

# Highway 101 Alternate Route Study

## Community Engagement

Thank you for participating in this Highway 101 Alternate Route Study virtual open house. The study aims to develop a clear and supported long-term plan for the Highway corridor between Gibsons and Sechelt.

This open house will:

- > **Share information** about the option development process, how your input will be considered, and next steps for the study
- > **Seek feedback** on draft options, the evaluation framework and preliminary findings to date
- > **Invite input** to help shortlist options for additional review



**We welcome your input. Please respond by July 28, 2022:**

Online at: [www.gov.bc.ca/highway101](http://www.gov.bc.ca/highway101)

By email: [TRAN.WEBMASTER@gov.bc.ca](mailto:TRAN.WEBMASTER@gov.bc.ca)

By mail: Suite 310 – 1500 Woolridge Street  
Coquitlam, BC V3K 0B8

# Study Context and Considerations

Our vision for this study is to develop a clear and supported long-term plan for the Highway 101 corridor between Gibsons and Sechelt.

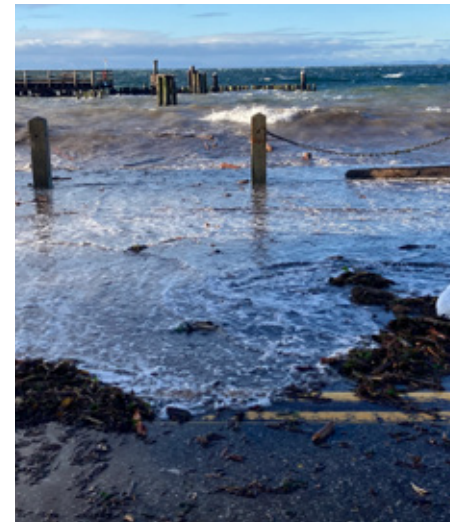
Completed in 1962, Highway 101 is a vital route for regional goods movement and local connectivity. As Sunshine Coast communities have continued to grow, calls for improvements or an alternate route have also grown. Several studies have been completed, but none to date have identified a complete long-term solution.

## Key objectives for this study are to:

- > Develop and apply a supported evaluation framework for analysis to identify a preferred long term-solution
- > Advance reconciliation with shishalh and Squamish
- > Eliminate historic options that are no longer viable

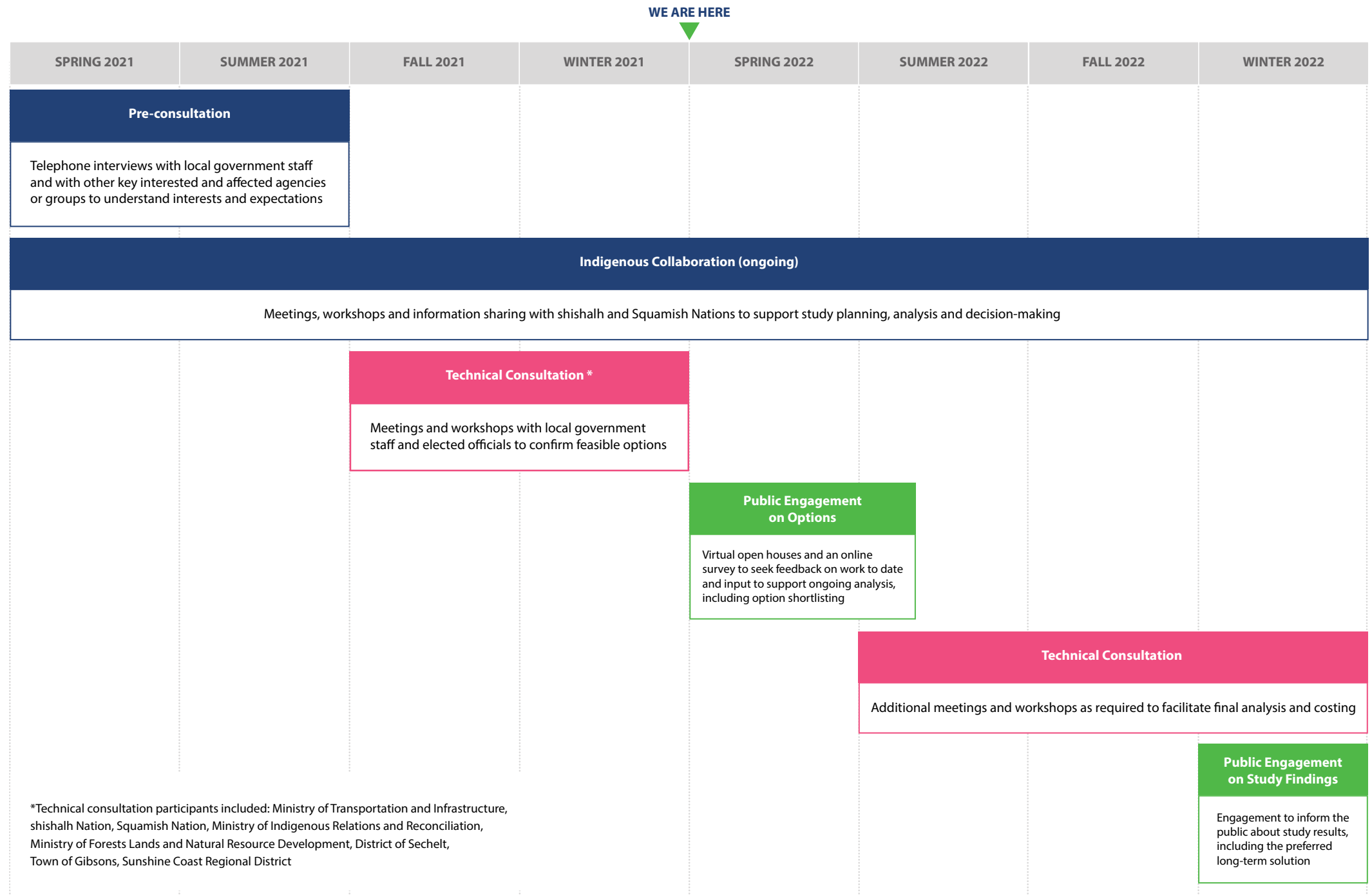
## Key considerations include:

- > Current and future plans for transit and active transportation facilities
- > Climate change
- > Forecast demand through to 2050
- > Local land use decisions



# Consultation and Decision Making Process

The Ministry of Transportation and Infrastructure is partnering with shishalh Nation to deliver the study. Our consultation process includes:



# Historical Context

Several key studies of potential solutions to address Highway 101 challenges have been completed over the past 30 years. The following timeline highlights key studies and milestone events that have been considered for this study.

**2005**

Building on preliminary analysis completed in the 1990s, the Gibsons Bypass Extension Planning & Design Study identifies BC Hydro right of way from Stewart Road to Cemetery Road with new connection to Highway 101 via Payne Road or Henry Road

**2009**

District of Sechelt Transportation Master Plan forecasts traffic demand to 2028 identifies a bypass route generally along the BC Hydro right-of-way with connections at Field Road and Ti'Ta Way east of Sechelt and at Tyler Road west of Sechelt; this route transects shishalh lands

**2018**

Landmark *shishalh Nation/British Columbia Foundation Agreement* creates a new government-to-government relationship with shared decision-making for lands and resource development within shishalh's swiya

**2019**

*Declaration on the Rights of Indigenous Peoples Act*, advancing reconciliation in B.C.

**2020**

Highway 101 Gibsons to Sechelt Corridor Study forecasts traffic demand to 2035 confirms 2005 study findings with Payne Road as the preferred route; also identifies intersection improvements on Highway 101

Ministry mandate to implement Integrated Transportation and Development Strategy ensuring greater alignment between transportation and land use planning

# Current Travel Demand

The study explored current travel demand and traffic patterns to better understand current use of the Highway 101 corridor.

Key findings are:

- > Increased growth in vehicle traffic (17.8%) between Gibsons and Sechelt (2014-2019), but limited growth on other sections of the highway.
- > Almost 83% of afternoon trips on Highway 101 are local trips (originating and ending between Gibsons and Halfmoon Bay). Most of these are between Gibsons and Sechelt.
- > Seasonal variations of up to 2,300 vehicles per day, gradually increasing between March and August, then gradually decreasing.
- > Spikes in hourly vehicle volumes, associated with ferry arrivals.
- > Low use of transit as a percentage of total commuting trips (7%).
- > Limited growth in truck traffic, which represents less than 1.5% of all traffic.

Together, these findings suggest that current travel demand on Highway 101 is primarily a function of local development and limited alternatives to driving.

Information sources include: Ministry of Transportation and Infrastructure permanent counter station data, StreetLight data (aggregated smartphone and navigation device datasets), and 2016 Census journey to work data.



# Forecast Travel Demand

Forecast travel demand to 2050, based on previous studies, analysis of current demands, and a review of official community plans. Key findings are:

## Forecast Travel Demand

Three potential future (2050) demand scenarios were considered:

- > **Low demand:** assumes population growth based on local area plans, and no additional highway improvements that could stimulate new demand. This resulted in an average 1.7% growth in annual vehicle traffic.
- > **High demand:** assumes continued growth as per the previous 2020 study. This resulted in an average 2.8% growth in annual vehicle traffic.
- > Sensitivity testing was also conducted to further validate these estimates.

