



The Sea-to-Sky Highway Improvement Project

Detailed Design Consultation Summary Report

Lions Bay

November 30, 2007

www.seatoskyimprovements.ca

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1. PROJECT OVERVIEW

1.1 Project Scope

The Sea-to-Sky Highway links communities from West Vancouver to Whistler. With its spectacular mountain landscape, the highway presents complex engineering and construction challenges.

British Columbia's Ministry of Transportation is undertaking improvements to the highway between West Vancouver and Whistler to improve its safety, reliability and capacity. By 2009, extensive improvements will make travel along the corridor safer for residents, commuters and tourists. To be completed before the Olympics, the highway improvements will serve population growth and economic development in the corridor as demand increases for resident and visitor travel, as well as goods movement.

Improvements will include highway widening and straightening, improved sightlines, passing lanes and other design innovations to reduce hazards, shorten travel times and increase capacity of the Sea-to-Sky Highway.

The Sea-to-Sky Highway Improvement Project will result in the following:

- **West Vancouver to Lions Bay** – 4-lane sections with continuous median barrier including straightening, widening and improved sightlines (eliminating several sharp curves).
- **North of Lions Bay to Murrin Park** – 2, 3 and 4-lane sections; about half of this section includes improved 2 lanes, and the remaining sections include additional passing opportunities with 3 and 4 lanes. Those sections that are 4 lanes will include a median barrier to prevent crossover accidents. Sections adjacent to Murrin Park and within the community of Britannia Beach will include improved 2-lane sections, which is consistent with community input from pre-design consultations. In Furry Creek, there will be 3 lanes moving to 4 lanes with a median barrier.
- **North of Murrin Park through Squamish** – 4-lane divided highway. This section will include median barriers throughout, including the addition of urban design features to the median within Squamish.
- **Squamish to Whistler** – 3 lanes throughout this section, including improved 2-lane sections and alternating passing opportunities provided by alternating the third lane.

1.2 Project Goals

The **primary goals** for the Sea-to-Sky Highway Improvement Project include:

- Safety improvements
- Reliability improvements
- Capacity improvements
- Project completion by late 2009
- Management of traffic during construction to minimize disruption and maximize predictability
- Completion of the project on time and on budget

1.3 Community Consultation

The Ministry of Transportation (MoT) has consulted about the scope and nature of highway improvements since 2002 with communities, businesses and residents along the corridor. Residents and community stakeholders have participated in hundreds of meetings. The design stages include:

1. Project Definition Consultation
(completed 2002–2003)
2. Pre-Design Consultation
(completed 2003–2005)
3. Preliminary Design Consultation
(completed 2005–2006)
4. Detailed Design Consultation
(completed February–November 2007)

The Sea-to-Sky Highway Improvement Project maintains a community relations program to provide ongoing communications about construction activities, as well as current construction delays and highway closures updates.

The S2S Transportation Group is the contractor responsible for designing, building, operating and maintaining the Sea-to-Sky Highway. A key outcome of detailed design consultation is practical feedback on detailed design features for consideration by the Ministry of Transportation and the S2S Transportation Group, prior to completion of improvements in each section.

Detailed design consultation generally involves the discussion of fewer but very specific treatments related to the final design of improvements, including such things as specific traffic calming and noise reduction features, shape and texture of gateway signage, detailed landscaping, lighting and other aesthetic treatments.

1.4 Traffic Management

A key goal of the Sea-to-Sky Highway Improvement Project is to manage traffic during construction to minimize disruption and maximize predictability for travellers. Highway closures will be implemented at set times and publicized well in advance.

In non-closure, "off-peak" periods, construction related traffic delays will be coordinated so that travellers will be delayed a total of **no more than 30 minutes** on a trip between West Vancouver and Squamish, or between Squamish and Whistler. Travellers will be delayed a total of **no more than 45 minutes** on a through trip between West Vancouver and Whistler.

