



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Date: March 15, 2005  
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Meeting Date: March 29, 2005

TO: Standing Committee on Transportation and Traffic

FROM: General Manager of Engineering Services and  
Director-City Plans

SUBJECT: Clark/Knight Corridor Plan

RECOMMENDATIONS

- A. THAT the proposed improvement plan for the Clark-Knight Corridor (as detailed in Appendix 1) be adopted in principle.
- B. THAT staff report back on the findings and recommendations of the City-wide traffic noise study, including specific noise mitigation measures for the Clark-Knight Corridor, and that any additional costs be integrated with the overall financial framework of the Corridor Plan.
- C. THAT Council direct staff from Engineering and Planning, in conjunction with Real Estate, Legal Services and Parks, to report back on a phasing and implementation plan for the boulevard enhancement measures, so as to achieve a landscaped boulevard from 15<sup>th</sup> Ave. to SE Marine Drive within a 12 to 15 year timeframe; that the implementation plan include a discussion of the most feasible ways of acquiring up to 2 ft. of right-of-way or land from private property owners.
- D. THAT Council direct Staff from Engineering and Parks to report back on the implementation and operational costs of the Tree Voucher Program so it can become operational by the fall of 2005.

FOR CONSIDERATION

- E. That the approval of the Left Turn Bay proposed at 57<sup>th</sup> be deferred pending further public consultation and a report back to address the potential

redesignation of 57<sup>th</sup> to Neighbourhood collector, network analysis and a traffic calming plan.

### GENERAL MANAGER'S COMMENTS

The General Managers of Engineering Services and Community Services RECOMMEND approval of the foregoing.

All of the proposed elements of this corridor plan have been strongly supported by a majority of participants in the consultation process leading to plan development. This included residents, both on and near the corridor, as well as stakeholders such as the Vancouver Port Authority, ICBC, Translink, and the trucking industry.

Perhaps the most contentious element of the plan is the proposed left turn bays on Knight Street at 57th Ave. These are opposed by some residents along 57th Avenue. Although the overall response to the survey was very low at 1.5%, 89 % of survey respondents, including 80% of respondents living on the Corridor, supported left turn bays on Knight at 57th. There were 21 respondents living within four blocks of 57<sup>th</sup> Avenue, and of these, 76% supported the left turn bays. Staff are recommending this left turn bay because of the high accident history between the Knight St. bridge and 57th Ave., which is related to traffic shortcutting through the residential sidestreets.

If Council approves E, Staff will report back with complete information on:

- neighbourhood shortcutting issues
- traffic volume information on 57<sup>th</sup> Ave.
- accident and volume information on Knight St.

### COUNCIL POLICY

On May 27, 1997 Council approved the Vancouver Transportation Plan, which proposed goods movement initiatives for Knight Street, subject to a full cost accounting and whole route analysis of the Corridor.

Council approved Community Visions for Kensington-Cedar Cottage (KCC) on July 28, 1998, and for Victoria-Fraserview/Killarney (VFK) and Sunset on January 15, 2002. These Visions contain a number of directions regarding transportation and housing along Knight Street.

The Urban Noise Task Force suggested Knight Street as one of four top priority streets for noise mitigation. This recommendation was supported by Council when the Task Force's report was received May 27, 1997.

On March 5, 2002, Council adopted the Vancouver Transit Strategy.

On April 10, 2003, Council approved a Whole Route Analysis for the Clark Drive - Knight Street Corridor.

In May 2004, Council approved undertaking public consultation of the Cool Vancouver's Task Force Draft Community Climate Change Action Plan for the City of Vancouver which identifies an emissions reduction target of 6% from 1990 levels by 2021 for the City of Vancouver.

## SUMMARY

On April 10, 2003, Council approved a Whole Route Analysis (WRA) of the Clark-Knight Corridor. The proposed improvements in the following Clark-Knight Corridor Plan are recommended to further the adopted policy objectives from the Vancouver Transportation Plan, and the KCC, VFK and Sunset Community Visions.

Recommendation A is to approve the Corridor Plan. The report describes the improvements to be undertaken under successive capital plans beginning in 2005 in the following areas: a boulevard enhancement and a tree voucher program; a new north/south bike route; a landscaped median between 15<sup>th</sup> and 21<sup>st</sup> Ave; improvements to pedestrian and cycling crossings; additional transit shelters and amenities; public art at several locations; and safety improvements and goods movement (left turn bays at 33<sup>rd</sup>, 49<sup>th</sup> and 57<sup>th</sup>; road widening north of 6<sup>th</sup> Avenue; diversion redesigns between 12<sup>th</sup> and 15<sup>th</sup> Avenue and 54 and 55<sup>th</sup> Avenues).

Recommendation B is to report back on the City-wide traffic noise study, including specific traffic noise mitigation measures for the Corridor. Some of the preliminary study findings will be presented by the noise consultant at the same time as the Council presentation of this plan.

Recommendations C and D are to report back about implementation and staffing costs for boulevard enhancement measures and a tree voucher program between 15<sup>th</sup> Avenue and SE Marine Drive.

The Corridor Plan has evolved through extensive consultation process. This has included working with a Clark-Knight Advisory Committee (consisting of representatives from 7 communities, Translink, ICBC, the Vancouver Port Authority, the B.C. Trucking Association and independent truck operators), 3 public open houses, presentations to community groups, 2 mailed newsletters and a survey that was sent out to 28,000 residents and businesses. The survey described and sought response to proposals related to:

- wider traffic lanes and boulevards
- left turn bays at 33<sup>rd</sup> Ave, 49<sup>th</sup> Ave, and 57<sup>th</sup> Ave
- changes to parking regulations
- a north/south bikeway east of Knight Street, and
- courtyard rowhouses as part of future planning in VFK, Sunset and KCC.

Overall, public response to the proposals was positive. However, there was a mixed response to the road and boulevard widening proposals between 15<sup>th</sup> Avenue and SE Marine Drive from residents directly fronting the Corridor. Due to the impacts on the owners, the high cost and long timeframe to implement, and other proposed improvements, no road widening will be undertaken except in the industrially zoned section of the Corridor north of 6<sup>th</sup> Avenue. A summary of the survey responses is in Appendix B. On-street parking changes will be minimal and limited to three blocks between Broadway and 12<sup>th</sup> Ave.

During the last 2 months, Staff presented the draft plan proposals to the Bicycle Advisory Committee (BAC), the KCC, VFK and Sunset City Plan Committees, and the Disability Advisory Committee (DAC). A final open house was held on February 23<sup>rd</sup> to present the plan to the broader community.

Comments from the survey and the final open house have been included in Appendix 7.

## PURPOSE

The purpose of this report is to seek Council approval of the Clark-Knight Corridor Plan, as well as for the necessary funding to implement it. Approval of this plan will help achieve directions set out in the Vancouver Transportation Plan and the Community Visions.

## BACKGROUND

On April 10, 2003, Council approved the Clark-Knight Corridor Whole Route Analysis (WRA) to examine transportation issues along the Corridor in a manner that recognizes its land use and transportation roles, and the consequences for local residents, the goods movement industry, pedestrians, transit users, cyclists and commuters. The WRA came out of recommendations in the Vancouver Transportation Plan and approved directions for Knight Street in the KCC, Sunset and VFK Visions.

The 1997 Vancouver Transportation Plan recommended improvements to Clark-Knight Street to facilitate goods movement subject to a whole route analysis of the corridor.

- Existing truck network will be largely maintained.
- Overall road capacity will not be increased.
- Intersection improvements, such as left turn bays, may be required to improve safety at some intersections. These will be designed so as to not increase capacity of the street to carry more traffic.

The approved KCC, Sunset and VFK Vision directions for Clark-Knight wanted it a priority to undertake the whole-route study to find additional ways to improve the Corridor for the community while maintaining truck access. Conditions and safety along Clark-Knight for residents, pedestrians and transit users should be substantially improved by:

- Improved pedestrian crossings; boulevards and sidewalks
- More trees and public art
- Additional and improved bus shelters and more support for public transit
- More strict enforcement of traffic speeds and enhanced regulation of trucks in regard to speed and noise

## DISCUSSION

This discussion begins by providing a brief context about road and land use elements along the Corridor. (A more detailed description and discussion of issues is in the 2003 Background and Issues paper on file in the City Clerk's office and available online at [www.vancouver.ca/knight](http://www.vancouver.ca/knight)). The public process is described, and then the proposed improvements, including longer term recommendations and shorter term improvement projects. Finally, total costs and funding sources, some utilizing existing City programs, are discussed in the section on Financial Implications.

## Road Elements and Traffic Volumes

### 1. Road and Boulevard

The Corridor is a major six-lane arterial, extending from Burrard Inlet to the Knight Street Bridge and is included in Translink's Major Road Network. Except where left turn bays have been constructed, the Corridor has a 24.3 m. (80 ft.) right of way with a curb to curb width of typically 17.6 m. (62 ft.), similar to many other City arterials. The right-of-way is fully used, limiting opportunities for roadway and boulevard changes. In many portions of the Corridor, sidewalks are often less than the 1.5 m. (5 ft.) minimum width and often located next to the curb without a boulevard.

On-street parking is generally restricted during peak hours in the peak direction, except for the southern portion, where parking is restricted on both sides at peak hours due to the balanced traffic flows in each direction. Full time on-street parking with no restrictions in the peak hours is available to serve the industrial businesses between Venables St. and Hastings St.

### 2. Traffic Volumes

Daily 24-hour traffic volumes vary by location, but generally range from 28,000 to 44,000 between Hastings and Broadway; between 35,000 and 42,000 between King Edward and Broadway, and between 40,000 and 61,000 between King Edward and the Knight Street Bridge with the heaviest volumes in the southern portion near the Knight Street Bridge. These daily volumes are similar to other arterials such as Broadway (22,000 - 44,000 vehicles), Cambie (36,000 - 57,000 vehicles), Granville (33,000 - 54,000 vehicles) and Boundary (23,000 - 57,000 vehicles).

### 3. Truck Volumes

Despite an extensive truck route network in the City, truck traffic is heavily concentrated on the Corridor. Truck volumes comprise 9% to 13% of traffic volumes which is the highest number of trucks of any City street in a day. This represents 2,200 to 3,000 trucks per day, with heavy trucks (3 axles or greater) comprising 47% to 60% of truck traffic. Boundary Road and Marine Drive contain the next highest concentration of trucks, with a third less truck traffic.

The high concentration of heavy trucks is due to the Corridor's position linking the Port and industrial areas on the north side of the City with large warehousing and industrial areas in South Vancouver, Richmond (Mitchell Island), Delta and Surrey. The Knight Street Bridge provides the link to the Lower Mainland's highway system providing trucks access to the United States and the rest of Canada via Highways 91 and 99. It is estimated that 50% of all trucks using the corridor are Port-related.

### 4. Future Traffic Growth

General traffic growth is expected to be modest at approximately 0.5% per year from 2002 to 2021. Growth of trucks is expected to be higher due to the significant growth forecast for container movement at the Port of Vancouver. The Vancouver Port Authority has revised its estimates of truck container growth upwards from its 2004 projections. The growth forecast to 2020 for the number of truck trips on Clark-Knight is an additional 265 one-way (from the current 750), or an additional 40 one-way trips per hour during terminal operating hours.

## Land Use

### 1. Residential and Industrial

The Clark Drive and Powell St. Industrial areas abut the Corridor and are located north of 6<sup>th</sup> Ave to Powell. The remaining portion of Clark-Knight to SE Marine is fronted by residential uses which are predominantly single family with some duplexes. There is a 3-block section of low-rise apartments between 7<sup>th</sup> and Broadway; another at 46<sup>th</sup> Avenue west side, and two blocks of low rise apartments near the Knight Street Bridge. Community Visions were completed several years ago for the KCC, VFK and Sunset communities that the Corridor passes through from 16<sup>th</sup> Ave. to SE Marine.

There are approximately 465 single family homes (with about 424 homes built before 1960). The pace of new home construction is modest but steady with about 25 houses demolished and new houses built since 1996. Lot depths and front yards are generally shallow, with an average lot depth of 110' due to previous road widening in the 1940's and 1950's. Some houses are close to the street with front yards of only 10 ft. Homes are modest and typically slab on grade construction.

-Pending City-initiated Rezoning to Courtyard Rowhouse Zone

A City-initiated area rezoning of a 9-block portion of Knight St. between 17<sup>th</sup> Ave and 28<sup>th</sup> Ave (east and west sides) will be referred to a public hearing in the fall of 2005. The rezoning is part of the Kingsway and Knight Housing Area Plan, approved by Council in 2004. The area will be rezoned to a new "courtyard rowhouse" housing type. The new zone has a variation which will respond to the busier and noisier conditions of Knight Street. The buildings will be two rows of side by side units, one near the street and the other near the lane with a courtyard between. The building nearer to Knight Street will be wide and shallow so that all principle rooms (living room, dining room, and bedrooms) have exposure inward to the courtyard and away from Knight Street.

New developments in this zone will be required to be constructed with appropriate building techniques to meet CMHC noise standards as required in other multi-family zones (e.g. RM-4N). The rate of change to the fronting portions along Knight Street will be incremental and is expected to take place over a 20 year timeframe, subject to market conditions.

### 2. Commercial Activity

Most commercial activity is centred on Kingsway, although small commercial nodes exist at the intersections of 33<sup>rd</sup> Ave, 41<sup>st</sup> Ave, 49<sup>th</sup> Ave, and 57<sup>th</sup> Avenue. A large mixed use residential and commercial development (King Edward Village) is being constructed on the south east corner of Kingsway and Knight. As part of the KCC neighbourhood centre work, significant public realm improvements are underway along a 4 block section of Kingsway east and west of Knight. Improvements include a landscaped median, street furniture, additional pedestrian crossings, and mini parks.

### 3. Schools and Parks

Two elementary schools are located on the Corridor; Queen Alexandra at Broadway, and Sir Sandford Fleming at 49<sup>th</sup> Ave. Both schools have catchment areas that straddle the Corridor. The four parks located on the Corridor are China Creek South Park (between Broadway and 11<sup>th</sup> Ave, west side), Cedar Cottage Park (at 11<sup>th</sup> Ave, east side), Kingcrest Park (between King

Edward and 27<sup>th</sup>) and Kensington (between 33<sup>rd</sup> and 37<sup>th</sup> Street). The Park Board is currently upgrading Kingcrest Park (completion in the spring of 2005), and is in the process of preparing a plan to improve China Creek South Park (completion in late 2005 or 2006).

### Public Process

The “start-up” public open house was held June 14, 2003. The event was advertised via a newsletter sent to 28,000 households located within 7 blocks east and west of the Corridor. The event attracted approximately 250 residents.

Through this event, staff recruited volunteer residents to form a Clark-Knight Advisory Committee. The 16 member advisory committee consisted of nine residents representing 7 communities along the Corridor. Other stakeholders on the Advisory Committee included representatives from Translink, ICBC, the Vancouver Port Authority, the B.C. Trucking Association, and independent truck operators.

Between June 2003 and February 2005, staff held 6 working sessions with the Advisory Committee. The committee assisted staff in generating and evaluating a range of options for the plan. Topics included goods movement and traffic improvements, in particular, pedestrian crossings and safety, cycling, safety and speed issues, and improving the street environment, and they evaluated options for corridor improvements

Staff also made several presentations to each of the VFK, KCC, and Sunset City Plan Committees to update on progress of the study. Presentations were made to the Disability and Bicycle Advisory Committees. Meetings were held with representatives of the facilities planning branch of the Vancouver School Board and with the VSB School Traffic Safety Committee, and Vancouver Port Authority (Truck Container Committee). Discussions were also held with the Vancouver Police Department.

Two television segments about the Corridor study were aired on GVTV, a segment prior to the start-up open house to publicize the study and outline major issues, and one during the survey response period.

A design charette involving staff from Engineering, Planning and Parks was held to look at ways to improve the street environment

In June 2004, a newsletter/survey describing key proposals was mailed to 28,000 households and businesses in the area. All households and businesses received an English and Chinese version of the survey/newsletter. The newsletter/survey was posted on the web with an online response capability.

During the survey period, the public had a chance to attend an open house to find out more about the proposals and ask questions. About 40 people attended the second open house.

A total of 411 mail back and online survey responses were returned (results in Appendix B). (In an effort to achieve more participation in the survey, a “second round” delivery of surveys went out to 1,200 households. These surveys were hand delivered with a postage paid envelope with multilingual messages. A total of 1,200 surveys were hand delivered; 600 surveys were hand delivered to residents that live directly on the Corridor; and 600 were delivered randomly to residents within a 7-block radius of the Corridor. Newspaper ads reminding the public to fill out the survey were placed in the Courier, Voice, Ming Pao, Sing Tao, Richmond News, the Link and the Georgia Straight. Ads were also placed in six school newsletters. The second round delivery resulted in an additional 95 surveys returned with a

significant proportion of respondents who live directly on the Corridor (55 responses), for a return rate of 7.1%.)

The final public open house was held on February 23, 2005 to provide the public with an opportunity to view the results of the survey and the draft Corridor Plan proposals. Approximately 200 residents attended the final open house.

An overview of some of the comments received by staff at the public open houses is provided under the section "public response" in the report. As well, comments from the survey and the final open house are included in Appendix 7.

### **The Clark-Knight Corridor: Recommendations for Improvements**

The following describes the package of projects and strategies proposed in the Corridor Plan. Appendix 1 provides a map of the projects and strategies.

#### **1. Retain the 24.4 metre (80 ft.) Right of Way**

The 24.4 metre (80 ft.) Right of Way (ROW) will be retained, except where widening is required to facilitate boulevard creation between 15<sup>th</sup> and Marine (0.6 metres (2ft.) of additional property on each side) and to facilitate left turn bay installations at 33<sup>rd</sup>, 49<sup>th</sup>, and 57<sup>th</sup> Avenues. (The Left Turn Bays's (LTB) will require up to 3 metres (10 ft.) of additional property on each side at these locations).

