Preliminary Design Report for Connect the Coast:

# AN ALL AGES AND ABILITIES ACTIVE TRANSPORTATION ROUTE LINKING SECHELT AND LUND





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#### EXECUTIVE SUMMARY

This report presents a proposed routing and preliminary design for an active transportation (AT) route for people ages 8 to 80 from Sechelt to Lund on British Columbia's Sunshine Coast. This report is intended to support further planning, design, and implementation of this facility.

The District of Sechelt and the village of Lund are connected by a 110-kilometre stretch of Highway 101 and a ferry connecting Earls Cove and Saltery Bay. This link runs through and connects communities along the coast, including, but not limited to, Halfmoon Bay, kalpilin (Pender Harbour), Lang Bay, Myrtle Point, Powell River, and tišosəm (Sliammon).

Except within Powell River, there are very few dedicated, comfortable and safe active transportation facilities along this corridor that people of ages 8 to 80 would feel comfortable accessing.

This leaves cyclists, pedestrians and people using mobility devices without a safe route to travel within and between the communities located along Sunshine Coast. Many people who might otherwise use active transportation to travel along this corridor, fear for their safety and are discouraged from doing so, perpetuating our reliance on motorized vehicles.

This study was commissioned by Sunshine Coast Tourism through funding from the Federal Active Transportation Fund. The study included a thorough review of Geographic Information System (GIS) data (including road and property boundaries), existing Ministry of Transportation and Infrastructure and local government plans, capital cost estimates and site visit analysis. The report breaks this corridor into 20 segments and presents recommendations for appropriate active transportation infrastructure to serve people of all ages and abilities, assigns a priority for implementation to each segment based on a Multiple Accounts Evaluation, and offers highlevel cost estimates for construction of the recommended infrastructure.

The following segments were identified as priorities for implementation, stated in order of ranking:

- I. Segments A14 to A16 on Hwy 101 at Joyce Avenue to Hwy 101/Arbutus Avenue at Sycamore Street
- 2. Segment AI on Hwy 101 from Norwest Bay Road in District of Sechelt to Redrooffs Road (south)
- 3. Segments A17 to A20 on Hwy 101 from Gibsons Beach Road to the wharf in Lund
- 4. Segments A10 to A13 on Hwy 101 from Saltery Bay to Joyce Avenue
- 5. Segments A2 to A5 on Hwy 101 from Redrooffs Road to Bryan Road
- 6. Segments A6 to A9 on Hwy 101 from Bryan Road to Earls Cove

The total planning level cost estimate for design and construction of the preferred routing is estimated at roughly \$442<sup>1</sup> Million, based on capital cost estimates provided by ISL Engineering, which has recently completed a number of transportation improvement projects on the Sunshine Coast. However, given that the route will likely be built in portions, and over time, it may be useful to consider that each kilometre has an estimated cost of approximately \$4 million, with a range from \$2.4 million for Segment A15 (from Wharf Street near the Powell River ferry terminal to Arbutus and Sycamore) to \$7.6 million for Segment A14 (from Highway 101 at Joyce Avenue to Wharf Street).

<sup>&</sup>lt;sup>1</sup> ISL Engineering stresses that these are planning level capital construction cost estimates. Actual construction costs could vary by plus or minus \$25 million from the \$442 million estimate.

### INTRODUCTION

#### BACKGROUND

The Sunshine Coast extends 180 km from Howe Sound to Desolation Sound and is renowned for its temperate climate, forested mountains and charming coastal towns. It's a popular destination with over half a million visitors per year<sup>2</sup> and is growing rapidly. The population of the greater study area<sup>3</sup> increased by 8.1% between 2016 and 2021, well above the national total growth of 5.2%. This growth is putting pressure on the region's limited transportation infrastructure.

Highway 101 forms a central spine along the Coast and is designed primarily to serve high speed motor vehicle traffic. Its narrow shoulders and inadequate lighting make walking and cycling extremely uncomfortable. In fact, there are no continuous and comfortable active transportation facilities linking communities on the Sunshine Coast. Yet there is a growing demand for such facilities, to serve recreation, tourism, and utilitarian trips.

The Highway 101 Alternate Route Planning Study, recently completed by the Ministry of Transportation and Infrastructure found that 83% of afternoon trips on Highway 101 are local. Yet over 82% of all trips are by automobile. The study concluded, "current travel demand on Highway 101 is primarily a function of local development and limited alternatives to driving".

Rural communities along the Sunshine Coast can do more to reduce reliance upon motor vehicles. In doing so communities along the Coast could realize a number of benefits beyond reduced reliance on motor vehicles, including, but not limited to, the potential for improved emergency access in the event of damage to the Highway, improved population health and fitness, reduced emissions of air and water pollution, increased tourism revenue and improved access to shops and services for those with less ability or desire to drive, such as children, the elderly and people living in poverty.

What's missing in and between rural communities on the Sunshine Coast is infrastructure that facilitates the safe and comfortable use of active transportation and the growing range of micro-mobility devices, from e-bikes to electric scooters.

This study builds upon Phase I, the preliminary design for Connect the Coast, an all ages and abilities active transportation route linking Langdale to Sechelt. The goal of this study is to extend Connect the Coast, offering a preliminary design for an all ages and abilities active transportation route linking Sechelt and Lund, and to prioritize segments along the route for implementation.

This report has been commissioned by Sunshine Coast Tourism through funding from the Federal Active Transportation Fund and is supported by involvement from government agencies and nongovernmental organizations focused on improving and promoting active transportation on the Sunshine Coast.

<sup>&</sup>lt;sup>2</sup> Sunshine Coast Tourism through a survey by Destination BC undertaken by Environics Analytics (2019).

<sup>&</sup>lt;sup>3</sup> Greater study area includes Census Canada (21) geographies: qathet A, Sliammon I, Powell River CA, Sechelt DM, SCRD Areas A and B

#### STUDY AREA

The study area, shown in **Figure I** is on the Sunshine Coast in British Columbia, Canada and extends from Norwest Bay Road in Sechelt to the pier at Lund, approximately 110 kilometres.