To plan ahead for a safe trip, call **1-877-4SAFE99 (1-877-472-3399)** for up-to-date traffic information or go to the website (www.seatoskyimprovements.ca) to access the following travel planning tools:

- **Weekly Schedule** – Weekly update on confirmed highway closures and delays
- **Best Drive Times** - A list of all the times during which there are no scheduled construction closures or delays
- **Travel Planner** – A list of the available closure/delay windows for current season
- **Seasonal Travel Planner** - An overview of the five construction seasons with links to the seasonal travel planner for each season
- **Closure & Delay Windows** – The maximum closure/delay windows to 2009
- **Traffic Updates** – For up to date traffic bulletins that affect highway travel
- **Road Alerts Service** – Frequent Sea-to-Sky travellers can receive text message alerts about major or unscheduled events that affect highway travel

2. OVERVIEW OF DETAILED DESIGN CONSULTATION ON HIGHWAY IMPROVEMENTS

2.1 Stages of Consultation

As the Sea-to-Sky Highway Improvement Project proceeds through various design stages and ultimately into construction, communities and key stakeholders are being consulted. The design stages include:

1. Project Definition Consultation (completed 2002–2003)
2. Pre-Design Consultation (completed 2003–2005)
3. Preliminary Design Consultation (completed 2005–2006)
4. Detailed Design Consultation (**CURRENT STAGE**)

2.2 Detailed Design Consultation

The purpose of the consultation is to:

- **Inform** the community and stakeholders about the draft detailed design features of Sea-to-Sky Highway improvements within Lions Bay.
- **Gather** input and feedback regarding detailed design features for highway improvements from the community and stakeholders.
- **Summarize** community and stakeholder input for consideration by the Ministry of Transportation and the S2S Transportation Group.
- **Distribute** the Consultation Summary Report to stakeholders and post on the project website (www.seatoskyimprovements.ca).

2.3 Detailed Design Consultation Topics

The following consultation topics are discussed in the Lions Bay detailed design community consultation:

- Community Gateway Signage
- Landscape Plans
 - Kelvin Grove Landscaping
 - Central Lions Bay Landscaping
 - Alberta Creek to Brunswick Landscaping
 - Brunswick Mini-change Landscaping
- Retaining Walls and Noise Walls
- Architectural Lighting

2.4 Detailed Design Consultation Methods

a. Discussion Guide and Feedback Form

A consultation discussion guide (see TAB 4) was developed to explain the detailed design highway improvements and included a feedback form to assist in gathering community input on the consultation topics.

The discussion guide included:

- Maps showing the location of highway improvements and features,
- A summary of the results from preliminary design consultation with the Lions Bay community in October 2006,
- Graphics illustrating the gateway feature options, community cross-sections including locations of noise walls, and
- Descriptions and graphics illustrating landscape options including interchange landscaping, retaining walls, noise walls and lighting.

b. Feedback Forms

Feedback forms were provided and completed at two small group community meetings, at an Open House, by e-mail, fax and mail (see TAB 5).

c. Web-based Consultation

All consultation materials were available on the web, including the feedback form, which could be e-mailed, mailed or faxed back to the project office.

d. Small Group Community Meetings

The Sea-to-Sky Highway Improvement Project team held two small group meetings with the community in the Lions Bay Community Hall:

- Tuesday, October 16, 2007, 7:30pm – 9:45pm
- Wednesday, October 17, 2007, 6:30pm – 8:45pm

The discussion guide and display boards were reviewed at the small group meetings and participants provided comments on detailed design features and had the opportunity to ask questions.

A facilitator, recorder, Sea-to-Sky Highway Improvement Project team and members of the S2S Transportation Group attended these meetings.

e. Open House

An Open House was held on Thursday, October 18, 2007, 6:00pm – 9:00pm.

Discussion Guides and Display Boards provided background on the highway improvements, community cross sections, the gateway feature options, landscape options, noise wall locations, retaining walls (wire walls and concrete wall finishes) and lighting.

Sea-to-Sky Highway Improvement Project staff and S2S Transportation Group team members were available to answer questions at the open house.

f. Public Notice Ad, E-mail Invitation and Public Notice Flyer

A public notice advertisement for the Lions Bay Open House was placed in the *North Shore News* on October 10th and 12th, 2007 (see TAB 3).

An e-mail invitation was sent to the Lions Bay stakeholder list on October 5, 2007. A public notice flyer was delivered to the Lions Bay community between October 10 – 12, 2007 and posted in various locations in the Lions Bay community.

On October 22, 2007, a reminder e-mail was sent to consultation participants to ask them to return their completed feedback forms.