**The theoretical capacity of a typical rural highway depends on a number of factors and is generally accepted to range from 1,800 to 2,100 vehicles per lane. On Highway 101, the combination of uncontrolled intersections and multiple driveways in the Elphinstone and Davis Bay results in a highway capacity of about 1,800 per lane whereas in other sections of the highway, the lane capacity is as high as 1,900 vehicles. As a result, even with higher-than-expected growth, Highway 101 has capacity to accommodate forecast vehicle demand through to 2050 and beyond, indicating there is no foreseeable need for a full, end-to-end bypass route based on demand alone.**

**However, key locations could benefit from an alternate route for other reasons. We are seeking your feedback on potential alternate route options as well as an improved Highway 101.**

Between		Direction of Travel	Afternoon Rush Demand - Forecast Volumes (vehicles per hour)				
			2019	2035		2050	
				Low	High	Low	High
Langdale	Gibsons	Northbound	100	120	200	150	240
		Southbound	450	550	780	650	920
Elphinstone	Roberts Creek	Northbound	660	880	1,290	1,140	1,680
		Southbound	650	860	1,110	1,110	1,440
Roberts Creek Core	Sechelt	Northbound	650	890	1,260	1,200	1,700
		Southbound	590	810	1,010	1,090	1,370
West Sechelt	Halfmoon Bay	Northbound	270	360	530	470	690
		Southbound	220	290	370	370	490

# Safety, Reliability and Congestion

Previous studies and early engagement for this study identified the following key hot spots where Highway 101 improvements or alternate routes would generate travel time savings:

Location	Challenge	Cause
Burton Road - Lower Road (Gibsons and Elphinstone)	Congestion	Ferry surges and local traffic including growing volumes of pedestrians crossing the highway
Roberts Creek	Safety	Limited passing lane opportunities
Chapman Creek Bridge	Reliability	No alternate route in the event of bridge washout or accident
Davis Bay	Reliability	Driveways, uncontrolled intersections, and road flooding during extreme weather events

## Travel Time Savings

The 2020 Highway 101 study identified that an alternate route bypassing Gibsons would save users up to 3.5 minutes by 2035. Using the same methodology, the current study further explored potential travel time savings and found that by 2050, travel time savings would be as follows:

**Alternate Route through Gibsons**

up to 2.3 minutes

**Alternate Route between Gibsons and Sechelt (if feasible)**

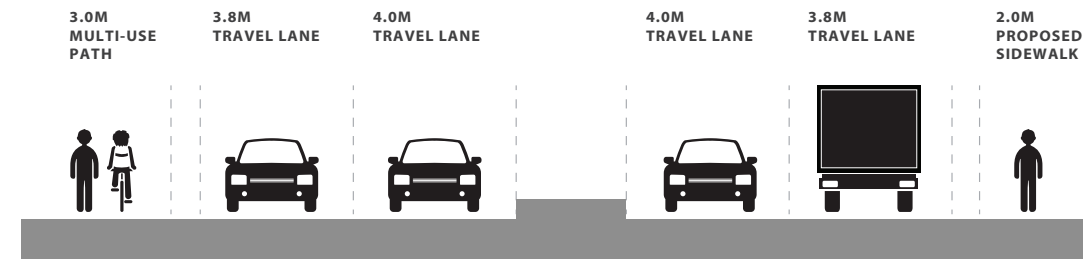
up to 1.8 minutes

# Options Overview

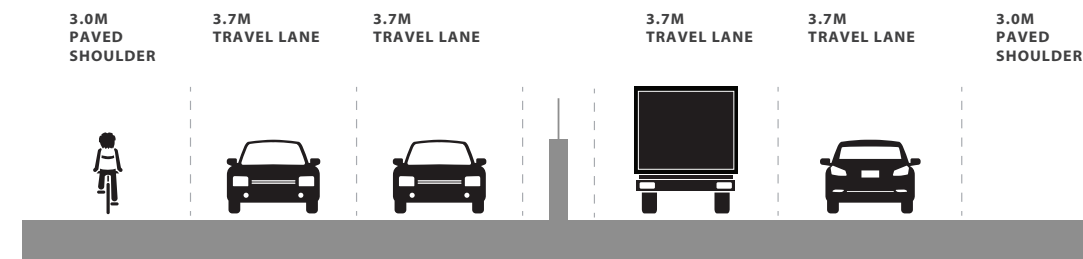
A total of 14 alignment options were considered, of which 11 met the criteria for further analysis, as shown in this overview map. Public engagement will help refine the list of feasible options for further analysis and costing.

