ADMINISTRATIVE REPORT

Date: May 4, 2001

Author/Local: F. Klotzbach/7118
RTS NO. 01644
CC File No.

TO: Standing Committee on Transportation and Traffic

FROM: General Manager of Engineering Services, in consultation with the General Manager of Parks and Recreation and the Director of Current Planning

SUBJECT: Design of Stanley Park S-Curve

RECOMMENDATION

A. THAT Council approve the design of the Stanley Park "S" Curve, Option A, as outlined in this report. The proposed improvements include:

- ***enhancing the roadway, while maintaining the general alignment;***
- ***reconstructing the Chilco underpass to safely accommodate pedestrians, wheel chair users, inline skaters and cyclists;***
- ***reconstructing the Pipeline Road underpass to accommodate trolley buses; and,***
- ***adding to and enhancing the park treatment and landscaping.***

B. THAT the additional City funding of $2 million required for this project be provided by the reallocation of unspent funds from completed Streets Capital projects.

C. THAT the General Manager of Engineering Services be authorized to revise the City's agreement with TransLink for the additional $1.5 million requested as part of the 2001 Minor Capital Program.

GENERAL MANAGERS OF ENGINEERING SERVICES, PARKS AND RECREATION, AND DIRECTOR OF CURRENT PLANNING'S COMMENTS

With the clear decision to retain three lanes on the Lions Gate Bridge and causeway, issues of design and safety of the Stanley Park "S" Curve have come to the forefront. The design that has been developed improves safety, meets a number of outstanding City and Park Board needs, and results in improvements to Stanley Park and to the entrance to Vancouver. The proposed changes to the S-Curve meet the City's and Park Board's interests as outlined in the "Stanley Park Causeway Term Sheet".

With the Lions Gate Project well underway and the causeway now complete, time is of the essence to begin construction before bridge work is complete. Accordingly, we recommend that this design proceed to implementation.

COUNCIL POLICY

Council has maintained an active role in the planning of the Lions Gate Bridge Project with support expressed for a three lane option on May 26, 1998.

PURPOSE

The purpose of this report is to obtain Council approval for the design of the Stanley Park S-Curve, associated improvements and additional funding of $2 million.

Upon approval, the detailed design for the S-Curve will be completed and the project tendered. Staff will report back on the tender process and seek approval to award the construction contract to the successful bidder.

BACKGROUND

On February 3, 2000 Council approved the approved the reconstruction of the "S" curve entrance to Stanley Park.

In February 2000 the City and Park Board signed the "Stanley Park Causeway Term Sheet". This agreement outlined the short and long term objectives of the five participating agencies (the British Columbia Transportation Financing Authority, the Insurance Corporation of British Columbia, TransLink, the City of Vancouver and the Vancouver Board of Parks and Recreation) for vehicle traffic in Stanley Park. The short term objectives for the Stanley Park S-Curve are as follows:

- the realignment of the S-Curve from Gilford Street to Pipeline Road Underpass to reduce the severity of the curvature, provide minor lane width increases, extend the raised median to separate traffic flows, install a permanent speed monitoring system and to upgrade illumination and drainage;
- the reconstruction of the Lost Lagoon (Pipeline Road) Underpass to allow TransLink to introduce trolley buses into Stanley Park;
- the construction of a transit only queue jumper from the Stanley Park off-ramp on the north bound causeway in the vicinity of the Lost Lagoon ;
- the construction of lane separation for Stanley Park and transit traffic with a raised median from west of Gilford Street to Stanley Park entrance to eliminate non-transit queue jumping;
- the reconstruction of the pedestrian underpass from Chilco Street to Coal Harbour with improved vertical clearance and reduced approach grades for pedestrians, cyclists and inline skaters;
- the regrading and landscaping approach areas to the pedestrian underpass including the Chilco Bus Loop and Chilco Street;
- the construction of a new bus loop in the vicinity of the Children's Farmyard; and
- the realignment and improvement of the entrance roads to Stanley Park.

On May 16, 2000 Council approved that NDLea Consultants Ltd. be retained to carry out the design work

for the Causeway reconstruction.

On July 25, 2000 a presentation was made to the Standing Committee on Transportation and Traffic regarding a second conceptual design (Option B) for the Stanley Park S-Curve that was developed by the City's urban design consultant. The new proposal involved removing the Chilco Underpass and creating an at-grade pedestrian plaza/underpass slightly further within the Park. This concept was presented to the Standing Committee and Staff were encouraged to develop this design further.

