities and presented a detailed city-wide transportation plan that included a direction to prepare a detailed transportation plan for the Downtown.

The Downtown Transportation Plan (adopted July 2002) worked within the policy framework set by CityPlan and the Transportation Plan. It contained several key recommendations with respect to Granville Street (discussed in the text below); but, partially in response to concerns raised by some members of the business community, decisions on these were deferred pending a detailed Granville Street redesign study.

SUMMARY

This report responds to the longstanding need to update the Granville Mall and Street between Granville Bridge and Cordova Street, including the more urgent need to restore the street following construction of the Canada Line between Robson Street

and Cordova Street. A decision by Council on a redesign concept for downtown Granville Street is needed at this time to allow the rebuilding of the street to be coordinated with the Canada Line road restoration work. This will maximize cost efficiencies and minimize disruption and inconvenience to the businesses and the general public.

Council approved a redesign study for Granville Street in 2002. The study was jointly funded and conducted in partnership with TransLink staff. Two key parameters for the study were that the options for the redesign:

1. shall enhance the transit and pedestrian environment in the downtown, and
2. may or may not include the introduction of autos to the mall portion of the street.

Consultants commenced the conceptual design phase in late 2003 in consultation with numerous stakeholder groups, including merchants and property owners along the street. After much iteration, four final design concepts, three by the City's design consultant team and one initiated by the Downtown Vancouver Business Improvement Association, were developed and evaluated. An extensive public consultation process revealed no consensus amongst the various stakeholders, and the results are summarized in this report.

There has always been a fundamental philosophical choice to be made when considering the functionality of Granville Street – to reserve most of the street for transit and pedestrian use or to accommodate more or less automobile access along the street. There is no apparent consensus in regard to this choice and no configuration for the street has been discovered that can accommodate all modes optimally in order to avoid having to make this choice. Existing policy and conclusions of staff analysis support a non-auto future for most of the street. A significant body of public opinion, although not seemingly a majority of public opinion, want cars allowed back on the street. Among these advocates, various configurations for auto access are preferred. Thus, Council is faced with the philosophical judgement on this matter.

Joint efforts with downtown stakeholders prior to 2002 had demonstrated that widening the existing bus mall by adding lanes of general purpose traffic would significantly delay transit operations in the downtown. Options other than using the surface of Granville Street as a bus hub were also explored. A considerable portion of the design effort and time for this project was therefore devoted to finding innovative ways of incorporating at least some vehicular access into a redesigned Granville Street. The unique notion of flex sidewalks that would accommodate small numbers of vehicles travelling at a slow pace along the sidewalk was therefore explored thoroughly.

Staff, including TransLink, concluded that the downside risk to transit efficiency, as well as the risks of mixing vehicular and pedestrian traffic significantly outweighed the limited benefit that would come from accommodating limited numbers of vehicles on the mall using the flex concepts. Staff recommend that a modified version of the Enhanced Existing option be advanced to the final design stage. This consists of rebuilding the existing street south of Nelson Street with wider sidewalks that can accommodate parking when necessary and rebuilding the mall north of Smithe Street by centering and straightening the transit way. The modifications include accommodating both north and southbound traffic in the 900 block (Nelson-Smithe

Street) as currently configured and developing an expanded permitting system to accommodate small numbers of private cars on the mall in addition to the taxis and authorized vehicles currently allowed. The latter would help to meet the desire for providing additional auto access to Granville Mall. At the same time, the recommended Modified Enhanced Existing concept has the urban design potential to create a "great street" and is consistent with the City's transportation policy by enhancing the transit and pedestrian environment.

If, despite all the reasons given for adopting the Modified Enhanced Existing concept, Council does not agree with the staff recommendation and is prepared to accept the risks associated with the flex boulevards as detailed in this report, staff have outlined a consideration that melds and combines the features of the various flex options to one that would be possible to implement. This is described as the Modified Flex concept which physically resembles the Two Sided Flex concept but could operate as one-sided, two-sided or no flex boulevard at various times, at various locations along the street, in various seasons and over time. This concept is estimated to cost as much as $2.0 M more than the recommended concept to build, and will incur greater ongoing operating costs. It is also inconsistent with Council's established transportation priorities and the objectives of the Granville redesign project.

In order to complete the detailed design for Granville Street in consultation with stakeholders, staff will report back on the resources required, including a schedule for completion and funding sources.

PURPOSE

This report recommends a design concept for downtown Granville Street to be advanced to the final detailed design stage.

BACKGROUND

1. Granville Street History

Granville Street was historically one of Vancouver's premier shopping streets. In the late 1960s Pacific Centre Mall was built, displacing a good deal of the retail activity indoors and underground. In 1974 the City converted Granville Street between Nelson and Hastings to a pedestrian and transit mall, intending that the street improvements would mitigate the decline in business on the street and improve bus service in the downtown.

The Mall has been very successful from the point of view of pedestrians and serving as a transit hub carrying 60,000 bus riders on a daily basis. However, because Granville Street has been less successful as a retail business place relative to some economic and social concerns, the idea of introducing general car traffic to the street has been seen as a way to increase access and visibility for businesses along the street and has been a point of major debate several times since the mall was established. In 1987 there was a trial opening of the transit mall between Nelson and Georgia to car traffic. The trial was cancelled in 1988 due to negative impacts on transit and pedestrians, and confusion for motorists. Subsequently, Council decided to rebuild the section of the mall between Nelson and Smithe (900 block) to allow general car traffic.

The 1990s saw some key City actions that are leading to a revival of Granville Street as a centre for commercial activity. The areas surrounding the street were rezoned to a high density urban neighbourhood, now occupied by over 15,000 residents, with a total of 30,000 anticipated by 2021. Retail opportunities were focussed on a few key streets - Granville, Davie, Hamilton and Robson - rather than spreading it everywhere and diluting the market. The new residents provide a major additional market for retail on the street. Spill-over from the saturation of retail space on Robson Street and elsewhere in the downtown has also stimulated the demand for retail space and retail rents on Granville Street.

The City also designated part of Granville (Georgia to Nelson Streets) as an Entertainment District. A plan to regulate liquor seats was adopted, and liquor service hours have been extended. Also, regulations limiting adult-oriented retail have been implemented. Successful entertainment activities are contributing to the street's revival

The City has invested directly in, or provided development bonuses for, rehabilitation of the Orpheum and expansion of the Scotia Dance Centre, upgrading of several older hotels, retention of heritage buildings, and direct (wheelchair) access from Granville to the Skytrain station at Dunsmuir. Soon the Canada Line stations at Robson Street and at Cordova Street will augment the Skytrain stations at Dunsmuir Street and at Waterfront Station in bringing even greater access to Granville.

Throughout this period the City has worked actively with the Granville Merchants Association, and subsequently the Downtown Vancouver Business Improvement Association. The latter has been consulted extensively in the redesign of Granville Street. While economic and social concerns remain, those concerns are not expressed nearly as often as only a few years ago. In addition to major recent real estate developments at 610 and 796 Granville, numerous new retail developments have occurred in the 800 – 1100 blocks in the last three years. Rents have increased in some locations, which is a sign of increasing demand.

Currently Granville Street takes on several different characters in different segments, and at different times of the day. The northerly part reflects the character of the central business district, with office and major retail. The focus changes to entertainment and retail between Georgia and Nelson. The blocks to the south have more of a tourist hotel and retail neighbourhood-serving commercial character.

2. Granville Street Redesign Project

During the 2000-2002 Downtown Transportation Plan process, the issue of reintroducing general car traffic to Granville Street was again raised. A statistically valid random sample telephone survey that was completed as part of that process indicated that 62% of Vancouver residents and downtown commuters did not support the idea. It also showed that it was not supported by 53% of downtown business owners and managers. Nevertheless, many Granville Street businesses remained advocates of reintroducing general traffic.

The Downtown Transportation Plan forwarded the following recommendations to Council in March 2002:

> *"Recommendation RN6: Maintain Granville Street's role as a transit, pedestrian, and service vehicle corridor, entertainment district and future greenway. Transit efficiency along Granville Street should not be diminished."*
>
> *"Recommendation RN 7: Reconfigure Granville Street south of Smithe Street to improve traffic circulation, widen sidewalks and reduce conflicts."*
>
> *"Recommendation TR15: Enhance streetscape design of Granville Street from the bridgehead to Cordova Street to improve pedestrian/transit stops."*

Council deferred decision on these pending a detailed redesign study for Granville Street/Mall.

