

SEA-TO-SKY HIGHWAY IMPROVEMENT PROJECT ASSESSMENT REPORT

APPENDIX 2

SUMMARY OF PUBLIC COMMENTS AND MINISTRY OF TRANSPORTATION RESPONSES

This document summarizes public comments received on the Application and the responses provided by the MoT. The comments tracked in this document were submitted between August 20, 2003 and October 17, 2003 during the public comment period conducted by the EAO. A summary of the public comment process and the issues identified is presented in Section 7 of the Sea-to-Sky Highway Improvement Project Assessment Report.

The MoT responses were issued in 2003 prior to the additional consultations held by the MOT with the Village of Lions Bay and the District of West Vancouver and the issuance of the *Sea-to-Sky Highway Improvement Project, Clarification Report, Village of Lions Bay* (March 2004) and the *Sea-to-Sky Highway Improvement Project Clarification Report – Horseshoe Bay to Sunset Beach (West Vancouver Segment)* (April 2004).

Comment/ Issue	Ministry of Transportation Response
VANCOUVER AREA	
J. Siu. Supports BEST policy positions and strongly opposes highway expansion. Need transport demand management measures and alternative modes of transport rather than increased highway capacity. Would help reduce Greenhouse Gases	Primary objectives of project are to improve safety and reliability, with capacity improvements where needed. MoT is supportive of traffic demand measures and is undertaking a Traffic Demand Management study. BC Rail committed to operating rail shuttle service between Whistler and the Callaghan Valley venue during Olympics. Section of BC Rail corridor that will be used for a southbound lane will still facilitate joint use by vehicles and rail.
Kahla Lichti. Investigate a commuter train option instead of highway improvements.	Commuter rail was considered and analyzed in corridor studies undertaken over the last few years. Generally, studies conclude commuter rail is expensive, would only divert a small percentage of ridership off highway, and wouldn't eliminate current requirements to improve highway.
Robert Baxter. Most sensible, sustainable and possibly economical plan would be to introduce frequent passenger service on the existing rail line rather than increase highway traffic.	Primary objectives are to improve safety, reliability and provide additional capacity where needed. Commuter rail was considered and analyzed and is expensive and would only divert a small percentage of ridership off the highway. Improved transit service was identified with highest potential to divert ridership. Project team will work with various agencies responsible for implementation of TDM measures.
K Webster – Prefer train route to Whistler and upgrade of BCR Line.	EAO Note: (See above responses).
David Pritchard. Scope of Transportation Demand Management Study did not consider how tolls could potentially increase transit ridership and vehicle occupancy.	General government position is tolls only implemented when a toll-free alternative route is available. TSi Consultants are currently undertaking a Travel Demand Management Study. Improvements are urgently required to address highway safety.
Cynthia van Ginkel. Take measures to reduce unnecessary vehicular idling during construction and maintenance of the Sea-to-Sky Highway works	May be easier to implement with contractors rather than general public. Contractors will generally operate in most cost-effective manner, which would include shutting down equipment when not in use. Not aware of any regulatory requirements for public turning off engines while waiting in traffic queues.
Laura Rosenthal and Robert M. Schertzer. Better lighting along the medians to improve night visibility and safety. Impressed with progress on Culliton Creek to Cheakamus Canyon construction and the minimal highway closures.	Objective is to improve safety along the corridor. Lighting and delineation will be improved. Generally overhead lighting is provided at intersections, interchanges and within urban areas. Various types of delineation are used to define lane lines, fog lines, shoulder lines, concrete barriers etc.
Dr. M. Kaburda. Address potential environmental geotechnical hazards in the Garibaldi Civil Defence Zone and at the Daisy Lake Dam before allowing improvement of the highway because of the risk to public safety.	Rubble Creek Landslide Hazard Area (RCLHA) and flood risks within District of Squamish are beyond the scope of highway improvement project. Risks to highway users and workers are within the scope of project. Risk to highway users very low and about the same as other worker risks and individual worker risk criteria. Societal risk is considered low and in compliance with typical societal risk criteria. Multiple Account Evaluation supported construction of improvements to this section of highway on existing alignment, rather than relocation outside RCLHA.
VANCOUVER AREA	
Ryan Beckett. Upgrade will reduce driving time, fuel costs and vehicle emissions. Use Barge Loading Site near the marina be used rather than the emergency BC Ferries terminal because of the proximity of a provincial park near the Porteau Cove terminal.	Many drivers will experience a reduction in travel time, fuel consumption and exhaust emissions. The preference is to use the potential barge loading site at Sunset Marina and minimize using the emergency ferry dock at Porteau Cove.
Concord Investigations. Offered security and flagging services during highway construction.	EAO Note: No Response Required
M. Peel. Inquiry whether there will be Open Houses for the project.	EAO Note: Open House schedule forwarded by EAO.

Comment/ Issue	Ministry of Transportation Response
WEST VANCOUVER	
<p>EAO Note:</p> <p>After these comments from the public and responses were provided, the MoT undertook additional consultation and design work on options for the alignment in West Vancouver. The results of this work are reported in the Sea-to-Sky Highway Improvement Project Clarification Report – Horseshoe Bay to Sunset Beach (West Vancouver Segment), April 2004 (referred to as the West Vancouver Clarification Report) and reviewed by the Biophysical/Technical Working Group and the Socio-Economic Working Group created by the EAO. The options for the preliminary alignment described in the West Vancouver Clarification Report replace Options 1 & 2 that were presented in the original Application document.</p> <p>The MoT proposes two revised options for certification, known as Option B and Option D. Option B is an overland route with four new lanes up-slope from the existing Highway 99 corridor. The existing highway would then serve only local and ferry traffic. No highway improvements are necessary on the existing highway between Marine Drive and Pasco Road since it reverts to local traffic use only. Option D consists of two new lanes up-slope from the existing Highway 99 corridor and includes a two-lane, two-way tunnel of approximately 1 km in length. The new tunnel route and the existing Highway 99 would each carry two-way traffic. Construction of the tunnel route would start at the north end of the Caulfield Interchange. Option D includes upgrading of the existing highway between Marine Drive and Pasco Road to accommodate a portion of the through traffic and improve traffic safety.</p>	
<p>Natalie Drache. Strongly advocates minor changes only to the existing Sea-to-Sky highway for safety. Develop state-of-the-art alternate highway route dedicated to expansion and development of urban and potentially industrial centres co-developed and co-managed with prior and informed consent and participation of Squamish Nation. Safety factor with drivers unwilling to respect speed limits. Provide evidence of concrete changes based on public input.</p>	<p>While some alternate routes are technically feasible, there are considerable environmental, parks, First Nations, winter operations and other issues. The alternate routes are considerably more expensive and don't eliminate the requirement to improve the existing highway. I would like to advise that the objectives of the project are firstly to improve highway safety, secondly to improve highway reliability and thirdly to provide capacity improvements. Our objective is not to build a four lane speedway. The design speed for the highway is 80 km per hour with speed reductions through the urban areas.</p>
<p>Joseph Cantafio. Design detail suggestions: "Air Rights" over BCR to install bridge-like structures; consider lower cost alternative to conversion, use and reconversion of the BCR line as a temporary roadway.</p>	<p>This technology over the railway could be used to create a split grade alignment over the existing highway and could be workable if the issues of highway access and traffic delay could be managed. Some of the larger work packages will likely be procured through design-build, and the contractors will explore various options to arrive at the most cost-effective solution. MoT shares concerns over cost-effectiveness of using railway temporarily and will study the section between Brunswick Beach and Porteau Cove further for options.</p>
<p>H Benson – If BCR line between Horseshoe Bay and Squamish made fully available could widen road to this side and minimize blasting and rock removal</p>	<p>EAO Note: Point of Information.</p>
<p>Herbert R. Bolz. Short tunnel option appears to be the best solution and should be expandable to four lanes.</p>	<p>Short tunnel is preferred option. Four laning tunnel does not provide value. A second tunnel could be considered in the future when traffic demand increases beyond capacity provided by this project. EAO Note: For more information please refer to the West Vancouver Clarification Report</p>
<p>Pascal J. Leprevost. Short tunnel option appears to be the best solution and should be expandable to four lanes.</p>	<p>Short tunnel is preferred option. Four laning tunnel does not provide value. A second tunnel could be considered in the future when traffic demand increases beyond capacity provided by this project. EAO Note: For more information please refer to the West Vancouver Clarification Report</p>
<p>Claire Rushton. Support tunnel option through Nelson Creek to Horseshoe Bay area and oppose dual level highway through this area on environmental and safety grounds. Ferry traffic needs to be addressed. Traffic is backed up on almost every weekend in the summer well beyond Caulfield exit. Concerns about safety, traffic congestion during project construction and ferry traffic parking on highway shoulder.</p>	<p>Project will improve ferry queues by removing northbound Highway 99 traffic from local and ferry traffic mix further east. Additional lanes connecting ferry toll plaza with ferry parking and operational improvements inside terminal will help alleviate some ferry traffic congestion outside of terminal. Current merging of Highway 99 southbound traffic with eastbound Highway 1 traffic from ferry is working from a safety perspective. MoT will manage safety and community construction impacts to the full extent possible. EAO Note: For more information, see the West Vancouver Clarification Report</p>