FIGURE I: CONNECT THE COAST STUDY AREA FROM SECHELT TO LUND

#### SCOPE OF WORK

Sunshine Coast Tourism (SCT) took the initiative to secure a grant from the Federal Active Transportation Fund to support this study. However, the study area falls within the jurisdiction of a number of local, regional, provincial and Indigenous governments. Moreover, there are a number of nongovernmental organizations (NGO's) operating on the Sunshine Coast that have indicated an interest in this study, including, for example, Sunshine Coast Transportation Choices, which had a lead role in funding and overseeing Phase I. Given the number of organizations with an interest in this work, SCT decided to amend the scope (see <u>Appendix A</u>) to establish a Steering Committee, made up of government and NGO representatives, to oversee and guide the study. Further details regarding the make-up of the Committee and their role are described later in the Stakeholder Involvement section.

Early in the study, the consulting team worked closely with these organizations and agencies to collect, review and assess a wide range of data concerning the study corridor. This data allowed a comprehensive assessment of the route, including selection of a preferred alignment and associated active transportation facility types to serve potential users of all ages and abilities travelling between Sechelt and Lund.

To prioritize portions of the route for implementation, the route was broken down into 20 segments that might reasonably be constructed as distinct projects. Break points between segments were selected in accordance with borders between local jurisdictions, and at roadway intersections along the route. Evaluation and prioritization of each segment for implementation involved use of a Multiple Accounts Evaluation (MAE) that examines 15 criteria under a series of accounts, including:

- I. Projected demand
- 2. Connectivity to key origins and destinations
- 3. Community support
- 4. Cost and constructability
- 5. Potential conflicts and safety

Each of the 15 criteria were assessed a numeric score and those segments that scored highly on criteria within Projected demand, Connectivity and Community support were given a higher priority for implementation. The full MAE can be found <u>here</u>.

Capital costs and other barriers that agencies will face during implementation were also considered but were not used to prioritize segments for implementation. Instead, high costs and conflicts that those responsible for implementation may face during construction and operation, serve as a warning, or if relatively low, as encouragement when considering options and timing for implementation.

Planning level construction cost estimates were based on per kilometre capital construction cost estimates provided by ISL Engineering, which has undertaken numerous roadway and active transportation construction projects on the Sunshine Coast (see this link for details). Based on per metre unit cost estimates for implementation of low, medium and high complexity active transportation facilities, the consulting team developed planning level capital cost estimates for construction of each segment. Estimated construction costs range from a low of \$2.4 million to as high as \$7.6 million per kilometre.

Going forward, Sunshine Coast Tourism and local and regional government authorities will use this report to support further grant applications, feasibility studies, conceptual and detailed design, community engagement and regulatory review, to coalesce the support and resources needed for implementation and ongoing operations and maintenance.

#### ANTICIPATED BENEFITS

Construction of an all ages and abilities active transportation facility from Sechelt to Lund would offer several benefits, including to:

- I. Increase tourism revenue
- 2. Reduce use of and reliance on private motor vehicles
- 3. Offer safe transportation alternatives for those who cannot, or who choose not to drive
- 4. Provide greater equity of access to the transportation network
- 5. Enhance population health
- 6. Reduce greenhouse gas emissions and local air and water pollution
- 7. Increase recreational opportunities

- 8. Improve emergency access in the event of damage to the Highway
- 9. Allow opportunities to mitigate the effects of climate change

Such benefits can and should be quantified and assessed in relation to an existing benchmark. Transportation Choices Sunshine Coast, Sunshine Coast Tourism and local and regional governments are working together to find resources required to assess potential costs and benefits. Yet, evidence from various sources suggests that more and more Canadians are participating in outdoor activities close to home and that traffic protected walking and cycling infrastructure is supporting them in those efforts.

For instance, Statistics Canada's Households and the Environment Survey asks Canadian households about their participation in a variety of outdoor activities every two years. The most recent data is from 2021, when nearly 8 in 10 (78%) of households in Canada reported participating in outdoor activities close to home, up from 77% in 2019 and 75% in 2011. The most popular outdoor activity in 2021 was walking, reported by 74% of households<sup>4</sup>. Over one-third of households (35%) reported bicycling, 34% went to the park or playground, while nearly 3 in 10 (29%) took part in hiking. Another 23% reported jogging, running, rollerblading, and cross-country running. The Connect the Coast pathway linking Langdale to Lund will serve each of these activities whether directly or as a means to access playgrounds, parks, hiking and cross-country running and mountain biking trails.

Further, there is evidence that people who live near safe, high-quality biking and walking infrastructure tend to get more exercise than people who do not. A study published in the <u>American Journal of Public Health</u> and reported in <u>StreetsBlog</u>, found that people living within 0.6 miles of a protected bikeway got about 45 minutes more exercise biking and walking per week than people living more than 2.5 miles away. And, for every kilometer (0.6 miles) closer respondents lived to the infrastructure improvement, they exercised roughly 15 minutes more per week. People without access to a car were most likely to exercise more in response to the infrastructure improvements. These findings support the potential for safe and comfortable walking and cycling infrastructure to promote physical activity.

The Sunshine Coast already sees high levels of cycling demand from residents and visitors, despite lacking a comprehensive network of AAA AT facilities. Some recent examples:

- A 2023 Sunshine Coast Visitor Study found 7% of visitors traveled by bicycle while visiting the Sunshine Coast.
- The first Sunshine Coast Slow Food Cycle held in July 2023 attracted approximately 300 cyclists, about 20% of whom came from off-coast to participate in the ride;
- In communities throughout the Sunshine Coast, where dedicated walking and cycling infrastructure is
  more common, and traffic speeds are conducive to walking and cycling, use of active transportation for
  trips to shopping, work, school and for recreation are popular. For example, Census Canada reports that
  of those employed outside of the home in North Powell River (DA 59270054), 8.6% commuted to work
  regularly by bicycle. Throughout the Town of Sechelt, 4.4% commuted regularly by bicycle, over twice as
  high as the Provincial average of 2%. Walking mode shares for trips to work were even higher, with
  Midtown Powell River (DA 59270062) reporting an astonishing 27.3% in 2021, over 4 times higher than
  the Provincial average of 6.5%, and qathet A (Lund and the surrounding area) reporting 13.8%.