3. KEY THEME SUMMARY

The Lions Bay Detailed Design consultation included gathering community feedback and input regarding:

- Community Gateway Signage
- Landscape Plans
 - Gateway Deciduous Trees
 - Native Coniferous trees
 - Kelvin Grove Mini-change Landscaping
 - Median Landscaping
 - Central Lions Bay Landscaping
 - Alberta Creek to Brunswick Landscaping
 - Brunswick Mini-change Landscaping
- Retaining Walls and Noise Walls
- Architectural Lighting

More than 150 people participated in the Lions Bay Detailed Design consultation. The summary is as follows:

- 25 people attended the October 16 small group community meeting
- 33 people attended the October 17 small group community meeting
- 101 people attended the October 18 open house

- A total of 94 feedback forms were returned:
 - 3 feedback forms were submitted at the small group meetings,
 - 14 feedback forms were submitted at the open house,
 - 44 feedback forms were returned via e-mail,
 - 17 feedback forms were returned to the Lions Bay community office,
 - 3 feedback forms were faxed, and
 - 13 feedback forms were returned by mail.

Key Themes

Key themes identified in small group community meetings:

- Participants expressed concern about the look/finish of the noise walls.
- Participants noted that there are many other planting choices that could be considered for the Lions Bay landscaping options.
- Participants expressed a high level of interest in the trail system in Lions Bay.
- Several participants requested examples where context sensitive design has been applied successfully.
- Participants expressed concern about the use of 'faux' rock for gateway signage and suggested that real rock should be considered for gateway signage.
- Participants suggested that lamp standards should be 4 – 4.5 metres high as this height is in keeping with what the community requested during Preliminary Design consultation.

4. SUMMARY OF FEEDBACK FORMS

The following is a summary of input gathered through feedback forms. The quantitative results (see TAB 1) are followed by a qualitative summary (see TAB 6).

4.1 Community Gateway Signage

The community rock gateway feature emphasizes the natural surroundings of the area. Each option will have the name of the community displayed in a contemporary, consistent typeface. A Salish name for each area will also appear on the sign.

Participants were asked: Please indicate your preference for option 1 or 2.

Quantitative Summary

Option 1: Faux rock boulder base with integrated faux rock sign.	83%
Option 2: Faux rock boulder base with the sign made of painted metal.	17%

Summary of comments

- Many respondents commented that real rock rather than faux rock should be used for the gateway sign.
- Several respondents commented that the sign shape should reflect the “Lions” mountain shapes.

4.2 Landscape Plans

4.2.1 Gateway Deciduous Trees

The northern and southern community gateways will introduce the village atmosphere to people approaching Lions Bay with community rock signage, a planted highway median and trees on both sides of the highway.

Participants were asked: Please indicate your preference for option 1, option 2 or option 3.

Quantitative Summary

Option 1: Green Ash	14%
Option 2: Big Leaf Maple	9%
Option 3: A combination of both	77%

Summary of Comments

- Many respondents commented that maples are messy, block views and cause clean-up issues.
- Several respondents requested that Dogwood trees be planted at the gateways.
- Some respondents noted that evergreen trees should be planted at the gateways.

Native Coniferous Trees

Native coniferous trees (evergreens) are planned for use in mini-change areas, open areas beside the highway, and as slope seedlings.

Participants were asked: Please indicate your preference for Option 1, Option 2 or Option 3.

Quantitative Summary

Option 1: Douglas Fir	5 %
Option 2: Western Red Cedar	8 %
Option 3: A combination of both	87%

Summary of Comments

- Many respondents commented that mature trees and not seedlings should be planted.
- Some respondents noted that it was important to preserve views and not plant trees that could impact these views.
- Several respondents requested that Cedar trees be planted.
- Several respondents noted they preferred a combination of trees planted closely together to serve as a noise barrier and to blend with natural surroundings of the area.

Kelvin Grove Mini-change Landscaping

The Kelvin Grove mini-change (underpass) will feature planter boxes on both sides of the crossing to contribute to the village atmosphere for residents and highway drivers. It is proposed that the boxes will be planted with Cotoneaster.

Participants were asked to indicate their level of agreement with the proposed planting of Cotoneaster, where 1 indicates 'strongly agree' and 5 indicates 'strongly disagree.'

Strongly agree	25%
Agree somewhat	30%
Neither agree nor disagree	18%
Disagree somewhat	10%
Strongly disagree	17%

55% of respondents agreed (either strongly or somewhat) with the planting of Cotoneaster in the planter boxes.