Comment/ Issue	Ministry of Transportation Response
WEST VANCOUVER	
<p>Gary Andrishak.</p> <ul style="list-style-type: none"> • Prefer Option 1 to Option 2 in West Vancouver • Option 2 will present noise and dust pollution and safety issues during construction for residents of Westport Place. • If Option 2 chosen, construction impact mitigation measures must be developed jointly with residents of Westport Place 	<p>Preference is tunnel couplet versus surface couplet because of significant reduction in property and environmental impacts. Caulfield Interchange is part of strategy and will undertake a safety and operational review of the interchange to come up with a series of improvements. MoT will work to mitigate impacts from tunnel construction and require contractors to maintain highest standards of dust and noise control and noise control. Will definitely meet with community residents and develop mitigation strategies on a consultative basis. <i>EAO Note: For more information, see the West Vancouver Clarification Report for description of Options B and D.</i></p>
<p>Darlene Holmes and Herbert Horn. Blasting for tunnel at Nelson Creek may damage homes at Westport Road. Construction noise concerns. Increased traffic problems at Caulfield Interchange if used as northbound turnaround for traffic from Horseshoe Bay. Westport road not designed to accommodate truck traffic. Noise from the tunnel portal may adversely impact nearby neighborhoods.</p>	<p>Pre-construction condition surveys are standard requirements when undertaking blasting, pile driving or other activities that could impact adjacent properties. A study is currently being undertaken of Caulfield Interchange. MoT established TLC and CAG to work with the community to identify impacts and develop and implement mitigation strategies. Noise mitigation will be a key topic of discussion with communities. MOT has noise mitigation guidelines for dealing with incremental noise increases due to highway projects. Contractors will determine routes for hauling. Will generally have to use the highway or designated truck routes and comply with municipal conditions.</p>
<p>James and Christine Hogan - Preserve trees at Pasco Road for scenic and environmental reasons (e.g. protect from runoff, landslides). Blasting may damage houses. Increased travel time to Ansell Place. Oppose use of BCR due to noise and traffic impacts. Travel time to Ansell Place with couplet extends 2 minute trip to 15 – 20 minutes</p>	<p>Tree clearing will be kept to absolute minimum. The planned improvements will address any instability or drainage issues resulting from the highway, and should result in improved safety. If the existing access with the highway is retained, we will ensure that safe access and egress is provided at this location. Regarding travel times and emergency response times to the southern Howe Sound communities, the MoT is developing solutions and is looking for a "shortcut" route to reduce or eliminate the need for the turnaround at Caulfield Interchange. <i>EAO Note: For more information, see the West Vancouver Clarification Report. The MoT no longer proposes to use the rail line as a detour during the Project construction.</i></p>
<p>Klaus and Ludwina Schneider. Highway access at Ansell Place without an overpass is unsafe. Pasco Road right only access means drive to Caulfield to turnaround north. Build connection from Pasco Road to Citrus Wynd to allow access to highway via Ansell Place overpass. Create effective connection from Pasco Road to the Ansell Place turnoff.</p>	<p>Linkages with Ansell Place were conceptually examined by the preliminary design consultant. Both options had significant constructability, environmental and community concerns. The new intersection will have significant safety benefits over the existing situation. <i>EAO Note: For more information, see the West Vancouver Clarification Report.</i></p>
<p>Peter and Karen Balogh. Current highway between Horseshoe Bay and Ansell Place will change from two way traffic to southbound only. This means current two minute drive from Pasco Road to Ansell Place will increase to 15 to 20 minutes because of need to go to Caulfield and then turn around. Also distance and time for emergency response increases. Protected left hand turn lane at Pasco Road not acceptable solution from safety perspective. Concern that more time should be given to gather public input. Consider a connection to Citrus Wynd.</p>	<p>Prime objective is for Pasco Road access northbound to be safe, whether protected T intersection or linkage with Ansell Place are implemented. MoT studies indicate that the best value to public is couplet system including a short tunnel. This raises the issues of connectivity, emergency response and impacts to Caulfield Interchange, all of which we recognize and for which we are developing mitigative solutions. MoT committed to project that improves highway safety, highway reliability, provides additional capacity where currently required, minimizes impacts to adjacent communities and provides best value to the public. <i>EAO Note: For more information, see the West Vancouver Clarification Report.</i></p>
<p>Peter Balogh – Lack of northbound access from Pasco Road increases travel time to Ansell Place for local traffic. Couplet will increase emergency response times between Ansell Place and Horseshoe Bay. Minimize tree removal and design drainage to accommodate run-off. Oppose use of BCR during construction because of traffic (noise) impacts to Pasco Road residents.</p>	<p><i>EAO Note: For more information, see the West Vancouver Clarification Report. The MoT no longer proposes to use the rail line as a detour during the Project construction.</i></p>

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WEST VANCOUVER	
<p>Alan and Isabelle Procter. Lack of northbound access from Pasco Road increases travel time to Ansell Place for local traffic. Couplet will increase emergency response times between Ansell Place and Horseshoe Bay. Minimize tree removal and design drainage to accommodate run-off. Oppose use of BCR during construction because of traffic (noise) impacts to Pasco Road residents.</p>	<p>Project team assessing "shortcut" alternatives to provide more direct highway access for northbound access which will also improve emergency response. Will ensure Pasco Road intersection is safe by ensuring sightlines provide for safe left turn movements and including acceleration lane for merging speed into the northbound traffic. Noise factors will be included in feasibility assessment for rock disposal. Excavated materials transported by truck will be confined to highways and designated truck routes or contractors will follow local government approval processes. Designers and contractors will exercise due diligence to ensure downstream properties not negatively impacted by drainage. Tree removal will be kept to a minimum to construct highway improvements. EAO Note: For more information, see the <i>West Vancouver Clarification Report</i>. The MoT no longer proposes to use the rail line as a detour during the Project construction.</p>
<p>Frank Musson. Design Issues: Pasco Road traffic must go south to Caulfield to turn around and go north. Sidewalk and light at intersection near Rockridge School will be inadequate. Endorse three kilometre tunnel with traffic in both directions as a better option. Noise from the tunnel and construction noise. Gravel road near Westport Place should not be used as an access route for construction trucks and vehicles. Support 3 kilometre bi-directional tunnel option</p>	<p>MoT studies show the couplet concept provides considerably higher public value, in highway safety and long term functionality. Looking at possible solutions to mitigate inconvenience of access to Highway 99, emergency response to the southern Howe Sound communities and impacts to Caulfield Interchange. MoT has no technical information to show 3 kilometer tunnel starting at Eagle Creek provides better value to the public than the shorter tunnel. Truck haul will have to be confined to highway and designated truck routes. If an alternate route is feasible off-highway on a non-truck route, this would require agreement by local government. . EAO Note: For more information, see the <i>West Vancouver Clarification Report</i>.</p>
<p>Dennis and Patricia Konasewich. Project not clearly defined including specific components around West Vancouver. Application to EAO is incomplete. Lack of long-term planning. Concern with noise during construction and operation of the highway project. Sampling to establish baseline levels for noise not representative because done when traffic volumes were light. Noise barriers will be required prior to and after construction. Environmental assessment makes no reference about potential impact on residential buildings due to vibrations from blasting. Blasting during construction may impact residents of Ansell Place and Bedora Place. Emergency response time will increase since nearest fire truck (at Horseshoe Bay) will have to travel south to Caulfield, then north towards our development. Ansell Creek drains into part of ocean rich in biota and sedimentation in the creek could have adverse impact. Should have been planning sessions with residents along the highway to ensure optimal long-term socio-economic benefits for the highway. Quantitative risk evaluation of 70,000 truck loads going to this road is necessary, as many people do live in the direct vicinity of Sunset Beach.</p>	<p>MoT had to "freeze" the presentation material to prepare the Application at the conceptual design level to meet schedule objectives. MoT working to improve design concepts to provide better value and reduce impacts as much as possible. Preference is for short tunnel northbound couplet option with existing highway providing southbound lanes. Ministry's noise mitigation guidelines consider incremental noise increases attributable to proposed highway improvements. Project will continue to work with communities to develop practical methods of mitigating traffic noise, such as use of super-pave (quiet pavement) within urban areas. Recognize this presents challenges for access to the highway and emergency response and are working at solutions. Generally 2025 used for planning horizon. Goal is long term safety, reliability and mobility improvements to the highway. The Olympics provide a catalyst for this project. Improvements will have a positive impact on safety in the Horseshoe Bay area and ferry traffic congestion. MoT working with CAG to provide community input into project design. MoT will require the contractors undertake pre-construction inspections of private buildings prior to undertaking construction activities that could cause damage, such as blasting and pile driving. This will provide baseline condition information to identify any damage caused by construction. Assessing feasibility of using conveyor system to transport materials from highway to barge loading facility to reduce impacts to local communities. . EAO Note: For more information, see the <i>West Vancouver Clarification Report</i>.</p>
<p>John Roberts. Concern over lack of design detail provided by MoT. Recommend two way tunnel and use of the current alignment by trucks and as a scenic route. Concern over increases in emergency response time, extended trip length to access ferry, increased traffic via Eagleridge or Caulfield exit, grater travel times for Lions Bay children attending Gleneagles Elementary and noise impacts at the school.</p>	<p>. EAO Note: For more information, see the <i>West Vancouver Clarification Report</i>.</p>