To improve the safety conditions for road users and to improve the streetscape, there were two questions in the survey that involved changes to the width of the ROW. These proposals would have enabled wider lanes for trucks and cars; wider sidewalks for pedestrians; and wider boulevards between curb and sidewalk for street tree planting and streetscaping. There were additional proposals for south of 57<sup>th</sup> Ave where traffic flows are heaviest and residential lots are flanking the street. Proposals were for wider lanes and boulevards and an additional widening to provide for a 3 metre (10 ft.) wide median.

While there was support for the widening proposals in the broader community, there was a mixed response from those living directly on Knight St. Only 37% of those living directly on Clark Knight supported the proposal from Powell to 57<sup>th</sup>. Similar low support levels were received for proposals to widen from 57<sup>th</sup> to Marine.

Because of the mixed response, the high cost of achieving these improvements, and the long time frame to implement, Staff recommends retaining the existing ROW width at 24.4 metres or 80 feet with the above mentioned exceptions. Staff believes that with the improvements put forward in this report, the goals of improved safety and streetscaping can be achieved with a minimal impact to private property owners. (The creation of a landscaped boulevard, discussed in a later section, will involve some acquisition of private property or through a right of way).

#### **2. Safety Improvements**

##### **(a) Left Turn Bays at 33<sup>rd</sup>, 49<sup>th</sup> and 57<sup>th</sup> Avenues**

The plan recommends installing left turn bays at the intersections of Knight and 33<sup>rd</sup> Ave. (all legs), 49<sup>th</sup> Ave. (north and south legs), and 57<sup>th</sup> Ave. (north and south legs). These projects will be phased over a number of years.

Safety for all road users is a primary concern along the corridor as intersections continue to have relatively high numbers of collisions. In 2004, five of the top ten vehicular collision locations in the City were along the Clark-Knight corridor. Case studies of nine City intersections indicated left-turn-bays can prevent 30-50% of all intersection accidents while left turn accidents can be reduced 80-90% and often represent some of the more severe crash types. The intersection of Knight St. and 49<sup>th</sup> Ave. has the highest number of crashes for any intersection in the City with 859 reported accidents and 349 injuries over the past 5 years.

The Clark-Knight Advisory Committee and the majority of survey participants felt that left turn bays are a crucial part of the strategy for this corridor. The survey posed three questions in regards to left turn bays at 33<sup>rd</sup>, 49<sup>th</sup> and 57<sup>th</sup>. Support was extremely high with 94%, 93% and 89% in favour respectively. Support from those survey participants who live directly on the Corridor was equally favourable with 85%, 86% and 80% supporting left turn bays, respectively.

Installing left turn bays would have the following advantages:

- they would improve safety by eliminating the need for through-traffic to change lanes near the intersection in order to by-pass left-turning vehicles;
- provide better sight lines for left turning vehicles;
- protect the nearby neighbourhood from shortcutting; and,
- they would help facilitate the flow of goods.

In addition to potential cost sharing from TransLink, time sensitive funding is available through the Federal Border Infrastructure Fund. In total \$2,000,000 has been pledged (\$500,000 per intersection) provided the four Left Turn Bays can be constructed by 2008.

It should also be noted that a northbound to westbound LTB at Clark Drive and 6<sup>th</sup> Avenue (Great Northern Way) was approved by Council on November 2, 2004.

#### Proposed Left Turn Bays (LTB)

For all three proposed projects widening of the roadway will be required. At the intersections, 3.0 metres (9.8') will be required on either side of the street. The widening amount will taper down to meet the existing roadway over a 125 m distance north and south of the intersection.

For all three LTB projects, staff will report back with additional detail and for final approval prior to commencing construction.

##### (i) 33<sup>rd</sup> Avenue and Knight LTB

If approved, this intersection will receive left turning bays on all four legs of the intersection. Safety benefits will be the biggest feature with this project. In 2004, Knight and 33<sup>rd</sup> was the third highest collision site in the City of Vancouver. As well, access to Kensington Community Centre and the attached park will be improved with this project.

##### (ii) 49<sup>th</sup> and Knight LTB

As previously mentioned, ICBC crash statistics rated Knight and 49<sup>th</sup> the worst intersection for crashes in the entire City. Improving the safety of this intersection will be the most important feature of this project. School Board staff requested

separate phases for the left turns to minimize conflict between left turning traffic and students crossing Knight.

As is the case for all three LTB projects, land will be required to widen the intersection. In order to help mitigate the impact to Fleming School, further discussions will be held with School Board administrators to discuss such measures as improved pedestrian waiting areas on Knight, improved landscaping and hard surface paths on school property as well as potential traffic calming measures on Lanark Street and 47<sup>th</sup> avenue. Calming measures could include speed humps and corner bulging. Prior to commencing the project, staff will report back seeking Council approval of the project.

The project will include left turning bays on the north and south legs of the intersection. The west and east legs of the intersection already have left turn bays.

### (iii) 57<sup>th</sup> and Knight LTB

Since 2000, north to westbound left turns have been restricted at the intersection of Knight and 57<sup>th</sup>. However, demand to make a left turn movement into the area is still present. Accident statistics show that vehicles are shortcutting through the neighbourhoods south of 57<sup>th</sup> both east and west of Knight Street. In the past 5 years, a total of 490 collisions were reported between 63<sup>rd</sup> Ave and 58<sup>th</sup> versus 334 between 55<sup>th</sup> and 51<sup>st</sup>. By installing the north and south left turn bays at 57<sup>th</sup>, safety between Knight St. Bridge and 57<sup>th</sup> Ave will be improved.

The neighbourhood south of 57<sup>th</sup> and west of Knight has shortcutting issues due to the left turn ban at 57<sup>th</sup>. Engineering staff have installed speed humps on 61<sup>st</sup> to try and address some of the shortcutting issues. But, residents of Sunset neighbourhood suggest that these measures are not enough. By installing the left turn bay at 57<sup>th</sup>, shortcutting through this neighbourhood can be dealt with more effectively as safer left turns could be made at 57<sup>th</sup> and 49<sup>th</sup> should those projects be approved. Residents also expressed concerns regarding increased traffic on 57<sup>th</sup>. Staff reviewed traffic counts from before and after the existing turning restrictions. The allowance of the left turn did not significantly alter the volume of traffic

Further study may be necessary once the 57<sup>th</sup> Ave. LTB has been installed. In particular the intersections of 57<sup>th</sup> and Ross, and 57<sup>th</sup> and Fleming may warrant a pedestrian signal as parks and schools exist near those intersections.

Through a separate process, Staff has been reviewing the potential to redesignate some secondary arterials to Neighbourhood collectors. 57<sup>th</sup> Ave. was identified in the Vancouver Transportation Plan and the Sunset and VFK Visions for review to downgrade to collector. The installation of a LTB does not preclude this change from taking place. The proposed LTB, if recommended, would need to be reviewed in conjunction with traffic calming and new turning restrictions to address access and the possible redesignation to Neighbourhood collector.

For Council's consideration, this project could be deferred for additional public consultation with a report back that would address the redesignation of 57<sup>th</sup> to Neighbourhood Collector, discuss network analysis and propose a traffic calming plan. By deferring the decision to install the LTB, the \$500,000 of funding available from the Federal Border Fund would likely expire as a project of this scope will take 2-3 years to complete.

## (b) On-street Parking Regulations

### (i) Changes between Broadway and 12<sup>th</sup> Ave

Additional on-street parking restrictions between 7am and 7pm Monday to Friday on Clark Drive between Broadway and 12<sup>th</sup> Avenue are recommended. This will provide improved sight lines for pedestrian crossings at Broadway and 10<sup>th</sup> near the elementary school. In addition to the school, two parks straddle Clark Drive and the bike route crosses at 10<sup>th</sup>.

This affects only 15 parking spaces during the off peak times. AS well, field observations showed low utilization during these times.

In the survey, 74% supported No stopping between 7 am to 7 pm between Broadway and Clark. Of those living directly on the Corridor, 64% were also in favour of the new regulations.

### (ii) No Changes between 12<sup>th</sup> Ave and SE Marine Drive

Existing parking regulations between King Edward and Marine Drive will be retained for the time being, but recognizing that parking regulations may be required for 7am to 7pm between King Edward and Marine for safety or other compelling reasons. In the survey, 85% of respondents supported some form of No Stopping between 7 am to 7 pm (47% in favour of no stopping 7 am to 7 pm and 38% in favour of No Stopping 7am to 7pm but allowing parking along commercial frontages). On-parking will be removed between 15<sup>th</sup> Ave and 21<sup>st</sup> Ave, on the west side, to facilitate the installation of a median which is discussed in section under Streetscape Improvements.

## (c) Traffic Signal Improvements and Signal Coordination

There are several traffic signal improvements identified in the Corridor Plan:

- An increase to left turn advance green arrow time at Clark and Venables for north to west movement;
- The installation of a left turn advance arrow at Clark and 1<sup>st</sup> for South to East movement; and
- Provide a dedicated green phase for cyclist activated crossings.

## (d) Speeding and Red Light Running

### (i) Targeted Traffic Enforcement Program (TTEP)

The plan recommends that the Vancouver Police Department (VPD) continue participation in the ICBC sponsored Targeted Traffic Enforcement Program (TTEP) program which provides additional resources for speed enforcement, and that one of the selected arterials to receive the additional enforcement on an annual basis always be Clark/Knight.

For five years ICBC has sponsored the TTEP program which provides funding for additional speed enforcement through police volunteered overtime. The program runs between the months of April and December. The VPD typically select 2 to 3 arterials where the extra enforcement will be deployed. The VPD have agreed that Clark/Knight always be one of the selected arterials to receive the extra enforcement.

Typically the program provides enough funding for 2 additional police officers, 6 hours per day 5 days per week. This enforcement is above and beyond the patrol forces already working in and around Knight Street.

#### (ii) Red Light Camera Program

There are 25 red light camera locations in the City of Vancouver. The Clark Knight corridor has them at Broadway @ Clark (Westbound), 12<sup>th</sup> @ Clark (Southbound), 33<sup>rd</sup> @ Knight (Northbound) and 49<sup>th</sup> @ Knight (Southbound).

The recording devices are rotated to different locations as there are more sites than there are cameras. The fine for an infraction is \$167.00, if the violation is captured on film. The VPD will be requesting the Province's Red Light section to increase the number of recording devices in operation, which will increase the amount of enforcement at the 25 citywide locations.

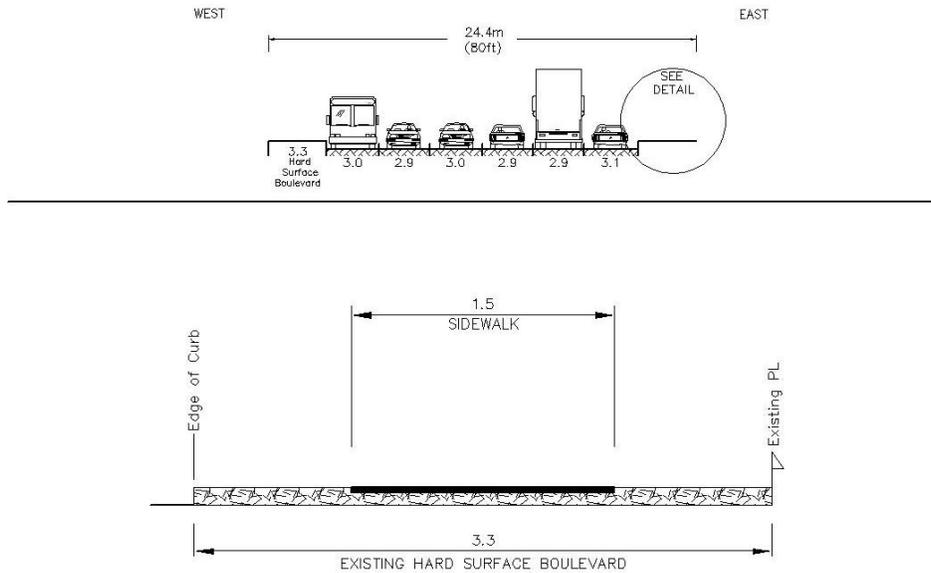
The plan recommends that the City maintain the number of red light camera sites on Clark/Knight, but that the VPD seek funding from the Province to purchase additional recording devices to enable more constant utilization of these sites on the Corridor.

### 3. Goods Movement

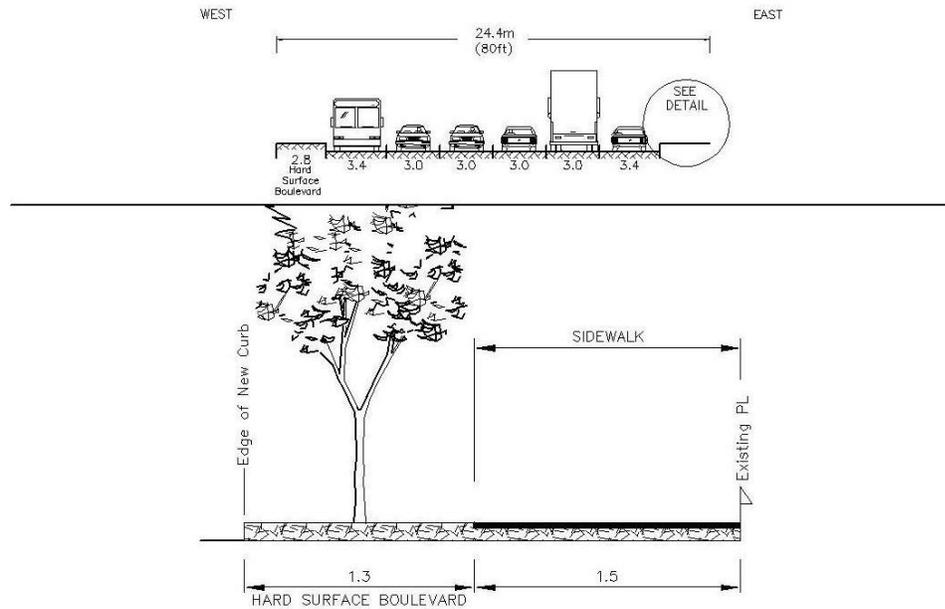
#### (a) Lane Widening from 6<sup>th</sup> Ave. to Powell Street

This primary purpose of lane widening between 6<sup>th</sup> Ave and Powell Street will be to provide vehicle lane widths consistent with the middle and southern portions of the Corridor. Lane widths currently are between 2.8 and 2.9m. (9.2 ft. - 9.5 ft.) the curb lane widths are between 3.0 and 3.1m. (9.8 ft. - 10.2 ft.) Where possible, the curb lane is intended to be 3.7 m (12 ft.). Due to the confined ROW, the curbs will be moved to provide a 3.4 m (11 ft.) curb lane and 3.0 (9.8 ft.) running lanes. No land acquisition from property owners will be required. In addition to moving the curbs, boulevard trees will be planted to improve the streetscape.

This project will be completed over a longer time frame in conjunction with new developments or other Streets programs such as repaving, sidewalk/curb reconstruction and/or utility reconstruction in order to minimize operational impacts and to facilitate financial efficiency.



*Existing Cross Section of Clark Drive North Of 6<sup>th</sup> Ave.*



*Proposed Cross Section of Clark Drive North Of 6<sup>th</sup> Ave.*

(b) Diversion Redesign between 13<sup>th</sup> and 15<sup>th</sup> Avenue

The redesign would involve reconfiguring the curve to provide a more adequate separation between northbound and southbound traffic. The redesign will provide opportunities for additional landscaping within the boulevards on the east and west sides. Landscaping may be

possible within the median as well. A public art component will be added at this location (see section under public art).

Further consultation with residents who would be affected by the redesign of the diversion will take place as part of the design process for the diversion. Consultation is recommended because the redesign may involve some road closures and diversion of traffic. Corner bulges and other measures on cross streets to address speed concerns may be constructed depending on the outcome agreed by the residents.

(c) Redesign diversion between 54<sup>th</sup> and 57<sup>th</sup> Avenue

This project will provide wider lanes to make it easier for trucks to negotiate the curve. Throughout the public process, there were many complaints that trucks pulling trailers track into adjacent lanes creating a safety issue. The redesign will involve additional greening and a public art component.

#### 4. Streetscape Improvements

Narrow boulevards and sparse street trees reinforce the atmosphere of the street as a busy arterial and contribute little to the feeling of safety and comfort for pedestrians. The following improvements are meant to change the look and feel of the street. Boulevard and sidewalks are approximately 2.8 metres (9.2 ft.) wide. Both measures will be applied to the single family residential portion of the Corridor between 15<sup>th</sup> Ave. and SE Marine Drive.

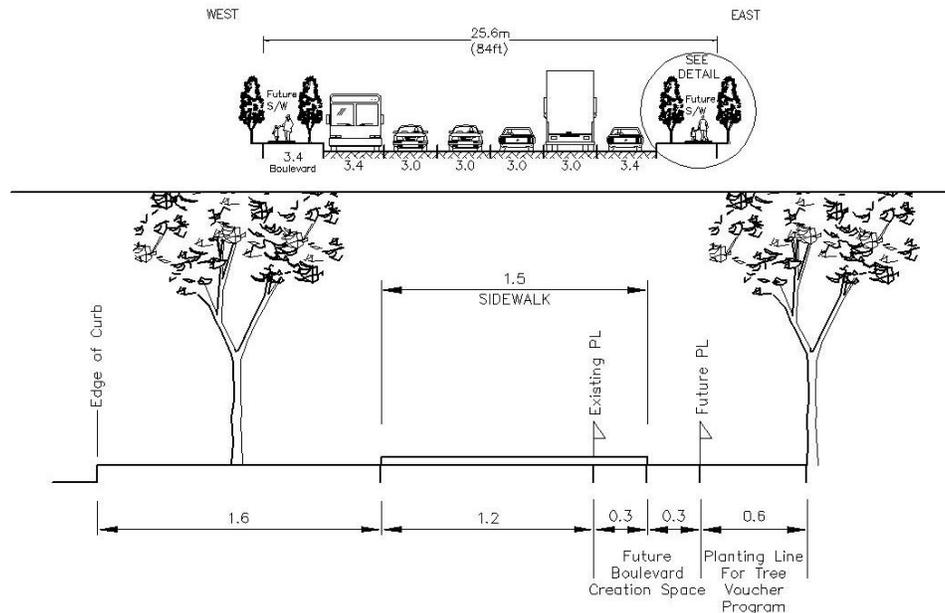
(a) Boulevard Enhancement and Tree Voucher Program

A two-pronged approach for an improved streetscape and pedestrian environment is proposed:

- A 1.6 metre (5 ft.) wide boulevard with street trees between curb and sidewalk
- Tree voucher program to be made available to property owners fronting the Corridor

##### -Boulevard Enhancement

While the curb to curb road allowance is to be maintained, the creation of a 1.6 metre (5 ft.) green boulevard between sidewalk and curb is proposed from 15<sup>th</sup> Avenue to Marine Drive. New sidewalks will be a minimum of 1.5 metres (5 ft.) wide, with a 0.3 metre (1 ft.) strip between sidewalk and property line. Once the space for the boulevard is secured, the City will install new sidewalks and plant street trees within the boulevard.