New alignment options would have a 4-lane cross-section (2 lanes in each direction) with wide paved shoulders to accommodate cyclists.

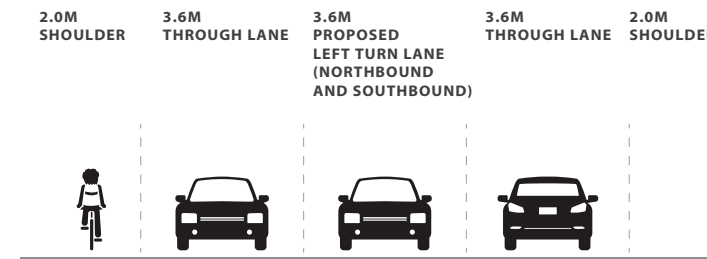
Options that use a portion of the existing Highway 101 would incorporate intersection improvements and passing lanes where required within that portion of the highway, providing a 3-lane cross-section (1 lane in each direction plus passing lanes and turning as appropriate) and active transportation upgrades or connections to off-corridor routes.



New alignment - typical cross-section in urban areas  
60-70 km/h posted speed



New alignment - typical cross-section in rural areas  
90 km/h posted speed



Improved Highway 101 - typical cross-section

LOCAL ACCESS TO ALIGNMENT

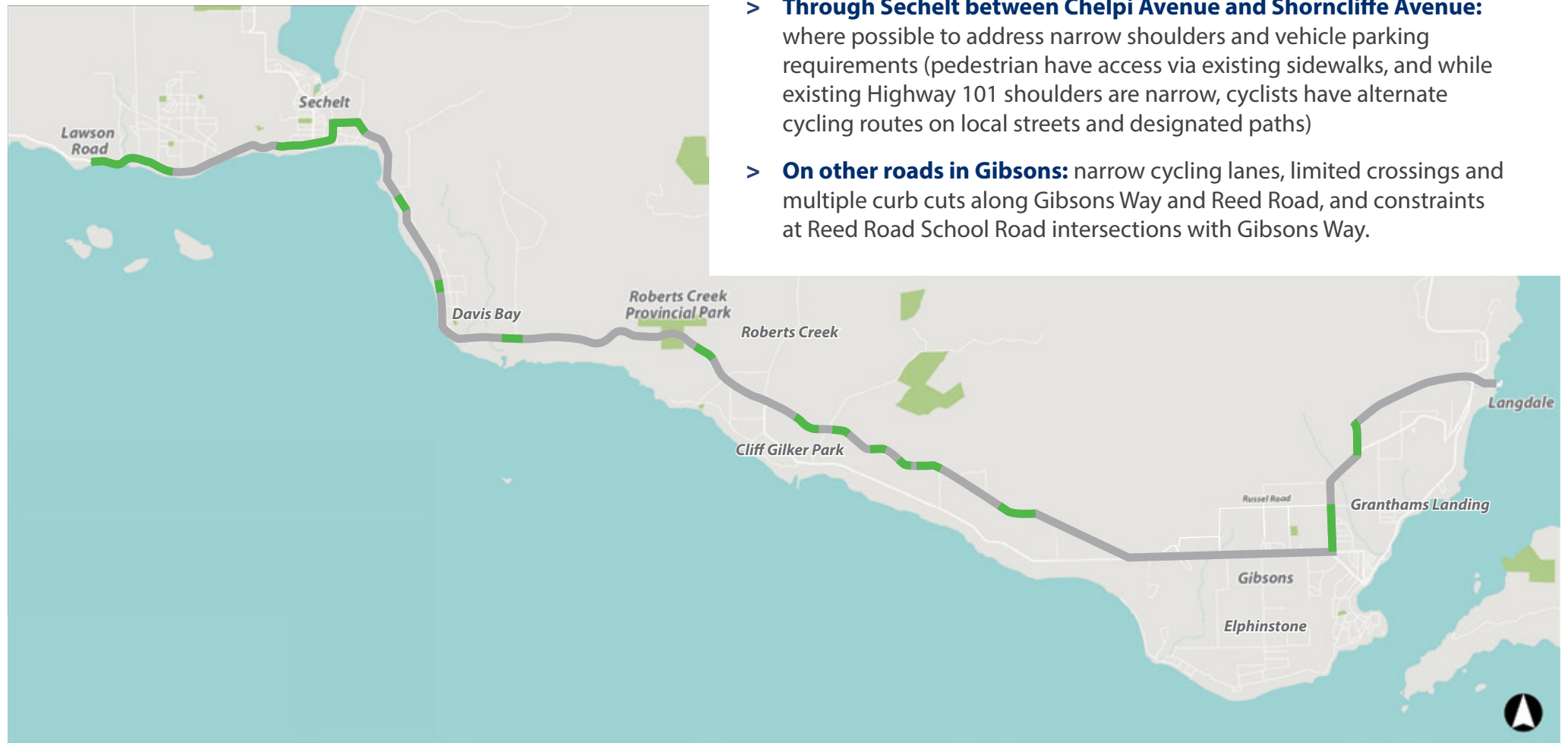
Note: Zoom in to view. Subsequent boards illustrates the options by community.