Comment/ Issue	Ministry of Transportation Response
WEST VANCOUVER	
<p>Bruce McArthur. Impact on travel times for emergency services between Horseshoe Bay and Sunset Beach. Noise baseline monitoring did not include Gleneagles School. Ferry traffic and highway traffic management. Rock haul – volumes and routes information needed. What are Larsen Creek wetlands mitigation proposals? Design speeds.</p> <p>Hopes that the assessment period will be extended. Nine questions about highway design, noise, traffic, emissions impacts and Larsen Creek wetlands primarily related to the West Vancouver area.</p>	<p>Recognize emergency response is an issue and working on solutions to mitigate these concerns. For noise data, Wakefield Acoustics Ltd. selected sites that were representative of locations anticipated to be maximally exposed to project noise impacts. For rock disposal, MoT assessing feasibility of a conveyor system to transport materials from the highway to barge loading sites or rail cars. Objective at this time is to assess the feasibility of various disposal options, identify issues and constraints associated with these options, ensure these issues and constraints are communicated in our contract specifications, then allow contractors the latitude to manage their material disposal requirements. For Larsen Creek wetlands, the surface couplet option includes a high bridge crossing of Larsen Creek downstream of the wetlands and there will be no impact on the wetlands. CSD criteria is for an 80 km per hour design standard in rural areas and 60 to 70 km per hour in urban areas. . EAO Note: <i>For more information, see the West Vancouver Clarification Report.</i></p>
<p>Mike Fillipoff. Provide bicycle access along the entire length of the highway.</p>	<p>Ultimate design standard includes, at a minimum, 1.5m shoulders throughout, which is suitable for cyclists. Improvements between Brunswick Beach and Furry Creek are not included in current scope and are deferred to after 2010.</p>
<p>Anders I. Ourom, Climbers' Access Society of BC. Preserve Leviticus Rock in Murrin Park by shifting the alignment and concerned about damage to Jalap Bluff and parking and access for climbers to this area. Preserve use of existing parking area for climbers accessing Stawamus Chief. Concern over losses or reductions to parking areas for climbers wishing to access Malamute and Apron</p>	<p>Upland Recreation Impact Study identified many of the areas of concern. MoT suggests that project team work with the society, and others with similar interests, through a structured focus group or committee to address issues consistent with recommendations from Upland Recreation Impact Assessment Report and will contact you in near future. EAO Note: <i>This was done.</i></p>
<p>P. Kubik. Concerned with potential affects on recreational hiking on trails between Squamish and Horseshoe Bay.</p>	<p>Recreation assessment done by a recreational consultant. Access to all identified trails along the corridor will be maintained where possible. Preliminary highway designers and recreational consultant will assess trail access points to ensure safe access, egress and parking can be provided.</p>

Comment/ Issue	Ministry of Transportation Response
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LIONS BAY	
	<p>EAO Note: After these comments from the public and responses from the MoT on the alignment in the Lions Bay area were submitted, the MoT conducted additional consultation with the community of Lions Bay in 2004 and the results are reported in the Sea-to-Sky Highway Improvement Project, Clarification Report, Village of Lions Bay, March 2004 (known as the Lions Bay Clarification Report). The MoT subsequently wrote to the Mayor and Council of Lions Bay on May 7, 2004 to advise that, based on the support in the public consultation and the project objectives, the Ministry is proceeding to the preliminary design stage with the 4 lane option. This includes mini-changes at Kelvin Grove and Brunswick Beach. Further engineering will provide information required for other design elements such as noise barriers and intersection design. The MoT has also committed to work with the Lions Bay community to reduce current highway noise by 4 to 5 dB through mitigation measures, such as open graded asphalt and speed reduction. Further, MoT is prepared to work with the community to make best efforts to incorporate noise barriers and other noise mitigation efforts where effective, which could result in a further 5dB reduction. (OCR 9.5). The MoT has also advised the EAO that it no longer proposes to use the BCR (now CN Rail Line) as a detour for traffic during the construction phase of the Project. The rail bed will be used as a third lane for southbound traffic between Furry Creek and Brunswick Beach during the Olympics and the access from the rail line to the highway in the Brunswick beach area has been moved further north and will either be just to the north of Magnesia Creek Bridge or just to the south of M Creek Bridge.</p>
<p>Victor Miles - 2km stretch through Lions Bay should remain 2 lanes and for social, environmental and economic reasons, merge from 3 lanes to two just north of Lions Bay. Concern about impact to property values.</p>	<p>EAO Note: See Above</p>
<p>Myron, Susan and Miranda Loutet. 4 laning in Lions Bay. Strongly oppose project unless noise abatement and safety concerns are addressed.</p>	<p>MoT will work with CAG to address critical noise and safety issues.</p>
<p>Nancy Seow. Oppose four laning in Lions Bay due to increased noise, bottlenecks where traffic reverts to two lanes, increased air pollution.</p>	<p>MoT normally considers four laning when Annual Average Daily Traffic (AADT) volumes reach 10,000. Current AADT between Horseshoe Bay and Lions Bay is approaching 14,000. Design speed for highway will be 80 km per hour except in urban areas where design speed will be in the order of 60 km per hour. Since Brunswick Beach to Furry Creek has a relatively lower AADT, MoT will defer construction (new lanes) in this section until after 2010. No technical basis for traffic backlogs to occur in Lions Bay and transition zone from two lanes northbound to one lane northbound can be adjusted to alleviate this possibility.</p>
<p>S. Stokes 4 laning in Lions Bay will create increased noise and safety issues and then merging from 4 to 2 lanes increase traffic congestion and encourage speeding. Can EIA be done without detailed design information and without final options available?</p>	<p>Improving highway safety is the number one objective of this project. Normally the MoT considers four lanes when Annual Average Daily Traffic (AADT) approaches 10,000. Currently, the AADT between Horseshoe Bay and Lions Bay is approaching 14,000 and 11,000 between Lions Bay and Squamish. MoT recognizes that controlling speed within the community will also contribute to noise reduction and is working with the CAG to identify other practical solutions. The Noise Assessment Study was a corridor-level study only. CH2M Hill have retained a noise specialist for the urban Lions Bay area and made a more detailed noise assessment presentation to the CAG.</p>
<p>Sheila Blake. 4 laning through Lions Bay and merging to 2 lanes will result in increased noise, safety and air pollution impacts and traffic congestion. Consider alternate highway route. Move merge to 2 lanes north to Lonetree Creek How can EIA be done without detailed design information?</p>	<p>Number one objective is to improve highway safety performance. Highway standard for corridor is 80 km per hour using CSD guidelines, which emphasize highway design within the constraints of environment, aesthetic and community values. There are significant costs, topographic, environmental and First Nations issues with alternate route through Indian Arm and would not eliminate need to improve existing highway. Transition point from two lanes to one lane northbound will be far enough north to avoid traffic backups through Lions Bay. Public input is essential to success of the project.</p>

Comment/ Issue	Ministry of Transportation Response
LIONS BAY	
Renate and Dieter Alberts. Concern that 4 lanes through Lions Bay will create speeding and accidents where road narrows again to 2 lanes as well as traffic jams and air pollution from idling vehicles.	EAO Note: See above response
M. B. Le Boutillier. Concern with noise and pollution if four lanes through Lions Bay.	Improving highway safety is the number one objective of the project. Transition from four lanes to two, will occur far enough north to avoid the traffic issues in Lions Bay. Noise mitigation consistent with Ministry policy and mitigation measures used on other Ministry projects will be considered for Lions Bay.
Colleen & Jim Dickinson. Oppose four lanes through Lions Bay. Will result in speeding and excessive traffic noise. Improve existing section with tree plantings, assist with funds to top trees obstructing viewscapes for some residents. Should have considered an alternate direct overland route to Whistler Want better rationale for the project that considers needs of the residents and not just the Olympics.	MoT normally considers four laning when Annual Average Daily Traffic (AADT) volumes reach 10,000. Current AADT between Horseshoe Bay and Lions Bay is approaching 14,000 and 11,000 between Lions Bay and Squamish. Four lanes required between Horseshoe Bay and Lions Bay. Number one objective is to improve highway safety. Design standard is 80 km per hour using CSD methodology. Speed reduction will be provided in urban areas, such as Lions Bay. Transition point from two lanes to one will be north of the community. Obstruction of views is a community issue. MoT may become involved if trees are danger trees at imminent risk of falling onto highway. Several studies have examined alternate routes that are technically feasible but present environment, parks, First Nations and winter operations issues and are more expensive.
Danielle Wenkstern. Project will create increased noise. Oppose four lanes through Lions Bay. The project should include steps to reduce existing traffic noise and if this is too expensive then offer Village residents a revenue-sharing option be offered to Village residents for consideration	The MoT retained a noise specialist to assist with this aspect of their assignment. Objectives include identifying the real impacts in terms of safety, traffic speeds, traffic noise, community connectivity and aesthetics and work with the community to develop practical solutions to mitigate any negative impacts. Project team will work with communities to develop practical solutions to reduce traffic noise, including super pavement (quiet pavement) through urban areas. MoT has technical guidelines for cost sharing with municipalities. Generally, MoT responsible for costs of highway improvements, the municipality bears costs of urban features.
Lawrence Ruskin. Do not 4-lane Lions Bay until entire highway upgraded to 4 lanes. Noise levels already high and will increase. Don't believe proposed traffic calming measures will work. Put cover over noisy parts of the road to mitigate noise. Concern that noise monitoring for baselines readings not done in the correct locations	One reason for speeding within Lions Bay is lack of village or urban atmosphere. Context Sensitive Design (CSD) will influence driver behaviour through design application. MoT is working with CAG to improve highway aesthetics. Building four lanes through Lions Bay now, but not using two of the lanes until the remainder of the highway is four laned offers no incremental benefit to highway users. Will locate transition area north of Lions Bay and seek to avoid impacts from traffic bottlenecks. Noise attenuation measures will be considered for Lions Bay. Noise monitoring equipment was placed in areas where mitigation was considered feasible.
Robert and Gail McFarland. Concerns about noise and speeding in Lions Bay. 4-lane narrowing to 2-lane will create problems. Motorcycle noise and speeding in Kelvin Grove as roadway narrows to two lanes.	Noise is concern in most urban areas along the corridor. Project team will work with communities to develop and implement practical mitigation measures. Context Sensitive Design will provide visual indicators to the driver that will have a significant impact to the reduction of speeding. Noise modelling will be done and presented to the community. Additional noise measurements have been done and will help to develop solutions for avoidance and mitigation of noise.
Trudi, Rudy and Simon Luethy. Increased noise, accidents, "4 lane-racetrack" through Lions Bay	Primary objective is to improve highway safety. Design standard for the highway is 80 km with speed reductions in urban areas like Lions Bay from developing village character into highway. Noise monitoring was done at locations where mitigation would be most feasible. Ground level noise measured because it could be mitigatable with noise attenuation fencing. Wakefield Acoustics provided report to CAG on baseline noise levels.