*Proposed Boulevard (2ft. ROW, Dedication or Purchase)*

To achieve the boulevard, the City will need to acquire up to 0.6 metres (2 ft.) of property from property owners on each side of the road, either through acquisition, dedication or by securing a right of way. Between 17<sup>th</sup> Ave and 28<sup>th</sup> Ave, this can be achieved through a dedication requirement for new developments in the Court yard Rowhouse Zone.

At intersections adjacent to schools and commercial areas, (Broadway, Kingsway, 33<sup>rd</sup>, 41<sup>st</sup>, 49<sup>th</sup>, and 57<sup>th</sup>) wider sidewalks and boulevards will be constructed to improve pedestrian and transit waiting areas.

The Boulevard Enhancement Project has been broken into three funding phases as property acquisition could take 5-10 years. The total cost of the project including the Tree Voucher Program is estimated to be \$4.9 Million as shown in Appendix 8.

### **-Tree Voucher Program**

Staff propose that a City-sponsored and financed tree voucher program be implemented. The program would provide for the installation of City specified trees on private property as a shorter-term method of greening the street. The City will rebate the cost of planting a mature tree in the front yards of residents who live directly on Clark-Knight Street. Approximately 500 street tree vouchers could become available by fall of 2005. The approximate value of the tree voucher will be \$750.

The details of the program will need to be determined and reported back to Council. Essentially, the owner will contact a landscaper from a list provided by the City. The owner will pay the landscaper, and the City will reimburse the owner upon submission of the tree voucher. The program is on a voluntary basis only, and owners who do not wish to participate need not. Engineering and Planning will consult Real Estate and Legal Services as part of the report back to Council.

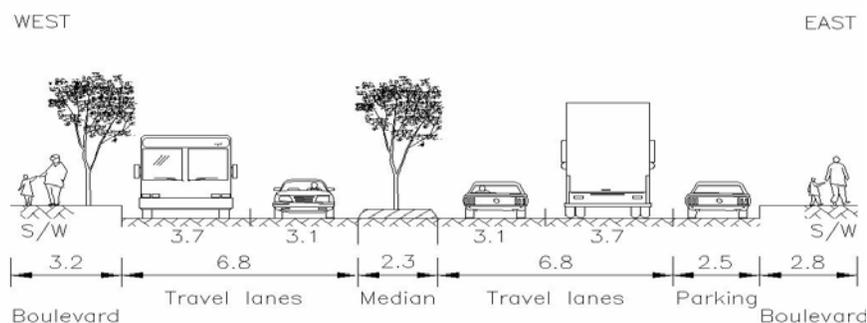
(b) Landscaped median between 15<sup>th</sup> Ave and 21<sup>st</sup> Ave

A landscaped median between 15<sup>th</sup> Ave and 21<sup>st</sup> Ave within the existing ROW is proposed. The median will not require resetting the existing curbs or acquiring additional property. The space for the median would be achieved by removing parking on the west side of Knight Street. Safety will be improved as the median will serve as a comfortable refuge for pedestrian crossings.

Access would be permitted at each east/west cross street, but the median would prevent left turns at the lanes. The median will not affect residents' ability to access the Cedar Cottage neighbourhood or Clark Park, at 15<sup>th</sup> Avenue.

In the survey, 69% of respondents supported this proposal.

The figure below illustrates the proposed cross section.



*Proposed Median between 15<sup>th</sup> and 21<sup>st</sup> Avenue*

(c) Expanded Boulevard and Green "Pocket": South East Corner of Clark at 12<sup>th</sup> Ave.

Staff propose that the north bound right turn lane at Clark and 12<sup>th</sup> be removed to provide a green "pocket" on the south east corner of Clark and 12<sup>th</sup> Ave. By removing the northbound right turn lane, and re-striping the street, the surplus road can be changed into a wider boulevard at this location. Increased green time for north bound vehicles on Clark Drive, to compensate for removing the right turn lane, may need to be considered.

This proposal, if approved, would be tested with a temporary closure and signal modifications. Intersection operation and access to 12<sup>th</sup> Ave would be monitored for 6 months prior to making the installation permanent.

## (d) Temporary Green Space: South West Corner of Broadway and Clark

A City-owned 363 square metre vacant parcel is located at 1290 E. Broadway on the south west corner of Broadway and Clark. This unfenced site is unkept and a refuge for garbage. Staff propose that the vacant site be converted into a respite area with benches, landscaping (with a mixture of stone ground cover) and a diagonal or meandering pathway from Broadway to the transit waiting area on Clark. This improvement will clean up the site until the City is able to integrate this parcel as part of future redevelopment.

## 5. Pedestrian/Cyclist Crossings and Improvements

Pedestrian crossings have been a high priority along the Corridor due to its busy traffic conditions and schools and parks. Crossings are approximately every 2 blocks due to the City's grid pattern and relatively short block faces. Moreover, the Corridor, because of its particular location in the City, has benefited from the city-wide bike route and greenway programs.

Currently, the street has 24 signalized crossings, of which 11 minor intersections are pedestrian-actuated. Major bikeways and greenways cross the Corridor at Powell, Adanac, 7<sup>th</sup> Ave in the northern portion of the Corridor, and at 37<sup>th</sup> Ave in the central portion. The Powell (Portside) bikeway (semi-actuated signal at Clark and Powell) and the Kent bikeway along the Fraser River are major east/west bikeways along the north and south sides of the City.

In addition:

- The 10<sup>th</sup> Ave bikeway crossing at 10<sup>th</sup> Ave. and Clark will be completed when pedestrian/cyclist signal heads are installed in the next few months.
- Two additional east/west crossings will be completed at Grandview Highway North and Clark (cyclist and pedestrian-actuated) as part of the Central Valley Greenway and at 59<sup>th</sup> Avenue and Knight (cyclist and pedestrian-actuated) when the North Arm greenway is completed in the next few years.
- Future bike lanes intersecting Knight St. are planned for Kingsway, King Edward, 41<sup>st</sup> Ave, 49<sup>th</sup> Ave. and 57<sup>th</sup> Ave.

Additional pedestrian/cyclist improvements include the following:

### (a) Pedestrian/Cyclist Signal at 18<sup>th</sup> Ave and Knight Street

A pedestrian/cyclist signal will be installed at 18<sup>th</sup> Ave and Knight Street in conjunction with the Dumfries/Borden Bikeway (discussed later) to provide an east west connection to Victoria Drive and Trout Lake to the east and the Windsor Bikeway to the west of Knight. When the 18<sup>th</sup> avenue signal is installed, staff will monitor vehicle shortcutting. A right in/right out diverter may be required on the west side of 18<sup>th</sup> at Knight if shortcutting becomes an issue.

### (b) Additional Audible Pedestrian Signals

There are currently 8 audible signalized crossings on the Corridor at Adanac, 7<sup>th</sup> Avenue, Broadway, 19<sup>th</sup> Avenue, 49<sup>th</sup> Avenue, 53<sup>rd</sup> Avenue and 57<sup>th</sup> Avenue). The following locations are proposed for additional audible signals:

- Knight and Kingsway, as part of shopping area improvements
- 6<sup>th</sup> Avenue, in conjunction with LTB construction
- 12<sup>th</sup> Avenue
- 15<sup>th</sup> Avenue
- 33<sup>rd</sup> Avenue, in conjunction with LTB construction
- 37<sup>th</sup> Avenue, in conjunction with cyclist and pedestrian improvements

### (c) School Crossings

Providing safe school crossings is especially important as two elementary schools (Queen Alexandra School at Broadway and Sir Sanford Fleming at 49<sup>th</sup>) are located on the Corridor with school catchment areas that straddle Knight Street. At the Broadway intersection, guard

rails were installed and blue lines were painted to encourage the children to remain behind the lines before crossing. Separate turning phases were provided to separate left-turning traffic for pedestrian crossings. The blue lines will be repainted as part of the plan.

In addition:

- At Clark and Broadway, provide automatic walk signals during peak pedestrian periods, expand waiting areas on north-east sidewalk corner and reconstruct curb ramps to align with marked crosswalks.
- Expand waiting areas near the transit area in front of Sir Sandford Fleming as part of left turn bay construction.
- VSB staff requested that a “no stopping” zone be installed at the intersection at 10<sup>th</sup> as part of the new 10<sup>th</sup> Avenue bikeway intersection improvement. (no stopping zone will reinforce regulations restricting trucks and cars within this intersection and prevent children from having to cross directly in front of vehicles.)
- A corner cut at the north east corner of Broadway and Clark be installed to expand the sidewalk area to provide more space for pedestrians and transit users.

#### (d) Curb Ramp Installations

There are approximately 50 locations along the Corridor where curb ramps are required. Approved Capital funding from the 2003-2005 Capital Plan will be used to upgrade all of these sites.

#### (e) Remove Existing Crosswalk/Pedestrian Crossing Signs at Knight and 35<sup>th</sup> Ave

The pedestrian crossing at Knight and 35<sup>th</sup> Ave is dangerous because of its location at the mid point of the steep hill. In the past 10 years there have been two fatal accidents involving pedestrians at this location. Staff propose that the crosswalk be removed. Pedestrians going to and from Kensington Park and Community Centre will be encouraged to cross at the signalized intersections of 33<sup>rd</sup> Ave and 37<sup>th</sup> Ave. A pedestrian pathway exists in Kensington Park from the community centre and children’s playground to the corner of 37<sup>th</sup> Ave and Knight St., but there is no pathway to the corner of 33<sup>rd</sup> Ave and Knight St. As a result, Staff recommend that a park pathway be built to that corner.

Some members from the Bicycle Advisory Committee (BAC) had concerns around the 37<sup>th</sup> Ave intersection and proposed an advance warning system south of 37<sup>th</sup> Ave. This proposal will be referred to the Annual Signal Program for review and funding.

### 6. New North/South Borden/Dumfries Bike Route

A bikeway on the west side of Knight exists with the completion of the Inverness/Windsor bikeway from SE Marine to 6<sup>th</sup> Avenue. Cyclists have long been advocating an alternative north/south bike route, east of the Corridor and west of the bike lanes proposed for Victoria Drive. If the Borden/Dumfries bikeway is approved, it will be referred to the Neighbourhood Transportation Branch for implementation and for public consultation, traffic calming measures and cyclist actuated signals at major cross streets, including 41<sup>st</sup>, 49<sup>th</sup>, and SE Marine.

The proposed new bike route received 72% support in the survey. The BAC endorsed the bike route with a recommendation that the following concerns be addressed during the design and public consultation for the bike route:

- introduce appropriate mitigation measures from the effects of the proposed left turn bays on the north/south bicycle crossings along Dumfries and 33<sup>rd</sup>, Dumfries and 49<sup>th</sup> and Borden and 57<sup>th</sup> Avenue.
- synchronize lights along the bicycle route when there is no east-west movement at Dumfries
- improve pedestrian/cyclist access to the Knight Street Bridge on and off ramps and the debris on the Knight Street Bridge

The BAC also recommended improved bike route coordination with north/south traffic at 7<sup>th</sup> Avenue, 3<sup>rd</sup> Avenue and 1<sup>st</sup> Avenue. Other cycling improvements included in this plan are:

- Bike racks will be installed at the following locations along the Corridor: Venables, 3<sup>rd</sup> Ave, Broadway, 33<sup>rd</sup> Ave, 41<sup>st</sup> Ave, 49<sup>th</sup> Ave, and 57<sup>th</sup> Avenue (see Appendix 5).
- Central Valley Greenway at Grandview Highway North with signal and changes to island configuration.
- Separate cyclist push buttons will be installed on all east/west pedestrian crossings that do not currently have them.
- A 'right in/right out' diverter on the east and west sides of Knight St. at 37<sup>th</sup> will be installed to restrict vehicles using the cyclist push button to access Knight Street. This improvement was supported by 80% of survey respondents. In addition to the diverter, it is also recommend that the pedestrian actuated signal be upgraded to a full signal that can provide shorter east/west green time for cyclists, but would maintain current pedestrian crossing times.

## 7. Transit

### (a) Transit Service

Transit service along the Corridor has recently been improved with the commencement of the #430 Richmond Centre to Metrotown express bus in December 2004. The new express service travels from Richmond Centre, across the Knight Street Bridge with stops at 49<sup>th</sup> and Knight, 49<sup>th</sup> and Victoria, Elliott, Kerr and Tyne and through to Metrotown. This service provides a direct connection To Richmond via the Knight Street Bridge providing transit users an alternative to a transfer from the #22 Knight Street bus under the Knight Street Bridge. Additional service on Clark, north of Broadway, will be provided with a new service from Broadway, along Clark to 6<sup>th</sup> Avenue, connecting to the new VCC station on Glen and 6<sup>th</sup> Avenue, then to UBC.

### (b) Additional Bus Shelters and Street Furniture

In terms of the Street Furniture Inventory, 13 of 25 bus shelters along the Corridor are not yet upgraded under the Viacom/Decaux agreement. All old bus shelters will be replaced within the next year. Staff recommend that additional bus shelters be installed at the following locations:

- east side of Clark and 6<sup>th</sup> Ave.
- west side of Clark Drive and 12<sup>th</sup> Ave.
- east side of Knight St and 57<sup>th</sup> Ave.
- west side of Knight St and 58<sup>th</sup> Ave.

For the section south of 57<sup>th</sup>, staff will also work with Viacom/Decaux to determine whether more non-ad style bus shelters could be installed for all bus stops south of 57<sup>th</sup> Avenue as there is only one bus shelter, at 63<sup>rd</sup> Avenue. Currently, there is limited clearance room for bus shelters along this portion of the boulevard.

## 8. Public Art

The community visions of VFK, KCC, and Sunset approved a direction for Knight Street that includes adding public art along the Corridor. There was also significant interest in public art by the survey respondents with 262 (64%) out of 411 respondents expressing interest in being kept informed or being involved in public art discussions.

### a) \$100,000 of Capital Funding for Public Art

As part of the Corridor Plan, staff propose that \$100,000 of Capital Funding from the following 5 road improvements be allocated for Public Art at or near these locations:

- At new LTB locations
- Redesigned Clark-Knight Diversion between 13<sup>th</sup> and 15<sup>th</sup> Avenue;
- Re-designed curve between 54<sup>th</sup> and 55<sup>th</sup> Avenue

The estimates for these 5 road improvements include a component for art.

### (b) Gateway Art

During consultation, many residents felt that a gateway style art project should be installed near the north entrance of the Knight Street Bridge. This project is not included in the Corridor plan but should be considered as part of the 2010 Olympic improvements. Public art will help humanize the Corridor by:

- providing continuity through thematically linked artwork at key points
- reinforcing neighbourhood identity through imagery on retaining walls, poles, median placements, bus shelters and at schools
- creating a significant gateway to Vancouver from the south

It should be noted that an art feature may be installed at the Great Northern Way and Clark Drive Bridge intersection as a feature and as part of the extension to the Central Valley Greenway for the Mt. Pleasant and Grandview Woodlands communities).

As much as possible, design and installation of public art will be integrated in the early phases of the design and construction of the above-noted projects. If Council supports the public art component, planning for an art project near 49<sup>th</sup> Ave and Knight St. and for the 54-55 Ave diversion redesign will begin in 2005. The Vancouver School Board has expressed an interest in involving students from Sir Sandford Fleming in the public art component at 49th Avenue and Knight.

## 9. Environment

### (a) City-wide Traffic Noise Study

In November 2004, the City retained a Noise Consultant to study traffic noise levels on arterial roads, including the Clark-Knight corridor. The Consultant is measuring traffic noise

levels on selected arterials serving different transportation functions and will recommend strategies suitable for various conditions. The consultant's recommendations will provide direction for a city-wide traffic noise mitigation strategy. The findings of the study will be reported to Council in the fall of 2005. Preliminary findings as they relate to the Corridor will be presented to Council when it considers this report.

#### b) Vancouver Greenhouse Gas Emissions

Changes in the earth's climate, largely resulting from the greenhouse gases created when fossil fuels are burned, are viewed as one of the most significant environmental challenges facing our planet today. Vancouver is committed to reducing its contribution to global warming. For the past 2 years, the City has been working to develop action plans to address the concern of greenhouse gases. Actions by the City include producing a draft Community Climate Change Action Plan (March 2005).

Passenger vehicles (such as cars, SUVs, vans, pick-up trucks) are responsible for almost one-quarter of Vancouver's total greenhouse gas emissions. This is significantly higher than Vancouver greenhouse gas emissions from heavy-duty vehicles, which account for about 3% of the total. The draft Climate Change Plan proposes to work with communities on reducing greenhouse gas emissions by further increasing use of transportation alternatives (e.g. walking, cycling and transit), encouraging the elimination of unnecessary vehicle trips, and supporting the use of more efficient vehicles and fuels.