# Active Transportation

A new alignment and existing corridor improvements would incorporate the minimum recommended width. Existing gaps to be addressed, in partnership with local communities, for options that use the existing Highway 101 corridor are:

- > **Along Highway 101:** between Stewart Road and North Road; at curves between Gibsons and Roberts Creek; at Pell Road, Field Road, Bay Road and Snodgrass Road; and between Mills Road and Lawson Road
- > **Through Sechelt between Chelpi Avenue and Shorncliffe Avenue:** where possible to address narrow shoulders and vehicle parking requirements (pedestrian have access via existing sidewalks, and while existing Highway 101 shoulders are narrow, cyclists have alternate cycling routes on local streets and designated paths)
- > **On other roads in Gibsons:** narrow cycling lanes, limited crossings and multiple curb cuts along Gibsons Way and Reed Road, and constraints at Reed Road School Road intersections with Gibsons Way.



 Area of Highway 101 that would be improved for active transportation

*Note: Some of these existing gaps are already being addressed*

# Gibsons and Area (Stewart Road to Largo Road)

In this Segment, four potential route alignments are being considered in collaboration with Squamish Nation and local governments:



○ LOCAL ACCESS TO ALIGNMENT

# Gibsons and Area

## Preliminary Assessment

### Improved Hwy 101

- > Includes intersection improvements and adaptive signal control
- > Alternate corridor for active transportation along Reed Road
- > Least cost with the least environmental impacts\* and property impacts; some acquisition required for road widening

### Alternate route to Payne Road

- > Four-lane highway to Payne Road with rural and urban sections; connecting to an improved Highway 101 in the west
- > Provides alternate corridor for active transportation
- > Environmental impacts\* (including one fish-bearing stream), and private property acquisition

### Alternate route to Ranch Road

- > Four-lane rural highway that bypasses Gibsons and connects to an improved Highway 101 in the west
- > Provides new commuter cycling corridor
- > Additional environmental impacts\* (including one fish-bearing stream, and forested areas), and highest property impacts including agricultural land
- > High cost

### Full alternate route\*\*

- > Extends existing four-lane rural highway east of Stewart Road
- > Provides new commuter cycling corridor
- > Highest environmental impacts\* (including four fish-bearing streams, wetland, and forested areas); most private property acquisition and the greatest impact to agricultural land
- > Highest cost

*\*Based on desktop data, environmental review pending for shortlisted options*

*\*\*This route would be combined with one of the alternate route options in Davis Bay section*

# Davis Bay Options (Largo Road to Chelpi Avenue)

In this Segment, four potential route alignments are being considered in collaboration with shishalh Nation and local governments:



○ LOCAL ACCESS TO ALIGNMENT

# Davis Bay

## Preliminary Assessment

### Improved Hwy 101

- > Includes intersection improvements, passing lanes between Payne Road and Jack Road, and left turn lanes between Field Road and Monkey Tree Lane
- > Minimum 1.5m-wide, bicycle accessible shoulders and safety improvements at bus stops
- > Fewer environmental impacts\*; some private property acquisition for roadway widening
- > Medium cost

### Alternate Route to Margaret Road\*\*

- > Four-lane rural highway to Margaret Road, connecting with an improved Highway 101 to the west
- > Provides new commuter cycling corridor
- > Environmental impacts\* (crosses four fish bearing watercourses) and runs adjacent to Mt. Elphinstone Park
- > Fewer private property acquisitions
- > High cost

### Alternate Route from Park Avenue to Havies Road\*\*

- > Four-lane route – rural highway design except along Havies Road where the route becomes an urban roadway with sidewalks
- > Provides a direct connection to Sechelt Airport and an alternative connection to Davis Bay
- > Provides an alternative corridor for active transportation
- > Bridge over Chapman Creek; some private property acquisition along Havies Road
- > Relatively high cost