Comment/ Issue	Ministry of Transportation Response
LIONS BAY	
Gillian Smith. Concerns with noise and speeding in Lions Bay and recommends noise mitigation and only two lanes in Lions Bay.	Noise mitigation measures, consistent with Ministry policy and treatments used on other projects, including use of "quiet" pavement, will be considered for Lions Bay. Intend to work with community to develop village character into highway to reduce traveling speeds.
Alex Murdoch. Concern about noise levels and increases in Lions Bay. Want a road surface designed to minimize noise and a sound barrier in order to enjoy a normal life.	MoT working with CAG and will continue to consult to develop practical solutions to mitigate noise. At a minimum, solutions will include use of super pavement (quiet pavement).
Mrs. R. Hutton. Concern about increased noise and safety for children crossing the highway.	Highway noise is a concern of many in Lions Bay and in other communities along corridor. A noise specialist is on the MoT design project team. Objective is to minimize project impacts to communities. MoT project team will continue to work with community to develop practical noise mitigation.
Janice Wilson. Concern about noise and minimizing impacts to the local landscape in Lions Bay area.	Highway improvements should remain within existing roadway as much as possible. Will implement the alternate access road between the railroad and the highway near M Creek as shown on Application drawings.
Andrew Crane. Aesthetics and effect of the project on residents treatment is inadequate.	MoT committed to Context Sensitive Design. Technical Liaison Committee and the Community Advisory Groups provide opportunity for community input.
Greg Turpin. Imperative that interconnectivity along Sea to Sky Highway is maintained. Application seems to focus on travel to Whistler and not on corridor residents who account for about 1/3 of the traffic on the highway. Noise from existing highway has disturbed sleep in Lions Bay. Accident rate will escalate with four-lane highway merging down to a two-lane highway. Unimpressed by public consultation meetings, because of lacking information. Looking for more detail on project design such as access to highway from Strachan Point. Important to preserve highway connectivity. Only Kelvin Grove will have 'right in' and 'right out' access unless there is provision for interconnecting roads and an underpass. From Upper Kelvin Grove people headed to Lions Bay will have to drive to Ansell Place to turn Pasco Road access is flawed in safety and reliability. Concern about emergency access to Upper Kelvin Grove. What budget is there to improve the Caulfield over pass system? Concerns with construction interruptions.	<p>This is a long term project and the design processes are being staged to suit an overall design and construction program to facilitate completion in late 2008 or 2009. Noise mitigation will be consistent with Ministry policy and mitigation measures used on other Ministry projects. MoT realizes connectivity is an important issue and is working with the CAG to find solutions. MoT looking to minimize or eliminate requirement to use Caulfield Interchange for a turnaround, an operational and safety study should be complete this year. Transition to narrowing of highway north of Lions Bay to existing two lanes will be located to not impact Lions Bay and will provide safe traffic merging traffic. There will be delays to the public during construction, but MoT will minimize these to the extent possible and also minimize the frequency and duration of full highway closures. MoT will keep the traveling public and communities informed of traffic pattern changes and delays to the full extent possible. This will allow people to adjust their schedules, to the extent possible, to avoid delays.</p> <p>EAO Note: For more information, see the Lions Bay Clarification Report.</p>
Greg Turpin. Existing highway is noisy, results in sleep disturbance at night if house windows open. Safety concerns about accidents from speeding if 4 lanes through Lions Bay. Concern that project information on access (right/left turnout) to highway from Kelvin Grove not accurate and unimpressed by public consultation meetings, because of lack of updated information. To access Lions Bay from Upper Kelvin Grove will have to go to Ansell Place to turn around and turn around. Increases travel time and emergency response times. Travel time for school children from Lions Bay to Gleneagles will increase.	Will minimize impacts to mobility during construction by avoiding high rock slope excavation wherever possible. Slowing design speed to avoid a series of tunnels would have a much higher impact on travelers. Will minimize full highway closures, keep traveling public/communities informed and time closures to avoid critical periods, to the extent possible. Noise mitigation, consistent with Ministry policy and mitigation measures used on other Ministry projects, will be considered for Lions Bay. Working with CAG to find solutions to community connectivity. Looking for solutions to minimize or eliminate use of Caulfield Interchange for a turnaround. An operational and safety study should be complete this year. Narrowing of highway north of Lions Bay to two lanes will be located north of Lions Bay and will provide safe merging of traffic.

Comment/ Issue	Ministry of Transportation Response
LIONS BAY	
<p>Andrew Crane. Difficult to judge merits and demerits of a project when design options have not yet been presented to the public. Design options will be available late in November or December after the EA review public comment period has passed. Delay approval of the application, at least the portion that affects the Village of Lions Bay, until public meeting is held where design options are available to residents. Community access issues in Kelvin Grove area not sufficiently addressed. Current design requires traffic from lower Kelvin grove to travel 6.4 south to Ansell Place to access northbound lane. This is serious inconvenience to residents.</p>	<p>Project team met with the CAG in October to discuss design concepts and seek advice as to the level of detail required for presentation to the public. When design work completed to sufficient level of detail, CAG and the Project Team will present design alternatives to the community. Application does state that turnaround location would be at Ansell Place. EAO Note: Since these comments on the alignment in the Lions Bay area were provided, the MoT conducted additional consultation with the community of Lions Bay in 2004 and the results are reported in the Sea-to-Sky Highway Improvement Project, Clarification Report, Village of Lions Bay, March 2004 (known as the Lions Bay Clarification Report). The MoT subsequently wrote to the Mayor and Council of Lions Bay on May 7, 2004 to advise that, based on the support in the public consultation and the project objectives, the Ministry is proceeding to the preliminary design stage with the 4 lane option. This includes mini-changes at Kelvin Grove and Brunswick Beach.</p>
<p>Carlos S. Castellon. Concern with four lane highway through Lions Bay. To walk to and from Calvin Grove to the City Hall or to walk to Brunswick will become a more dangerous, especially for children going to school. Should consider first the liveable neighborhoods, the children of our communities and the interaction of the community including the impact to our quality of life that a four lane highway will create. The four lanes end within the Village so that all the traffic back-up will happen exactly where we live. This means increased air pollution, noise pollution and visual pollution.</p>	<p>Number one project objective is to improve highway safety on this corridor. The design speed is 80 km per hour, with speed reduction through the communities. The project has adopted Context Sensitive Design that promotes highway design within the context of environmental, community and cultural values. With respect to the transitioning from four lanes to two, this will occur far enough north to avoid the traffic issues you reference in your letter. Currently it would appear that transitioning north of Magnesia Creek, or possibly constructing to the current northbound passing lane north of M Creek, may be appropriate. EAO Note: For more information, see the Lions Bay Clarification Report.</p>
<p>Carlos S. Castellon. The improvement of the highway along Lions Bay includes a new traffic exchange in Calvin Grove. The designers should consider lowering the highway building an underpass and keeping the surface road for the neighborhood. Calvin Road uphill is very steep. Lowering the highway will recess the cars into a trench cutting the visual and noise pollution.</p>	<p>With respect to Kelvin Grove, this is one of the elements of community connectivity that needs to be resolved. We are working with the Community Advisory Group to develop solutions for this. <i>The MoT subsequently wrote to the Mayor and Council of Lions Bay on May 7, 2004 to advise that, based on the support in the public consultation and the project objectives, the Ministry is proceeding to the preliminary design stage with the 4 lane option. This includes mini-changes at Kelvin Grove and Brunswick Beach.</i></p>
<p>Jim Hughes. Lions Bay Community Advisory Group. Concerned with lack of progress on more detailed designs for alignment through Lions Bay. Wants more work done on design options for tunnel and “snow shed” options through Lions Bay.</p>	<p>Level of detail commensurate with the progress of the design assignment. Committed to addressing Lions Bay community concerns, especially to noise and safety. A recommended option will be presented to CAG and community and will be refined and advanced through preliminary and detailed design. EAO Note: This was done.</p>
<p>Andrew Crane. Noise assessment for Lions Bay not adequately addressed. Concern about reliability of noise baseline monitoring. Noise will increase with traffic volume increases. Aesthetics should consider community and not only drivers perspective.</p>	<p>Noise impact assessment was a high level study. Information is preliminary and subject to further design developments. More comprehensive database will be used to develop design concepts to help avoid and/or mitigate noise impacts.</p>
<p>Louis K. Peterson. Increased traffic noise. Concern that the MoT noise monitoring not done effectively and that baseline data is unreliable and not representative of the section of Lions Bay most adversely affected by noise. Current noise pollution already adversely affecting residents and should be reduced by appropriate mitigation measures.</p>	<p>Additional baseline noise measurements have been done and submitted to CAG. MoT will consider noise mitigation measures consistent with their policy and approach on similar projects. EAO Note: Independent review of baseline noise data collection methodology in Lions Bay was completed.</p>