In directing staff to undertake the Granville Street Redesign Project on May 14, 2002, Council adopted the following resolution:

> *"THAT the Director of Current Planning and General Manger of Engineering Services report back on terms of reference, budget and funding source for Allan Jacobs and Elizabeth Macdonald (Cityworks Consultants) in association with senior engineering expertise to complete a redesign of Granville Street which may or may not introduce automobile traffic to the street but without any loss of transit efficiency in the Downtown and that also integrates improvements to the streetscape, greenway, entertainment district and retail/commercial activity all in consultation with landowners and commercial/residential stakeholders."*

On December 12, 2002 Council approved the terms of reference and proposed budget for the Granville Street Redesign Project. The following defines the key parameters that were approved for the study:

- *Options for the redesign of Granville Street may or may not include the introduction of autos to the mall portion of the street;*
- *redesign options shall enhance the transit and pedestrian environment in the downtown;*
- *redesign options will consider potential future transportation needs for the downtown within the next ten years;*
- *extensive consultation with key stakeholders (land owners, business interests, community organisations, transit users, pedestrians, cyclists, etc.) and the broader public will be required;*
- *the conceptual redesign shall focus along Granville Street from the Granville Bridge sidewalks bridgehead to Waterfront Station and shall include all cross streets up to the rear lanes east and west of Granville Street within public rights-of-way;*
- *the study area will include all other downtown streets as necessary for an assessment of transit efficiency, access and transfers to future rapid transit stations, and other impacts;*
- *the design process will be an iterative and incremental process in which design solutions are evaluated to ascertain their impact on downtown transportation; and,*
- *existing land uses and zoning policies should be assumed to remain largely unchanged.*

Representatives of several downtown business organizations, including the Downtown Vancouver Association and the Downtown Vancouver Business Improvement Association, supported the terms of reference for the proposed Granville Street Redesign Project.

The project was jointly funded by the City and TransLink. The team worked under a Senior Management Steering Committee comprised of the Director of Current Planning, the General Manager of Engineering Services and TransLink's Vice-President, Planning.

Consultants were engaged to do the design and technical analysis. Cityworks Consultants (Allan Jacobs and Elizabeth MacDonald) of San Francisco working with local firm Hotson Bakker Boniface Haden were the urban design team. Hamilton Associates were retained to provide transportation engineering expertise, and Nelson Nygaard Associates to provide transit planning expertise.

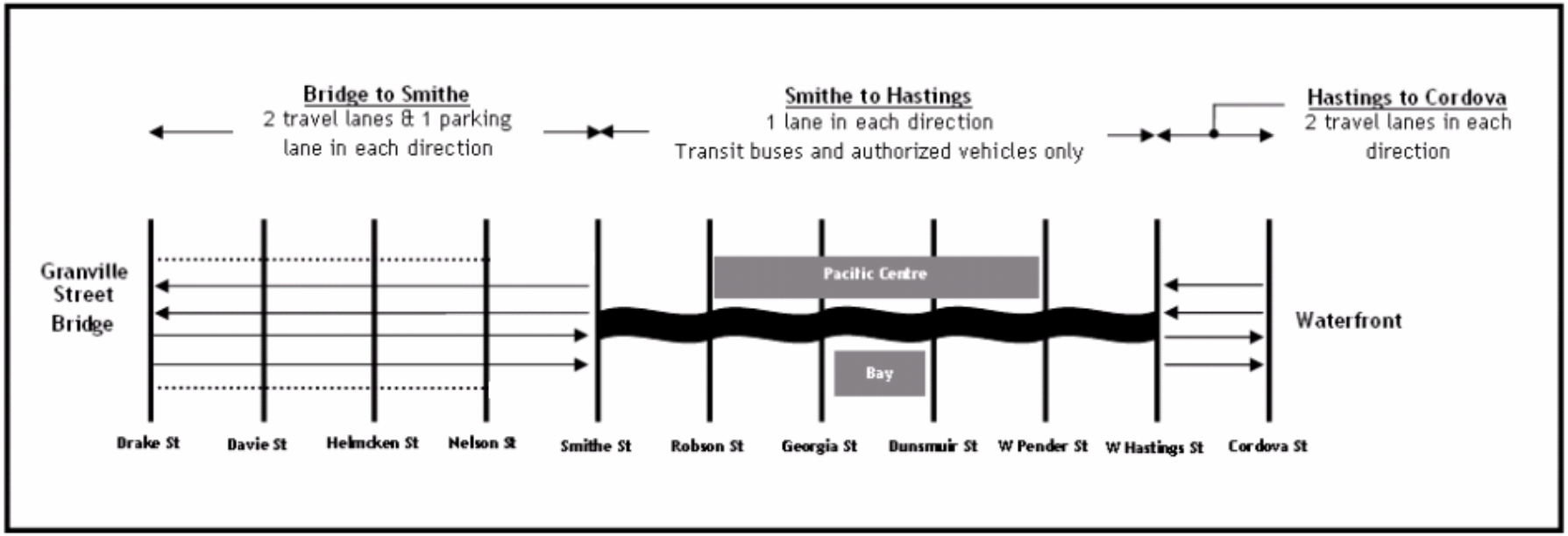
A wide range of redesign concepts were generated in 2003 and 2004, including a bus tunnel under Granville, and relocating bus routes to Seymour and Howe Streets. After evaluation and screening based on the key objectives, four short-listed concepts were taken to the public for feedback. After several rounds of consultation, including Public Open Houses and meetings with a wide range of stakeholder groups, the concepts were reduced to two. However, some members of the business community, particularly the DVBIA, were dissatisfied with these, and proposed their own option. In addition, responding to some of the concerns raised, the City's consultants also produced another option. In 2005, four final concepts were thus subjected to further detailed technical analysis and a further round of public consultation.

DISCUSSION

1. Existing Condition: Description

Downtown Granville Street generally consists of two parts. The northerly part, from Hastings to Smithe Streets, is a pedestrian and transit mall with a curvilinear road with a single traffic lane in each direction for buses and authorized vehicles only. Increasingly, this area is in poor physical condition. South of Smithe to the bridgehead, there are six narrow lanes providing two vehicle travel lanes and one parking lane in each direction. Figure 1 below shows the location and extent of the existing pedestrian and transit mall along Granville Street.

Figure 1 – Existing Granville Street Configuration



2. Four Concepts: Description

The four final concepts that were evaluated and taken out for extensive public feedback are summarised in the following table and figures on pages 10 – 13. Only one section and typical block for each are shown in this report to illustrate the concept. More detailed illustrations and plans showing the entire street layout are available at the city's website at: www.vancouver.ca/granvilleredesign.

3. Four Concepts: Key Findings

The four concepts received an extensive technical analysis and public review in mid 2005.

The technical analysis focused on aspects of the options related to parameters set by Council for this project. They include a review of:

- urban design aspects by Allan Jacobs, of Cityworks Consultants, and Hotson Bakker Boniface Haden Architects;
- transit function and street network impacts by Hamilton Consultants and Nelson Nygaard Associates; and
- pedestrian function, vehicular function, operational implications, and costs by staff.

The public consultation included the following constituencies:

- general public through open houses and web information, both with survey response opportunities,
- businesses through one-on-one meetings with every ground floor business on Granville Street, and meetings with key groups (Downtown Business Improvement Association (DVBIA), Downtown Vancouver Association (DVA), Building Owners and Managers Association (BOMA), Vancouver Board of Trade (BOT), Vancouver Hotel Association (VHA), Tourism Vancouver, etc.),
- alternative transportation advocacy groups (Vancouver Area Cycling Coalition, Better Environmentally Sound Transportation (BEST))
- meetings with City Advisory Committees (bicycle, disabilities, and seniors), and
- meetings with affected City departments (Police, Fire, Park Board, and Risk Management),

In addition, TransLink, the key external agency has been involved as a partner in the Redesign Project.