<sup>&</sup>lt;sup>4</sup> Walking and cycling are important sources of everyday activity (WHO, 2002)(Hamer and Chida, 2008)(Gordon-Larsen et al, 2009) and are independently associated with a wide range of health benefits (Garrard, Rissel, Bauman, 2012) (Saunders et al. 2013)

Overall, long distance cycle routes, like the one proposed, have also been found to generate significant economic benefits, with an annual revenue of approximately 32 times the annual cost of trail maintenance and providing an economic return of \$1.8 - \$2.7 for every \$1 invested (USU, 2020). Transportation Choices reports that increased tourist activity will necessarily result in increased commercial and retail activity, but creating a safer, more enjoyable transportation experience will also help draw local residents to brick-and-mortar shops and services. It may also increase the labour supply on the Sunshine Coast by providing residents who do not drive or do not have reliable access to a motor vehicle with a way to take up employment.

## METHODS AND DESIGN OVERVIEW

#### STAKEHOLDER INVOLVEMENT

In order to facilitate stakeholder involvement, Sunshine Coast Tourism struck a Steering Committee, made up of the following community representatives:

- Charlie Latimer, Coordinator, Lund Cycling Association
- Charlie Mace, Sustainability Planner, City of Powell River
- Christopher Lightfoot, Director, qathet Regional Cycling Association
- Daniella Fergusson, Manager of Planning Services, City of Powell River
- Jason Gow, Director of Planning Services, City of Powell River
- Jessica Huntington, Community Development Coordinator, Sunshine Coast Regional District
- Laura Roddan, Manager of Planning Services, qathet Regional District
- Marina Stjepovic, Community Planner, District of Sechelt
- Meghan Lee, Manager of Development Engineering and Sustainability, District of Sechelt
- Scott Nelson, Representative, Transportation Choices Sunshine Coast and Connect the Coast

The Steering Committee met three times during the study, responded to an online survey concerning the proposed facility, provided data, information, and guidance, and reviewed preliminary findings and the draft report. The full Terms of Reference for the Steering Committee are available <u>here</u>.

Representatives from the Ministry of Transportation and Infrastructure, shishálh and Tla'amin Nations, were invited to join the Steering Committee, but each declined. However, because these agencies hold jurisdiction over road rights of ways and lands within the study area, their involvement is crucial. To involve each entity, the consulting team and staff from Sunshine Coast Tourism made contact with representatives from Ministry of Transportation and Infrastructure, and from shishálh and Tla'amin Nations to:

- Review the scope of work
- Keep them apprised of progress

- Gather data and input
- Discuss concurrent studies and initiatives, and to
- Explore issues relevant to the preliminary design.

During the study, the consulting team released an online survey to ascertain stakeholder priorities for implementation of active transportation facilities along the proposed route. Stakeholder preferences are reflected in the Multiple Accounts Evaluation, and the top line survey findings are available <u>here</u>.

#### DATA

Data required to support this study came from a broad range of sources, including local, regional, provincial and federal datasets, as well as input drawn from stakeholders within the study area. Much of the data is Geographic Information System (GIS) based and can be combined and layered to allow a spatial assessment of physical opportunities and constraints that responsible agencies will face during implementation and operation of this facility. The data includes:

- Property lines bordering the study corridor (from Parcel Map BC)
- Light Detection and Ranging (LiDAR) data showing elevation contours at 1 m intervals (from LiDAR BC).
- Road right of way details from the BC Digital Road Atlas including, but not limited to details concerning roadway alignment, intersections, and elements within the right of way, including paved areas, general purpose travel lanes, passing lanes, turn bays, shoulders and setbacks between the roadway and property lines
- Above and below ground utilities including hydro poles, streetlights, water and gas lines (provided directly from local and regional government sources, where available)
- Transit stops (from BC Transit and Streetview)

GIS based data was overlaid upon high resolution aerial images (from SCRD, qathet RD, and Powell River) to support visual assessments. Other data that was used includes:

- Information from Google Maps and Open Street Maps, concerning the location of grocery stores, parks, and beach access.
- Formal and informal walking and cycling routes (from Google Maps, and Open Street Maps, and double checked against several route apps, including Bikemap and Beeline).
- 2016 and 2021 Canada Census Journey to Work and Population data.
- Online survey responses from Project Steering Committee members concerning the ranking for implementation of proposed segments along the route.
- Infrastructure projects planned or underway along the study corridor that might facilitate or deter implementation (based on a review of infrastructure plans and feedback from local, regional, and provincial agencies).
- Provincial Infrastructure Grant requirements. This information was used to assess whether active transportation capital projects proposed for each segment might fully or partially qualify for funding. This assessment was based on whether responsible agencies had designated all, or a portion, of the route through each segment as an existing or planned designated active transportation route.
- Collisions involving motor vehicles and pedestrians, cyclists, and other active transportation users (from the Insurance Corporation of British Columbia).

Data collected and assessed as part of this study was fed into the Multiple Accounts Evaluation (MAE) used to prioritize segments for implementation and to highlight costs and barriers to implementation. The MAE method and assessment is detailed later in this report, in <u>Multiple Accounts Evaluation Criteria and Overview</u>.

#### FIELD VISIT

Representatives of various organizations and the consulting team cycled the length of the proposed route from Sechelt to Lund from Wednesday May 17 to Sunday May 21, 2023. Community members that took part in the ride included:

- Daniella Fergusson, Manager of Planning Services, City of Powell River who rode from Powell River to Lund and back again
- Chris Morwood and Paul Miniato, Members of qathet Cycling Association who rode from Powell River, south to Pine Tree Road
- Scott Nelson, Representative, Transportation Choices Sunshine Coast and Connect the Coast, rode from Earl's Cove to Sechelt

The field visit was undertaken to document existing conditions, consider alternative alignments, and to hear feedback from local experts concerning recommended and alternate routes. Over 700 photographs were taken during the site visit, all georeferenced through Google Earth. A summary map of 60 relevant images can be found <u>here</u> or in <u>Appendix B</u>.