On October 12, 2000 an open house was held to present Options A and B. Approximately 110 people attended and there was a good discussion regarding the two proposals. Of those who filled out a questionnaire, approximately 55% preferred Option B while the remaining 45% either preferred Option A or neither of the two options. Comments regarding the two options were incorporated into a revision of the two designs.

On October 18, 2000 a presentation of the two options was made to the Vancouver City Planning Commission.

On December 11, 2000 a joint Council/Park Board workshop was held to discuss the two options developed for the Stanley Park S-Curve. At this meeting, Council and Park Board members suggested that models and drawings be created for each option to better visualize the proposed changes.

On March 19, 2001 a workshop was held with models of the two options and artist renderings presented to Park Board.

On March 27, 2001 a workshop was held with models of the two options and artist renderings presented to Council.

On April 4, 2001 a presentation with the models and artist renderings of the two options was made to the Vancouver City Planning Commission.

On April 19, 2001 a public Open House was held to present the model and artist renderings of Option A. Approximately 50 people attended and there was a good discussion regarding the proposal.

DISCUSSION

Over the course of the last year, two design options for the Stanley Park S-Curve have been developed. Option A, the original proposal, involves reconstructing the roadway and pedestrian underpass in more or less their present location, but with improvements to widths and grades. Option B involves removing the Chilco Underpass and creating a larger pedestrian plaza/underpass slightly further within the Park.

Both options meet the project requirements, as agreed upon in February 2000 by the five part agreement between the British Columbia Financing Authority, the Insurance Corporation of British Columbia, TransLink, the Vancouver Board of Parks and Recreation and the City of Vancouver. In addition, both options include bicycle lanes that connect the existing causeway sidewalks to the recently approved bike lanes on Georgia Street.

While each option meets the project requirements, each has its advantages and disadvantages. Option A is less expensive, keeps the roadway down at park grade, has better pedestrian connections to the West End for transit users, and is a reconstruction of what is in place now. Option B creates a pedestrian plaza, provides

better seawall and park user movements and creates more of a park amenity.

The following table is a summary of advantages and disadvantages of each option:

	Advantages	Disadvantages
Option A	• less expensive • roadway generally at existing grade • better transit connections to the West End • easier to construct • 50% widening of existing underpass from 8.5 to 13 m • separates pedestrians from bikes and inline skaters in underpass • provides better grades for wheel chair users and inline skaters (3% as opposed to existing 8%)	• bisects the pedestrian connection between City and Stanley Park with a "trough" at the Chilco Underpass • Lost Lagoon walkway closer to roadway • involves filling a small portion of Lost Lagoon (130 m^2) • reduced urban design opportunities
Option B	• creates a much wider (30 m) at-grade pedestrian plaza • creates an at-grade pedestrian "entry" to the park • allows for better seawall and park movements for most users • allows for park users to see Lost Lagoon from the Seawall through the plaza • better urban design opportunities to celebrate park entrance	• more expensive • longer walking distance and potential security concerns for transit connections to the West End, particularly at night • roadway is elevated 3 m through the park between Lost Lagoon and Coal Harbour thus restricting pedestrian level views from existing heritage walkway/carriageway • perception of more of a highway design than Option A due to elevated roadway • involves filling a larger portion of Lost Lagoon (200 m^2)

Given the difference in cost between the two options (approximately $4 million) and the implications of elevating the roadway through the entrance to Stanley Park, staff recommend proceeding with Option A.

DESIGN FEATURES

Roadway Modifications

The current design for the S-Curve involves decreasing curvature of the roadway by increasing the radius from approximately 90 m to 100 m, widening the lanes from 2.9 m to 3.5 m, super-elevating the curve by 4%, improving the lighting, and renewing the pavement surface. The roadway is designed to meet current Canadian standards for a 50 km/h roadway.

Pipeline Road Underpass

The Pipeline Road Underpass is to be reconstructed from an existing 3.4 m vertical clearance to 5 m to provide adequate clearance for trolley buses. In addition, there will be a minor widening beneath the structure to provide sidewalks and an improvement in site distance on Pipeline Road. The design of the new structure will be similar to that of the existing structure.

Transit Queue Jumper/Lane Separation

A raised median from west of Gilford Street to just past the entrance to Stanley Park will be constructed to prevent private vehicles from jumping the queue that forms when lane control is in effect on the causeway. Once in the Stanley Park entry lane, all private vehicles must enter the park. Only transit buses will be allowed to re-enter the traffic on the causeway.