Table 1 – Physical Comparison of Granville Street Redesign Concepts

	CURRENT	**ENHANCED EXISTING** See Figure 2 for typical cross section and plan	**1 SIDED FLEX** See Figure 3 for typical cross section and plan	**1 SIDED FLEX NORTH OF SMITHE (DVBIA)** See Figure 3 for typical cross section and plan	**2 SIDED FLEX** See Figure 4 for typical cross section and plan
Northerrn	**Smithe to Hastings**	**Smithe to Hastings**	**Davie to Hastings**	**Smithe to Hastings**	**Davie to Hastings**
	2 curvilinear bus lanes (3.7m)	2 centred bus lanes (3.7 m)	2 off-centre bus lanes (3.7m)	As per 1 Sided Flex except with a continuous 6 m shared ped/car "flex boulevard"* with no exception between Robson and Dunsmuir	2 centred bus lanes (3.2 m)
	5.8 to 11 m. sidewalks	8.5 m sidewalks	5.5 m sidewalks		3.1 m sidewalks
			6.0 m shared ped/car "flex boulevard"* on east side except Robson to Dunsmuir where 11.5 m dedicated sidewalk/civic place is proposed		5.9 m shared ped/car "flex boulevards"* on the east and west sides, except Robson to Dunsmuir where 9.0 m sidewalk/civic place is proposed
	2 rows of trees, curvilinear	2 rows of trees, linear	3 rows of trees, linear	3 rows of trees, linear	4 rows of trees, linear
Transition	**Nelson to Smithe**	**Nelson to Smithe**		**Nelson to Smithe**	
	2 southbound lanes 1 northbound lane 1 northbound bus lane	2 southbound lanes 1 northbound bus lane		2 southbound traffic lanes 1 northbound traffic lane 1 northbound bus lane	
	2 rows of trees	2 rows of trees		2 rows of trees	
Southern	**Drake to Nelson**	**Drake to Nelson**	**Drake to Davie**	**Drake to Nelson**	**Drake to Davie**
	2 southbound lanes 2 northbound lanes 2 parking lanes	2 southbound lanes 2 northbound lanes	As per Enhanced Existing	As per Enhanced Existing	As per Enhanced Existing
	3.5 m sidewalks	5.5 m. sidewalks with "sidewalk parking"**			
	2 rows trees	2 rows trees	2 rows trees	2 rows trees	2 rows trees

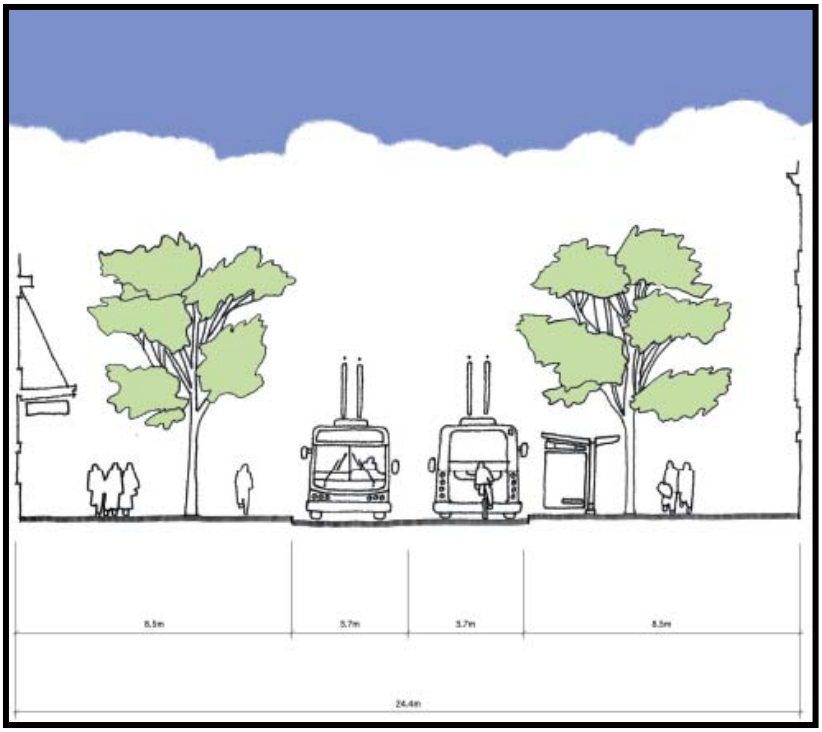
***Flex Boulevard Definition and Operation**

A Flex Boulevard is a shared sidewalk for local access vehicles and pedestrians, where vehicles are expected to proceed in a slow, cautious fashion in deference to pedestrians. The local vehicle access path is proposed to be distinguished by slight changes in level or by sidewalk treatment. Intersections would continue to be characterized by curbs separating vehicles and pedestrians for greater clarity. All the flex boulevard options do not permit vehicle access between Dunsmuir and Hastings between 7 a.m. and 7 p.m. to reduce the negative impact to transit efficiency and to minimize traffic congestion. The flex boulevards will also be closed to auto traffic at times and locations when pedestrian volumes warrant, such as weekend evenings in the entertainment district. Vehicles longer than 6 metres in length cannot physically turn into the flex boulevards and will be required to use the transit way. This requires the stop bar lines along the transit way to be set back from the intersection to allow longer vehicles to overturn into oncoming lanes. Left turns as well as right turns on a red light are not permitted from a flex boulevard to avoid conflicts with other road users. Similarly, vehicles in the flex boulevard would need to be controlled with a separate traffic signal from vehicles travelling along the transit way. This requirement will generally result in longer delays for pedestrians and other traffic crossing Granville Street. The unique operation of the flex boulevard will require special signage and traffic controls to effectively manage.

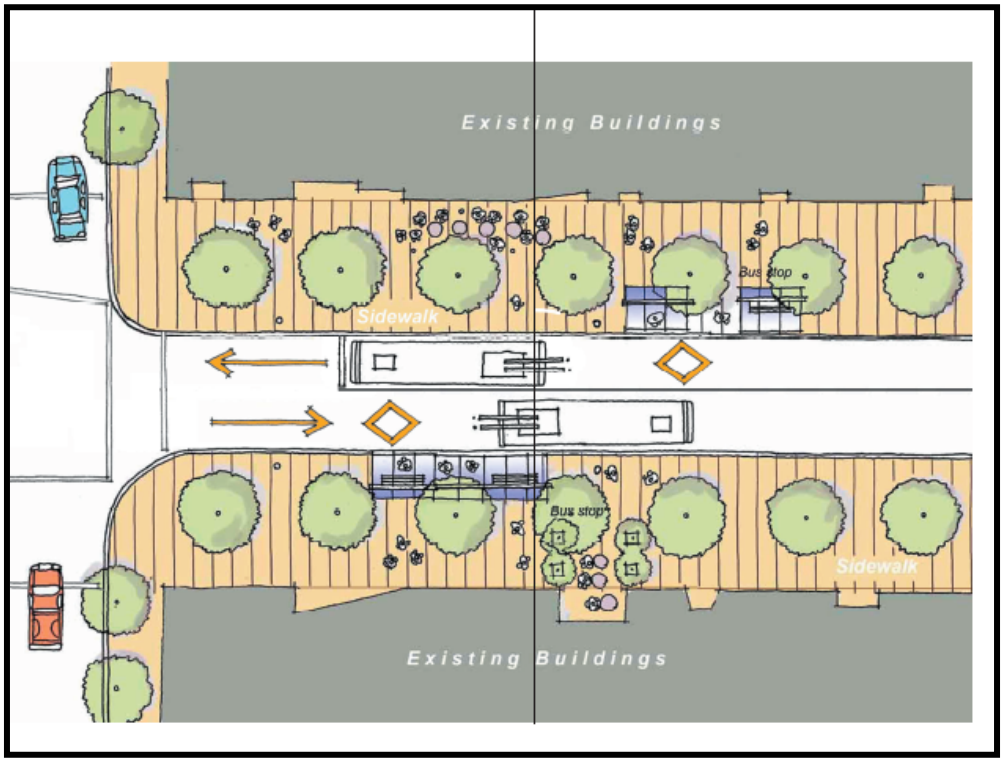
****Sidewalk Parking Definition and Operation**

Sidewalk parking is the use of an extended sidewalk to accommodate parking in 'pockets' between street trees. In times of high pedestrian activity the parking would be removed to maximize the sidewalk width. The parking pockets within the flexible sidewalk would be distinguished by slight changes in level or by sidewalk treatment.