### Full Alternate Route to Havies Road

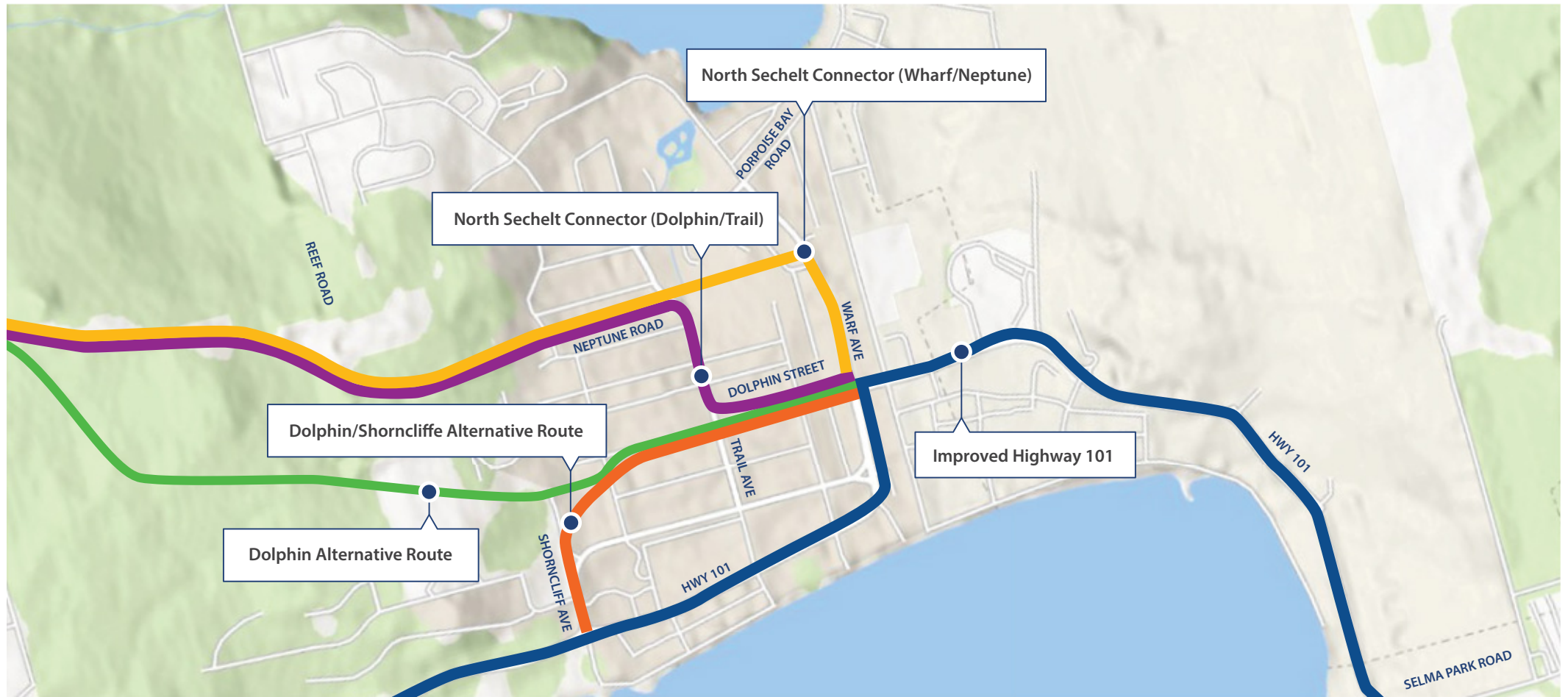
- > Four-lane route that bypasses Davis Bay – rural highway design except along Havies Road where the route becomes an urban roadway with sidewalks
- > Provides a direct connection to Sechelt Airport
- > Provides new commuter cycling corridor
- > Environmental impacts\* (crosses seven fish bearing watercourses) and runs adjacent to Mt. Elphinstone Park
- > Bridge over Chapman Creek; some private property acquisition along Havies Road
- > Highest cost

*\*Based on desktop data, environmental review pending for shortlisted options*

*\*\*These routes could be combined, using a short portion of Highway 101 to create an additional route option*

# Sechelt Options (Chelpi Avenue to Shorncliffe Avenue)

In this Segment, five potential route alignments are being considered in collaboration with shishalh Nation and local governments:



# Sechelt

## Preliminary Assessment

### Improved Hwy 101

- > Includes intersection improvements at Wharf Ave and Shorncliffe Ave
- > Alternative corridor for active transportation is possible along Dolphin St and Trail Ave
- > Fewer environmental impacts\* and property impacts
- > Low cost