Comment/ Issue	Ministry of Transportation Response
LIONS BAY	
Don Campbell. Noise concerns and how baseline data collected	Noise mitigation measures, consistent with Ministry policy and treatments used on other projects will be considered for Lions Bay. Wakefield Acoustics presented a report to CAG that explains the methodology and method for correlating noise levels to traffic volumes. EAO Note: <i>Subsequent review and verification of noise data and collection process done by independent U.S. consultant.</i>
Mike R. Wilson. Proposed access to BCR from Brunswick Pit Junction runs behind residences on Brunswick Beach Road and should be relocated north of Magnesia Creek to avoid noise impacts and loss of trees. Find balance between an urban and rural lifestyle.	To avoid impacting the community, MOT will not detour traffic onto BCR corridor through Lions Bay and access road tie-in will be constructed north of Brunswick Beach. MoT committed to work with the community through the CAG to develop a project that serves and respects communities through which it passes. EAO Note: <i>The MoT has advised the EAO that it no longer proposes to use the BCR (now CN Rail Line) as a detour for traffic during the construction phase of the Project. The rail bed will be used as a third lane for southbound traffic between Furry Creek and Brunswick Beach during the Olympics and the access from the rail line to the highway in the Brunswick beach area has been moved further north to either just north of Magnesia Creek Bridge or just south of M Creek Bridge.</i>
Samantha Gardiner. Petition presented with 100% of households from Brunswick Beach residents signing. Plans are unacceptable because of noise impacts. Merging four lanes to two lanes too close to residential property. Requesting merge occur at M Creek, not Magnesia Creek. Paving of BC Rail and diversion of traffic too close to residential property. Requesting it occurs at or after M Creek. Request a pedestrian crossing at Brunswick Beach	Lions Bay CAG with Brunswick Beach representation are working through various technical and community issues. Analysis, including community impacts, will determine transition from four lanes to two. Project team will work with the CAG, strongly consider their concerns and recommendations, and provide technical justification for the position. Access ramp between BC Rail and highway through Brunswick Beach will be constructed north in M Creek area. Proposed T intersection will provide safety benefits over current situation.
Carlota A Castellon. Concerned that four lanes ending at Brunswick Beach will increase speeding. Quality of life will be decreased with additional pavement, vehicles speeding, traffic bottlenecks, views tarnished, exhaust fumes, increases in noise. How will medical transportation occur if road is closed? Clarification requested on road closures and tolling.	Improving highway safety is number one project objective. Design speed is 80 km per hour. Intend to improve travel times by reducing delays, not by increasing speed. Additional passing lanes where they are most required will reduce driver aggression and accidents. Transition from four lanes to two will occur far enough north Lions Bay to avoid traffic issues. Will keep traveling public and communities informed of traffic pattern changes and delays to full extent possible. Closures will be timed to avoid critical periods, to extent possible. Work will be done in a series of contracts using various options of contracting but none of these options will include tolls. Tolls will not be implemented on this highway.
Renate and Dieter Alberts. Generally pleased with design up to Lions Bay. Great concern with only two lanes for section from Lions Bay to Furry Creek, the most dangerous part of the Sea-to-Sky-Highway where most serious accidents occur. Traffic jams and cars idling will cause air pollution. A four lane highway is needed in this area.	As highway volumes increase, need for passing opportunities increases. Four lanes currently required between Horseshoe Bay and Lions Bay, but can be deferred between Lions Bay and Squamish until 2017. MoT will consider issue of traffic queuing when siting location of transition from four lanes to two lanes.
Anne C. Page. Require more project detailed design to conduct meaningful review. Concern over noise impacts and barrier effect. Would like alternate route to Whistler explored.	Project design is long-term process. MoT working with CAG to find solutions. Will not use BC Rail for third lane during the Olympics within Brunswick Beach. Alternate routes are technically feasible but present other issues (e.g. environment, parks, winter operations) and are more expensive and do not eliminate requirement to improve existing highway. Intend to work with community to develop village character into highway to reduce traveling speeds. EAO Note: <i>For more information, see the Lions Bay Clarification Report.</i>

Comment/ Issue	Ministry of Transportation Response
LIONS BAY	
<p>Greg Weary. Need more project detail to properly assess environmental and social impacts to Lions Bay. Noise – already high and will increase. Application states that no mitigation required according to MoT policy. Aesthetics – Enhance the aesthetics of the existing roadway and do so in consultation with the community</p>	<p>Design consultant for Lions Bay section retained an acoustic specialist and more detailed baseline assessments have been completed and presented to CAG. Noise attenuation measures, consistent with Ministry's policy and measures utilized on other Ministry projects, will be considered for Lions Bay. Recognize desire of community for "village atmosphere". Objective is to develop urban features to improve aesthetics, help create village atmosphere and alert drivers they are entering or passing through an urban community.</p>
<p>Richard J. Bennetts. Widen road between Porteau Cove and Horseshoe Bay. 3 lanes merges are dangerous. Long term solution is four lane divided highway between Horseshoe Bay and Porteau Cove that reduces or eliminates the sharp corners. Increase police patrols on this stretch. Safety issue should be the primary concern.</p>	<p>Number one objective of the project is to improve highway safety. Second objective is to improve highway reliability. Third objective of the project is to provide capacity improvements where they are currently warranted. MoT considers four laning when Annual Average Daily Traffic (AADT) approaches 10,000. AADT between Horseshoe Bay and Lions Bay is approaching 14,000, and 11,000 between Lions Bay and Squamish. Ultimate design standard is four lanes divided between Horseshoe Bay and Squamish and three lanes between urban Squamish and Whistler with one lane in each direction with continuous passing lanes, alternating between northbound and southbound. Improvements to ultimate design standard deferred because of concerns with negative effects from highway closures and delays during construction.</p>
<p>Cathie Ratz. Concern of adverse impact to Lions Bay Community School commuters from daytime road closures. Why are night time closures not an option?</p>	<p>To minimize the delay to the traveling public as much as possible MoT will design highway improvements that can be constructed with least amount of traffic delay. Work with communities to understand their needs and constraints and provide thorough public information on highway closures and delays. Where feasible and appropriate, work will be done at night. Night closures are being considered. Blasting generally has to be done during daylight hours for safety reasons, and noise impacts on adjacent communities also needs consideration.</p>
BRITANNIA BEACH	
<p>Tony Mahood, regarding Makin property south of Britannia Beach. Concern with finding a proper Highway alignment through Makin property. Want commitment from Ministry to start clean-up of contaminated soil mistakenly placed on the Makin lands during the 1991 flood clean-up.</p>	<p>MoT agrees to work together to develop a mutually beneficial project. Partial bypass option through Makin lands is an alternative alignment in Application. Will continue dialogue with Makin Britannia to resolve issues. Construction planned for late 2006 which leaves time to work for a solution that provides best value to the public. Addressing materials stockpiled on Makin lands is part of a multi-agency initiative for environmental clean-up of the Britannia area.</p>
<p>Pam Tattersfield. Suggestions for adjustments to detailed road and intersection design within Britannia Beach and Squamish.</p>	<p>Geometric improvements under designer's preferred option will be done south of existing Furry Creek Bridge and includes extending southbound passing lane to northern end of Porteau Bluffs. Access near the Furry Creek Golf Course 14th hole will be closed. Safety will be the main objective with intersection treatments at Britannia Creek. MoT will consider practical solutions to mitigate noise through the corridor communities, including the use of "quiet" pavement. Current strategy is for 3rd lane adjacent to Mining Museum to be temporary during Olympics.</p>

Comment/ Issue	Ministry of Transportation Response
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FURRY CREEK	
<p>Anita Schmitt. Noise impacts in Furry Creek. Questions the project rationale, appears that Olympics not safety improvements are basis for the roadworks. Concern that MoT did not consider earlier input from Furry Creek committee regarding studies on noise mitigation and solutions. Air pollution will be a factor on those residing in the corridor. Design Issues - Add passing lanes not 4 lanes between Porteau Cove and Lions Bay. Interchange/access design extends travel for Strachan Point residents wishing to drive to Lions Bay.</p>	<p>Number one objective is to improve safety. The MoT normally considers four laning when Annual Average Daily Traffic (AADT) volumes reach 10,000. AADT is currently approaching 14,000 between Horseshoe Bay and Lions Bay. AADT drops to about 11,000 north of Lions Bay, therefore four laning can be deferred in the short term but will be required by 2017. An operational and safety review of Caulfield Interchange is being done to identify improvements to the interchange that can be staged. Project team will continue to work with the Technical Liaison Committee and CAG to develop practical solutions to mitigate noise. MoT is considering quiet pavement through all of the urban areas, including Furry Creek. Several studies have examined alternate routes that are technically feasible but present environment, parks, First Nations and winter operations issues and are more expensive.</p>
<p>Derek B. Milne. Highway needs regular passing opportunities, not four lanes from Horseshoe Bay to Whistler. Concerns about safety and speeding with 3 or 4 lane upgrade. Take out some very tight bends between three lane section approaching Windy Point and south to Horseshoe Bay. Make driving in the passing lane with no intention of passing an infraction with a significant penalty.</p>	<p>Agree current highway deficient in passing opportunities. MoT normally considers four laning when Annual Average Daily Traffic (AADT) volumes reach 10,000. Current AADT between Horseshoe Bay and Lions Bay is approaching 14,000 and 11,000 between Lions Bay and Squamish. Four lanes required between Horseshoe Bay and Lions Bay and four lanes can be deferred in short term between Lions Bay and Squamish. From Furry Creek to Squamish, regularly spaced passing lanes will be provided. There will be speed reduction zones through the communities. The key objectives of the project are to improve highway safety and reliability with capacity improvements provided where currently required. "Slower Traffic Keep Right", instructions posted at the start of passing lanes are regulatory and enforceable by the police.</p>
<p>Keith and Kyoko Mukai Oliver. Want effective measures to reduce noise and control speed (e.g. enforce 60kph speed limit, baffles and quiet pavement).</p>	<p>Impractical to reduce speed through Furry Creek because highway is built to a higher design speed through this area. MoT will work with CAG to identify practical measures to mitigate highway noise, including use of "quiet" pavement through Furry Creek.</p>
<p>Tom Davis. No single solution to the current and future (increased) level of noise generated by highway traffic. A multi-faceted approach must be implemented. Proposed upgrades will bring higher speeds, the potential for larger and more serious accidents involving a greater number of vehicles. Rather than replacing the existing highway with a 3 to 4 lane racetrack, preserve scenic drive, improve safety and traffic handling capacity and retain and enhance the sense of community as the highway passes through the various residential communities along the highway.</p>	<p>Several studies show alternate routes are technically feasible but present environment, parks, First Nations and winter operations issues and are more expensive. With respect to noise mitigation, speed reduction and providing urban character within the communities, the project team is working through the TLC and CAG to identify practical measures to address these issues. The measures considered for noise mitigation include use of quiet pavement, noise buffers and other means. It is also a key objective to reduce speeds through urban areas and this can be achieved through various means, including portal treatments, median treatments, lane narrowing and other urban features. Design speed is 80 km per hour with speed reduction in urban areas.</p>
<p>Peter and Gisela Wirth. Noise impacts in Furry Creek - Recommend tunnel or sound barrier wall with a dense planting of conifers to mitigate sound.</p>	<p>Highway improvements will be minimal through Furry Creek, since the current highway has four lanes at present. Some work will be carried out at the south end of Furry Creek, including a new bridge structure Tunnel through Furry Creek is not included in project scope. Incremental increase through Furry Creek is estimated to be minimal. MoT will continue to work with community to develop practical measures to reduce noise, including use of "quiet" pavement.</p>