Figure 2 - Enhanced Existing Concept

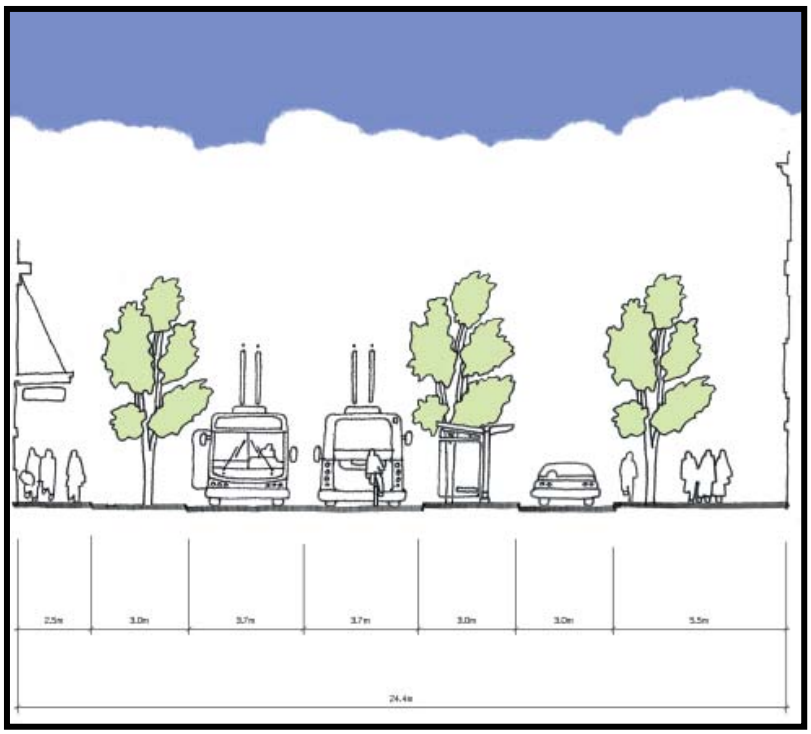


Typical Cross Section north of Smithe Street

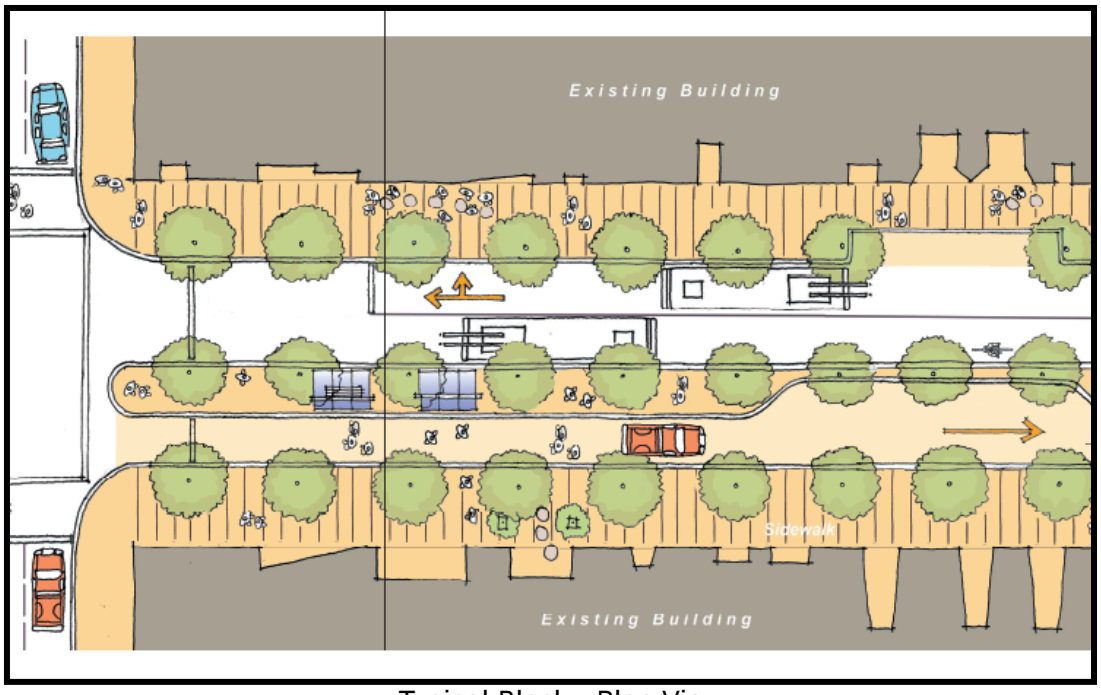


Typical Block – Plan View

Figure 3 - One Sided Flex Concept and One Sided Flex North of Smithe Concept



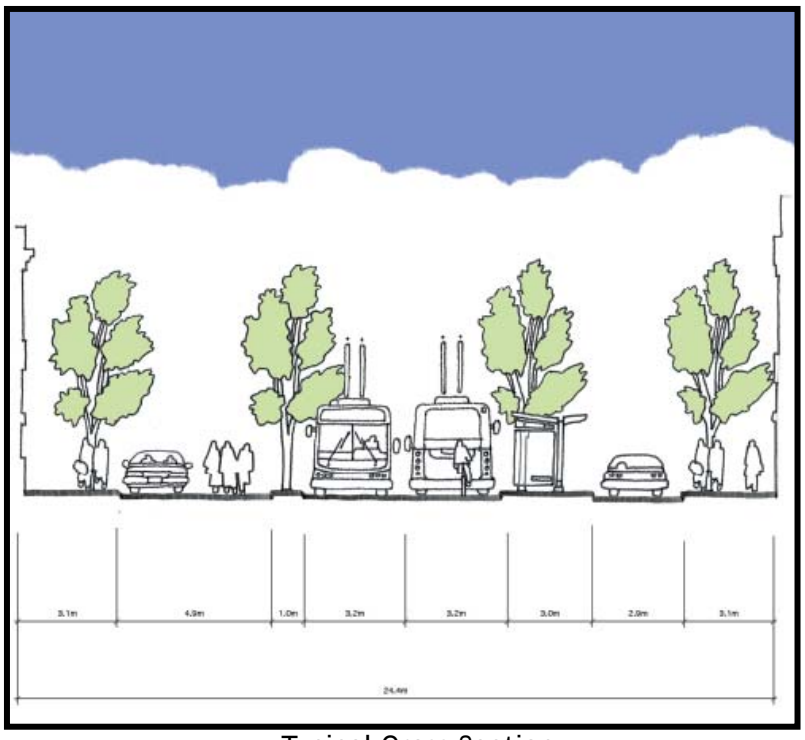
Typical Cross Section



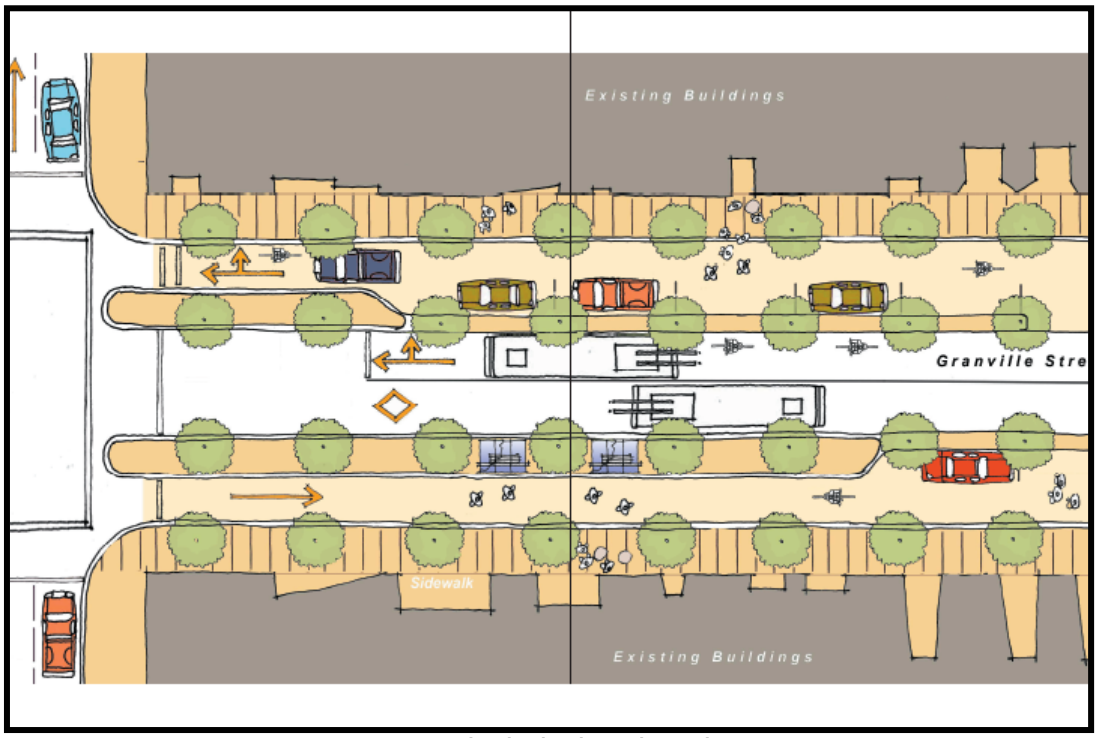
Typical Block – Plan View

*One Sided Flex – Plan view typical from Drake to Robson streets and Dunsmuir to Hastings streets
**One Sided Flex North of Smithe – Plan view typical from Robson to Hastings streets
More detailed drawings can be found at www.vancouver.ca/granvilleredesign

Figure 4 - Two Sided Flex Concept



Typical Cross Section



Typical Block – Plan View

*Two Sided Flex – Plan view typical from Drake to Robson streets and Dunsmuir to Hastings streets

3a. Technical Findings

The technical evaluation for the four concepts is summarized in Tables 2 and 3, followed by a brief description. Performance is compared to the existing situation, unless otherwise stated. Key quantified impacts are included. Appendix A provides additional technical details.