The route follows Highway 101, only deviating from this route north of Wharf Street in Powell River and through the Townsite National Historic District in Powell River, before rejoining Highway 101 at the intersection of Marine and Arbutus Avenues.

For the most part, Highway 101 involves a single general purpose travel lane in each direction, and narrow shoulders, see **Figure 2.** 

FIGURE 2: A TYPICAL HIGHWAY 101 CROSS SECTION (NEAR SALTERY BAY PROVINCIAL PARK )



# FIGURE 3: MOTOR VEHICLE COUNTS FROM AUTOMATED COUNTERS ON HIGHWAY 101 WITHIN THE STUDY AREA

Motor vehicle traffic along Hwy 101 between Sechelt and Lund is low to moderate, with volumes as follows:

Count Location	AADT (2022)	Peak Hr Max
Hwy 101, 0.3km N of Brooks Rd	3,631	556
Hwy 101, 1km S of Earls Cove Ferry Terminal	787	223
Hwy 101, 2km S of Lois River Bridge	1,044	219
Hwy 101, 0.2km N of Palmer Rd	4,743	512
Hwy 101, S end of Powell Lake Bridge	5,477	604

Motor Vehicle traffic consists largely of passenger vehicles; however, the Highway is also regularly used by large transport and logging trucks. Although Highway 101 is designated as a cycling route by the provincial government, there are very few dedicated cycling or pedestrian facilities along the route to accommodate vulnerable road users. Despite the inhospitable conditions, Highway 101 is regularly used by cyclists and those on foot, for recreation and utilitarian purposes.

FIGURE 4: HWY 101 BETWEEN POWELL RIVER AND TIŠOSƏM & FIGURE 5: A CYCLIST ON HWY 101 NEAR K<u>ALPILIN (PENDER HARBOUR)</u>





#### USER OBJECTIVES AND DESIGN VEHICLE

The purpose of this transportation facility is to serve active transportation trips for a wide range of utilitarian and recreational purposes by active transportation users from ages 8 to 80 in safety and comfort, throughout the year. Active transportation users include pedestrians, people on human powered bicycles and those using wheeled micro-mobility devices that are compatible with human powered bicycles in terms of size, weight and speed.

While the variety of micro-mobility devices is continuously changing and evolving, guidance is emerging through the Insurance Corporation of British Columbia and government regulatory agencies to clarify the characteristics that make a vehicle compatible for use on transportation facilities that may be shared by people on bicycles, by pedestrians, and other vulnerable road users. These include:

Dimensions that are compatible with the bicycle operating space described in Transportation Association of Canada's Geometric Design Guide, and reproduced below in **Figure 6**;

- A weight of less than 45 kg<sup>5</sup>
- A motor that is not capable of propelling the vehicle at a speed greater than 32 km/hr on level ground
- A continuous power output that, in total, does not exceed 500 watts, and
- That the vehicle must **not** be equipped with a generator, alternator or similar device powered by a combustion engine.

These functional considerations are taken into account in the design of the facility. Regulatory agencies will need to make users aware of, and enforce, such constraints.

#### FIGURE 6: BICYCLE OPERATING SPACE



Retrieved from TAC GDG

<sup>&</sup>lt;sup>5</sup> In Phase I of the Connect the Coast study, this limit was set at 30 kg. In Phase 2 we have increased this limit to accommodate cargo bikes which typically weigh 45 kg or less.

#### DESIGN PROCESS AND CONSIDERATIONS

**Figure 7** shows a plan view of a portion of Highway 101 right of way and gives a sense of the analysis that was used to identify an appropriate alignment and active transportation facilities to serve each segment. The plan view shows the location of property lines, bus stops, streetlights and hydro poles, the road right of way, and approximate measurements from the outer edge of the existing curb or road edge to each property line.

FIGURE 7: PLAN VIEW OF THE INTERSECTION OF MERCER ROAD AND SUNSHINE COAST HIGHWAY



GIS data layers and images showing the location of each dataset, offer varying degrees of accuracy. Aerial photographs allow measurements to within +/- 20 cm, property lines and gas lines are accurate to within approximately 2 metres, while the location of other elements, including, but not limited to, streetlights, hydro poles, and bus stops are accurate to within approximately 20 m. The resulting preliminary design is appropriate for this stage in the planning process and to support initial planning level cost estimates. However, more refined conceptual designs, land surveys and detailed design will ultimately be needed to confirm recommended designs and more precise costs for each segment of the proposed active transportation route.

Other factors considered in selecting and siting active transportation facilities include:

• Available road right of way

- Surrounding land use and roadway networks, including the frequency of driveways, roadway crossings and other potential points of conflict
- Motor vehicle traffic volumes, speeds and turning movements
- Anticipated future development and demand by motorized and non-motorized users
- Safety for active transportation facility users, and
- Provincial and federal design guidance concerning active transportation facility design.

#### DESIGN GUIDELINES

Geometric design guidance and alignment selection was based on the consulting team's experience on similar projects, and involvement in the development of bicycle and pedestrian design guidance for various municipal, regional, provincial and federal agencies, including the most recent update to Transportation Association of Canada's Geometric Design Guidelines for Canadian Roads. Preliminary designs are consistent with the following guidance:

- Transportation Association of Canada's Geometric Design Guidelines for Canadian Roads (TAC, 2017),
- BC Ministry of Transportation's Supplement to TAC's Geometric Design Guide (MOTI, 2007), and
- BC's Active Transportation Design Guide (MOTI, 2019).

#### PRELIMINARY DESIGN OVERVIEW

The design of the facility will adjust in accordance with the surrounding land use and roadway conditions, but should, in all circumstances, be consistent with facility design guidance described in British Columbia and Canadian facility design guidance listed above. For the most part, the recommended design consists of a 3-metre wide, paved 2-way multi-use path, physically separated from motor vehicle traffic, either beside Highway 101 or within its own right of way. The design will be similar to the MUP recently constructed beside Pacific Rim Highway #4, between Tofino and Ucluelet, see **Figure 8** below.



FIGURE 8: TOFINO MUP BESIDE PACIFIC RIM HIGHWAY #4.