Although these measures are intended to reduce greenhouse gas emissions that have national and global impacts, they will provide numerous co-benefits for Vancouver neighbourhoods and residents. These include:

- Reducing other "common air contaminants" from vehicle exhausts that are linked to respiratory health problems and smog,
- Promoting improved health and fitness of individuals by supporting more physical activity through walking and cycling,
- Reducing the impacts of automobiles on community liveability, and
- Helping goods movement, by reducing the number of vehicles on truck routes.

Achieving these benefits will only occur if individuals reduce the amount of driving they do and choose vehicles with better fuel efficiency. The draft Community Climate Change Action Plan proposes a number of actions to help individuals make these changes. These proposals also complement initiatives being considered in the update of regional air quality initiatives noted below.

The increases proposed in this plan would not increase overall traffic (Knight St. bridge limits the traffic volume and nothing in this plan increases volume). A number of the measures in the plan will help reduce emissions including left turn bays, speed enforcement, planting of approximately 1000 trees, and improving the cycling network. Some measure may increase emissions, such as adding more signals, but these are part of the overall strategy to encourage walking and cycling. Staff will attempt to coordinate these signals in order to minimize emissions.

#### (c) Regional Air Quality Initiatives

Air quality is an important aspect to the overall livability on the corridor. The GVRD plans to release a new Air Quality Management Plan (AQMP) in summer/fall 2005. Over the past year, City Staff have participated in workshops to help define some of the issues in the AQMP.

Representatives from other levels of government, business, environmental and public health interest groups, medical health officers, and members of the public have also provided input. Current proposals for the AQMP include a vision, goals, strategies and actions that will improve air quality at the regional and local neighbourhood level. Some AQMP actions may include:

- Support and provide alternate transportation modes
- Monitor and reduce emissions from on-road light and heavy duty vehicles.
- Facilitate retrofits and accelerate the use of cleaner fuels (for municipal and private fleets).
- Encourage cleaner, fuel efficient vehicle purchases (provincial/federal lead).
- Promote trip reduction through different programs.
- Assist major transport centres with the introduction of anti-idling measures.
- Assist municipalities with the development of greenhouse gas action and community energy plans that promote energy conservation and protect local air quality.
- Partner with the appropriate governments, health agencies, and the public and emission sources to develop and implement local air quality action plans for priority areas.

In terms of Environmental improvements to the Clark Knight corridor, there are several regional programs that require continued City support. For example, the AirCare program, with both the vehicle inspection and on-road program for heavy-duty diesel vehicles, will be re-evaluated this year. The benefits of AirCare on a busy vehicle and truck corridor like Clark/Knight are extremely valuable.

Region wide initiatives like trip reduction programs and transportation demand measures will benefit Clark Knight directly. Continued leadership by Vancouver City is important for these changes.

At a Provincial and Federal level, legislation regarding diesel fuel quality will result in lower sulphur levels in diesel, thus resulting in less particulate matter. Again, improvements such as these will impact Clark Knight directly.

## 10. Land Use

### a) Alternative Housing Forms

The Corridor Plan is primarily a response to Community Vision directions related to improvements to Knight Street. However, the survey contained a question about courtyard rowhouses as an alternative form of housing for Knight Street (a new zoning schedule is being developed as part of Neighbourhood Centre's work). This form of housing was not available as an option when the public consultation for the VFK, KCC and Sunset Visions took place previously. The courtyard rowhouse option was supported with 72% of respondents in favour. Since the courtyard rowhouse option may provide housing variety and a more liveable residential environment, communities could consider this form of housing for Knight Street when future planning takes place.

### b) Possible Changes to Single Family (RS) Zoning Schedules for Traffic Noise Mitigation

Noise mitigation requirements are employed in some zoning districts in the City. These "N" zones are in neighbourhoods that abut high traffic arterial roads. To date, some two-family (RT), multi-family (RM), and mixed use (C-2) zoning schedules have noise mitigation requirements. For such zones, the City requires evidence from an acoustical expert on appropriate mitigation measures to ensure that noise levels will not exceed levels set out in

the zoning schedule. Currently, there are no noise mitigation requirements in single family zones(RS).

Residential livability in regard to traffic noise is an issue with affected residents who live near or along the Corridor. Staff will be undertaking a planning program to examine the feasibility of incorporating noise mitigation regulations in other district schedules such as the single family (RS) zones, for areas along noisy arterials. They will review typical industry standards and determine what additional measures could be instituted in single family home construction. This program is expected to commence the fall of 2005. A probable outcome of this program will be to rezone residential portions along arterials (including Clark-Knight) to "N" zones. These zones will be similar to the previous zones in all other respects except for the noise mitigation requirement.

### Public Response

Those residents attending the open houses generally supported the draft package of recommendations. The concerns most commonly noted by the public are summarized below. (A comprehensive listing of comments raised in the open houses and conveyed in the survey is attached in Appendix 7.)

- Future signal operation (left turn phasing arrows) at existing and proposed left turn bays
- Prohibiting left turns at some crossings, particularly south of 57<sup>th</sup> Ave
- Pedestrian safety at crossings, especially at school crossings
- Separate light controls for pedestrians and cyclists
- Traffic noise, especially from trucks, including the use of jake brakes
- Excessive traffic speeds, especially near parks and schools
- Shortcutting concerns, in particular at minor cross streets south of 57<sup>th</sup> Ave
- Restricting truck traffic after 7 pm
- Diverting some traffic to other arterials
- Truck emissions/air quality
- Red light running
- Look and feel of the Corridor/improving the street aesthetics
- Getting on with the work

There was concern expressed by some residents and members of the Sunset City Plan Committee about the potential for increased traffic on 57<sup>th</sup> from installation of LTB.

The concept of "truck only lanes" was considered and explored with the Advisory Committee and was brought up by residents at the public open houses. Engineering staff note that by restricting trucks to the curb lane, all parking would need to be removed, trucks would be closer to the residences, right turns and competition with buses would make this option difficult.

Staff also received two formal written responses from the Vancouver School Board and the VKF City Plan Committee. The VSB supported the proposals in the survey and made requests for additional mitigation measures that have been noted and addressed elsewhere in this report. Members of the VKF expressed concern over shortcutting problems at all east west streets south of 57<sup>th</sup> Ave and requested a left turn phasing signal to facilitate west bound traffic on 49<sup>th</sup> Ave turning south onto Knight to reduce traffic on 57<sup>th</sup> Ave.

Over 50 e-mails and petitions from Victoria Drive residents were received expressing concern about increased traffic using Victoria Drive to reach 1<sup>st</sup> Avenue. This plan includes measures to accommodate this traffic better on Clark Drive.

## FINANCIAL IMPLICATIONS

Table 1 shows the costs of various elements and projects of the Corridor Plan, how the costs will be shared among the City, Translink, and the Federal Government, and anticipated timing. A total of \$21.8 million in new infrastructure is proposed in this Plan. Of that total, \$12.1 million will be required by the City. \$3.0 million has already been approved and allocated in the 2003 Basic Capital budget for the initial phase of the Clark/Knight Corridor Improvement. The remaining funding requirements will be submitted for consideration in the future Capital Planning and Budget Process.

Table 1: Future Capital Plan Considerations

	Total Cost (,000)		Partner Share	City Share	
<b>Clark Knight Project Totals</b>	<b>\$21,770</b>		<b>\$9,655</b>	<b>\$12,115</b>	
Already Allocated in 03-05 Capital Plan	\$7,295		\$4,355*	\$2,940	
06-08 Capital Plan Request	\$9,050		\$4,300**	\$4,750	
09-11 Capital Plan Request	\$4,125		\$1,000**	\$3,125	
12-14 Capital Plan Request	\$1,300		\$0	\$1,300	

\* partnership with Translink for the 15<sup>th</sup> to 21<sup>st</sup> median has not yet been established (\$275k)

\*\* partnerships for these projects are not established but are assumed attainable.

All projects in the Implementation Plan that can be tied into existing programs will be. These include signal installations, curb ramp improvements and any new street furniture. The following table identifies each major project, the amount of Capital required, funding partners and the timing for construction.

The Boulevard Enhancement Project has been broken into three funding phases as property acquisition could take 5-10 years. The total cost of the project including the Tree Voucher Program is estimated to be \$4.9 Million as shown in Appendix 8.

If the City does not receive cost sharing from the identified funding partners, more of the cost would be assumed by the City. This may cause delays in the projects as this project will compete for funding in the future Capital Plan processes.

If Council chooses to defer the LTB proposed for Knight at 57<sup>th</sup>, \$500,000 of Federal Border Infrastructure funding may be lost due to the time sensitive nature of the award.

\* All values are in thousands (,000):

Table 2: Project Costs and Cost Sharing

	Project Description	Total Cost (,000)	Funding Partner(s)	Partner Contribution	City Share	Source of Funds
1	Curb Ramp Installations (50 locations)	\$125	N/A	\$0	\$125	Curb ramp Program

2	Install 10 <sup>th</sup> Ave Ped Signal	\$75	N/A	\$0	\$75	T.S. Program
3	Install signal loop at 1 <sup>st</sup> Ave	\$70	N/A	\$0	\$70	T.S. Program
4	NE corner of Broadway corner cut	\$15	N/A	\$0	\$15	03-05 Allocated
5	Remove Right turn Lane at 12 <sup>th</sup> and increase green space	\$25	N/A	\$0	\$25	03-05 Allocated
6	Remove Crosswalk at 35 <sup>th</sup> and install path at Kensington	\$25	N/A	\$0	\$25	03-05 Allocated
7	Install right in right out diverter at 37 <sup>th</sup> east & Westside	\$60	N/A	\$0	\$60	03-05 Allocated
8	15 <sup>th</sup> to 21 <sup>st</sup> Landscaped Median	\$600	T.L.	\$275	\$325	03-05 Allocated
9	LTB Clark @ 6 <sup>th</sup>	\$3,300	T.L, Feds, ICBC, Finning	\$2,230	\$1,070	03-05 Allocated
10	LTB Knight at 49 <sup>th</sup>	\$3,000	T.L., Feds, ICBC	\$1,850	\$1,150	03-05 Allocated
11	LTB Knight at 33 <sup>rd</sup>	\$3,000	T.L., Feds, ICBC	\$1,850	\$1,150	06-08 Cap Plan
12	54 <sup>th</sup> to 57 <sup>th</sup> Diversion redesign	\$1,200	TransLink	\$600	\$600	06-08 Cap Plan
13	LTB Knight at 57 <sup>th</sup>	\$3,000	T.L., Feds, ICBC	\$1,850	\$1,150	06-08 Cap Plan
14	Boulevard Enhancement (2' of prop + new SW) Phase 1 Tree Voucher - \$430k Prop Acq - \$1,200k Sidewalks - \$220k	\$1,850	N/A	\$0	\$1,850	06-08 Cap Plan
15	Borden Dumfries Bikeroute	\$1,200	T.L.	\$550	\$650	09-11 Cap Plan
16	Install 18 <sup>th</sup> Ave Ped Signal	\$75	N/A	\$0	\$75	T.S. Program
17	Redesign 13 <sup>th</sup> to 15 <sup>th</sup> Diversion	\$1,000	T.L.	\$450	\$550	09-11 Cap Plan
18	Boulevard Enhancement (2' of prop + new SW) Phase 2 Prop Acq - \$1,620k Sidewalks - \$230k	\$1,850	N/A	\$0	\$1,850	09-11 Cap Plan
19	Boulevard Enhancement (2' of prop + new SW) Phase 3 Sidewalks - \$1,300k	\$1,300	N/A	\$0	\$1,300	12-14 Cap Plan
	<b>Totals</b>	<b>\$21,770</b>		<b>\$9,655</b>	<b>\$12,115</b>	

*All values are in 2005 dollars.*

## IMPLEMENTATION PLAN

The implementation of all the projects in the Corridor Plan is described in Appendix 2. It is anticipated that many of the projects specified for completion with current Capital Plan dollars be commenced immediately. These include the curb ramps, the NE corner cut at Broadway, removal of the 35<sup>th</sup> Ave crosswalk, the 'right in/right out' diverter at 37<sup>th</sup> as well as property acquisition for the LTB's at 49<sup>th</sup> Avenue will begin in the spring of 2006. Smaller scale projects with current year funding can start immediately.

The implementation plan can be accomplished with existing staff resources within the annual work program with the exception of the Tree Voucher and Boulevard Enhancement program. If approved, Staff will report back by the fall of 2005 on legalities, mechanics and operating impacts of the proposed program. The projects with 2003-2005 Capital funding can be commenced immediately.

## CONCLUSION

The purpose of the Corridor Plan is to address the many directions of the Vancouver Transportation Plan and the Community Visions for KCC, VFK and KCC as they relate to Clark-Knight St. The plan delivers a balance of improvements in each of the following areas: safety and goods movement; an improved streetscape; and improved conditions for pedestrians, cyclists and transit users. Improvements will be undertaken within a reasonable timeframe, with the majority of improvements to be undertaken over the next three Capital Plans.

\* \* \* \* \*

**APPENDIX 2 - SURVEY RESULTS**

September 2004

**CLARK-KNIGHT CORRIDOR PROJECT SURVEY RESULTS**

**1a. Street and Boulevard Widening from Powell to 57th**

	Survey Total	Live Directly on Clark-Knight Street (subset)	Within 7 block east/west of Knight (subset)	Live Outside 7 block radius (wider area) (subset)
Stay As is	29% (108/371)	63% (35/56)	24% (64/264)	18% (9/51)
Widen to 90'	71% (263/371)	37% (21/56)	76% (200/264)	82% (42/51)

**1b. Street and Boulevard Widening from 57<sup>th</sup> to Marine Drive**

	Survey Total	Live Directly on Clark-Knight Street (subset)	Live south of 57 <sup>th</sup> (subset)*	Live Within 7 blocks east/west of Knight (subset)	Live Outside 7 block radius (subset)
Stay as is	24% (87/363)	57% (30/53)	19%	19% (49/262)	17% (8/48)
Widen to 90'	14% (50/363)	19% (10/53)	13%	13% (35/262)	10% (5/48)
Widen to 100' with 10' wide discontinuous median - allow left turns	20% (73/363)	5% (3/53)	25%	25% (66/262)	8% (4/48)
Widen to 100' with 10' wide continuous median- no left turns	42% (153/363)	19% (10/53)	43%	43% (112/262)	65% (31/48)

\*25 respondents

**2. Median between 15<sup>th</sup> to 21st (eliminate parking on west side of street)**

	Survey Total	Live Directly on Clark- Knight Street (subset)	Live Within 7 blocks east/west of Knight (subset)	Live Outside 7 block radius (subset)
Stay as is	31% (113/370)	44% (24/54)	30% (81/269)	17% (8/47)
Install Median	69% (257/370)	56% (30/54)	70% (188/269)	83% (39/47)

### 3. North/south Bikeway east of Knight on Borden/ Dumfries

	Survey Total	Live Directly on Clark-Knight (subset)	Live Within 7 blocks east/west of Knight (subset)	Live Outside 7 block mailing radius (subset)
Stay as is	26% (105/372)	47% (25/53)	22% (59/268)	22% (11/51)
Install bikeway	72% (267/372)	53% (28/53)	78% (199/268)	78% (40/51)

### 4. Intersection changes at Knight and 37<sup>th</sup>: includes right out only diverter for vehicles

	Survey 1 and 2 combined	Live Directly on Clark-Knight Street (subset)	Live Within 7 blocks east/west of Knight (subset)	Live Outside 7 block mailing radius (subset)
Stay as is	20% (72/367)	37% (19/52)	18% (48/265)	10% (5/50)
Right out only diverter	80% (295/367)	63% (33/52)	82% (217/265)	90% (45/50)

### 5a No Parking 7 am to 7 pm: Broadway to 12th

	Survey Total	Live Directly on Clark-Knight Street (subset)	Live Within 7 block radius (subset)	Live Outside 7 block radius (subset)
Stay as is	26% (99/374)	36% (19/53)	28% (75/270)	10% (5/51)
No parking 7am to 7pm Monday to Friday	74% (275/374)	64% (34/53)	72% (195/270)	90% (46/51)

**5b No Parking 7 am to 7 pm Marine to King Edward**

	Survey Total	Live Directly on Clark-Knight Street (subset)	Live Within 7 block radius (subset)	Live Outside 7 block radius (subset)
Stay as is	15% (56/373)	32% (18/56)	12% (33/266)	10% (5/51)
No parking 7 to 7	47% (177/373)	43% (24/56)	45% (121/266)	63% (32/51)
No parking 7 to 7, except at commercial frontages at 57, 49, 41 and 33 <sup>rd</sup>	38% (140/373)	25% (14/56)	43% (112/266)	27% (14/51)

**6a Left turn Bays, Knight and 33<sup>rd</sup>**

	Survey Total	Live Directly on Clark- Knight Street (subset)	Live Within 7 block radius (subset)	Live Outside 7 block radius (subset)
Stay as is	5% (20/377)	15% (8/55)	3% (9/272)	6% (3/50)
Left turn bay in north and south legs	34% (127/377)	29% (16/55)	31% (84/272)	54% (27/50)
Left turn bay in north, south, east, west legs	61% (230/377)	56% (31/55)	66% (79/272)	40% (20/50)

**6b Left turn Bays, Knight and 49<sup>th</sup>**

	Survey Total	Live Directly on Clark-Knight Street (subset)	Live Within 7 block radius (subset)	Live Outside 7 block radius (subset)
Stay as is	7% (26/379)	14% (8/57)	5% (14/272)	8% (4/51)
Left turn Bay in north and south legs	93% (353/379)	86% (49/57)	95% (257/271)	92% (47/51)

**6c Left turn Bays, Knight and 57<sup>th</sup>**

	Survey Total	Live Directly on Clark-Knight Street (subset)	Live Within 7 block radius (subset)	Live Outside 7 block radius (subset)
Stay as is	11% (43/378)	20% (12/60)	8% (22/267)	18% (9/51)
Left turn bay, north and south legs	89% (335/378)	80% (48/60)	92% (245/267)	82% (42/51)