Table 2 - Technical Findings: Summary Chart

✓✓ Much better ✓ Better • Same ✗ Worse ✗✗ Much Worse

Relative to the existing Granville Street configuration

	Enhanced Existing	One-sided Flex	One-sided Flex N. of Smithe (DVBIA)	Two-sided Flex
URBAN DESIGN				
Great Street Potential	✓✓	✓	✗	✓✓
Civic Place	✓	✓	✗ none	✓
PEDESTRIANS AND SIDEWALK ACTIVITY				
Comfort & Safety	•	✗	✗	✗✗
Sidewalk Usability	✓	✗ when flex blvd open	✗ when flex blvd open	✗✗ when flex blvds open
TRANSIT				
Travel Time on Granville	✓ -6%	✗ +5%	✗✗ +10%	✗✗ +8
Bus Stop Comfort & Access	✓	✓	✗	✗✗
VEHICLES				
Network delays	•	•	✗✗ +15%	✗✗ +10%
On-Street Parking	•	•	✓	✓✓
Loading/Drop-off	✓	✓	✓	✓
BUSINESS VISIBILITY/ACCESS TO GENERAL AUTO TRAFFIC (50-100 autos/hour per flex blvd)				
North of Smithe (Through existing mall)	•	✓	✓	✓
South of Smithe	•	✗✗	•	✗✗
OPERATIONAL COMPLEXITY	•	✗	✗	✗✗
CAPITAL COST	base	+ $1.2 - $2.1 M	+ $1.2 - $2.1 M	+ $1.2 - $2.1 M

Table 3 – Anticipated Access Restrictions to Flex Boulevards & Sidewalk Parking

Concept	Davie to Smithe	Smithe to Robson	Robson to Dunsmuir	Dunsmuir to Hastings
Enhanced Existing	Sidewalk Parking restricted on busy nightclub evenings, special events or high sidewalk demand	N/A	N/A	N/A
One Sided Flex	Closures expected on busy nightclub evenings, special events, or high sidewalk demand		N/A, Civic Place	**Closures 7am-7pm** Mitigate Transit/Traffic Impacts
One Sided Flex North of Smithe	Closures expected on busy nightclub evenings, special events, or high sidewalk demand		**Closures 7am-7pm** High pedestrian volumes	**Closures 7am-7pm** Mitigate Transit/Traffic Impacts
Two Sided Flex	Closures expected on busy nightclub evenings, special events, or high sidewalk demand		N/A, Civic Place	**Closures 7am-7pm** Mitigate Transit/Traffic Impacts

The Enhanced Existing concept is significantly better than the current Granville Street configuration in a number of key respects. It has excellent urban design potential to create a "great street" with consistent, symmetrical rows of trees down its entire length. It also improves sidewalk usability by providing 8.5 m. sidewalks on both sides, rather than the current varying widths. Transit functionality is improved compared to now, both in terms of travel time and bus stop comfort and access. General auto access and on-street parking would remain more or less as now. This option is also the least operationally complex and least costly. Conflicts between vehicles and pedestrians are limited to only occur where sidewalk parking is allowed, but is considered manageable through parking restrictions and physical delineation of spaces.

The One Sided Flex concept introduces auto traffic into the sidewalk area on the east side, from Davie northward (but not in the 2 blocks between Robson and Dunsmuir, due to high pedestrian volumes and to allow for a civic place). However, north of Dunsmuir, the flex boulevard would not be open to cars from 7 am to 7 pm due to the significant impact it has on transit travel times and delay to general traffic along the cross streets. South of Robson, it would likely be closed during heavy pedestrian usage, such as on busy club evenings. While this option provides additional exposure and access to businesses which currently have no drive by traffic, it is limited to 50 - 100 cars per hour. This option is also worse for transit and pedestrian comfort and safety. It is operationally complex, requiring 3 phase signals at many intersections, as well as signage and information about turn limitations and closures times.

The One Sided Flex North of Smithe concept was initially proposed by the DVBIA. In many respects it represents the amalgamation of the concepts of Enhanced Existing and One-sided Flex. South of Smithe Street, the road layout will remain the same as existing with the parking lanes replaced with sidewalk parking similar to the Enhanced Existing concept. North of Smithe Street, northbound auto access would be provided by a flex boulevard on the east side of the street. This is similar to the One Sided Flex concept except that the flex boulevard would continue through the 2 blocks between Robson and Dunsmuir. The impacts on transit functionality and transportation network delays are worse in comparison to the One Sided Flex concept partly because the bus lanes are not extended as far south as Davie Street. In addition, this option is the least desirable from an urban design perspective.

The Two Sided Flex concept introduces auto traffic into sidewalk areas on both sides of the street (but not between Robson and Dunsmuir to allow for a civic place). Flex boulevard use would be subject to the same closure times as the other flex options. It is as strong as Enhanced Existing in urban design terms, allowing a consistent symmetrical tree planting along its whole length. It permits more car access than One-sided Flex, since cars are on both sides of the street. However, it has commensurately more negative impacts on transit

functionality and street network delays. As with the other two flex concepts, there is more operational complexity and cost than with the Enhanced Existing concept.

3b. Concerns over Shared Auto-Pedestrian Sidewalk Spaces

The Engineering Services further advises that numerous concerns were raised at the proposal of the flex concepts to allow private automobiles to share the sidewalk with pedestrians. Particular concern is for the visually impaired who will have difficulties in distinguishing a flex boulevard, in determining whether or not a vehicle is nearby, and in establishing a safe path across the flex boulevard. Unlike a typical sidewalk and roadway, there is no clear distinction about where vehicles should and should not be anticipated.

Through discussions with the Vancouver Police Department, Risk Management, and the Disability Issues Advisory Committee the following concerns have been raised:

- The potential conflicts between moving vehicles and pedestrians when vehicles are permitted on the flex boulevard,
- The potential conflicts between parked vehicles and pedestrians when sidewalk parking is allowed,
- The difficulties associated with informing the public about the relatively complex operation of the flex boulevard,
- The assumption that all drivers will obey speed limits and act in deference to pedestrians at all times when allowed on the flex boulevard,
- The assumption that all pedestrians, young and old, will behave appropriately with due care and attention at all times when vehicles may be travelling on the flex boulevard,
- The difficulty in controlling and enforcing speeds of vehicles and their adherence to stay within the flexible boulevard and not traverse on the dedicated sidewalk space,
- The difficulty in managing bicycle access on the flex boulevards and not allowing it on dedicated sidewalk space,
- The additional resources required for continued operation and enforcement of the flex boulevards,
- The requirement that transit passengers must cross the flex boulevard (i.e. vehicle traffic) to access a bus stop from the dedicated sidewalk area and vice versa, and
- The risk of increase claims made against the City.

A search for similar installations in other cities was conducted to determine if the proposed flex boulevard concept had been tried elsewhere around the world. Unfortunately, no existing installations matched the flex concepts developed for Granville Street exactly. Granville Island has some qualities of the flex concept, but it differs in that is more of a destination where vehicle drivers are looking for parking spaces and pedestrians are generally overspilling into the roadway. It does not have a critical transit corridor running through it nor complex operational requirements.

The concept for downtown Granville Street is very unique. Due to the lack of similar street treatments to the flex concept found elsewhere in the world and the concerns identified by those that manage our street system, there is a much higher safety risk for all road users relative to the Enhanced Existing concept. Therefore staff cannot recommend any of the flex concepts for approval.

3c. Economic Analysis

No formal economic analysis of Granville Street was conducted as part of this redesign study because it is well beyond its scope. A full economic study would require a review of the general business economy including local market forces, existing land use supply and demands, the mix of various retailers, trends in demographics, comparison of property values and rents, local and regional competition, interest rates and general business confidence. However, based on current trends, the general economy of Granville Street is improving with increasing rents and new developments, all with no auto access through the mall. The 60,000 transit passengers travelling through the mall on a daily basis are an important economic factor to the street. This was proven during the last transit strike. The Canada Line will add another 23,000 transit passengers daily, plus any other ongoing increases in transit ridership. This suggests that the additional auto traffic proposed in the flex concepts would have marginal economic benefits.