Courtesy of SC Transportation Choices

The facility will include the following geometric characteristics, wherever possible:

- A design speed of 30 km/hr and 50 km/h on any downhill grades of over 4%
- Minimum horizontal clearance of 0.5 m (from vegetation or other fixed vertical objects)
- Minimum horizontal curve, 25 m centreline radius
- All tapers or adjustments to straight path are less than 1:2.5 (1:5 preferred)
- K-Value (the horizontal distance required to achieve a 1% change in the slope of a vertical curve) 2.5 m
- Vertical crest curve, minimum 30 m
- Vertical clearance 2.5 m
- Average Grade <8%, maximum grade 10% for short pitches as required.

Through the Townsite National Historic District in Powell River, the facility will transition to a Neighbourhood Street Bikeway on local and collector streets with the potential for traffic calming and lower traffic speeds, as illustrated in **Figure 9**.

# FIGURE 9: A NEIGHBOURHOOD STREET BIKEWAY INCLUDING TRAFFIC CALMING AND A LOWER SPEED LIMIT



Pedestrian and bicycle crossing infrastructure will be needed in instances where the facility crosses the Highway, or another roadway that accommodates high speed or high volumes of motor vehicle traffic. In such instances, a bicycle and pedestrian activated signal would be recommended, similar to the rapid response flashing beacons and associated pavement markings recently installed in tisosəm to facilitate connections to and from the Nation's Recreation Centre, see **Figure 10**.

#### FIGURE 10: PEDESTRIAN ACTIVATED RAPID RESPONSE CROSSING SIGNAL IN TIŠOSƏM, BC



Amenities, furnishings, and landscaping will be appropriate to the level of development, ranging from minimal adaptation in rural settings to continually higher levels of accommodation in suburban and urban settings. Space will be provided to accommodate amenities, furnishings, and landscaping within the preliminary design, but any further details will be left for consideration in future stages of the design process.

#### PRELIMINARY DESIGN

#### FACILITY ROUTING AND DESIGN

The proposed route begins at the intersection of Norwest Bay Road and Sunshine Coast Highway, toward the north end of Sechelt and extends 110 km to the wharf at Lund **(see Figures 11 to 15)**. The proposed All Ages and Abilities active transportation facility, will involve a 2-way Multi-Use Path (MUP), either on the ocean or inland side of Sunshine Coast Highway, and within the road right of way, but physically protected from motor vehicle traffic either by a concrete barrier or by a ditch or swale. That same facility type is proposed to extend along the Sunshine Coast Highway as far as Fairmont Street, in Powell River. Just north of that intersection, the pathway will diverge from the road right of way and follow an existing 2-way MUP along the oceanfront, as far as Wharf Street, near the BC Ferry Terminal. From there, the 2-way MUP will jog to the east and then cross Wharf and remain within the Willingdon Ave right of way as far as Willingdon Beach Park. The MUP will diverge again from the road right of way through Willingdon Beach Park and rejoin the roadway network at Yew Street in the Townsite National Historic District in Powell River.

Once at Yew Street, the facility will shift to a Neighbourhood Street Bikeway and Sidewalk, following Yew, then Walnut Street and Arbutus Ave. At Arbutus and Marine Ave the facility will shift back to a 2-way MUP on the north side of Arbutus and within the road right of way. At the Powell Lake Bridge, the 2-way MUP will cross the street, continuing on the inland side, to take advantage of the pedestrian sidewalk across the Bridge. The MUP will continue on the inland side of Highway 101 as far as Gibsons Beach Road, before crossing to the ocean side through tišosəm. Upon reaching Klahanie Road, the 2-way path will shift back to the inland side and continue on the inland side as far as the main wharf in the town of Lund.

# FIGURE II: SEGMENTS AT TO A5 FROM NORWEST BAY ROAD TO BRYAN ROAD NORTH OF SECHELT











#### MULTIPLE ACCOUNTS EVALUATION CRITERIA AND OVERVIEW

Segments prioritized for early implementation will exhibit the highest scores for criteria within the categories of Projected Demand, Connectivity, and Community Support, maximum scores for each account are as follows:

- Projected Demand has a maximum score of 20,
- Connectivity has a maximum score of 15, and
- Support has a maximum score of 20
- The total maximum score is thus 55. Criteria and their scoring are described below. The MAE document found <u>here</u>.

#### **PROJECTED DEMAND**

#### Proximity to Priority Origins and Destinations

This criterion measures distance decay from priority destinations. Segments within 3 km of Sechelt and Powell River score 5 points. Segments within 3 km of tišosəm, Lund, Halfmoon Bay, Madeira Park, and kalpilin (Pender Harbour) score 3 points. Those outside 3 km from these communities scored 1 point.

#### Population Density

Population of the associated dissemination area (as per Census Canada, 2021) per metre of route within that segment. Those with a population density of 0.60+ individuals per metre or higher, scored 5 points. Those with a density of 0.40+ to 0.60 scored 4 points. Those with a density of 0.20+ to 0.40 scored 3. Those with a density of 0.10+ to 0.20 scored 2 points, and those with a population density of  $\leq 0.10$  scored 1 point. See this link (pg 22 in linked presentation) for a more detailed summary of the findings for this criterion.

#### Cycling Mode Share

Drawn from Census Canada 2021, Journey to Work data from local census tracts. Those with greater than 3% of the adult population who commute regularly by bicycle earned 5 points, those with 2+ to 3% got 4, those with 1+ to 2% got 3, those with over 0.5+ to 1% got 2 and those with 0.5% or less, got 1.

#### Indigenous Population

Drawn from 2021 Population data from Census Canada, for dissemination areas within each segment. Those segments with over 29.63% of their populations identifying as Indigenous received a score of 5. Those with a population of over 13.45% and up to 29.63% identifying as Indigenous received a score of 4 points. Those with a population of over 7.69% and up to 13.45% received a score of 3 points. Those with over 3.45% and up to 7.69% scored 2 points, and those with 3.45 or less received a score of 1 point.