**7. Courtyard Row Houses fronting Knight as part of future planning**

	Survey Total	Live Directly on Clark-Knight Street (subset)	Live Within 7 block radius (subset)	Live Outside 7 block radius (subset)
Agree	72% (263/364)	50% (26/52)	82% (214/265)	49% (23/47)
Disagree	28% (101/364)	50% (26/52)	18% (51/265)	51% (24/47)

## APPENDIX 3 - IMPLEMENTATION PLAN

## SHORT AND MEDIUM TERM IMPROVEMENTS

## PEDESTRIAN SAFETY AND COMFORT

Location	Description	Timing	Cost (000's)
Various locations	Install curb ramps. Approximately 50 locations.	2006-08	\$125
Broadway	Widen Sidewalk at NE corner. Requires work on retaining wall	2003-05	\$15
18 <sup>th</sup> Ave	Install pedestrian actuated signal when warrant can be met	2009-11	From T.S. program
Kingsway	Improvements associated with redevelopment	Ongoing	Funded
35 <sup>th</sup> Ave	Remove pedestrian crosswalk and guide pedestrian movements to Knight and 33 <sup>rd</sup> with new path through park.	2003-05	\$25
49 <sup>th</sup> Ave	Improved sight lines by motorists if LTB installed	2003-05	
Various locations	Clean sidewalks of grass and overgrowth	2005	From Streets Maintenance
Various locations	Repaint blue lines on sidewalks near Schools. Broadway and 49th	2005	From Streets Maintenance
6 <sup>th</sup> , 12 <sup>th</sup> , 15 <sup>th</sup> , Kingsway, 33 <sup>rd</sup> and 37 <sup>th</sup> .	Install audible signals	2006	From T.S. program

## CYCLING

Location	Description	Timing	Cost (000's)
Borden/Dumfries	Seek Council endorsement of the corridor for north south Bikeway	2006-08	\$1,200
37 <sup>th</sup> Ave	Install right in right out diverter for east and westbound vehicles	2003-05	\$30
61 <sup>st</sup> Ave	Install cyclist push button	2004	completed
Grandview Hwy	Central Valley Greenway - potential landscaped median	2006-2008	
10 <sup>th</sup> Ave	Install Pedestrian Signal and erect no stopping in intersection signs	2005	\$75
Various Locations	Bike racks to be installed see appendix for locations	2006-2008	Via Decaux Viacom agreement

## GOODS MOVEMENT IMPROVEMENTS

Location	Description	Timing	Cost (000's)
54 <sup>th</sup> to 57th	Diversion redesign providing wider lanes for trucks	2009-2011	\$1,100
Venables	Increase green light arrow time for left turn advance	2003-2005	Minimal
Powell to 6 <sup>th</sup> Ave	Widen traffic lanes to match rest of corridor.	2009-2011	Other Streets Programs

**GENERAL TRAFFIC SAFETY AND OPERATIONAL IMPROVEMENTS**

Location	Description	Timing	Cost (000's)
Venables -West of Clark	Provide signs on Venables prior to Clark directing Hwy 1 bound traffic to Hastings or 1 <sup>st</sup> ave.	2005	minimal
1 <sup>st</sup> Ave	Install signal loop to trigger left turn advance for SB to EB movement.	2003-2005	Underway \$70
6 <sup>th</sup> Ave	Install Northbound to Westbound Left Turn Bay	2005	\$3,300
12 <sup>th</sup> Ave	Increase green time for north/south traffic to facilitate removal of southbound right turn lane.  Remove southbound right turn lane. Enhance Pedestrian realm with remaining land	2003-2005	\$20
33 <sup>rd</sup> Ave	Install North, South, East and West leg Left Turn Bays	2009-2011	\$3,000
49 <sup>th</sup> Ave	Install North and South leg Left Turn Bays	2005-2006	\$3,000
57 <sup>th</sup> Ave	Install North and South leg Left Turn Bays	2006-2008	\$3,000

**TRANSIT ENHANCEMENTS**

Location	Description	Timing	Cost (000's)
Various Locations	New Bus Shelters 13 of 25 already upgraded.	2003-2005	Through Viacom Decaux agreement
49 <sup>th</sup>	Richmond to Metrotown express service commissioned Dec 04.	Dec 2004	

**STREETSCAPE DESIGN**

Location	Description	Timing	Cost (000's)
13 <sup>th</sup> to 15 <sup>th</sup>	Redesign diversion to reduce weaving conflicts and increase landscaping on boulevard and with landscaped median.	2006-2008	\$1,000
15 <sup>th</sup> to 21st	Construct a landscaped median. Parking on Westside to be removed to accommodate median and wider lanes.	2006-2008	\$600
Sidewalk Replacement Strategy 15 <sup>th</sup> to Marine	When Sidewalks require replacement, purchase 2' widening strip and move sidewalks away from road. Install trees in boulevard	2006-2014	\$5,000

## APPENDIX 4 - BUS SHELTER INVENTORY

CLARK/ KNIGHT STREET BUS STOP/BUS SHELTER SUMMARY				
Item	Location		Bus stop	Shelter Type
1	@ Parker	W side	YES	Viacom
2	@ Napier	E side	YES	Old - REPLACE
3	@ William	W side	YES	Viacom
4	@ Grant	E side	YES	
5	E 1 <sup>st</sup>	W side	YES	Viacom
6	E 1 <sup>st</sup>	E side	YES	Viacom
7	E 3 <sup>rd</sup>	W side	YES	Viacom
8	E 3 <sup>rd</sup>	E side	YES	Viacom
9	E 6 <sup>th</sup>	W side	YES	PROPOSED NEW SHELTER
10	E 6 <sup>th</sup>	E side	YES	
11	E Broadway	E side	YES	Viacom
12	E Broadway	W side	YES	Viacom
13	E 11 <sup>th</sup>	E side	YES	Old - REPLACE
14	E 12 <sup>th</sup>	W side	YES	PROPOSED NEW SHELTER - Non Ad style
15	E 14 <sup>th</sup>	W side	YES	Viacom
16	E 15 <sup>th</sup>	E side	YES	Old - REPLACE
17	E 16 <sup>th</sup>	W side	YES	
18	E 16 <sup>th</sup>	E side	YES	
19	E 18 <sup>th</sup>	W side	YES	
20	E 18 <sup>th</sup>	E side	YES	
21	E 20 <sup>th</sup>	E side	YES	Old - REPLACE
22	E 20 <sup>th</sup>	W side	YES	
23	Kingsway	E side	YES	Old - REPLACE
24	E King Edward	E side	YES	Old - REPLACE
25	E King Edward	W side	YES	Viacom
26	E 27 <sup>th</sup>	W side	YES	
27	E 27 <sup>th</sup>	E side	YES	
28	E 29 <sup>th</sup>	W side	YES	
29	E 29 <sup>th</sup>	E side	YES	
30	E 31 <sup>st</sup>	W side	YES	
31	E 32 <sup>nd</sup>	E side	YES	
32	E 33 <sup>rd</sup>	W side	YES	Viacom
33	E 33 <sup>rd</sup>	E side	YES	Old - REPLACE
34	E 35 <sup>th</sup>	W side	YES	
35	E 35 <sup>th</sup>	E side	YES	
36	E 37 <sup>th</sup>	W side	YES	
37	E 37 <sup>th</sup>	E side	YES	Viacom
38	E 39 <sup>th</sup>	W side	YES	
39	E 39 <sup>th</sup>	E side	YES	
40	E 41 <sup>st</sup>	E side	YES	Old - REPLACE

<b>CLARK/ KNIGHT STREET BUS STOP/BUS SHELTER SUMMARY</b>			
<b>Item</b>	<b>Location</b>	<b>Bus stop</b>	<b>Shelter Type</b>
41	E 41 <sup>st</sup> E side	YES	Old - REPLACE
42	E 43 <sup>rd</sup> W side	YES	
43	E 43 <sup>rd</sup> E side	YES	
44	E 45 <sup>th</sup> W side	YES	
45	E 45 <sup>th</sup> E side	YES	
46	E 47 <sup>th</sup> E side	YES	Old - REPLACE
47	E 47 <sup>th</sup> W side	YES	
48	E 49 <sup>th</sup> E side	YES	Old - REPLACE
49	E 49 <sup>th</sup> W side	YES	Viacom
50	E 51 <sup>st</sup> W side	YES	
51	E 51 <sup>st</sup> E side	YES	
52	E 53 <sup>rd</sup> W side	YES	
53	E 53 <sup>rd</sup> E side	YES	
54	E 55 <sup>th</sup> W side	YES	
55	E 57 <sup>th</sup> E side	YES	<b>PROPOSED NEW SHELTER</b>
56	E 58 <sup>th</sup> W side	YES	<b>PROPOSED NEW SHELTER</b>
59	E 58 <sup>th</sup> E side	YES	Potential shelter site - to be examined
60	E 60 <sup>th</sup> W side	YES	Potential shelter site - to be examined
61	E 60 <sup>th</sup> E side	YES	Potential shelter site - to be examined
62	E 62 <sup>nd</sup> W side	YES	Potential shelter site - to be examined
63	E 62 <sup>nd</sup> E side	YES	Potential shelter site - to be examined
64	E 63 <sup>rd</sup> E side	YES	Old - REPLACE
65			

APPENDIX 5 - PROPOSED BIKE RACK LOCATIONS

<b>CLARK/ KNIGHT STREET PROPOSED BIKE RACK LOCATIONS</b>	
Clark at Hastings	
Clark at 3rd	
Clark at Broadway	
Knight at King Edward	
Knight at 41 <sup>st</sup>	
Knight at 49 <sup>th</sup>	
Knight at 57 <sup>th</sup>	

APPENDIX 6 - PEDESTRIAN CURB RAMP LOCATIONS AND COSTING SHEET

**Pedestrian Curb Ramp Locations and Costing Sheet**

Estimate cost to construct pedestrian ramps where required.

<u>On</u>	<u>FROM</u>	<u>TO</u>	<u>Unit rate/ramp</u>	<u># of ramps required</u>	<u>Cost/Section</u>
CLARK	Powell	1st	\$2,500.00	2	\$5,000.00
CLARK	1st	5th	\$2,500.00	0	\$0.00
CLARK	6th	10th	\$2,500.00	0	\$0.00
CLARK/KNIGHT	11th	15th	\$2,500.00	2	\$5,000.00
KNIGHT	16th	20th	\$2,500.00	16	\$40,000.00
KNIGHT	21st	25th	\$2,500.00	7	\$17,500.00
KNIGHT	26th	30th	\$2,500.00	1	\$2,500.00
KNIGHT	31st	35th	\$2,500.00	3	\$7,500.00
KNIGHT	36th	40th	\$2,500.00	0	\$0.00
KNIGHT	41st	45th	\$2,500.00	2	\$5,000.00
KNIGHT	46th	50th	\$2,500.00	2	\$5,000.00
KNIGHT	51st	55th	\$2,500.00	4	\$10,000.00
KNIGHT	55th	60th	\$2,500.00	6	\$15,000.00
KNIGHT	60th	63rd	\$2,500.00	2	\$5,000.00

<b>TOTAL # OF RAMPS REQUIRED</b>	<b>47</b>
<b>GRAND TOTAL FOR PROJECT</b>	<b>\$117,500.00</b>

## APPENDIX 7 - Survey and Open House Comments

### Clark-Knight Corridor Survey Comments

*Question: Are there any thoughts you would like to share regarding traffic noise issues, in advance of the City undertaking city-wide noise study this fall?*

#### Responses:

- Traffic noise at 12th Ave and Glen is very loud with stop and start at the light. Would like the light moved to another street
- More stringent Aircare/Exhaust from trucks going onto Knight Street. Couple the above with severe penalties for those who fail the tests. Regularly monitor air quality on Knight Street. Address noise, pollution from trucks at odd hours.
- Drivers must understand that a certain inconsistent booming noise level is not acceptable or healthy. Please do something about bass and volume of sound systems in cars. Either by a by-law or law against installing certain systems as well as making noise issues considerations part of driving tests and aircare programs.
- Promote Rail over truck traffic in the city
- Resurface Knight St with a superior noise grade to absorb vibration and noise of autos 2. trees will only create havoc - who cleans up 3. Bigger signs - residential area - speed - jake brakes OFF.
- Promote Arbutus corridor over Cambie RAV and don't let Prov Widen #1
- Greatest noise and pollution occurs when vehicles stop and start therefore greatest benefit is achieved by facilitating steady traffic flow. Lights in sequence, left turn bays reduced street parking all facilitate this.
- Turn over to Translink
- Living on Knight St with the speed in excess of 79km/h in many instances.
- Why not consider rerouting containers normally put onto railcars. Instead of installing quiet pavement, consider enforcing engine brake. Violations within municipal boundaries
- Trucks, trailers should have alternative road. They create so much noise and shakes the ground when they pass
- Make Knight St accessible to heavy trucks only during 5am to 7am, 9am to 4pm and 7pm to 10pm

- Truck noise at Knight St and 63rd is bad coming off Knight St bridge heading north. Truck loads continuously bang and make unbearable noise. Repaving helped in the past
- Alternatives to truck traffic are needed.
- SE corner of Broadway/Clark (QA School) sidewalk needs to be wider (safer). Also NW corner of Clark/12th.
- 57th Ave is extremely noisy when it rains/heavy traffic - is there any type of surface which would reduce noise?
- trees help for noise. But where they build new houses people cut all the branches at the bottom of the tree and left only the tops. Should not be allowed. But has nothing to do with this!!
- If more trees are planted along Knight, it could possibly reduce noise. Noise is not an issue with me, I live in the last apartment before the bridge
- Noise of motorcycles is horrendous. Why are they allowed on city streets without proper mufflers. Ban cellular phones while driving
- Thank you!
- Translink should take over management of the Knight Street Corridor
- Wider lanes = more/faster traffic = more noise = more accidents = more maintenance \$
- We live in a reasonably quiet area and appreciate any actions to maintain or even reduce noise levels
- Translink should take over management of the Corridor
- We have too much traffic now. More pollution on Knight Road. We cannot walk on Knight St side walls for large trucks
- Traffic too noise for my kids to study, don't want my front yard get smaller and feel unsafe
- Noise reducing pavement
- Knight street tunnel is a good idea. It will be good to the residence and business along the knight road.
- Translink should take over management of the Corridor

- Noise levels are unbearable sometimes. Could it be restriction for heavy cargo a certain time 11pm, 4am?
- Utilize noise reducing pavement along Knight Clark corridor
- Noise is from congestion. Need good alternatives. Keep traffic off side streets. Metrotown Richmond bus service!
- We live in a reasonably quiet area and appreciate any actions to maintain or even reduce noise levels
- Translink should take over management of the corridor
- Noisy changing gears of trucks at about 17th & 18th - What to do. Empty truck - bouncing wheels of "no load truck" - What to do.
- 6b is a must please
- The greener the better!
- instead of semi-trailers/trucks replaces with skytrain/rapid transit line
- very much concerned about the Pedestrian people crossing along 49th street especially for the children (school across school)
- lane restriction for trucks. Time restrictions for transport trucks. How do sound levels affected by speed limits?
- traffic is very loud. The sidewalks along Knight Street should be at least ten feet away from the traffic. Trees and buses along Knight will reduce noise
- the bike path from Clark through E 10th to Windsor bike way is too narrow for pedestrians and cyclists
- vehicle ruts at intersections cause empty container trucks to bounce. More trees!! Dig a tunnel for trucks
- enforce 50km speed limit even trucks are doing over 65km most at the time. Use volunteers to help VPD
- trucks must slow down! I have seen many run the light at 15th & Knight! Having 2 young children this scares me! Trees, trees, trees - to beautify, help with air quality and help with noise
- you might consider ways the train running west of Clark to and from the waterfront can minimize noise (without hurting its operation) especially in the middle of the night)
- I appreciate all the work that has been done to create these choices. We have needed traffic improvement along Clark/Knight for many years! I would also be

- in favour of banning the use of cell phones while driving since it appears to be a cause of lack of attention to the increasingly challenging job of being safe on our city streets
- more public transport to reduce car use
  - emphasis should be made for the areas close to schools and parks
  - Do not encourage more truck traffic through Vancouver via Knight street
  - I think left turn access to Knight should be restricted to signalled intersections only. If a central median does this, then make it so. Also no parking, develop other parking areas for housing near Knight. Left turns/park cars cause most of the weaving and are a trucker's most nightmare. Face it, the city needs an efficient, safe corridor for N/S motor traffic. Even on Sundays, the street jams down to one lane due to parking conditions. Wider lanes and right lane dedicated to large vehicles is good - use Knight for N-S travel mainly. 57th should be no left turn, just like 1st Ave.
  - stop the trucks from squealing their brakes as they prepare to stop for the light at 49th & Knight
  - the Clark-Knight corridor is now a major trucking route for Vancouver & unless you are planning to change that it will always be noisy and unsuitable for residences, pedestrians or cyclists. Get real
  - please consider one way traffic within residential zones. Parking on both sides of street makes opposing traffic a disaster waiting to happen
  - except for where there are left turns now on Knight Rd. Prohibit all other left turns. There would be a lot fewer accidents if people could not turn left across
  - I support noise reduction. Also, reduction in diesel emissions. Plant more trees
  - Noise: car alarms are overly noisy and not effective. Perhaps put a city ban on them? Hedges absorb sound and still produce green borders. The side street traffic circles slow people down/lessen noise
  - eliminating traffic noise and improving the look and comfort level for residents and pedestrians is the most important issue for me
  - ie: 1a & 1b the aerial view of C (100 ft) adds the most green. But I'm concerned about the liveability of the homes involved. B or C still seems preferable to the way it is now - what do the home owners say?
  - do something now more than a very small sign about "air brakes" most semi drivers play tunes on their "jake" brakes. They use them for no reason!!
  - where possible trees will soothe noise. I still can hear traffic on Knight at 2am