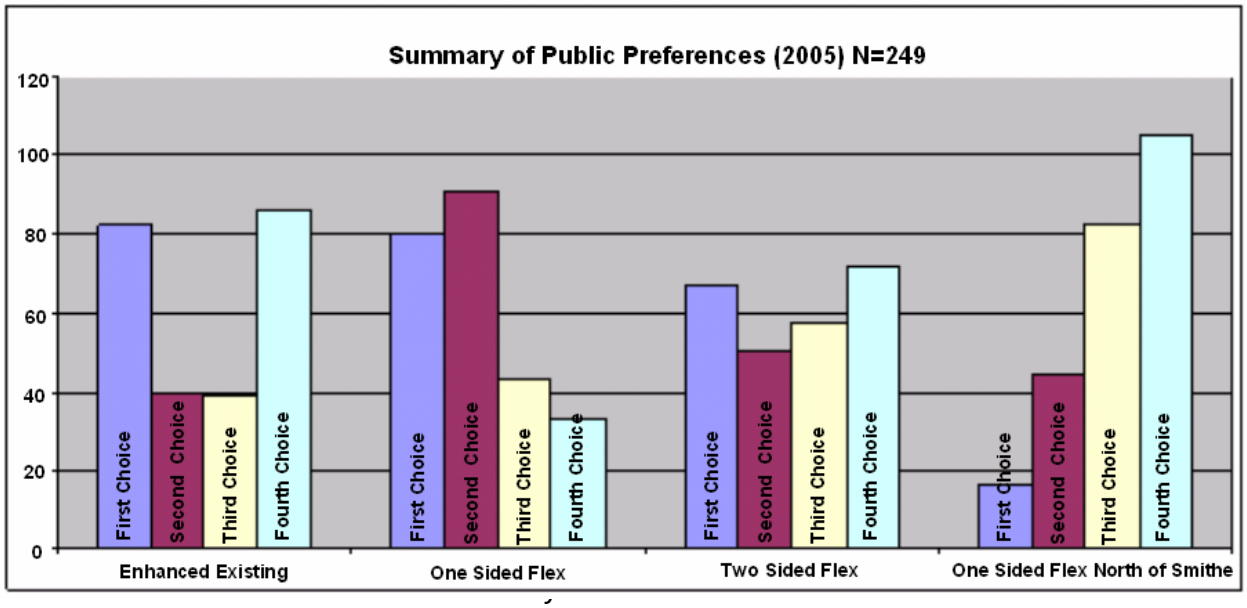
3d. Consultation Findings

The public consultation process revealed no consensus among the various interest groups, or even within the same interest group. This is because no option meets all the objectives completely, and different stakeholders place different values on the various objectives.

General Public

- In a self-selected survey, 249 respondents ranked their preferences for the four short listed concepts (See Figure 5 below) which did not reveal broad support for any single redesign concept;
- Themes from comments were gathered and the top three themes received related to an improved pedestrian realm, less car traffic, and maintaining at least the current level of transit priority;
- A previous statistically valid random sample telephone survey of 600 residents in 2002 during the development of the Downtown Transportation Plan showed that 62% of respondents opposed introducing cars to Granville Mall.

Figure 5 – Ranked Preference of Respondents from Open Houses and Web Site (2005)



In addition to the general public, the preferences of the various stakeholders were also gathered. These are summarized in Table 4, followed by a brief description of the stated interests of the various stakeholders.

Table 4 – Summary of Stakeholder Consultation

Redesign Concept	Enhanced Existing	One Sided Flex	One Sided Flex North of Smithe	Two Sided Flex
Alternative Transportation Advocacy Groups				
Vancouver Area Cycling Coalition (VACC)	●	✓	✗	✗
Business Groups				
Tourism Vancouver	✗	✗	✓	✗
Downtown Vancouver Business Improvement Association (DVBIA)	✗	✗	✓	✗
Board of Trade (BOT)	✗	✗	✓	✗
Downtown Vancouver Association (DVA)	✗	✗	✓	✗
Building Owners and Managers Association of BC (BOMA)	✗	✗	✓	✗
Vancouver Hotel Association (VHA)	✗	✗	✓	✗
Advisory Committees to City Council				
Bicycle Advisory Committee (BAC)		✓		
Disability Issues	✓			
Senior's Issues		✓		
City Groups				
Vancouver Police Department	✓	✗	✗	✗
Fire Services	●	●	●	●
Parks Board	●	●	●	●
Risk Management	✓	✗	✗	✗
Regional Authority				
TransLink	✓	✗	✗	✗

✓ Recommended ● Acceptable ✗ Not Acceptable

Business Interests

- Opinions of the business community were obtained through presentations to business groups, as well as through personal meetings with most businesses that front and flank Granville Street.
- The business groups favoured the One Sided Flex North of Smithe option as it maintains vehicular access south of Smithe and allows some additional automobile access to blocks of Granville Street where it is currently restricted. This provides customers and visitors with an additional option to access, park and load on the street.
- Conversations with individual businesses along Granville did not indicate clear support for any single redesign concept. Individual business response was generally based on how the majority of their customers accessed their place of business. If the majority of patrons arrived by foot, a higher value was placed on greater pedestrian amenity. Similarly, if the business was a specialty store, a greater value was placed on automobile access and parking.
- South of Smithe Street, some businesses felt strongly that any reduction in vehicular access would compromise their ability to stay profitable.
- A previous statistically valid random sample telephone survey of 300 downtown businesses during the development of the Downtown Transportation Plan showed that 53% of respondents opposed introducing cars to Granville Mall.

Advisory Committees

- Both the Bicycle Advisory Committee, the Vancouver Area Cycling Coalition (VACC) and the Senior's Committee preferred the One Sided Flex. For cyclists, the north bound flexible boulevard concept provided another alternate cycling route in addition to the roadway. The space between the roadway and the flexible boulevard also provided enough space to install needed bicycle parking facilities.

- The Advisory Committee for Disabilities Issues preferred Enhanced Existing, as it was felt that the flex boulevard options introduced risk to those that are disabled, particularly to those that are visually impaired.

City Departments

- Vancouver Police Department and Risk Management Office recommend the Enhanced Existing concept. Their concerns are that the operationally complex flex boulevard concepts would create potential safety issues by mixing cars and pedestrians.

TransLink

- TransLink staff recommend the Enhanced Existing concept because it is the only concept that provides better transit service levels. All other options create downside risks to transit operations and will likely decrease efficiency and increase operating costs. In addition to the concerns over increased transit travel times along Granville Street, they cite concerns regarding reduced bus stop queuing areas and conflicts between transit passengers and flex boulevard traffic.

4. Recommendation: Modified Enhanced Existing Concept

After considering the performance of the options, and the public response, staff recommend that Council endorse a modified Enhanced Existing option. The modifications are to the 900 block, and to allow some liberalizing of the mall access permits, discussed below.
The City's long time policy has been to prioritize walking, biking, and transit (and goods movement) over private automobile use. The Enhanced Existing option is aligned with this policy goal because it:

- provides the most amenity for pedestrians, with ample sidewalk room in the 800 block northward and fewest potential vehicle conflicts,
- provides ample space that could be dedicated for large sidewalk cafes, retail kiosks and other street activities,
- enhances transit efficiency, reducing travel time along the street for buses by 6%,
- provides better solutions to loading and drop-off for businesses, especially for hotels in comparison to the flex boulevard concepts,
- maintains the current level of on-street parking,
- has no negative impact on the surrounding traffic network, and
- has the urban design potential to create a "great street".