#### Total possible score 20 points.

#### CONNECTIVITY

#### Connections to Key Destinations

Using Google Maps and Open Street Maps, segments were scored based on their connectivity to key destinations, including commercial areas, parks, and beach access. Those with 2 or more connections to such destinations that are classified as comfortable for people of All Ages and Abilities (AAA), were given a score of 5. Those with 2 or more functional connections for active transportation users, or with one triple AAA connection to such a destination, were given a score of 4 points. Those with at least one functional connection to such a destination, were given a score of 3 points. Those with more than two poor connections to such destinations were given a score of 2 and those with 1 poor connection or no such connections to such a destination, were given 1 point or 0 points respectively.

#### Parallel Alternative Routes

Routing was scored based on the quality of alternative routes in the area. Segments with no alternative route available were given a score of 5. Those segments with a partial problematic alternative, were given a score of 4 points. Those with a partial comfortable alternative were given 3 points. Those with a problematic or circuitous alternative were given a score of 2. Those with a reasonable alternative were given I point and those with a welcoming alternative were given 0 points.

#### Connection to Transit Stops

This route can be seen as complementary to transit as a connection between Sunshine Coast communities. Those segments with more than 2 transit stops per kilometre along the entire segment were given a score of 5. Those with between 1 and 2 stops, were given a score of 3. Those with a single stop per km or less were given a score of 1. Segments that did not have any transit stops were given a score of 0.

#### Total possible score 15 points.

#### **COMMUNITY SUPPORT**

#### Government Ranking

Staff from each regional and local agency sitting on the Steering Committee were asked to rank each segment for construction on a scale from 1 to 5, with 5 being the highest priority and 1 the lowest priority.

#### Nongovernmental Organization (NGO) Ranking

Each representative from a non-governmental organization sitting on the Steering Committee, was asked to rank each segment for construction on a scale from 1 to 5, with 5 being the highest priority and 1 the lowest priority.

#### Alignment with Planned Roadway Projects

Those segments that align fully with a planned roadway improvement project score 5 points. Those with partial alignment with a planned roadway improvement project score 3 points. Those with no alignment score 0.

# Alignment with Provincial Grant Criteria

The BC Provincial Active Transportation grants require that eligible projects be part of an approved active transportation plan. Unfortunately, very few segments on the selected route, or even a portion thereof, form part of planned active transportation routes, as identified within local or regional planning documents. Segments fully on existing or planned AT routes were given a score of 5. Segments which partly follow a planned route were given a score of 3. Segments that did not follow a planned active transportation route were given a score of 1.

## Total possible score 20 points.

Those route segments that score highest on these accounts are ranked as highest priorities for implementation, with a possible total of 55 points. The highest score was 38.0 and the lowest was 18.3.

Anticipated costs and conflicts with other modes, infrastructure and private property are scored separately from Demand, Support, and Connectivity. Those with the lowest scores have higher costs and are expected to be the most expensive and challenging to implement. Although not part of the ranking for implementation, cost and conflict scores serve as a flag to those pursuing implementation, in case a path of less resistance proves a more pragmatic approach.

#### **BARRIERS TO IMPLEMENTATION**

#### Estimated Construction Cost Per Kilometre

Sections are scored based on their relative construction cost per km. Those facilities which are anticipated to cost less than \$1 million per km are given a score of 5. Those costing between \$1 million and \$2 million, were given a score of 4. Those greater than \$2 million per km and \$3 million or less, are given a score of 3. Those greater than \$3 million and \$4 million or less are scored at 2 and those over \$4 million and \$5 million or less are given a score of 1. Finally, those over \$5 million per km are given 0 points.

#### Private Property Conflicts

Anticipated property conflicts occur when the path of the proposed facility is anticipated to encroach on private property. Segments with one or fewer anticipated conflicts were given a score of 5. Segments with more than one anticipated conflict and up to 5 or fewer, were given a 4. Those with between 6 and 10 conflicts were given 3 points. Those with 11 to 15 conflicts were given 2 points. Those with 16 to 20 conflicts were scored 1 and those with more than 20 anticipated conflicts were given scores of 0.

#### Total possible score 10 points.

#### **CONFLICTS AND SAFETY**

#### Driveways and Intersections Crossed per KM

Intersections and driveways are challenging to accommodate during construction and can negatively influence a segment's relative safety, as these features add potential conflict points between vulnerable road users and motor vehicles. Scored on a per km basis, segments with few conflict points (0-5) received a score of 5. Those with a higher number of conflicts (6-20) got a score of 3. Those with numerous conflict points (20+ to 40), received a score of 1 and those with more than 40 potential points of conflict per km, received a score of 0.

#### Collisions

Collisions involving vulnerable road users on the Sunshine Coast thankfully occur very rarely. Yet, such collisions tend to have costly repercussions, for individuals, families and society as a whole. The objective is thus to expedite implementation in segments where collisions involving active transportation users occur more regularly. Segments where 2 or more collisions involving active transportation users have been reported to ICBC between 2017 and 2022 (the last 5 years for which data is publicly available) were given a score of 5 points. Those segments where one collision involving an active transportation user had been reported to ICBC between 2017 and 2022, received a score of 3. Those segments where no collisions occurred were given a score of 0.

#### Total possible score 10 points.

Those route segments that score lowest on cost and conflict criteria are ranked as having the highest barriers to implementation. Those segments with high scores in the safety criterion have a higher number of collisions involving active transportation users that have been reported to ICBC. Those segments with high scores in this criterion are thus classified as higher priority for implementation. Those segments with high scores overall in the Cost and Conflict accounts are favoured for implementation. The total possible score for any segment within these accounts is 20 points. The segment with the least barriers to implementation is segment A10 from Saltery Bay to Robinson Road with a score of 19. The segment with the highest barriers to implementation is segment A1, with a score of 1.

MAE outcomes from Connect the Coast, Phase I: Langdale to Sechelt and Phase 2: Sechelt to Lund, are not directly comparable. In some instances, comparable data was unavailable, lacking or inaccurate for Phase 2. Further, discussion with and feedback from Steering Committee members, led the consulting team to add, adjust and to reclassify criteria in response to the priorities and interests identified by stakeholders. **Figure 16** highlights discrepancies between the Phase 1 and 2 MAE's.