Greening of Chilco Bus Loop

The existing Chilco Bus Loop will be re-graded, landscaped and returned to park land. The existing washrooms and concession will be removed and a viewing deck created in its place. Chilco Street from Alberni to Georgia Street will be closed to traffic and greened and landscaped. Delivery and emergency access to the existing building on this block will be maintained through the use of reinforced lawn.

Chilco Underpass

The Chilco Underpass will be reconstructed and the vertical clearance increased from 2.3 m to 3.0 m, the width increased from 8.5 m to 13 m and the approach grades reduced. The new underpass will have 3 sections each 4 m wide, with one section for pedestrians, one for cyclists and one for inline skaters.

The existing approach grades of the underpass are approximately 8% and pose a significant obstacle for wheel chair users and the many novice inline skaters who rent their equipment on Denman Street and enter the park through the Chilco Underpass. To get a more desirable grade of 3%, the length of ramp will be extended and floor of the underpass in the one section raised. As a result, the vertical clearance in the inline skating portion of the underpass will have a vertical clearance of 2.5 m, as compared to 3 m for pedestrians and cyclists.

In addition, the new structure will have improved lighting and will be lit indirectly from the sides, eliminating the existing fixtures that hang from the ceiling.

New Bus Loop

A new transit loop, transit shelter and driver washroom will be created in the existing parking lot located behind the Children's Farmyard and the Stanley Park Pavilion, and will replace the Chilco Loop and the existing summer loop within the park. This loop will allow TransLink to introduce trolley bus service into the park.

Park Entry Roads

In addition to the reconstruction of the S-Curve, the park entry lanes will be reconfigured and reconstructed. A new roundabout will be constructed to serve as the focal point and the main vehicular entrance to the park. The centre of the roundabout will be landscaped and a park entry marker added.

Urban Design

The urban design of the S-Curve has been a large part of this project. The objective is to provide a sense of "gateway" to the City and Stanley Park and to improve the general appearance of the Park and City interface.

Several principles have guided the urban design of this project, including:

minimizing grade differences between the road and adjacent sidewalks, landscaping and private development;

allowing for the Georgia Street sidewalk and boulevard treatment to remain consistent along the south side of the street from the Chilco intersection eastward;

creating a meaningful visual termination of the city as it meets the park; and

maintaining and enhancing specific views down Georgia Street to Lost Lagoon.

While design development work done to date to both Options A and B includes such features and paired circular plazas to mark the historic intersection of Chilco and Georgia Streets, additional refinements may be possible to further enrich the urban design quality of this city/park gateway area. This may include some form of vertical markers at these plaza locations.

Public Art

Staff will work with Park Board staff and the Office of Cultural Affairs to explore the opportunity to incorporate public art into these plazas. This process will allow for public consultation and the development of several different options.

SCHEDULE

Upon approval, the detailed design for the S-Curve will be completed and the project tendered. Staff will report back on the tender process and seek approval to award the construction contract to the successful bidder. It is hoped that construction will begin this fall, with completion likely early spring 2002.

FINANCIAL IMPLICATIONS

The original preliminary cost estimate for constructing the Stanley Park "S" Curve, was approximately $10 million. After further developing the design, the cost estimate was refined to $13.5 million, requiring an additional $3.5 million. Of this additional amount, $1.5 million is being requested as part of the 2001 TransLink Minor Capital Program and $2 million of City funding could be provided primarily from a variety of Streets Capital Projects which are completed and under-spent.

Previously Approved (based on $10 million preliminary estimate):	
Province (BCTFA and ICBC)	$5,000,000
TransLink (2000/2001 Minor Capital)	$2,000,000
City of Vancouver	$2,000,000
TransLink (for trolley overhead into Stanley Park)	$1,000,000
Funding approved to date:	**$10,000,000**
Additional Funding Required:	**$3.5 million**
City of Vancouver	$2,000,000
TransLink (Minor Capital requested for 2001)	$1,500,000
	$3,500,000
Total Funding:	**$13,500,000**

City Funding Sources for required $2,000,000:	**Amount**
Variety of Streets Capital projects that are completed and under-spent.	
Total additional City funding:	**$2,000,000**

CONCLUSION

Over the last year, two design options have been developed for the Stanley Park S-Curve. Given the financial implications of the two options and the concerns for elevating the roadway through Stanley Park, staff recommend proceeding with design Option A, as outlined in this report.

The additional $3.5 million required could be provided from TransLink and City funds.

* * * * *

General Mgr./Dept. Head:
Date:
This report has been prepared in consultation with the departments listed to the right, and they concur with its contents

Report dated:	May 4, 2001
Author:	Forrest Klotzbach
Phone:	873-7118
Concurring Departments	
Parks	
Current Planning	

Finance