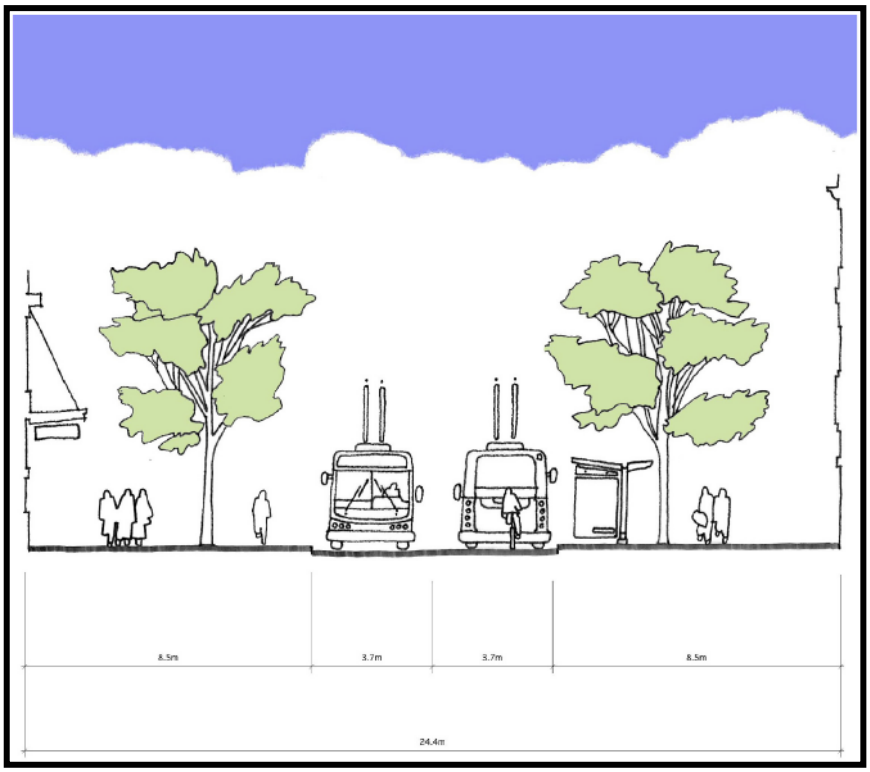
One modification City staff recommend to the Enhanced Existing concept is to maintain both north and southbound automobile traffic in the 900 block (Nelson to Smithe), as is currently the case, rather than limiting it to one way southbound. This is in response to concerns from some businesses in this block that do not want their current auto access diminished. The proposal to remove the northbound lane was intended to eliminate the queue of northbound left-turning cars that occurs as they wait for pedestrians to cross Smithe. Staff feel this situation is manageable with some additional traffic restrictions. It should be noted that TransLink accepts this modification with the understanding that detailed design work will mitigate the potential for delays in the 900 block which is currently a source of periodic delay and conflict.

While it is acknowledged that many businesses would like to have more general car traffic introduced to the mall segment of the street, and in particular that the DVBIA favours its One Sided Flex North of Smithe concept, staff note that:

- the transit mall has been in place for over 30 years, and the number of people who are exposed to the business frontages is already the highest in the downtown at 60,000 per day
- the volume of private vehicles that could be introduced is relatively low (50-100 vehicles per hour each way); and the flex boulevards would need to be closed in different parts of the street for substantial periods.

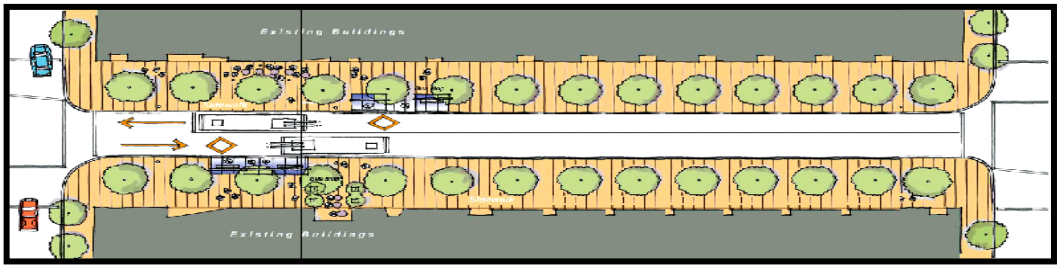
Another recommended modification to the Enhanced Existing concept is to expand the eligibility for Granville Mall access permits to non-commercial vehicles without impeding transit operations. Details of how this special permit may be managed needs to be discussed with the business community to ensure that it meets some of their needs. To mitigate any negative impacts to transit operations, access may be limited by time of day or by an upper limit of permits issued. TransLink is supportive of the idea provided measures are in place to monitor and mitigate any impact to transit service and that it be done initially on a trial basis. An example for discussion purposes is provided in Appendix B. Plan and section drawing of the Modified Enhanced Existing concept is shown below in Figure 6.

Figure 6 – Modified Enhanced Existing Concept



Typical Section North of Smithe

Typical Block – Plan View South of Smithe



Typical Block – Plan View North of Smithe

5. Consideration: Modified Flex Concept

Should Council not agree with staff's recommendation, and feel that additional car access should be introduced with the idea of a flex boulevard, staff have outlined an alternative resolution for consideration. This provides a variation on the flex boulevard concepts entitled "Modified Flex" which, while not supported by staff or TransLink, would be possible to implement.

The key feature of this modified option is the idea that the location and timing of auto access would be managed by segment (probably the three key segments: Hastings to Dunsmuir; Dunsmuir to Robson; and Robson to the Granville Street bridge), by the City in consultation with the adjacent businesses. Thus some portions might have one sided flex, some two sided flex, and some no auto access. This concept would require a very clearly defined ongoing street management structure with formal methods for decision-making.

This revised concept responds to the varying opinions about whether cars should be reintroduced on one side, two sides, or not at all. These opinions also vary along different lengths of the street at different times of the day. Its flexibility in providing for any number of scenarios in the future means that the street can be managed to respond to the changing demands on the street as redevelopments occur over time without requiring significant capital funding to reconstruct the road. Alternatively, it could operate as one-sided, two-sided or no flex at all at various times or in various seasons. This option would have many of the qualities of mixed use streets on Granville Island. One of staff's concerns with less flexible concepts, and especially the one-sided flex concepts, is that the street geometry would not be as responsive to changing needs and potentially would favour one side of the street over the other.

The physical layout of the Modified Flex option would resemble the Two Sided Flex concept, except that the portion of the sidewalk where cars might have access would be distinguished only by surface markings, such as paving and texture changes, with no change in elevation. This allows for more flexibility of use of the sidewalk space in locations and at times when there is no auto access. While permanent sidewalk cafes could be problematic in this concept, the creation of removable "café modules" may be a solution.

Another key feature is that the physical layout (similar to the Two Sided Flex concept) would continue along the length of the street, including the two blocks between Robson and Dunsmuir. This would permit auto access along these blocks should the opportunity arise, noting that for the most part it would be open to pedestrians only given the high volumes of pedestrians and the existing and proposed rapid transit station entrances.

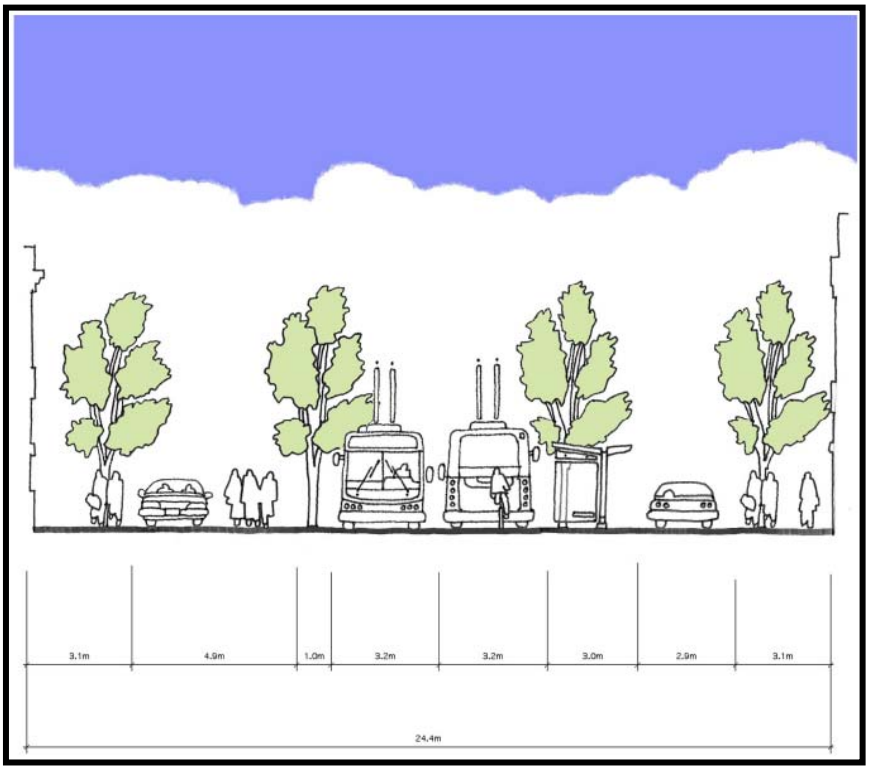
Technically, this concept would be very similar to the Two Sided Flex concept with its opportunities and many of its limitations. In comparison to the Modified Enhanced Existing concept it would:

- provide more flexibility in use (one-side, two-side or no flex),
- increase parking spaces by up to 32 spaces during the day,
- have similar urban design potential to create a "great street",
- have narrower sidewalks when the flex lanes are all open and wider sidewalks in some sections when they are all closed,
- potentially increase transit travel time by up to 8%
- be generally less comfortable and safe for pedestrians,
- be the most complex operationally and potentially confusing to users