- use of jake brakes by semi-trailer truck drivers is a major source of excessive noise between Broadway & 12th Ave. Enforcement of existing laws would pay for itself every day!! And you might consider increasing fines, as they have in Calgary AB
- I would like to see "round a bouts" put along Inverness St from 25-29th Ave. Cars race off Knight St down to Inverness and rarely stop at the Inverness St. stop sign on 28th Ave
- please put a speed bumper between Clark & 23rd many drivers turn into Clark Drive to get to Kingsway as a short cut Elementary school nearby
- adopt Knight St. truck/bus tunnel proposal from City Realtor Lelly A/m great idea
- the worst traffic noise is trucks using their motors instead of braking its become real bad in the last few of cars
- more boulevards trees. Can we not divert some truck traffic to other routes?
- if there is not a curfew on heavy truck travel, there should be
- how can we stop racing
- noise is the key issue. Trees will not lower the street noise level to where our yards will be comfortable to use. Truck traffic is the primary source of loud, rumbling noise
- strict enforcement of speed limits
- I do believe the idea of court yard housing is worth exploring. Because the corridor is a main commercial route wind & noise from big trucks is a major item
- I find Clark & Knight the most unattractive street in Vancouver. Unfortunately, it's also a major entry into the City. Anything that can be done to improve Knight/Clark is very important to the entry image of Vancouver - trees
- Nice to see people-friendly city planning rather than the focus being traffic flow only. I don't know how to address the noise issue but I do know the exhaust is a serious concern. Having recently moved into this area (from W 2 & Maple) I immediately began to experience breathing problems that i never had before. Readings of carbon monoxide and other pollutants should be done daily. Also, a clean streets by-law with fines for those who do not keep their side walk and yard litter free
- the two types of noise I have in mind are: the "boom" car (powerful audio amplification) and the car with an exhaust system intentionally modified to

produce loud noise (modified muffler system). Both of these are extremely loud, and can be heard over a wide radius. Both sounds are disrespectful of others. Neither need be tolerated. Generally, the sources of these sounds are not difficult to discover, since each sound draws attention to itself. A by-law strictly enforced could do a lot to severely reduce these unwanted noises

- I fully support any initiatives to reduce noise levels in the city. We bought a house on E 12th in February and would be pleased to see 1. "Quiet pavement" on 12th - would increase people's desire to fix up houses on this very visible corridor. 2. By-laws prohibiting Harley Davidson type motors having no proper mufflers. 3. Planting more trees along 12<sup>th</sup>
- I Acknowledge that Knightian and will continue to be a busy street. Noise is not that big a problem but need to look at other routes to balance the traffic such as Boundary Rd.
- Translink should take over management of the Knight Street Corridor
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- Translink should take over management of the Knight Street Corridor
- Translink should take over management of the Knight Street Corridor
- Translink should take over management of the Knight Street Corridor
- Rezone the Corridor
- I Support Marcel's proposal
- Translink should take over management of the Knight Street Corridor
- Support Marcel's Proposal
- Translink should take over management of the Knight Street Corridor
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- Noise levels are absolutely terrible. The trucks shake the house as they go by . Any more widening of the street is unthinkable
- Turn over to Translink
- The repaving of 1st Ave from Clark to Nanaimo did wonders for reducing traffic noise
- I am strongly opposed to any of the widening options. You did not present any options that allowed for medians or wider boulevards w/o wider traffic lanes
- Regarding Row houses - keep the desing close to Vancouver-Strathcona - attention to character - vintage style
- I feel important to meet noise level requirements with insulation and window whole also having new building design for future buildings, but doing what can be done to improve quality of living in existing homes
- Are trucks' engine breaks allowed on Knight Street? If not, put up more signage on this; otherwise, prohibit them. Also, tighter enforcement of cars and trucks speed. Setting up the green wave with traffic lights will help too. Trees on the roadside will also help.
- Some traffic noise can be reduced just by installing or refastening some of the manhole covers that are now just bouncing around as vehicles pass over them. The soundwaves (pressure waves) travel along the underground sewer piping and into the homes of the residents.
- Human powered and electric vehicles are quieter - promote and support them.
- Enforce truck violation on East 1st Street between the Clark Drive and the freeway (Trans-Canada Highway).

- Now that the Victoria to Commissioner road railway crossing is effectively closed can we get the trains to stop blowing their horns when crossing there? and if not what can we do to effect such a change?
- Noise has always been known as an issue along Knight St. However, I think that whoever chooses to live along Knight St. knows full well that there will be noise and should not be raising such a fuss over it. They have chosen to live there; so live with the consequences.
- I'd like to suggest the following ideas which I believe are also in-line with the goals (Noise reduction, traffic safety, increased livability of the region) of the Clark Knight Corridor Project:
  1. Install Signage and create/enforce by-laws to discourage use of Commercial Truck Engine brakes (huge source of noise between 37th and 33rd on Knight)
  2. To assist commercial trucks in not using noisy engine breaks through the installation and use of an amber advanced warning light for northbound traffic on Knight that the signal at 33rd Ave will be changing.
  3. Work with the Parks board to plant several more trees (with best acoustic dampening properties) along the west side of Kensington park to help buffer noise and filter air pollution on Knight street between 33rd and 37th.
  4. Remove the pedestrian crossing at 35th - use 'barricade' or 'raised median' type construction along eastern side of knight between 33rd and 37th to block dogs and people (especially kids) using the community centre, play ground and park from crossing knight street at this unsafe section.
  5. Work with the police to create an enforcement campaign against commercial drivers of large trucks who are frequent violators of speed and red light infractions - one need only observe the section of Knight from 37th to 32nd Avenue to notice that these trucks believe that their large size and payloads are an exemption from city traffic controls.
  6. Zoning changes affecting the gas stations at 33rd avenue and Knight on both the south west and north east corners of knight street - either do not renew their permits once their tanks have expired and need to be replaced - or mandate entrance changes to their lots - gas price wars and regular patronage cause jam-ups and congestions on Knight street that cause frustrations, horn tooting and unsafe conditions for pedestrians to cross.
- I am two blocks off Knight and one block from the fire station, and I'm happy to say that the noise doesn't bother me at all ... this is probably due to the number of large trees in the neighborhood. If the trend to tear down old houses and replace them with monster houses continues, we may lose this natural noise buffer. Something to consider when planning and awarding demolition/development permits.

- The city should consider further restrictions on the use of engine brakes by big trucks in the Knight street corridor. Such limitations could help to cut back on excess noise pollution.
- The noise due to truck traffic is continuous and extreme at certain times of each day. Truck drivers appear to have no consideration to the fact that they are passing through a residential area, even at night. Truck drivers use engine brakes and many trucks have a faulty brake system. This just to clarify how noisy Clark Drive really is. The current condition is totally unacceptable and is a devaluation to the quality of life for anybody living along or in the proximity of the corridor. It is unlikely that trucking practices will change, particularly in light of the fact that port traffic is expected to increase dramatically over the next years. Therefore more drastic measures need to be taken. A logical step would be to limit the use of the Clark-Knight corridor by trucks to extended business hours (6am-10pm) only, by penalty of a large fine. This at least would allow the residents along and in the vicinity of the corridor to sleep at night. Secondly, police presence should be established, to fine truck drivers with faulty brake systems. The use of engine brakes needs to be reviewed. It is not enough to have signage along the street recommending not to use engine brakes in urban areas, because they are completely ignored by drivers. In several European countries (e.g.: Germany), a situation such as the one on the Clark-Knight corridor, would result in public outcry and would not be tolerated.
- As the noise can't be reduced unless reducing business and economy, one of the best ways to isolate houses and people from the noise is to plant trees all along the houses. Owners should not be permitted to cut trees in their gardens and encouraged to plant. Unfortunately, trees are disappearing from the city, increasing the noise level, and making it more and more ugly.
- STUDIES ARE OK BUT THE ONLY NOISES TO AFFECT ME ARE FIRETRUCKS AMBULANCES AND MOTORCYCLES RUN BY 'IN YOUR FACE' DRIVERS - ITS AN ENFORCEMENT ISSUE TO ME.
- Is it possible to plant shrubs, trees, hedges, etc that will help to absorb and dampen noise? Could these be of a coniferous type, that is green (in leaf) all year round?
- 40kph in residential areas
- Trucks are constantly using engine brakes from 37th to 33rd at all hours of the day even at 3am. We need the police to enforce the existing laws, now, if they exist. A fine of \$500.00 dollars and putting signs up to warn drivers that the use of engine brakes is prohibited and strictly enforced may encourage these drivers to have some respect for our neighbourhood. By taking action now it can make our neighbourhood a little quieter while we wait for the study to be completed.
- Signs for no engine braking by heavy commercial vehicles.

- Plant more trees along Clark-Knight Street corridor in order to absorb traffic noise.

Strictly prohibit/charge those cars and motorcycles that modify their mufflers and produce disturbing noises. Although my house is located few houses away from Knight Street, I can still hear those annoying noises from those vehicles & motorcycles.

- Well the commercial vehicles are very loud where I am, on the Knight/41st stretch, I would love to see... no "hear" less from those vehicles.
- I find it very annoying when a truck uses there engine brakes all the time. I thought there was a by law they could not be used in the city. You should be enforcing it more then you do. They are always using them at the intersection of Knight and 41st which is not necessary.
- Quiet pavement is an extremely good idea. Las Vegas has it and it makes a huge difference.
- I live on Lanark Street between 47th and 48th, there are lots of BLACK dust from trucks ended on and around the house inside and outside. I suggest that plant more trees on Knight street and on Lanark street. I also suggest that by putting in a grass lawn play field on Sir Sandford Fleming School instead of a gravel field would minimize the dust and noise.
- Timed traffic lights allowing advanced left turns from Knight would be a better solution.
- Study and consider revising the traffic corridors from Knight/Clark, ie., our street, East 12 (to Commercial). We are greatly impacted by Knight and any changes made to it. There needs to be a wider vision of this project as it impacts us. For example, consider the truck and heavy transport issue. We are seeing a huge increase in trucks and heavy transports that use Knight/Clark and turn on to 12th Avenue and Broadway. This affects our liveability. We recognized that 12th East is noisy when we bought it, but we want to see a slowing down (or a decrease, it is possible) of the number VERY Heavy and Large transporter trucks that use airbrakes near our homes. In some European cities, the hours for such heavy transportation is regulated; maybe we should consider that issue, as well as the residential streets where they roam.
- I live about 6 blocks west of Knight Street between 37th and 33rd. I hear trucks' engine brakes as they come down the hill. Enforce the No Engine Brakes bylaw more strictly.
- the first section of knight that received new "quiet pavement" works. The second section installed next to it has never worked (compare them in the rain)
- Plant more trees along sides of road. Plant more bushes in centre boulevards. Plant bushes along side of parks.

- Stop trucks from using "Jake brakes". If they are using them, they are going too fast
- If it is seen as the major connector between the port and the border then everything should be done to facilitate traffic movement north/south. Stop building housing where none existed or was abandoned (eg. Broadway/Clark). Start enforcing the no engine brake bylaw, or make one, city wide.
- There are too many cars and motorcycles and trucks creating noise. Too many barking dogs.
- A realtor/developer recommended the RAV line be built in a tunnel under Knight Street and trucks were to also use this tunnel. The above ground Knight St would then be used for local traffic and bikes only thereby reducing noise, pollution, speeding and aggressive driving by truckers etc. I think this is a brilliant idea!
- Left-turn bays, along with the limited stopping between 7am to 7pm may reduce noise. Cars and trucks will need to make less lane changes, avoiding higher than normal engine noise.
- A noise study will benefit residents throughout the City. Hopefully house design in #7 will improve this, and can be used in other locations also. Recommended retrofits to older homes would be useful.
- plant more trees and more grass along knight street. Also replace and plant grass instead of gravel on all near by playground and schoolyard to stop noise and dust.
- I would like the city to do whatever is possible to reduce traffic noise. Options might include quieter pavement, landscaping or building noise barriers along busy routes, controlling speeding drivers (acceleration and deceleration noise) and charging drivers with inadequate muffling.
- Knight st. is a major truck route and the noise level will only increase. Having some sound dampening barrier will be necessary. Trees will be an important factor in the early construction of this new project to allow time for their growth to be effective.
- Re: The Knight St corridor specifically - I have learned that there is a proposal that the city examine the feasibility of constructing a toll supported, dedicated truck only tunnel under Knight St. to facilitate truck movement between the Port and the Warehousing district on Mitchell Isl , and in Richmond. I feel there is excellent rationale in this idea - and would STRONGLY support it's development.

By constructing such a facility the noise and heavy traffic problem would dissipate to more neighbourhood friendly levels, so the drastic re-build of Knight street would be simplified and be less costly.

I strongly urge the Transportation planners and the City Council to give this appropriate and serious consideration as a viable and valuable addition to the city's arterial network, and at no cost to the taxpayer.

Just because this is not originated by the Transportation planners, it should NOT be dismissed out of hand as was a private proposal some years ago for a 3rd crossing tunnel linking the North Shore to Vancouver. It deserves SERIOUS consideration as being innovate and sensible. Thank you

- Not only are heavy trucks noisy, but diesel transit busses are especially loud. They stop frequently and make a lot of noise at start-up. I live a few houses from a bus stop and it is the most obvious negative sound. Is there newer and quieter bus engine technology in the future? Electrifying more city routes for trolleys?
- Proximity of Queen Alexandra Elementary School to intersection of Clark and Broadway is problematic. Anything to reduce noise at that intersection would be helpful to teaching activities in the school.
- Rowhouses

I disagree with courtyard rowhouses along Knight Street especially between 17th and 28th avenue. In last newsletter survey, I agreed with the rowhouses along knight Street between 17th and 28th avenue. However when I thought it over, I've changed my mind. The reasons that cause me change my mind is as follow:

#### (1) Traffic

Right now the traffic at King Edward and knight, and Kingsway and knight are so heavy already. Some times I have to wait for several minutes to cross the King Edward at Inverness even on Saturday. Later there will be a 300 units new building at the old Safeway site. Quite likely the traffic will be heavier around there. If the city allows the courtyard rowhouses to be built there, the traffic will be even worse.

#### (2) Parking

The courtyard rowhouses provide one parking for each unit. It can happen the some units have more than one car. Besides, rowhouses allow more families to reside there. More families will bring more visitors to that area. Where should the visitors park their cars? In addition, either side of Knight Street is not allowed to park during the rush hours. Rowhouses can create a lot of parking problems to the residents who are now living so peaceful at the side streets in that area.

#### (3) Environment

Since the noise along Knight Street is so unfriendly for the residents along there

already, why planning to put more people in such an unfriendly environment to live?

- can you dig a trench, develop the roadway at a lower elevation, use the fill to develop berms to reduce noise/aesthetic issues?
- have no thoughts or comments. thank you
- plant more trees

**Question:** *Other comments: (attach extra sheet if necessary)*

**Responses:**

- All major intersections should have left turn lanes. Furthermore, there should be no left turns allowed except for these major intersections.

Parking on Knight should not be allowed Monday-Saturday from 7-7.

- Consider public consultation on planting, landscaping options for medians and boulevards. This will encourage participation and local ownership. May also generate useful ideas. Consider options for new development sites on Knight and other major streets. Low rise apartments, improved lane access.
- 1. I do not support widening the lanes from Powell to Marine with the planting of additional trees. Wider roads encourage speeding and truly will be a waste of tax dollars. People already drive too fast and recklessly on Knight/Clark. I would rather see advance green-left turn bays installed especially at the notorious intersection of 49th and Knight, and at 57th and 33rd. This allows for safer driving and many precious lives would have been saved.  
  
3. We need more traffic radars and or speed traps to deter speeding on Knight/Clark.
- 1. S/B 2 truck arterials, accidents on bridge creates backup, Boundary is more direct to Port from border NOT bridge, road is wide, lesser residency. 2. Creating more problems on Knight by widening, trucks are too close to houses, unsafe. 3. Where is the money coming from to upgrade houses will be losing thousands on property as it is.
- 1. When northbound traffic stops at Broadway there is no way cyclists and pedestrians can cross the wall of trucks at East 10th Ave.  
  
2. Eliminate ped. crosswalk at East 35th Ave.  
  
3. Advocate prov. gov't to legislate cleaner burning diesel engines. Technology is available.

- 29th is an elementary school with kids walking - cars coming off Knight to cut up to Fraser travel way too fast thru residential. Roundabouts force them to slow down
- 3 lanes of traffic that are going down hill. There used to be a median up part of the hill from Knight bridge. Put a median all the way up like in lots of big cities in U.S delete left turn. Make them turn right and go around block or another street
- 57th is suppose to be down-graded to a "collector" route. I am strongly opposed to any left-hand turn bays on Knight @ 57th Ave. I think the city should concentrate its effort/\$\$ on both bays @ 49th & 33rd
- 57th is to be redesignated as a neighbourhood collector as approved by the Sunset Community Visions Direction and the "Transportation Plan" Diverting traffic onto 57th with a LTB would seriously import an increase in volume on 57th.
- 57th/Knight many concern for pedestrian safety and use at walk way and designated road lines much misuse by car.
- a while back the city made E 7th btwn Clark and Woodland part of a bike route, and that was fine. However, it has created a serious problem in the neighborhood as it has been turned into a short cutting freeway.
- actually, having a designated trucking restriction/pathway and hours of operation within city limits might help with some of the noise problem considering wear and tear on city roadways.
- advance left turn green lights should be installed for Knight & 49th on North, West, South & East legs. Also for North & South of Knight and 57th
- Air pollution from the trucks is terrible! This must be monitored!
- all of the improvements are long time needed. We hope the noise by law is enforced by the City Police in the future
- Are there any options tree planting and narrowing the street?
- beautification, noise and traffic control? Yes! And thanks for asking us our opinion!!
- Because of East 12 (towards Commercial) has no parking permitted from 7am to 7 pm, we owners have to use the lanes as our main access and our 'street' parking. As well visitors and traffic jam evaders are also increasing the use of our lane. It is in fact 'a street'. The homeowners are very concerned about the speed and the increasing usage of our lane. May we talk to someone about posing "slow" or 'Children playing" signs? Who do we talk to about speed bump construction?