Summary of comments

- Some respondents noted that planter boxes should contain a variety of plants.
- Several respondents requested an evergreen variety of Cotoneaster, with other colourful varieties in the planter boxes to provide interest.
- Several respondents commented that Lions Bay is attempting to remove Cotoneaster so another choice of plantings should be considered.

4.2.4 Median Landscaping

The highway median – except on bridge crossings and the existing four-lane section – will be planted for village atmosphere. It is proposed that the median be planted with shrubs, native deciduous trees such as Hawthorn, and coniferous trees such as Dwarf Spruce.

Participants were asked to indicate their level of agreement with the proposed plantings, where 1 indicates ‘strongly agree’ and 5 indicates ‘strongly disagree’.

Strongly agree	33%
Agree somewhat	29%
Neither agree nor disagree	14%
Disagree somewhat	13%
Strongly disagree	11%

62% of respondents agreed (either strongly or somewhat) with plantings of shrubs, native deciduous trees such as Hawthorn, and coniferous trees such as Dwarf Spruce.

Summary of comments

- Many respondents commented that a variety of plant species should be considered for the medians.
- Some respondents noted that whatever plants are chosen, these should require minimal maintenance.
- Several respondents suggested that if the chosen plants cannot act as a noise barrier then perhaps low concrete walls should be built.
- Several respondents suggested that gardeners from Lions Bay village should be consulted regarding plant choices.

4.3 Retaining Walls

Walls are a key component of highway noise mitigation and a method of structural support that minimizes the highway’s physical footprint. Engineering is underway to determine each wall’s exact location, structural design and dimensions.

4.3.1 Wire Retaining Wall Greenery

Climbers and or flowering shrubs will be trained onto the walls for greenery.

Participants were asked: Please indicate your preference for Option 1 or option 2.

Option 1: Boston Ivy	37%
Option 2: Hydrangea	63%

Summary of comments

- Some respondents noted that the wire walls should be planted with evergreen shrubs.
- Some respondents commented that Hydrangea requires regular maintenance and does look ‘dreary’ in winter months.
- Several respondents requested the use of ashlar walls instead of wire retaining walls.

4.3.2 Concrete Retaining Wall Finish

Community feedback is requested on the preferred appearance of concrete retaining walls and noise walls on the highway. For consistency, the community's preference will be considered in determining the finish for all concrete walls, including the facing of noise walls and the split-grade wall between the highway lanes in the Kelvin Grove area.

Participants were asked: Please indicate your preference for Option 1, Option 2 or Option 3.

Option 1: Ashlar stone finish	94%
Option 2: Ribbed finish	6%
Option 3: Flat finish	0%

Summary of comments

- Most respondents commented they preferred ashlar stone finish on walls rather than ribbed or flat finishes.
- Some respondents noted that all concrete walls should have the same finish in order to maintain a consistent look throughout Lions Bay.
- Several respondents suggested that the concrete walls could have an imprint on them to create an interesting and more pleasing look.

4.4 Architectural Lighting

Lighting will only be used at mini-change areas, where it is required for safety. Two architectural lighting styles that meet both public transportation safety requirements and the desire for an aesthetically pleasing style within the community were presented in the Discussion Guide.

Participants were asked: Please indicate your preference for option 1 or Option 2.

Option 1	22%
Option 2	78%

Summary of comments

- Many respondents commented that the light standards should be lower as presented in preliminary design.
- Some respondents noted the importance of using low intensity lighting in order to avoid light pollution.
- Several respondents suggested that neither proposed lighting design reflects architectural lighting style or village feel.
- Some respondents suggested the use of as few lighting standards as possible.

4.5 Highway Improvements

Key highway improvement design features were developed through Preliminary Design consultation (October 2006 – September 2007) and agreed to with the Lions Bay Highway Advisory Committee. A summary of these improvements was presented in the Detailed Design Discussion Guide (pages 8-9). Lions Bay residents were asked to provide their comments on the following highway improvements:

- **Highway designed to operate at the posted speed of 60 km/h**
Currently designed and operating at 80 km/h design, posted at 60 km/h.
- **Highway designed with traffic calming curves**
Curves integrated into highway alignment within Village boundaries and at north and south approaches to promote lower and more consistent traffic speed through community.
- **“Narrow” lane widths to slow traffic**
Designed to influence driver perception – wider painted lines will make lanes seem narrow, encouraging traffic to slow down.
- **Police enforcement locations within the Village**
Opportunities include pull-outs and ramps as part of highway design for northbound and southbound speed enforcement.
- **Mini-change underpass at Kelvin Grove**
Combination of design features to reduce noise from pre-construction levels, such as quiet pavement (used through community), split-grade highway, noise-mitigating walls suitable for vegetation, retaining maximum number of trees. The mini-change will be landscaped with grass, shrubs and trees, and planter boxes installed on top of the structure.
- **Split-grade highway at Kelvin Grove**
Follows natural elevations and blocks traffic noise with aesthetically enhanced wall separating northbound and southbound traffic.
- **Replacement of the Tidewater Trail**
Restore and improve the Tidewater Trail for safe connectivity.
- **Inclusion of 1.5m marked cycling lanes throughout the Village**
Mini-changes and highway shoulder/ramps designed to safely accommodate cyclists within and through the community.
- **Planted raised median throughout the Village** (except bridge crossings and the current four-lane section)
Landscaping plans developed to achieve “village atmosphere” for residents and to influence traffic speed.
- **Overall highway noise reduction of 4 to 5 decibels**
Multiple methods employed to reduce noise, per preliminary consultation feedback, such as noise walls, interchange walls, quiet pavement, and traffic calming features to reduce the speed of vehicles.

- **Quiet pavement throughout the Village**
Open-graded asphalt that partially absorbs vehicle-tire noise on highway surface.
- **Covered (paved) expansion joints on bridge surfaces**
Eliminates thumping noise when vehicles cross.
- **Noise walls with greenery at the condominiums**
Reduces noise from traffic directly below – greenery disguises walls in keeping with village atmosphere.
- **Improved Lions Bay Avenue interchange**
Better sightlines and longer acceleration/deceleration lanes for easier merging and exiting.
- **Wire walls alongside the west side of (below) the highway**
Plantings at the base for greenery in front of the walls.
- **Concrete retaining walls at the new interchanges**
Part of traffic noise reduction – enhanced surface for aesthetic appeal.
- **Northbound and southbound bus stops at the new interchanges**
For transit and highway buses – bus authorities will approve the exact stop locations.
- **Mini-change overpass at Brunswick**
On highway - physical footprint reduced, alignment shifted east from originally proposed design to maximize distance from houses and minimize tree removal.
Below highway - fill design refined for residential access road to provide tree buffers between homes, railway track and highway. Grass, shrubs and trees will be planted on the fill material. The mini-change will be landscaped, with 15 minute drop-off parking spots near bus stops, but no other large parking area.
- **New signage throughout**
Including sign references to Brunswick Road (not Brunswick Beach), at the request of residents.

4.5.1 Summary of comments on highway improvements

- **Quiet Pavement**
Many respondents commented on the importance of installing quiet pavement in Lions Bay section of the highway, including the on and off ramps.
- **Trail Interconnectivity**
Many respondents noted the importance of trail interconnectivity for residents from all parts of Lions Bay to reach the Lions Bay Village centre and related services like busing. It was also noted that a trail at the edge of the highway is not safe.
- **Noise Walls**
Many respondents recommended the installation of noise walls on the west side of the highway at Brunswick as well as at Kelvin Grove.

- **Lighting**
Some respondents noted that light pollution is a concern in the Lions Bay area and several respondents suggested motion detection for lights.

Several respondents commented that light barriers (for headlights and tail lights) are needed along the highway through the Lions Bay section, particularly in Kelvin Grove.
- **Speed**
Several respondents recommended that the speed through Lions Bay section should be posted at 60km/h.
- **Underground Services**
Some respondents recommended that all wiring should be placed underground in the Lions Bay area.
- **Plantings**
Several respondents noted the need for mature plantings to shield the hydro substation from view.
- **Barrier:**
Some respondents were concerned that breaks are necessary in a barrier separated highway for fire, police and ambulance response to incidents.
- **Directional Signs**
Some respondents noted the need for directional signs to rest areas in Portueau Cove.

4.6 Additional Comments

- **Contractor**
Several respondents commented that Kiewit is doing a good job with minimal disruption.
- **Lighting:**
Some respondents noted their concerns about light pollution in the Lions Bay area.
- **Cycling Path**
Some respondents commented that a 1.5 metre wide bicycle path is dangerous and should be wider.