Comment/ Issue	Ministry of Transportation Response
SQUAMISH	
Doug Lye. Support upgrade to four lanes along the entire highway and want reduction in traffic lights along the highway.	Ultimate strategy to horizon year of 2025 is to provide four lanes between Horseshoe Bay and Squamish and three lanes between Squamish and Whistler. Four-laning in urban Squamish will help alleviate traffic queuing. Traffic platooning and related driver frustration will be significantly alleviated.
Andrea Harris. Should include measures to encourage use of alternative modes of transportation (bus, train, ferry) as part of the scope of the project.	Numerous corridor transportation studies undertaken. Some focus on multi-modal transportation options, including commuter ferry, passenger rail (both on the existing track alignment and on higher speed track alignment) and expanded transit service. Generally, studies conclude other modes of travel, will not divert enough ridership off the highway to alleviate current need to undertake highway improvements. Primary objectives of this project are firstly to improve safety, secondly to improve highway reliability and thirdly to provide capacity improvements where they are currently required.
John K. Erickson. Detail design issues <ul style="list-style-type: none"> • Eagle Ridge north through Horseshoe Bay not at the same elevation and why drop in elevation at Stick Point and Porteau? • Why necessary to travel north from Horseshoe Bay to Caulfield exit and turn around access ferry terminal? • Why four lanes in Lions Bay? • Why not use West Coast Express on the BC Rail for the Olympics? 	Two options proposed for the Highway 99 northbound routing from Highway 1 westbound. Surface couplet option would exit from Highway 1 just west of Nelson Creek Bridge, rise approximately parallel with Highway 1 and pass over Eagleridge Drive on east end of Eagleridge Interchange. This alignment facilitates on-ramp to Highway 99 at this location. Caulfield Interchange is nearest turnaround available to get into the ferry traffic when travelling southbound. New interchange or turnaround not included in this project. Olympic Bid Corporation studied options for transportation strategy for Olympics Games.
D Gagné. Daily Squamish to Whistler commuter and questions why traffic stoppages have increased in the past three weeks.	Assuming stoppage locations is in Culliton Creek-Cheakamus Canyon section currently under construction (not part of EA review), provides Culliton-Cheakamus Project Office phone number and states delays, when necessary, will be well advertised, occur during non-peak travel times and be as short as possible.
John Irvine. Impacts to cyclists from exhaust fumes in the tunnel and concern that 2m shoulder will not be constructed along the entire length of the alignment. Interest to see alternative modes of transportation examined (bus, rail).	Tunnel will have a ventilation system and CO ₂ monitoring system. The minimum shoulder width will be 1.5m except from Brunswick Beach to Furry Creek where highway widening will not occur until after 2010. Previous corridor transportation studies of on multi-modal transportation options, including commuter ferry, passenger rail and expanded transit service generally concluded that other modes would not divert enough ridership from the highway to alleviate need for highway improvements. Primary objective of the project is improved safety, as well as to improve highway reliability and provide capacity improvements where required. The MoT normally considers four laning when Annual Average Daily Traffic (AADT) approaches 10,000. Current AADTs are near 14,000 between Horseshoe Bay and Squamish, over 20,000 in urban Squamish and approaching 8,000 between Squamish and Whistler.
Kevin McLane. Concern over adverse impacts to rock climbing at Murrin Pak, Chief and Malamute sites. Would like to see improved parking and pedestrian access	Uplands Recreation Impact Assessment Report is part of the Application. MoT intends to establish focus group for discussions between recreational interest groups, local governments, B.C. Parks and project team to allow for exchange of information, ensure project benefits from local knowledge of recreation community and allow solutions to impacts in a consultative manner.
Mel S. Drage. Requests a sound barrier since traffic volume has increased and will increase further through Brackendale. Use surplus rock and other materials to construct a berm on Cheekye Fan.	MoT has noise mitigation guidelines and a variety of mitigation measures are considered. A noise impact assessment for project indicates noise mitigation is not warranted under MOT guidelines, however project team will work with communities to identify and undertake practical mitigation measures.
A.J. Lowe, Squamish Mills Ltd. Prepared to take any excess surplus rock as riprap on the foreshore at the Dry Land Sort.	Most surplus rock will originate from Horseshoe Bay to Lions Bay and disposal will be the responsibility of the contractors. Names of the bidding contactors can be provided.

Comment/ Issue	Ministry of Transportation Response
PINECREST/BLACK TUSK	
Brent Harley. Safety of access/egress from Pinecrest and Black Tusk subdivisions. Noise issues. Risk of contamination of local water supply from Retta Lake from exhaust pollution or spills and accidents. Move alignment significantly to east over an environmentally less sensitive and shorter stretch of land. Question whether MoT will seriously consider this option.	Number one objective of this project is to improve highway safety along the corridor. Current plans include protected T intersections at Pinecrest Estates and Black Tusk Village to allow vehicles to merge safely. MoT recognizes community drinking water source at Retta Lake is an important issue with the community. Current design provides for improvements by: lowering highway grade through this area to provide additional protection from highway splash and snow ploughing; keeping highway widening to the east side of the existing alignment; ensuring the pavement drains away from the lake, and providing an enclosed water collection system for highway drainage. Project team will continue to work with community to address concerns and mitigate impacts. EAO Note: The MoT has committed to place concrete roadside barriers on the highway in the vicinity of Retta Lake to reduce the risk of vehicles entering the lake and minimize and control, rock blasting in the vicinity of Retta Lake. (OCR 10.7 and 10.8)
Bryce Leigh. Proposed alignment from just east of Daisy Lake past Pinecrest and Black Tusk Village to Brew Creek Lodge Road will not adequately protect residents from increased noise or provide safe highway access. Prefer a new route further east, closer to Daisy Lake. Concern about Sea to Sky Trail (EAO Note: The trail is not part of the project.)	Number one objective is improving safety along corridor. Protected T intersections at Pinecrest Estate and Black Tusk Village accesses will provide much safer access and egress. Baseline noise measurements were recorded in this community and projected noise levels calculated for both 2010 and 2025. Project team will continue to work with the communities to develop practical noise mitigation. Alternate alignment along the shore of Daisy Lake was suggested by Community Advisory Group. Multiple Account Evaluation recently completed and will be presented to the CAG. EAO Note: The MoT reports that this was done.
Richard Auer. Recommends an underpass to drive onto the highway from Black Tusk and Pinecrest rather than a smart light to have smoother traffic flow, better highway access and fewer accidents.	Number one objective is to improve highway safety performance. Current concept to provide protected T intersections with acceleration and deceleration lanes in the southbound direction, with left turn slots and acceleration lanes provided in the northbound direction. This will provide a considerable safety benefit over the current intersections. Grade-separated crossings of the highway at Pinecrest Estates/Black Tusk Village are not currently under consideration by the project team. Comparative analysis of three alignment options adjacent to two communities is complete and will be provided to CAG at earliest opportunity.
WHISTLER	
J. Horner – Place concrete divider along entire route to reduce accidents and improve safety	Current highway has an accident record exceeding provincial averages. The Project will reduce the frequency and severity accidents and bring them to levels below the provincial average. The ultimate design standard for the section between Horseshoe Bay and Squamish is four lane divided and median barrier will be provided in sections built to the ultimate standard. Other parts of this section of highway will be improved to an interim three lane standard, with one lane in each direction and continuous passing lanes, either in the northbound or southbound direction.
Bob Becker. How will access to highway be managed during Olympics for Whistler residents? Will rail use be eliminated during Olympics?	Current plans are to utilize the section between Brunswick Beach and Furry Creek for a southbound lane for highway traffic daily from 4:00 am to 4:00 pm. Rail freight service will occur on the tracks from 4:00 pm to 4:00 am. BC Rail's current plans are to operate a rail shuttle service between Whistler and the Callaghan Valley. Passenger rail service between Vancouver and Squamish was considered by the Olympic Bid Committee during their transportation planning processes.
Doug Bebb Designate highway “mountain highway” to improve safety in winter by enabling RCMP to deal with drivers who have marginal tires. Power and speed contribute to accidents in poor conditions	EAO Note: Point of Information. This is beyond the control of the MoT.