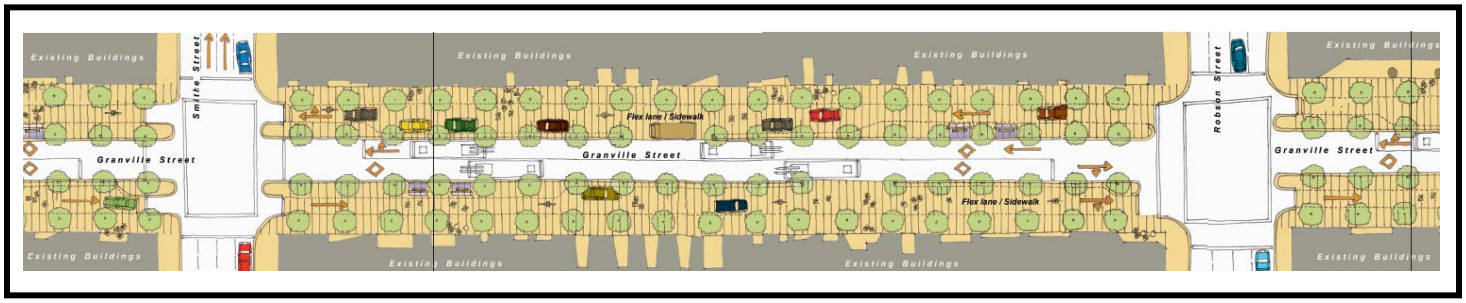
- due to the increased flexibility block to block, require special signals and controls that would increase cost by $1.2 - $2.1 M,
- potentially risk increase vehicle delays in the traffic network by up to 10%, and
- result in a narrower roadway that is less friendly for sharing between bikes and buses.

However, should cars be removed altogether from the flex boulevard at some point, the physical design of the street would allow it to function for transit and pedestrians only, with a "seamless" sidewalk area. TransLink staff do not support the flex concepts, and would not support this option for the same reasons. Typical plan and section drawings of the Modified Flex concept is shown below.

Figure 7 – Modified Flex Concept



Typical Section



Typical Block – Plan View

6. Detailed Design

Once a redesign concept has been approved for Granville Street, further detailed design work must be completed prior to construction. This includes specifying materials, dimensioning roadway plans and grades, incorporating utilities, providing details of street elements, and estimating costs. The final design should also be developed in consultation with all interested stakeholders. For this to be completed in a timely fashion, additional resources are required, including the retention of design consultants. Therefore Recommendation B is that staff report back on the resources required for undertaking the final detailed design and consultation process, including a schedule for completion and funding sources.

7. Management and Programming

Discussions with the Downtown Vancouver Business Improvement Association have already been initiated in accordance with the Council resolution of May 2002. Ongoing consultation in the development of a management and programming regime for Granville Street is anticipated to continue.

FINANCIAL IMPLICATIONS

The 2006 – 2008 Capital Plan includes $11 M in funding for the reconstruction of Granville Street.

Following approval of a redesign concept, further work is required to complete a detailed design and prepare construction cost estimates. Staff will report back, as per Recommendation B, on the resources required for undertaking the detailed design.

ENVIRONMENTAL IMPLICATIONS

Granville Street is currently a key linkage in the transit system of the City, and also serves some of the highest pedestrian volumes. The Modified Enhanced Existing concept, as recommended by staff, best reflects the City's long standing policy direction to favour pedestrians, cycling, and transit over automobile use.

CONCLUSION

After extensive public and stakeholder consultations and much iteration of design concepts, staff recommend that the Modified Enhanced Existing concept be advanced to the final design stage. The Modified Enhanced Existing concept meets the City's objective for enhancing the transit and pedestrian environment of the street, while not taking away any general automobile access that now exists on the street (i.e. south of Smithe). In addition, the proposed liberalizing of the Granville Mall access permitting will assist business owners by allowing some private vehicle access on an occasional basis for loading/unloading. The Modified Enhanced Existing design also provides all the required elements for it to become one of the City's Great Streets. Significant time and effort was spent on pursuing the Flex Boulevard concepts in the hopes that general purpose traffic could be reintroduced into the mall. Unfortunately, after extensive analysis and public consultation, staff concluded that the many compromises and risks outweighed the benefits of the very limited auto access that was achievable, and found that none of the Flex concepts could be recommended. However, should Council wish to pursue allowing general purpose traffic onto Granville Street despite staff recommendation, staff have outlined an alternative resolution for consideration as described by the Modified Flex concept.

* * * * *

Detailed Evaluation Matrix

#	Category	Measures	Enhanced Existing	One Sided Flex	One Sided Flex North of Smithe	Two Sided Flex
0	**TRANSPORTATION MODES**					
1	**Pedestrian**					
10	Width of Sidewalk (Dedicated Only)	**m (m)**	**South of Smithe *except 900 blk** 5.5 m (3.2 m) **North of Smithe** 8.5 m (8.5 m)	**East Side** 5.5 m (5.5 m) **West Side** 11.5 m (5.5 m)*except civic place	**South of Smithe *except 900 blk** 5.5 m (3.2 m) **North of Smithe** East Side 5.5 m (5.5 m) West Side 11.5 m (5.5 m)	**Each Side** 9.0 m (3.1 m)
3	Minimum	(area, m^2)	2.0 m^2	1.2 m^2	1.2 m^2	0.6 m^2
4	**Cyclist**					
5	Roadway	Lanes Available (width, m)	4 lanes (3.2m) south of Smithe 2 lanes (3.7m) north of Smithe	2 lanes (3.7m)	2 lanes (3.7m)	2 lanes (3.2m)
6	Flex Boulevard	Flex Boulevards (width, m)	Not applicable	1 boulevard (3.0m) except Robson to Dunsmuir	1 boulevard (3.0m) Smithe to Hastings only	2 boulevards (2.9m) except Robson to Dunsmuir
7	**Transit**					
8	Transit Travel Time* Unmitigated Option	% net change	-6%	+12%	+19%	+27%
9	Transit Travel Time* Mitigated Option	% net change	-6%	+5%	+10%	+8%
10	**Loading Space for Granville Merchants**		No difference	No difference	No difference	No difference
11	**Parking Availability**	Anticipated Spaces 7am-7pm	87	80	94	123
12		Theoretical Maximum Spaces	111	113	143	165
13	**Auto Access**					
14	Accessible Block Fronts (7am-7pm)	# block fronts	9	8	11	12
15	Accessible Block Fronts (theoretical max)	# block fronts	9	10	15	16
16	Vehicle Accommodation	Traffic volume	**High**	**Low**	**High**	**Low**
17	Network Vehicle Delay* Unmitigated Option	(%)	-	+29%	+ 60%	+31%
18	Network Vehicle Delay* Mitigated Option	(%)	-	-1%	+15%	+10%
19	**Other Categories**					
20	Usable Sidewalk Area for Retail Use	Anticipated 7am-7pm	11,160	11,326	9,666	8,737
21	Vehicle Access Allowed	Minimum (m^2)	11,160	9730	6078	5598
22	Vehicle Access Restricted	Maximum (m^2)	13,650	16,140	13,152	17,402

* These values are obtained from a traffic microsimulation analysis, which has a margin of error of +/- 10%.

Special Granville Mall Permits for Business Owners Along the Mall
(For Discussion Purposes Only)

The proposal below is being suggested as a potential way of allowing a limited number of additional commercial and non-commercial vehicles into Granville Mall without negatively impacting transit operations.

On a trial basis:

1. Allow business owners along the mall to purchase a special transferable Granville Mall permit to allow commercial or non commercial vehicle access to the mall for the purpose of loading or unloading the vehicle for a period no longer than 30 minutes.

2. A maximum of 60 permits will be made available and only one can be purchased per business along the mall.

3. All operating conditions of the existing Granville Mall permit system will be in effect. This includes:
    - Restrictions on where vehicles may enter and exit the mall
    - No access or parking between the hours of 7:00-9:30 am and 3:00–6:00 pm
    - No passing of other moving vehicles is permitted
    - An offence is subject to a fine and penalty of not more that $500 and not less than $75

4. The transferable permit will be provided at the same cost as a non-transferable permit at $244 per year.

5. The permit must be prominently displayed in the rear window of the vehicle before entering the mall.

6. Vehicle loading and unloading must be done in designated areas atop the curb and parallel to the Transitway with all four wheels off the Transitway. (Note: additional loading areas are proposed for the redesigned Granville Mall with at least four per block and two on each side).

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