-Is the city aware of the drug users /sellers behind the Baskins and Robins/Banners Restaurant? Who do we speak to about getting a light standard /flood lighting to illuminate the area and discourage its unsavory usage?

- Build some roads! Soon!
- Clark and 10th: Separate light controls and indicators to be provided for cyclists and pedestrians; a "do not block" zone to be provided in northbound lanes at intersection to prevent traffic blocking pedestrians crossing.

Knight and 17th or 18th: pedestrian light preferred at 17th as there are existing pedestrian lights at 19th.

Knight and 37th: Separate light controls and indicators to be provided for cyclists and pedestrians;

Knight and 49th: "protected" left turn only signals to be provided at all four locations of intersection; controlled right turn signals to be provided.

Knight and 57th: additional traffic introduced on 57th both eastbound and westbound; pedestrian lights should be installed for students crossing 57th to go to Trudean (at Ross) and Douglas Annex (at Argyle); speed bumps should also be provided around Douglas Annex to slow down traffic making use of this short-cut.

- Clark is dangerous. Large trucks and not enough noise relief or ped crossing for safety 13th Ave - 16th Ave not enough crossings.
- concerning question ie. Why is the fourth option in question is not offered? Knight Street needs to be beautiful with a continuous landscaped median to improve upon the industrial feeling now present.
- Consider a installing a left-turn bay at 7th Avenue for drivers facing north, or not allowing left turns at busy times. Increasingly cars seem to be turning left there and interrupting traffic flow. Often cars are in the left lane as they intend to turn left at 6th, and are then blocked.
- Consider an upgrade to the pedestrian controlled light at 3rd and Clark - it provides the only safe access for local residents residing East of Clark to enter onto Clark (especially south bound). Vehicles back up on 3rd Ave in the mornings waiting for a pedestrian to push the button or eventually drivers get out of their cars to push the button. It is a dangerous situation, someone will eventually get hit. Perhaps an automatic sensor could be installed to activate the light when cars are waiting at 3rd. Avenue?
- Consider cut 'n cover toll way for ... 5th avenue - marine drive for trucks, bus, and other vehicles willing to pay. Would reduce noise & congestion and also increase property values along Knight if done correctly.

- Could certain traffic lights be activated by weight of vehicles to speed up or slow down the change of traffic lights?
- could you plant trees on my side of the street
- crackdown on excessive speeders
- Curious as to residents in area bounded by 33rd to 41st Knight and Fraser- where they shop etc and the impact of possible changes in Turn lanes, the crossing at 37th Knight in particular- its very hard to access the streets between 33rd and 41st west of Knight as it is without the proposed additional changes. Closing off the light at 37th to traffic crossing Knight Street could make for higher risk of accident at 36th - wasnt someone killed there a month ago by a truck that didnt see her ? In addition that puts more traffic through the intersection at 33rd and Knight so turn lanes will have to be put in ? Eventually more sidewalk will be taken and so houses bordering Knight Street will have to deal with noise and further pollution. If the new house at the SE corner of 37th on the crown of the hill hadnt been approved for construction would the proposed intersection change be happening ?? Why not keep new development back from the road since in the future plans I read somewhere that the road may be widened by some 2ft either side?

Weekends are livable with the traffic- the weekdays are getting bad - only by living near the street for a period of time can one really get a sense of what it is like. Its a real shame that the planners of years ago did not see how this would evolve- you folks have a very difficult task at hand. I look forward to the next few years. !!

- Definite traffic problems along 49th and 57th. Very high morning
- do not install any more left turn bays we do not want more speeding along the corridor to get people to drive less you have to make the drive less pleasant left turn bays will facilitate more cars travelling thru corridor this is unacceptable you are ruining the liveability along the corridor by catering to drivers that in most cases do not even live in Vancouver
- DOES ANYONE USE THE MOSAIC BIKEWAY? (PLEASE SURVEY BEFORE THINKING ABOUT DUMFRIES)

I, LIKE MANY CYCLISTS USE THE SIDEWALK ON CLARK. SOUTH OF 14TH, AFTER THE "JOG" I KEEP ON THE ROADWAY OF CLARK.

AS A CYCLIST I APPRECIATE BEING ASKED, THANKS.

- eliminate all parking on Knight street to allow for 6 lanes. Left turn bays, north/south on all major intersection
- enforce low as to blocking side streets coming onto Knight. Crosswalk at 43rd light not necessarily just lines

- Extend the no-parking policy east bound on Kingsway from 3 - 7 pm. There is still plenty of east bound traffic after 6 pm which backs up due to parking.

Create a turning centre lane on parts of Kingsway. Similar to Arbutus between West King Edwards and Nanton Street (Arbutus Shopping Centre).

Create left turn bays on Kingsway at Gladstone Street.

Create a better Bikeway along Kent Street between Knight Street and the Arthur Lang Bridge.

Create "Car-traps", like in Calgary, on major transit routes to allow priority for wide-axle vehicles.

- Give me 12 lane Knight or give me RAV. Cambie alignment is 10minutes away by bus. 25 minutes to Arbutus. Need dual Itb on 57th, purchase chevron land now! Metrotown-Richmond bus service NOW! Need 49th to knight It light.
- have police enforce speed limits - especially trucks as they always speed
- I am glad to hear that changes are being considered to make this corridor safer, to make it look nicer, and to improve traffic flow
- I can only support wider boulevards or medians if traffic lane widths are maintained. These recommendations are inconsistent with the spirit of this project which is to mitigate ?????
- I can't see how you could widen the street especially between 47 and 49. I have already had my wall damaged by a car hitting it. Also we can not walk on the front street as we get blown over by the trucks. The lanes are too close to the sidewalks. The school put up signs asking the motorists to slow down but no one pays attention. There must be another truck route. They could use that isn't residential
- I disagree with a centre boulevard on Knight St. because of the high cost to build and maintain it, the loss of property to the residents along Knight and the fact it would only move the noise closer to the living space of the people.
- I don't think Knight St should be widened. You will only put more vehicles on the route. Should consider alternative route besides Knight
- I favour bus lanes all over city & Clark. Trucks go too fast at Clark & Venables crossing "roundabout"? Suggestion: would it be possible to build "roundabouts" especially at Knight & Kingsway. Bumps for all side streets?
- I have indicated my approval of no parking 7-7 on Knight, but I am concerned about turning Knight into a freeway. Is there a way to sync the lights so that 50-60km/hr traffic moves smoothly (ie. No motive to speed)

- I like the old surveys better. When I finished them, I just sealed and mailed but not this one.

The best way to reduce the noise and traffic problems on Knight Street is build a new bridge connect Boundary Road and Richmond all the way down to Highway 91, (Richmond Annacis Highway). The northern part of Boundary find a way to joint Second Narrows

- I look forward to a more pleasant drive along this corridor as I use it frequently.
- I phone City hall (streets) and they indicated it was expansion joint problem and to call mainland contractors. I called mainland contractors and they said there were no problems. Another case of no one willing to solve the truck noise problem. Many neighbours have complained about this.
- I read a newspaper article regarding the possibility of creating an underground highway for buses/trucks, how feasible is this strategy?
- I read of a proposal for a truck tunnel with regular traffic above ground. This sounds like something that would ease the burden of Knight St. Some sort of RAV line proposal should be considered for the Knight St. corridor in conjunction with the tunnel proposal.
- I support Marcel's proposal
- I think additional traffic lanes should be added to meet the future growing population and to avoid traffic jam.
- I think knight street should be turn in to a freeway to prevent traffic jam and to meet the future growth of cars using the road.
- I think Knight Street should be turn into a freeway in order to prevent traffic jam and to satisfy the future growing population of the region.
- I think the North/South bikeway between Knight and Victoria would be quite valuable and would be utilized.
- I think there should be a left turn arrow on Clark at 1st Avenue...there is one for traffic going north, but not going south. In addition, I think you should remove the left turn arrow on Commercial on to 1st Avenue. There's too much pedestrian traffic there...if there was a left turn arrow on Clark the commuter traffic wouldn't have to use Commercial. There is a stream of traffic from Clark using Kitchener, Grant and Gravely to get to Commercial to use the left arrow onto 1st.
- I travel into Richmond almost everyday via the Knight Street bridge in the rush hour. Some things I have noticed:

1) Someone is trying to make a left turn immediately after the Knight Street bridge (North-bound traffic). This causes congestion of traffic getting off of the bridge.

2) Three lanes merging into two to get onto the bridge (south bound traffic).

The left-turners are trying to cross three lanes of heavy traffic, while others are flying down the hill to try to merge onto the bridge. I have seen many close calls. Left turns should not be permitted between 57th and the Knight Street bridge. It's surprising there isn't even more accidents on that stretch of road. This would also reduce the amount of traffic through those local neighborhoods.

Other points:

Left turn bays are badly needed at Knight & 33rd, 49th and 57th. With just a few people making a left turn at those intersections and a bus or a slow-moving truck, Knight Street becomes a one lane street. With the amount of traffic the goes through there, that is insane. With left turn bays, traffic should flow better and possibly less people speeding down the side streets to avoid those congested intersections. (I should know because I am one of those frustrated motorists). I will not take 20-30 minutes sitting in traffic to drive down Knight Street from 41st to marine drive when I can do it in half that time going down side streets past the locals parks and schools. The problem has gotten so bad that even these routes are getting overcrowded.

- I travel the corridor everyday on my way to work in Richmond. Mostly by car but sometimes by bike. Van and Richmond should together make Knight St bridge safer for cyclists. Other than that this looks like a good job!
- I wish long-range planning and big picture planning would encompass serious consideration of a tunnel from waterfront-airport to remove truck traffic from city streets (along this corridor) Too bad this sort of thinking was not designed into the building of the Knight St. bridge
- I worry about the budget of the City if the City acquires the land from the owners of the property. Where to get the money to purchase land from the owners of the property?
- I would like to see a median with trees on Knight between 15th & 21st but my concern is parking for the church at 17th Knight. Already the streets near the church are full on Sundays without the West side of Knight St. available, the residential side streets will be even more jammed on Sundays. Can the church provide more parking. it's a problem for some of the residents
- I would like to see the City address the issue of substantial rush-hour traffic using Victoria Drive to transit between 1st Avenue and Venables Street when that traffic should be encouraged to use Clark Drive instead. Victoria Drive is a residentially oriented street with many schools and school crossings. The City should be looking at putting a left turn bay at 1st and Clark for southbound

traffic as well as a right turn bay for traffic westbound on 1st to turn north onto Clark.

- If it's possible no parking along Knight from 7 to 7 M-F
- if you dig up a newly paved road it shortens the useful life of the road, so please plan the construction carefully and when construction is completed please repair the whole road instead of just sections. You've just repaved Knight St.! Isn't that a waste of Taxpayers money? Houses start to shake from large trucks about 5 yrs after repaving
- In order to reduce noise and vibration for residents along the corridor, trucks should be required to drive in the inside (left) lane only, except at intersections where they need to turn right. This is not possible now since trucks would be blocked by left turning vehicles, but a plan that incorporates a full median and left turn bays at large intersections would keep the inside lane clear. The inside lane could also be made wider than the rest, for example 12-13 feet wide versus 10-11 feet for the other two lanes, to better accommodate trucks. Keeping large trucks as far away as possible from homes and from pedestrians would be a great improvement for the corridor.
- install cameras at Knight & 61st to catch speeders, red-light runners etc. We are very concerned about safety and property values as well as noise
- Install turn signal lights at the bays on 33rd. & 49th.Avenues.
- Invest more in public transit and cap the price of transit fares to increase usage and decrease automotive use.

Limit the amount of vehicles aloud downtown.

- Is there a way to prevent trucks from traveling in the left lanes of traffic other than to pass or turn? Some places prohibit trucks from the left lane completely to allow cars to travel more smoothly and without being overwhelmed/intimidated by these massive double semis weaving in and out.

For the merchants who might lose parking in front of their shops, the city should look at acquiring space for off street parking.

This survey is not about 12th Ave., but I believe there should be no parking what so ever between Cambie and Nanaimo along 12th Ave. It is way too narrow.

- it could be great if pedestrian cyclist crossing lights had quicker or even instant response (I use Adanac bikeway to cross Clark and it's so slow. We often just cross before it changes)
- It would be beneficial if Vancouver could seriously look at Ottawa's bikeways and find a way to create the same sort of cycling greenways (obviously without the canals) throughout the urban areas. Currently, bikeways have become

ideal for people trying to cut through residential areas (monitor the corner of 47th and Inverness between 4:30 and 6:00 to get an idea of how the bikeway becomes a mini-freeway) instead of promoting a healthy alternative to cars and buses.

- Keep bikes off Clark/Knight St. I like the idea of limiting trucks and buses to the curb lane. I like the idea of making Knight St greener.
- Keep our tax money working, thanks!
- Knight St. Improvement is a must
- Knight Street is too dirty. Knight Street needs dust traps to catch the dirt that blows around every time a vehicle passes. Grass, bushes and trees are good traps. Bare flower gardens (exposed soil and concrete surfaces are not dust traps
- Link up city bike paths, downtown to Knight to Richmond via Knight St bridge  
Install controlled crossing lights where bike paths cross Knight
- Living East of Knight and often coming home from downtown using Clark/Knight, a median between 15th and 21st would be OK. However, it would mean that access to the "Cedar Cottage" area from Knight would be restricted to 22nd only. 22nd is already pretty busy as many people use it as a short cut between Knight and Victoria or points further East and there is an Elementary School on 22nd. Traffic Circles/Planters should be considered in the area bounded by 15th, Victoria, 22nd and Knight in order to discourage non-residential traffic and high-speed driving idiots. Also, if 22nd is to be the only access from Knight to this area, please consider a left turning bay south bound on Knight.

Thank you.

- Long term solution is to build a tunnel from between venable/1st Ave. to Richmond with exits at Broadway, Kingsway, 41st. Make Knight a local street
- Make one overpass walkway around 61st Ave and Knight St
- more police should be there for speeding drivers Not DOT for holding line
- more roundabouts on inside streets along access points ie. Put one 15th and Clark and Maddams and 15th. Dedicated roads for cyclists ie. Woodland one way for cars with only residential parking bike only path to one side
- My household +pedestrian +cyclist friends are in absolute opposition to reserving curb lane for trucks/commuters. It will make walking on the sidewalk with kids and pets very unsafe. And all the grit that lies along the curb will get thrown up into your eyes. Also, people tend to speed more in those types of lanes. Furthermore, as a long term (since 1965) resident of the city it distresses me to see traffic receiving ever-widening, ever-bigger, ever-faster

throughways. Instead of RAV line we should be thinking of a tunneled computerized rail system for sending cargo containers by remote control from Richmond down to the foot of Clark. Why not make this a truck-free route! The grime and grit we live and breathe in here at 10th and Clark has to be seen to be believed!

- new parking restrictions would allow the use of the right lane by heavy trucks and perhaps could justify prohibiting container trucks from using the left lane
- No trees no cyclists no left turns except for major intersections
- Our family (4 adults) wholeheartedly supports all the proposals made in the Corridor Project. This area is long overdue for upgrades. This plan is well thought out, and will improve things dramatically. Implementation should commence as soon as possible.
- Our workshop is at Clark & Frances. I drive to Marine Dr. and Richmond frequently. This road is a Nightmare. I have been using Victoria Dr. The traffic on Clark is very fast, including those trucks. Pedestrians are at great risk. Trucks could never stop in an emergency. 2 of our customers' cars have been hit as they pulled away from the curb. I am also concerned about the intersection with Kingsway as you head north. The traffic is funneled to the left at great risk to everyone.
- People are not heeding the stop signs and speed limits in the residential areas on either side of Knight. Of particular note are the stop signs on the avenues intersecting Dumfries, if there is a plan to designate it as a bike route, it could be very dangerous. People also speed down these streets often. And throw garbage (usually empty beer bottles) out of their car windows on to our lawns.
- Please also change the lane merge going south on Clark between 12th and 13th. This merging and parking zone is a regular conflict for motorists and parked cars. One or the other should be eliminated- the 3rd lane or the parking.
- Please consider the skate park and the day care in Clark park. Please move the day care over to the other side of the park. The skate park should be designate a heritage site as it is the oldest skate park in Canada and possibly the oldest in North America

In addition, is the day care structure even safe? It is a portable, temporary structure that has never been built properly. why not start it off right in a new building on 11th Ave. near the red house

- Please send money on more constructive issue
- Please think some more about car alarms that go off and continue going for ages. There s some way to make systems less sensitive or educate owners as to how to deal with this as well as having actual people that can be called to complain to. Really quite terrible when standing waiting for bus at 33rd and Knight.

- Please try to keep costs down
- Please try to keep costs down
- pollution is bad and noise
- prefer maintaining this area as single family housing. Too much of Vancouver is becoming high density. Can't you still require noise dampening in single family units?
- Prohibit left turns at side streets 7am to 7pm except where left hand turn lanes provided
- Re: Clark St.

The street parking along Clark north bound between Hastings and Powell should be eliminated. At least in the 7am to 7pm times as parked cars along that stretch cause considerable congestion as well as traffic hazards. ie: Two and sometimes three lanes of traffic must merge into one then separate to go in three different directions all in the matter of about 50 meters. I suggest that a planner go to this street and observe the traffic patterns at midday to clearly understand the problem.