Comment/ Issue	Ministry of Transportation Response
WHISTLER	
Elizabeth Looi. Construction and ski season may create traffic jams, impact commuters. Need good information on closures during construction period.	Strategy to minimize construction impacts includes construction scheduling, Traffic Management Plans and a public communications plan.
Marilyn McVey. Consider needs of commuters during highway construction and Olympics. Passenger train service would be preferred use of funds and better for environment.	Key objective is to undertake project with least possible impacts to the traveling public. Various studies of alternate modes of transportation were undertaken for Sea to Sky corridor. Commuter rail was not found to capture sufficient ridership to alleviate need for highway improvements.
PEMBERTON	
David Midgley. Could construction be accelerated by increased use of equipment to shorten duration of work?	Staging construction over six years can better mitigate negative impacts by reducing overlapping delays. Contractors are required to develop and adhere to Traffic Management Plans that includes construction staging plans, delay mitigation strategies and traffic safety procedures. Construction schedule will not be accelerated to avoid compromising agreed upon traffic delay regime. In considering cash flow, attempts to optimize early benefits to the public are done.
OTHER	
Crispin S. Guppy. An inventory of rare butterflies and dragonflies, and their habitat, should be conducted. Once specific locations and habitats have been identified and described, appropriate mitigation and/or compensation plans can be developed. (Follow-up comments: Public review is to identify issues not already addressed. COSEWIC does not do original research. For most species of butterflies and dragonflies the habitats are not correlated with typical ecosystem mapping. A field inventory is the only viable option for determining locations and populations of dragonflies and butterflies of conservation concern. Appropriate mitigation will be site and species specific. Qualified entomologists would be able to provide expertise.) (Quesnel)	Impact assessments on the subject species were not included in detailed work plan for the upland vegetation and wildlife impact assessment. Species at Risk Act provides legislation to protect rare and endangered species. COSEWIC will continue to research and provide reference species to be protected under the Act. MOT would appreciate comments on how their ecosystem mapping might help identify habitats where some of the listed species may occur, whether the scientific world knows enough about these species to make these habitat links and mitigation measures.
Jim Alix, BC Cycling Coalition. Create shoulders of minimum 1.5 metres width and preferred 2 metres width and use appropriate intersection designs to accommodate cyclists. Project is opportunity to promote cycling and encourage alternate mode of transportation and contribute to tourism and reduction of greenhouse gases. (Nanaimo)	Project team recognizes Sea to Sky Highway is increasingly becoming a recreational corridor. Would like to establish a focus group for discussions between recreational interest groups, local governments, B.C. Parks and project Team. BCCC invited to participate. Ultimate design standard for the project includes minimum 1.5m wide paved shoulders, which may be greater within urban areas and beside single lane sections.

Comment/ Issue	Ministry of Transportation Response
OTHER	
Otto Kamstra. Design for bicycle traffic along the Highway between Vancouver and Pemberton.	A paved shoulder width standard of 1.5m minimum has been adopted for project. Optional cycling routes will not generally be provided unless there are existing facilities. Pavement sweeping will continue to be performed by road and bridge maintenance corridor.
Troy Tyrell. Project impact to recreational hiking trails - specifically Cheakamus Canyon Trail.	A recreational consultant retained to assess potential project impacts to recreation, identify mitigation and enhancement opportunities. Strategies to minimize impacts and maintain the trail continuity will be done on short section of the trail that may be impacted by road widening.
K. Perrault. Trains not lanes, with bike racks.	Commuter rail is expensive and would only divert small percentage of ridership off of highway.
S. Enevoldsen – prefer train route to Whistler	Commuter rail was considered and analyzed in corridor studies. Generally the studies conclude that commuter rail service in a form that could be competitive with other modes of travel is expensive to implement and would still only divert a small percentage of ridership off of the highway.
Donald Rennie Double tracking rail instead of highway will move far greater numbers of people, in greater comfort and with far fewer injuries or fatalities. Concern about air quality.	Objectives are to improve safety, reliability and provide capacity improvements where most needed. Commuter rail was considered and analyzed but is expensive, and only divert a small percentage of ridership off highway. BC Rail line as a third lane during Olympics between Brunswick Beach and Furry Creek will not prohibit conventional rail from operating. An accident involving Olympic athletes would detract from the success of the Olympic Games, as would an accident involving staff or spectators. Safety improvements will reduce the risk of such an event occurring.
Christa Bortignon. Any plans to bury hydro and telephone lines to improve sight distances and provide better security and safety?	Decisions on utility routing, method of routing and other such issues are responsibility of the utility companies. MoT responsible to ensure vehicular safety provided with respect to pole locations, bracing, cross-overs and other parts of the utility plant.
Patrick Hill Where and when will BC Rail track be used as detour or extra lane? Are passenger ferries still being considered for the 2010 Games from downtown to Squamish? How will the Squamish Dock connect the Sea to Sky highway?	Similar improvements to the railway are being considered between Brunswick Beach and Furry Creek to provide a dedicated southbound lane for vehicular traffic during peak daily periods during the Winter Olympics. Passenger ferry service between downtown Vancouver and Squamish is an integral part of the transportation plan for the 2010 Winter Olympics. Bus service between Squamish and Whistler will be provided for people using the passenger ferry service. The one way travel time is 50 minutes. The Squamish Dock/ Sea to Sky Highway connection will be developed during the urban Squamish design. EAO Note: The MOT no longer proposes to use the rail line as a detour route during Project construction.
Ron Masters. Why Horseshoe Bay to Brunswick Beach section not designed to an expressway standard cross-section? Will eventual 4 lane alignment from Horseshoe Bay to Squamish be free-flow with grade separation?	Context Sensitive Design applies design techniques to influence drivers. One element is narrower lanes. A shoulder with of 1.5m in rural sections is considered adequate. Current project does not eliminate at-grade intersections, however accesses will be consolidated wherever possible and upgraded to improve safety. Not within current concept to provide free-flow corridor between Horseshoe Bay and Squamish.
Helen Henderson. Concern with graffiti on rock faces and impact on aesthetics. Supports use of reflectors to delineate lanes.	MoT has a graffiti removal program through road and bridge maintenance contracts. Suitable delineation of the highway will be provided.

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<p>Errors in the Traffic forecasts including future traffic levels, inconsistencies between TSi consultants report and EA Application calculations, need to include estimated population growth in the estimates, and absence in the application of any detailed analysis of operations phase traffic levels. Revisions to the Application should include an up-to-date calculation of traffic flow impacts associated with highway construction which incorporates increased traffic volumes associated with induced population growth.</p>	<p>In the TDM study by TSi Consultants, the estimated latent travel demand was based on a 4-lane highway from Horseshoe Bay to Squamish. The highway improvements currently proposed have been significantly scaled-back. The highway segment from Lions Bay to Furry Creek will remain as two lanes and the segment from Furry Creek to South Stawamus will be improved to three lanes. As such, the EA Application had adopted a lower latent demand of 2 percent due to the scale-back in project scope. The traffic forecast in the EA Application has included additional traffic growth generated by the population increase of 16 percent that will be induced by the STS Highway upgrade. As the residents of the STS corridor account for approximately 35 percent of the annual trips, the 16 percent increase in population levels in the corridor will generate a 5.5 percent increase in travel. The latent demand and the additional population generated by the STS Highway upgrading will result in a combined traffic increase of approximately 7.5 percent relative to the Base Case in the absence of the Project. This traffic increase is included in the forecasts for the scenario with upgrading of the STS Highway.</p>
<p>Estimate the impact of highway expansion on ambient concentrations of ground level ozone including background VOC and NO_x. Provide more precise modeling of future ambient concentrations of ground level ozone in the corridor. Forecast future emissions of ozone precursors from point and area sources. Identify major corridor emissions of specific VOC's with high ozone production potential, and a sensitivity analysis of future concentrations of ground level ozone base on estimates of future ambient summer temperatures.</p>	<p>The absence of ambient air quality monitoring data is not a limiting condition for assessing and estimating changes in ambient concentrations in an airshed or for a project. Dispersion models are often used as tools to assess change when monitoring is impractical or too expensive. The air quality assessment clearly shows that ambient concentrations are predicted to decrease in future years when compared with baseline data. Within the STS airshed, no proposed or publicly disclosed future projects that require EAO approvals were discovered that are associated with direct emissions to atmosphere from point or area sources that could cumulate with the Project impacts. As part of the air quality assessment, a search was conducted to identify other future projects or activities that might be highly likely to occur (not hypothetical).. Since emissions of point and area sources are not expected to change significantly in the future years, and they do make up a large amount of the sources, the ratio of NO_x to VOC emissions is not expected to change. The emission decrease from vehicles would thus result in a slight reduction in the airshed. Ozone is not directly emitted from the project or vehicles travelling along the corridor. It is formed in the atmosphere through a complex process that involves different meteorological processes, natural and anthropogenic sources. Factors such as time of year, spatial extent, diurnal variations, correlation with other contaminants, meteorology, wind direction and speed, transboundary influences, forest fires, and stratospheric ozone can effect the local concentration of ozone at any given time.</p>
<p>Need to estimate the cumulative impacts of corridor emissions increases induced by highway expansion including the estimates of total air emissions associated with the project – corridor intra-urban vehicle emissions from visitors and induced population growth, and vehicle emissions from increased traffic in the GVRD.</p>	<p>Existing air shed emissions are characterized in Vol 2, Sec C, Section 5.1 of the Application. A number of mobile, point and area emission sources were identified that contribute to ambient air quality in the air shed. Ambient air quality monitoring at Squamish, Whistler, Langdale, and Horseshoe Bay for a variety of pollutants was used to characterize the current air quality in the air shed (Vol 2, Sec C, Section 4) including the current contributions from the Sea-to-Sky Highway. When assessing the potential air quality impacts from the proposed project, the 98th percentile concentration from these monitors was added to the maximum predicted modelled contribution from the highway. This represents a conservative approach to assessing contributions to cumulative air quality. When ambient concentrations were added to the predicted emissions from the highway for the baseline and in future years (See Vol C, Sec C, Section 8.1, Table 8-1), the resulting concentrations remained below the applicable air quality objectives. By utilizing this approach (including monitoring data from the GVRD), potential air quality impacts from other sources in the corridor are addressed within the assessment.</p>