Criterion	Phase I	Phase 2
Active Transportation Volume Counts	Sunshine Coast Transportation Choices has undertaken periodic pedestrian and bicycle counts during peak and off-peak hours at strategic locations from Langdale to Sechelt. This allowed inclusion of this criterion.	Although there were some pedestrian and bicycle counts available from relevant agencies between Sechelt and Lund, including, for instance, MOTI, BC Ferries and City of Powell River, these counts were inadequate to estimate the relative volumes of AT users in each segment along the entire route.
Indigenous Population	No criterion was included that specifically addressed reconciliation.	Steering Committee members decided to include a criterion that would assess the relative proportion of residents in each segment that identify as Indigenous.
Connections to Existing AT Routes	This criterion was included.	Connections to key destinations (parks, grocery stores and beach access) replaced connections to existing AT routes due to insufficient and low quality AT routes within the study area.
Collisions Involving AT Users	Included in an account titled Connectivity and Safety.	Moved to Conflicts and Safety account as that seemed a more logical pairing for these two issues.
Public Support	Included since there was an online survey which supported inclusion of this criterion.	Dropped in Phase 2 due to a lack of public survey data covering the entire study area.
Alignment with Planned Projects	Included within the Cost and Constructability Account	Included in the Support Account to emphasize that alignment with planned projects offers a means to support implementation
Conflicts and Impacts on Other Modes	Included consideration of potential impacts on width of travel lanes, and shoulders	Potential impacts on width of travel lanes and shoulders were not included given the size of the study area and accuracy of the available data.

#### FIGURE 16: MULTIPLE ACCOUNTS EVALUATION DISCREPANCIES BETWEEN PHASES

Despite the discrepancies between Phase I and Phase 2 data, it is possible to assert that top priorities identified in Phase I are higher priorities for implementation as compared to these top priorities identified in Phase 2. There are a variety of reasons that Phase I segments are a higher priority for implementation than Phase 2 segments. One of the most important reasons is that population density in areas of Gibsons and Sechelt tend to be relatively high as compared to other locations along the Sunshine Coast, thus increasing the chance that one can achieve a higher number of walking and cycling trips on these facilities once they are implemented. Early success has the potential to build positive momentum toward full implementation of an AAA AT route along the entire Sunshine Coast.

#### SEGMENT DESCRIPTION AND EVALUATION

This section of the report describes each segment of the route, the proposed active transportation facility and summarizes the Multiple Accounts Evaluation scores. Measurements, data and scores for each segment are drawn from the MAE <u>here</u>. Images showing typical conditions for each segment, as well as examples of favourable and unfavourable conditions for active transportation users are available <u>here</u>. The following Table summarizes the location, estimated construction cost, ranking for barriers to implementation (a low number suggests high barriers) and implementation priority (a low number suggests a high priority for implementation) for each segment.

			1	
Segment #	Location	Estimated Capital Cost (\$ per km)	Ranking of Barriers (1 = high, 19 = low barriers)	Ranking of Implementation Priority (I = high 20 = low priority)
AI	Norwest Bay Rd to Redrooffs Rd (south)	\$5,100,000	I	4
A2	Redrooffs Rd (south) to Redrooffs Rd (north)	\$4,900,000	17	15
A3	Redrooffs Rd (north) to 9844 Hwy 101	\$4,700,000	8	13
A4	9844 Hwy 101 to Mercer Rd (north)	\$5,100,000	17	20
A5	Mercer Rd (north) to Bryan Rd	\$3,500,000	11	14
A6	Bryan Rd to Menacher Rd	\$4,200,000	4	18
A7	Menacher Rd to Hallowell FSR Rd	\$2,500,000	19	19
A8	Hallowell FSR Rd to Dan Bosch Park	\$4,100,000	12	16
A9	Dan Bosch Park to Earls Cove	\$5,400,000	4	17
A10	Saltery Bay to Roberts Rd	\$3,300,000	19	11
AH	Roberts Rd to Lang Bay Rd	\$2,900,000	12	11
A12	Lang Bay Rd to Pine Tree Rd	\$2,700,000	12	8
AI3	Pine Tree Rd to Joyce Ave	\$3,000,000	3	10
AI4	Joyce Ave to Wharf St at Willingdon Ave	\$7,600,000	2	3
A15	Wharf St at Willingdon Ave to Arbutus at Sycamore St. <sup>6</sup>	\$2,400,000	12	2
AI6	Arbutus at Sycamore St to Gibsons Beach Rd	\$3,700,000	8	I
AI7	Gibsons Beach Rd to Southview Rd	\$4,200,000	4	5
A18	Southview Rd to Craig Rd	\$4,700,000	8	6
A19	Craig Rd to Malaspina Rd	\$4,700,000	12	9
A20	Malaspina Rd to Lund Wharf	\$4,700,000	4	7

# FIGURE 17: SUMMARY OF ESTIMATED CONSTRUCTION COSTS AND RANKING OF BARRIERS TO IMPLEMENTATION AND IMPLEMENTATION PRIORITY

<sup>&</sup>lt;sup>6</sup> The routing for A15 is via Willingdon Avenue, Willingdon Beach Trail and extending through the old golf course, Yew Street, Walnut Street and Arbutus Avenue. All other segments follow Highway 101.

#### SEGMENT AI: SUNSHINE COAST HIGHWAY, NORWEST BAY ROAD TO REDROOFFS ROAD

This segment is a distance of 5,059 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway<sup>7</sup>. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	5	Within 3 km of Sechelt Town centre
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is relatively high, approximately 0.54 residents per metre of route
Cycling Mode Share	3	I.1% of adults employed outside the home commute regularly by bicycle
Indigenous Population	2	Approximately 5.4% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	Bike lanes available connecting to parks and beach access
Available Parallel Alternate Routes	4	Partial and problematic alternate route
Connections to Transit Stops	5	3.2 stops per km
Support		
Government Ranking	4.3	High to very high
NGO Ranking	4.5	High to very high
Alignment with Planned Project	0	No alignment with any planned capital projects
Alignment with Grant Funding	0	Does not qualify for provincial grant funding
Total	34.8	Ranked 4 <sup>th</sup> highest priority for implementation (4 <sup>th</sup> of 20)

#### BARRIERS TO IMPLEMENTATION

Cost		
Cost per Kilometre	0	\$5.1 million per km
Private Property conflicts	0	22.1 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	I	39 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	I	Ranked most difficult to implement (1 <sup>st</sup> of 20)

<sup>&</sup>lt;sup>7</sup> Transportation Choices Sunshine Coast recommends that we consider shifting the alignment for Segment A1 to the east (inland side) of Highway 101. Since further investigation is outside of the scope of this report, we recommend that this option be considered during the conceptual design phase.