- Re: June.2/04 Courier article about Kelly Alm promoting a 2-level route. NO! Can you imagine the air quality for people riding buses and driving in an underground lane? For safety and aesthetics - get rid of the big billboards! Thank you.
- re:6a - especially if diverter is installed at 37th. Re: 5b no parking 7-19 Mon-Sat there are few commercial?????
- Recently a pedestrian was hit and killed in a cross walk at 35th and Knight. Speeding is a major safety issue along Knight particularly down some of the steep hills. It is not acceptable to allow large loaded trucks to speed like I see every day, these trucks just can not stop fast enough in the heart of a highly populated area with numerous children's parks, this behavior has caused numerous injuries and deaths. I believe its time the city exercised its responsibility and takes immediate steps to stop this criminal behavior by so called professional drivers.
- Regarding the proposal at Knight and 37th, I don't think that having separate crossing times for cyclists and pedestrians will make much difference as they are as many pedestrians crossing as cyclists (particularly going to Kensington Community Centre and those getting off the bus). Additionally, if you install a right-out only diverter for vehicles at 37th, you must install a left-turning lane at 33rd Ave in the east/west direction. This is because for those living west of Knight, in order to turn north onto Knight you either have to turn left at 39th which is dangerous given traffic flows, or at 37th (which would be eliminated in this scenario), which leaves only 33rd Avenue. And given the amount of traffic

at that intersection and the number of cars ALREADY wanting to turn north onto Knight, the City would definitely need to install an east-west left turning lane at that intersection (as well as that proposed for the north/south route). Finally regarding parking hours, my experience on other streets is that while freeing up the curb lane does improve flows it also increases vehicle speeds along the route (e.g. look at Oak St in rush hour). By the way, I provided my contact information at the May 2003 workshop at Kensington and then never heard anything until I received the survey in the mail; from a process perspective this was a bit lacking on the City's part. But overall kudos for your planning proposals - you listened to the feedback from residents and the ideas are good.

- Request all left-turn drivers to use main avenues (such as King Edwards, 33rd, 41st, 49th & 57th) to access to local streets, after installed left-turn bays in north & south legs. That will improve the traffic flow & accident rate on Clark-Knight Street Corridor.
- restrict right-hand turn on red at high-risk intersections?. "count down" cross walk lights so pedestrians know how much time they have
- Should the City proceed with a costly widening of Knight for a landscaped boulevard at 57th to Marine, it will effectively force closure of the Chevron station at 57th, without providing a significant benefit to improving traffic. Therefore, we are adamantly opposed to the proposal.
- So many cars accidents occur in this area
- Stop speeding for the lives of people
- Street art, lamp posts, intersecting housing and noise reduction are to me the most important
- Subsidized housing, Row housing
- thank you for the opportunity to provide input into this planning - this is a great place to live, but it could be much safer, much quieter and far more pleasant. I hope these changes can be implemented sooner rather than later.
- thanks for allowing citizens to comment in this format
- thanks for undertaking the project. It will go a long way to improve our neighbourhood
- The animated eyes pedestrian signal sounds entertaining, but is it really worth the cost?
- The city is not protecting pedestrians and bicyclists. There are too few real bikeways. Cars are taking over the city. Ban cars and encourage bicycling and walking. Don't let developers dictate city policy.

- The Clark-Knight corridor is also, I believe, an "Emergency Response Route" so unless you severely restrict parking and unassisted left hand turns, then in an emergency situation, ie. Evacuation, you have the recipe for chaos. Again, get real
- Sunset Community Vision, adopted by City Council January 15th 2002. (City Plan)

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#### 4.1 Redesignate 57th Ave.

Approved

In accordance with the proposal in the Transportation Plan, the City should redesignate 57th as a neighbourhood collector to ensure the street is not widened or changed to accommodate increased traffic volumes or speeds.

Proposing a left hand turn onto 57th Ave (travelling north on Knight) or proposing a left hand turn bay on Knight St. on to 57th is contrary to the Transportation policy and Sunset Community Vision--adopted by city council Jan 15th, 2002. Currently there is a no left hand turn on to 57th from Knight St. allowed from 7am to 7pm Mon-Sat.

Your proposal to allow left hand turns on to 57th 24 hours a day, 7 days a week accommodates increased traffic volumes. (Exactly the opposite of what the Transportation Plan and Sunset City Plan have approved and the neighbourhood wants for 57th Ave.) After all, right now there are restricted times for left hand turns and you want to increase the opportunities for left hand turns onto 57th. If you are concerned about safety, then you should removed all left hand turns onto 57th 24 hours a day, 7 days a week.

Locals in the neighbourhood, know that you can't turn at 57th, so we take the SE Marine Exit West and go up Fraser St. and back track. Rat runners cutting through the neighbourhood by turning west off Knight from SE Marine to 57th can easily be stopped by putting up concrete barriers down the middle of Knight St.

Talking to "west side" people on 59th between Cambie and Main, they are convinced that if you accommodate greater traffic on 57th by adding greater left hand turn opportunities you will be creating secondary arterial (sp) for traffic to UBC, Kerrisdale, Oakridge etc.

In Summary, The City Transportation Plan and the Sunset Visions Plan (City Plan) approved a redesignation for 57th Ave to neighbourhood collector to make sure there is no accommodation for increased traffic. Your proposal to add increased left hand turns at 57th or a left hand turn bay to allow traffic to turn west off of Knight St. is accommodating increased traffic. Sunset City Plan and the Transportation Plan should be followed. 57th should be redesignated a neighbourhood collector and no accommodation should be made

for increase traffic from Knight St. And if safety is your concern you should stop all left hand turns at 57th Ave.

- the court yard housing seems like an interesting idea. Is there anyway to have garages in the front where the noise is rather than the back where it is quieter? But I wish road like Clark & 1st Ave could go underground
- The Oily dust from the trucks has pitted my deck furniture and is all through the house
- The single biggest improvement to make Knight/Clark look less like a freeway is the planting of boulevard trees and planted medians. Six lanes of asphalt and two barren sidewalks are just not very pleasing!
- the traffic flow along Windsor is very heavy. People are using it as a shortcut from 12th to King Edward. As a resident on the affected block, I would like to see more roundabouts to slow down or discourage shortcut seekers
- There are already trees planted on the properties facing Knight. Buying properties just to mostly "replant" trees would be wasteful of tax dollars despite its goodwill in promoting a good environment
- there is a by-law regarding billboard - keep it in place and remove. Take down offensive signs. No art work on Knight streets and remove the ugly bill boards on Granville Street south of 16th Ave - east side. This is BC Canada not China
- There is a big problem in my neighbourhood, on 15th at Clark Park, with drivers cutting quickly through small residential streets between arteries, particularly coming off northbound Knight onto 15th, to Madams, to 14th, to Woodland, then East on 12th (and vice versa, speeding and running stops all the while -- around a park!). Another problem is people who don't know better cutting off Knight onto 15th thinking it could be a shortcut to Victoria, seeing the cul de sac at the top of the hill, then racing back down the hill speeding even more because now they've lost some precious time.

I suggest limiting access from coming off Knight onto 15th (a right only diverter?).

Thanks for the survey!

- There is a wonderful piece of land at the 14th and Clark int which is ripe for wonderful evergreen development and cedar cottage sign
- these brakes are set for full maximum pressure, so they really back off when switched on and off a retired class driver. I know what's happening. Up the fine, they are not toys
- this needs to be dealt with after sewers are re-built

- timed traffic lights would be beneficial on the Clark-Knight corridor - maintain traffic flow and regulates speed
- To aid in keeping this corridor clean, trash receptacles in a higher abundance would be beneficial
- traffic flowing East-West at Knight and 35th and Knight & 37th: Make the signal longer but have visible count down timers to show that lights will change
- Trolley buses make screeching noises when stopping. Diesel busses are also too noisy. Also transport trucks. Also how about alternate truck route following rail line?
- Truck route - one way going South? Knight. New truck route - one way going north -Fraser? Not fair to have all the heavy trucks on one street. Doesn't happen on the west side
- Turn Over to Translink
- Very glad to see discussion of lane merge at 13th. Still need no parking at corner on 13th (West Clark)
- We need turn signals at Knight & 49th.
- we should look at the.... How will it benefit the City of Vancouver eg- Free flowing traffic, more revenue for city of Vancouver
- Whatever is done in the area, it will be good to keep in mind to minimize the number of street signs that are put up. Numerous clusters of signs would really destroy the view along the corridor.
- where is all this money coming from? and what is up with this art? who is going to look at art, driving playing dodge tag with trucks, also where is money coming from for this so called art, and going to maintain it. Lets just stick with basics and get left turn bays in at 33rd and 49th if there is room. judy mason
- Why not forbid left turns on the corridor ?  
  
It would increase the traffic fluency, reduce the waiting time at red lights and therefore pollution and cost of gas.
- With the left turn bays being considered for the Clark-Knight corridor - with the intersections that have high incidence of accidents, the installation of advance turn signal lights should be considered together with the turn bays.
- With the new development at Knight and Kingsway, will they be required to provide adequate parking. This would include parking for residents of the complex as well as parking for patrons using the services in the complex.

- Yes, there should be a left turn signal light at Clark & 1st for southbound traffic because northbound traffic is often very heavy
- yes, yes, yes get people out of cars and into the streets. This idea would increase residents feeling of ownership. Now garbage from passing vehicle (just throw out the window!) Need visible beautiful community to increase motorists respect of other people's property
- You need to improve the traffic flow at Clark and Venables intersection. Advance green light west to south from Venables onto Clark would greatly improve safety for cars stuck behind large visibility blocking trucks or facing large trucks as the car enters the intersection to make a left turn during high traffic times. This is a nasty intersection: ugly, noisy, dirty. Any street improvements and traffic flow improvements will be most welcome!

## Clark-Knight Open House Comments (Wednesday, February 23, 2005)

- Now that you have viewed the draft proposals for the Corridor Plan, we'd like to hear if you have comments about what you've seen this evening. Do not put the left turn bay at intersection of 49<sup>th</sup> and Knight Street. It's dangerous for Flemming school's students. It makes much noisy. Kids will not be able to focus on their study. Do not waste money for this useless plan.
- Do not put left turn bays in @ 49<sup>th</sup> Ave. & Knight you will make even difficult for kids to cross Knight St to go to Fleming school no way should they have to cross another lane.
  - . Will affect health of students with increased air pollution & noises @ Fleming school
  - . Left turn bays will encourage heavier traffic on Knight St. & will be it even more dangerous for pedestrians
  - . Left turn bays do nothing to force people out of cars. Why not take left lane as it is & make it the left turn lane. Put in advance left turn signal without adding another lane.
  - . Widening Knight @ 49<sup>th</sup> would like entail taking some of school grounds of Fleming. This is totally unacceptable.
- I like the ideas on the left turn bays 33<sup>rd</sup> & Knight - all 4 directions and let turn at 49<sup>th</sup> & 57<sup>th</sup> north and south. Like the bikeway on Dumfries.
- Please put trees on 57<sup>th</sup> from Knight to Main, plant grass on the boulevards from Knight to Main so it looks like a country lain More police to catch speeders who drive on 57<sup>th</sup> between Knight & Main.
- Looks great. Lets get the funding. Keep consulting the residents on the major project components going forward. Thank you!
- My house is appx 10 feet from side walk, if left turn bay is installed, I do not know if my old-house will stand-up to the traffic. 57<sup>th</sup> & Knight. Thanks.
- Support the plan. Love the art & trees! Tree voucher program a great idea. Live very close to Knight St. welcome the whole plan.
- Do not remove right turn at south east corner 12 & Knight cause it goes onto 12 & for highway, need to have right turn arrows on traffic lights. Need ped. Signal at 35<sup>th</sup> - bring back photo radar
- Gladstone is a bike route
- Bike route on Dumfries/Borden a very good idea

- Further to the truck problem perhaps, where 3 lanes E21st, a “no trucks” ban on leftmost lanes - especially on the many upgrades on Clark/Knight might help the frustration of passenger vehicles
- Under pedestrian improvements #5, I don't think the elimination of the right hand turn lane will be an improvement in any way. The “green pocket” which is currently there should be improved, both in appearance and utility.
- I believe there is a warrant for left turn signals on 49<sup>th</sup> Ave. going southbound on Knight St. Can you confirm if this is the case?
- Good
- What are you going to do about the Port/Richmond bout truck traffic that already occupies 2 of the 3 lanes (where there are 3) and often occupy all 3 lanes.
- Nice in theory but without addressing the truck traffic density - this might just throttle all traffic - want to see the increase in “road rage” sorry - this is beautiful but far from practical for an ever increasing traffic volume problem!!
- Overall a good program. Rt-turn diverters & definite the left-turn bays @ 59<sup>th</sup> & 49<sup>th</sup> & 33<sup>rd</sup> essential for traffic flow. I do think that the implementation of some sort of noise reductions & trees is more important than prettifying Knight St with banners or artwork that won't come, considering essential function of this road - ie. supply. May I suggest that prettifying go into the neighbourhoods on both sides of the road
- Well done! I am a cyclist and am pleased about the improvements to the cycling infrastructure. Keep up the good work! The Kingsway bike lane proposal is very exciting.
- 12 - 15<sup>th</sup> Avenue median look beautiful for pedestrians, but lacks protection from on coming traffic that may be launched air born from the curve. Hope there is a cable or concrete median with the trees.
- Bike path is Borden/Fleming perfect. However Between 37 & 55<sup>th</sup> should be on Argyle & Fleming. Joins up schools& large parks. Also preserves elevation between 49<sup>th</sup> & 37<sup>th</sup> Help traffic congestion on Victoria at 41<sup>st</sup> & 49<sup>th</sup> shopping areas. If it is closer to Victoria use existing lights at these 41 & 49 intersections. RAV needs to be built sooner to alleviate Knight Bridge traffic volumes. 49<sup>th</sup> left turn bays needs to be urgently built. 430 bus needs left turn westbound to southbound to stay on schedule. 430 frequency too poor 3 - 40 minutes before 7am too impractical. Use smaller buses at higher frequencies! Westbound 57<sup>th</sup> to southbound Knight left turns heavily backed up need solutions.

- Don't really feel right to widen the side walk and plant the trees between 49 Ave. & 7 Ave. Knight Street. That only means that the city hall wastes the money
- 2) We don't want to wide the Knight Street. Firstly the plan will affect our property value by taking the land away.
- 3) If the city will do it anyway we should have our compensation by taking away our land form the city. The compensation amount have to be according the actual market value of our land.
- 4) The city should survey the owners of property on the Knight Street about the compensation by taking the private land

We do not strongly support this proposal. If the proposal goes ahead anyway. We want the guarantee our fair financial compensation base on the current property assessment.

- As a cyclist, I'm really glad to see additional bike routes - especially the proposed bike route on Kingsway. Great!
- Re: the Chevron station @ 57<sup>th</sup> & Knight & proposed to install left turn bay
  - . I am told that this would entail taking 10ft off properties on each side of Knight.
  - . This would entail a severe hardship, to the safe operation at this site.
  - . Compromise safe delivery of our fuel truck.
  - . Compromise safe entry & exit of vehicles
  - . Compromise visibility of our street signage
  - . We are in favour of improving the traffic flow but I hope we can work together to keep safe.
- The left turn bays are great - currently - traffic between 25<sup>th</sup> & Marine & 49 57 has to be funnelled into 2 (or sometimes 1) lane. These are real problems. As for pedestrians safety at schools (I think crossings @ 37<sup>th</sup>, 49<sup>th</sup>, & 62<sup>nd</sup> I believe you need pedestrian passings over the roads. Also medians wherever possible especially on curves (54<sup>th</sup> → 57<sup>th</sup>) on 14<sup>th</sup> → 16<sup>th</sup>? Is there anyway to have truck lane(s)? - anything to separate big trucks from Cars. I believe trucks do need emission and noise testing to be on the road. Homeowners and design is fine - the trucking industry needs to get their act together here.
- Unreasonable noise
  - . deterioration of air quality
  - . taking land (2ft) away from boulevard - effects structures on play ground, only separated by a chain link fence - vehicles could go through if there was an accident
  - . very unsafe for students and grandparents, and parents crossing Knight due to trucks and speeding
  - . how can this intersection at 49<sup>th</sup> and Knight have improved safety for pedestrian crossings?

. newly constructed adventure playground next to boulevard now, very  
(???congested or dangerous...can't read the writing..) if not addressed -  
what will you do about the existing barriers (which we established and are  
esthetically attractive) to provide safety (more than the chain link fence?)

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**APPENDIX 8 - BOULEVARD STRATEGY COSTING SHEET**

For Knight Street from 15th to Knight Street Bridge less the areas affected by proposed LTB.  
 It shall be assumed that Sidewalks will be 1.5 metres wide.  
 Landscaping costs consist of each tree at \$300 per.

<u>On</u>	<u>TO</u>	<u>FROM</u>	<u>LENGTH (m)</u>	<u>Area of SW</u>	<u>Unit rate/m^2</u>	<u>Cost of SW</u>	<u># of widening strips</u>	<u>Cost of each strip</u>	<u>Widening Prop Acq cost</u>	<u>Landscaping</u>
TREE VOUCHER PROGRAM			corridor	500 trees at \$750 per installation + Project Coordinator						\$430,000.00
KNIGHT	15th	19th	600	900	\$250.00	\$225,000.00	Flanking lots - widening via dedication			\$12,000.00
KNIGHT	28th	32nd	650	975	250	\$243,750.00	69	\$8,500.00	\$586,500.00	\$15,600.00
KNIGHT	34th	39th	950	1425	250	\$356,250.00	53	\$8,500.00	\$450,500.00	\$19,000.00
KNIGHT	41st	47th	750	1125	250	\$281,250.00	55	\$8,500.00	\$467,500.00	\$15,000.00
KNIGHT	50th	54th	830	1245	250	\$311,250.00	73	\$8,500.00	\$620,500.00	\$16,500.00
KNIGHT	58th	59th	150	225	250	\$56,250.00	13	\$8,500.00	\$110,500.00	\$3,600.00
<u>KNIGHT</u>	<u>58th</u>	<u>64th</u>	<u>740</u>	<u>1110</u>	<u>250</u>	<u>\$277,500.00</u>	<u>18</u>	<u>\$25,000.00</u>	\$450,000.00	<u>\$15,000.00</u>
TOTALS						\$1,751,250.00			\$2,685,500.00	<b>\$526,700.00</b>

<b>GRAND TOTAL FOR PROJECT</b>	<b>\$4,963,450.00</b>
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