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Provide an accurate estimate of greenhouse gas emissions associated with the project, including corridor intra-urban emissions and project related emissions n the GVRD.	Based on the increased traffic demand in the StS corridor in future years, the predicted GHGs will increase within the corridor as a result of the increase in demand and the method that is utilized to calculate GHGs. Vol 2, Sec C, Section 6, Table 6-2 shows the estimates of GHGs associated with the project. The estimates are based on Federal Government methodologies which include Natural Resources Canada fuel projections and Environment Canada emission factors.
The Application provides no concrete commitments to incorporate transit-oriented infrastructure in the project.	In the Preliminary Design of the highway segment from Horseshoe Bay to Lions Bay, discussions were held with West Vancouver Transit to determine their transit needs for the Lions Bay bus service. The identified needs of West Vancouver Transit, including bus stops/pullouts, have been incorporated into the Terms of Reference for the Design/Build Request for Proposal to be issued in 2004.
Operational phase (2010 -2025) – Social Impacts - Develop a peak period traffic flow model for the study area followed by calculation of traffic flow impacts generated by intra-urban traffic flows for Squamish and Whistler, as well as peak period flows into and out of the GVRD.	As stated in the EA Application, the incremental traffic generated by the Project that will enter the GVRD is between 1,000 and 1,500 vehicles per day by 2025. The higher end of the range represents the incremental traffic for a summer or winter weekend day and the lower end of the range represents the incremental traffic for a weekday morning or afternoon. For a weekday morning, which is a peak hour for traffic at the bridge crossings, the peak hour volume is estimated at 100 vehicles per hour (10%). The incremental traffic generated by the Project will add approximately 23 vehicles to each Burrard Inlet crossing in the peak direction during the morning peak hour, which is less than one percent of the bridge crossing traffic.
Traffic levels and travel times estimated for a highway expansion scenario should be compared not just to a “do nothing” scenario but to a scenario involving an aggressive program of transportation demand management and provision of a comprehensive suite of alternative transportation services. Additional information, where ever possible, on comparisons between outcomes obtained from the highway expansion scenario and outcomes obtained from implementation of alternatives, rather than outcomes obtained from passive “do nothing” scenarios.	The purpose of the Socio-community/Economic Assessment is to provide an objective evaluation of the positive and negative social and economic impacts of the Project, particularly impacts to communities that are dependant on the STS Highway for road transport. Accordingly, Project impacts were measured relative to the current and anticipated situation in the absence of the Project so that incremental impacts of the Project on the corridor communities could be established. Although, the intent was to present the Project on its own and in relation to the existing conditions rather than compare it to other travel modes, the MoT has extensively studied alternative travel modes. The STS Travel Demand study evaluated multi-modal scenarios (marine, rail and bus scenarios) on their ability to meet the travel needs of the corridor. The TDM study indicated that multi-modal scenarios do not appear to divert significant demand from Highway 99 and that coordinated implementation of TDM and supporting supply measures could reduce vehicle travel in the corridor by as much as 10 percent.
Complete an assessment of potential conflicts with the GVRD’s Livable Region Strategic Plan (LRSP) and Whistler’s Transportation Plan and ways in which these conflicts can be mitigated.	The population forecasts presented in Section 9.10 of the Socio-Community/Economic Assessment are for the GVRD and have been derived from the Livable Region Strategic Plan. These projections do not include communities outside of the GVRD. Most of the increased population growth along the Corridor will occur near the mid-point of the Corridor (Squamish, Britannia and Furry Creek). While some of this population will undoubtedly travel to the GVRD for employment, education and other reasons, this is not expected to have a significant impact on traffic levels in the GVRD (particularly on the north side of Burrard Inlet. The Resort Municipality of Whistler and Tourism Whistler have previously noted concerns about potential increased travel times along the Corridor if the STS Highway is not improved. Whistler is a major destination for international travelers and any deterioration of the travel conditions (time, safety and reliability) could damage growth prospects for the community The community also recognize that while the STS Highway needs to be upgraded, traffic needs to be appropriately managed to minimize community impacts (including crowding or congestion). These latter issues are being addressed through the ongoing Whistler Resort Transportation Planning Study undertaken jointly by the Resort Municipality of Whistler and the Ministry of Transportation.

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Need for measurement of baseline noise levels at noise sensitive locations during periods of high traffic volumes, and revised forecasts of noise levels at these locations in the operations phase. MoT should commit to noise mitigation at any noise sensitive location where noise levels exceed 55 dBA.	The issue of weekday versus weekend and fall/spring versus summer/winter noise monitoring were addressed in a report prepared for the Lions Bay Community Advisory Group (CAG) dated October 13, 2003 as part of the Kelvin Grove to M Creek project with CH2M Hill. The report determined that based on maximum 75% variation in Hwy. 99 daily traffic volumes observed in 2001 just north of Horseshoe Bay from approximately 10,500 veh/d on midweek days in late fall to 18,400 veh/d on Sundays in August, the variation in daily average noise level, or Leq(24). would be 2.5 dBA. The annual average volume is about 13,500 vpd so that average traffic noise levels measured on a late fall midweek day would be expected to be about 1.1 dBA lower than the annual average noise level.
Public and Stakeholder Consultation Program did not address rationale for concluding the alternatives to highway expansion were not feasible such as substantive consideration to the use of a comprehensive range of small, medium and large scale alternative modes combined with aggressive use of TDM measures, rail and marine option or alternatives vs. cost recovery.	The Stakeholder consultations in October 2002 presented key findings on the main modal alternatives to the Project. Key results on costs and diversion potential of rail and ferry modes were presented to the stakeholders. The reports containing more detailed information on the modal alternatives and their evaluation were made available to the public through website posting. As well, there were informal contacts with interested parties and stakeholders.
Post-Construction Phase Impact Management Measures. The application presents no plans for the ongoing monitoring of highway related impacts on air quality (outside of road dust), congestion, accidents, pedestrian and bicycle access, wildlife/traffic conflicts or noise monitoring (after 1 st year).	The Highway Safety Department of MoT compiles and maintains a database on collisions that covers all provincial highways. This database, called the Highway Accident System (HAS), contains over 15 fields of information to characterize collisions on provincial highways. The MoT will continue to compile and report on collision frequencies and severities along the STS Highway using the HAS. Follow-up noise monitoring will be conducted after construction completion to verify the accuracy of opening-day noise level predictions. Any significant discrepancy found in the opening day noise levels would then be applied to the ten-year levels to determine whether mitigation is in fact warranted, as per Technical Note 3 of the MoTH Highway Noise Impact Mitigation Policy, November 1993. A possible noise mitigation measure would be a low speed zone in noisier areas along the corridor.
Consideration of Cumulative Environmental Effects and the significance of the Effects of the project. There is the potential for there to be effects on air quality as a result of the project. Also mentioned BC Ambient Air Quality Objectives are currently under review, and future corridor ambient ground level ozone levels nor project related GHG emissions have not been adequately assessed.	As part of the air quality assessment, a search was conducted to identify other future projects or activities that must be highly likely to occur (not hypothetical). Within the STS airshed, no proposed or publicly disclosed future projects that require EAO approvals were discovered that are associated with direct emissions to atmosphere that could cumulate with the Project impacts. A number of regional developments and activities were identified that could potentially lead to vehicle emissions along the corridor in the future. The latent demand and the additional population generated by the STS Highway upgrading will result in a combined traffic increase of approximately 7.5 percent relative to the Base Case in the absence of the Project. In terms of the air quality assessment, the associated traffic increase was included in the forecasts of the StS Highway Scenarios for 2010 and 2025. Thus the potential impacts from foreseeable future projects were considered within the air quality assessment.
Clearly, corridor transportation planning should take place in the broader context of urban and regional land use planning and growth management, rather than vice versa. Highway expansion should be seen as a last resort after all other alternatives have been exhausted. Application should include an acknowledgement of the cumulative growth related impacts that highway expansion will have on the corridor and a detailed set of commitments for working with regional and local governments to mitigate these impacts.	The additional traffic generated by the STS Highway upgrading due the latent demand and induced population growth has been estimated and included in the traffic forecast of the EA Application (refer to clarification under Volume 3, Section A, Sub-section 8). An explicit consideration and quantification of the safety impacts of the highway design was conducted. The results of the analysis indicates that the proposed highway improvements will substantially reduce the collision frequency as compared to the Base Case, as documented in the Highway 99 North: Safety and Design Consistency Analysis report. Analysis of traffic operations indicate the proposed highway upgrading will improve traffic operations along sections of the highway where additional lanes will be provided as compared to the Base Case in the absence of improvements.

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<p>Recommend that a more thorough evaluation of the potential for alternatives to delay, reduce or eliminate the need for highway expansion. Six alternative options mentioned (see below). Develop a research program to enable a more thorough evaluation of potential demand for alternative modes that includes collecting baseline data on corridor travel and conducting a comprehensive study of potential demand for alternative modes in the corridor including surveys, estimate demand, measure demands vs. cost, customizing market research to address different users,, measure demand for small and medium sized alternatives, transportation demand measures, and evaluate all options.</p>	<p>The STS Corridor Travel Demand study examined four multi-modal scenarios, with each scenario consisting of improvements to the highway and rail system. It is common practice to group combinations of improvements when evaluating strategic alternatives. This study does not represent a benefit-cost analysis of individual modal alternatives; however, Exhibit 5.19 of the Study provides an estimate of the average cost per trip for each modal alternative based on the mode-specific capital and operating costs. A Transportation Demand Management study has been undertaken for inter-city travel in the Sea to Sky corridor (Sea to Sky TDM Study by TSi Consultants). A wide range of TDM measures were examined and deemed to be applicable to the corridor, including parking pricing and supply management, parking priority, strengthened conventional inter-urban transit, combined transit/recreational pass, promotion of a sustainable resort, new premium transit, new marine service, park and ride lots, bike trailers/racks on buses. The study analysis indicates that coordinated implementation of TDM and supporting supply measures could reduce vehicle travel in the corridor by as much as 10 percent. This is consistent with TDM targets established in many urban settings. However, the proposed STS Highway upgrading would still be required even with a 10 percent reduction in traffic, particularly safety and reliability improvements.</p>	