### North Sechelt Connector (Wharf/Neptune)

- > Four-lane urban roadway that bypasses downtown Sechelt via Wharf Ave a new route parallel to Neptune Road and a new North Sechelt route
- > Provides an alternative corridor for active transportation
- > Private property acquisition between Wharf Ave and Trail Ave
- > Medium-to-high cost

### North Sechelt Connector (Dolphin/Trail)

- > Four-lane urban roadway that bypasses downtown Sechelt via Dolphin Street, Trail Ave and a new North Sechelt route
- > Conflicts with recent active transportation improvements along Trail Ave
- > Runs adjacent Hackett Park
- > Private property acquisition at Dolphin St/ Trail Ave intersection
- > Medium cost

### Dolphin Alternative Route

- > Four-lane urban roadway that bypasses downtown Sechelt and connects to a new North Sechelt route west of Ocean Ave
- > Provides an alternative corridor for active transportation
- > Runs adjacent to Shorncliffe Intermediate Care home and Chatelech Secondary School
- > Some private property acquisition required
- > Medium-to-high cost

### Dolphin/Shorncliffe Alternative Route

- > Four-lane urban roadway that bypasses downtown Sechelt, connecting to Highway 101 on either side
- > Provides an alternative corridor for active transportation
- > Runs adjacent Hackett Park, École du Pacifique, churches and municipal buildings
- > Impacts recreational fields; some private property acquisition required
- > Medium-to-high cost

*\*Based on desktop data, environmental review pending for shortlisted options*

# SCRD West Options (Shorncliffe Avenue to Trout Lake)

In this Segment, three potential route alignments are being considered in collaboration with shishalh Nation and local governments:





# West of Sechelt to Trout Lake

## Preliminary Assessment

### Improved Hwy 101

- > Includes intersection improvements at Hill Rd and Redrooffs Rd
- > Minimum 1.5m-wide, bicycle accessible shoulders and safety improvements at bus stops
- > Fewer environmental impacts\* and property impacts
- > Lowest cost

### North Sechelt Full Alternate Route

- > Four-lane rural roadway, extending either of the North Sechelt connector routes through Sechelt (see board 14)
- > Provides new corridor for commuter cycling
- > Environmental impacts\* (crosses two fish bearing watercourses) and sensitive habitat adjacent to Trout Lake
- > Impacts to agricultural land; private property acquisition required
- > Potential geotechnical challenges through areas with shallow bedrock
- > High cost

### North Sechelt Connector Route

- > Four-lane rural roadway, extending Dolphin Street alternative route through Sechelt
- > Provides new corridor for commuter cycling
- > Environmental impacts\* (crosses two fish bearing watercourses) and sensitive habitat adjacent to Trout Lake
- > Runs adjacent to Shorncliffe Intermediate Care home and École Chatelech
- > Impacts recreational fields; property acquisition required
- > Potential geotechnical challenges through areas with shallow bedrock
- > Very high cost

*\*Based on desktop data, environmental review pending for shortlisted options*

# Why Not Build a Full Bypass?

While Traffic forecasts show there is no need for a full end-to-end bypass (see previous board), short alternate route alignments were studied where appropriate to address other challenges and constraints including:

- > Bypass of Gibsons to alleviate the effects of traffic congestion caused by ferry traffic from Langdale Terminal
- > Alternate route across Chapman Creek where in the past, accidents on Highway 101 have caused significant delays because there is currently no alternative access
- > Alternate route through Davis Bay, which is susceptible to flooding during king tides and significant weather events
- > Alternate route around downtown Sechelt to reduce conflicts between through-traffic and local traffic, including high volumes of pedestrians and cyclists

Between Davis Bay and Sechelt, no feasible alternate route was identified. In this section, the following options were considered but did not meet the criteria for further study due to significant economic, geotechnical, structural, environmental, or constructability constraints.

- > **Sechelt Upper Bypass:** this option would have required a bridge across Porpoise Bay with significant impact to the land and marine environment.
- > **BC Hydro right of way between Hilltop Road and Chelpi Avenue:** this option would have crossed through critical habitat and mature forest, passed near or through multiple parks, and affected multiple utilities.
- > **Sechelt Lower Bypass:** this option would have required a new crossing over Davis Bay with significant impact to the land and marine environment.



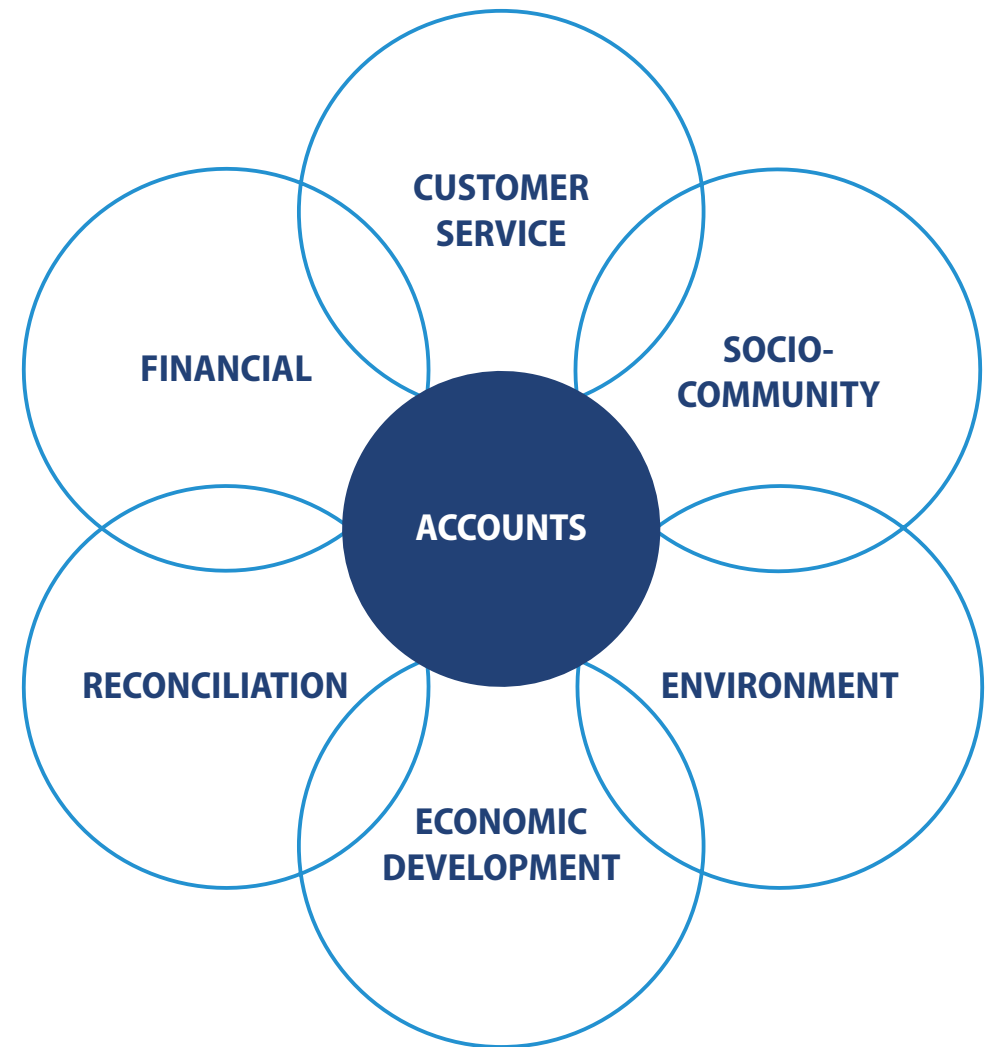
# Evaluation Methodology

B.C.'s multiple account evaluation guidelines will be used to evaluate the shortlisted options. This framework compares expected benefits and impacts against the base case (existing Highway 101) and illustrates the trade-offs between scenarios.

The accounts identified include:

- > **Customer Service:** focused on connectivity for all users
- > **Socio-Community:** considers potential property impacts, noise and visual effects, and proximity/access to recreation areas
- > **Environment:** considers impacts to environmental resources and impacts to parks and protected areas
- > **Economic Development:** considers effects on demand and access to farming and natural resource development
- > **Reconciliation with shishalh and Squamish:** considers consistency with the B.C./shishalh Foundation Agreement, UNDRIP, impacts on Indigenous title and rights, and potential to address Reconciliation
- > **Financial:** considers relative capital cost and constructability

The factors considered for each account were developed based on best practice, and results of collaboration and engagement to date to ensure the criteria for each account was appropriately tailored to the local context.



# Next Steps

## Your feedback is important

Following this consultation, the Project Team will:

- > Review and prepare a summary report on consultation input
- > Continue technical analysis and collaboration with shishalh and Squamish
- > Develop a final report, using the feedback received

**A decision on a preferred long-term routing for the corridor will follow in late 2022/early 2023.**

This decision will then support local and regional governments in future land use planning and will support Ministry highway infrastructure investment planning over the next 20 to 50 years.



**We welcome your input. Please respond by July 28, 2022:**

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