This Segment is within the District of Sechelt, has a relatively high population density, and cycling mode share. It would offer relatively comfortable connections for pedestrians and cyclists to beach access and parks and relatively frequent access to transit stops, and there is no continuous parallel route for active transportation users, all of which increases its priority for implementation. Further, both NGO and government representatives ranked this Segment as a high to very high priority for implementation. Consequently, it ranks as the 4<sup>th</sup> highest priority for implementation are significant. Anticipated construction costs, potential private property conflicts and driveway and intersection crossings are all relatively high on this stretch, thus making this segment the most challenging to implement of any within this study area.

# SEGMENT A2: SUNSHINE COAST HIGHWAY, REDROOFFS ROAD (SOUTH) TO REDROOFFS ROAD (NORTH)

This segment is a distance of 7,461 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from a key destination
Population Density per Metre of Route	3	The population density of the surrounding dissemination area is approximately 0.34 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 12.6% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	Relatively comfortable access to Sargeant Bay Park
Available Parallel Alternate Routes	2	Redrooffs Road provides a continuous alternate route
Connections to Transit Stops	I	0.7 stops per km
Support		
Government Ranking	2.5	Medium
NGO Ranking	3.4	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	19.9	Ranked a low priority for implementation with a ranking of $15^{\mbox{\tiny th}}$ of 20

#### BARRIERS TO IMPLEMENTATION

Cost		
Cost per Kilometre	I	\$4.9 million per km
Private Property conflicts	5	0.4 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	5	3 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	11	Relatively few impediments to implementation, ranking one of the lowest costs at $17^{th}$ of 20



This Segment is a low priority for implementation. It is further than 3 km from a primary or secondary town centre, it has a moderate population density, and a low cycling mode share. A relatively high proportion, 12.6%, of residents in the area identify as Indigenous, and the route offers relatively comfortable connections for pedestrians and cyclists to Sargeant Bay Park. Yet, there are few transit stops in this segment and there is an alternative to the selected route for active transportation users, both of which decrease this segment's priority for implementation. Government and NGO representatives ranked this segment as a medium, to medium high priority for implementation. Yet, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of an approved active transportation are relatively low since potential for private property conflicts and driveway and intersection crossings are both low on this stretch. Thus, despite having relatively high anticipated construction costs, this segment has relatively low barriers to implementation.

# SEGMENT A3: SUNSHINE COAST HIGHWAY, REDROOFFS ROAD (NORTH) TO 9844 SCH

This segment is a distance of 7,461 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	3	3 km from a secondary destination
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is approximately 0.43 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	I	Approximately 2.1% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	I	A relatively poor connection for AT users to Smuggler Cove Provincial Park
Available Parallel Alternate Routes	5	No alternate route exists
Connections to Transit Stops	I	0.3 stops per km
Support		
Government Ranking	3.3	Medium high
NGO Ranking	2.8	Medium
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	22.1	Ranked a lower priority for implementation at 13 <sup>th</sup> of 20

## BARRIERS TO IMPLEMENTATION

Cost		
Cost per Kilometre	I	\$4.7 million per km
Private Property conflicts	4	3.6 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	7 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	8	Ranked as relatively more challenging to implement with a rank of $8^{\text{th}}$ highest



This Segment is a moderate to low priority for implementation. It is 3 km from a secondary destination and has a relatively high population density. Yet, it has a low cycling mode share and offers few connections to transit. Further, approximately 2.1% of residents in the area identify as Indigenous, a relatively low proportion, and the route offers a relatively poor connection for pedestrians and cyclists to Smugglers Cove Provincial Park. Yet, there is no alternative route, and NGO and government representatives ranked this segment as a medium, to medium high priority for implementation. Unfortunately, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of a government approved active transportation network. Consequently, it ranks as the 13<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are moderately high since anticipated private property conflicts and driveway and intersection crossings are both moderately low on this stretch, yet capital costs are high, thus balancing its score.

# SEGMENT A4: SUNSHINE COAST HIGHWAY, 9844 SCH TO MERCER ROAD (NORTH)

This segment is a distance of 3,581 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	3	3 km from a secondary destination
Population Density per Metre of Route	3	The population density of the surrounding dissemination area is approximately 0.21 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	Ι	Approximately 2.0% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	I	A relatively poor connection for AT users to Secret Cove marina and Store
Available Parallel Alternate Routes	3	Mercer provides a partial alternate route
Connections to Transit Stops	I	0.3 stops per km
Support		
Government Ranking	2.5	Medium
NGO Ranking	2.8	Medium
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	18.3	Ranked as lowest priority for implementation (20 <sup>th</sup> of 20)

## BARRIERS TO IMPLEMENTATION

Cost		
Cost per Kilometre	0	\$5.1 million per km
Private Property conflicts	5	0 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	6 potential driveway and intersection crossings per km
Collisions Involving AT Users	3	One documented collision involving and AT user 2017-2022
Total	11	Ranked as having relatively few barriers to implementation with a ranking of 17 <sup>th</sup> of 20



This segment is the lowest priority for implementation. While it is 3 km from a secondary destination and has a moderately high population density, it has a low cycling mode share, and few connections to transit. Further, approximately 2.0% of residents in the area identify as Indigenous, a relatively low proportion, and the route offers a relatively poor connection for pedestrians and cyclists to Secret Cove marina and store. Further, Mercer offers a partial alternate route, and government and NGO representatives ranked this segment as a medium priority for implementation. Further, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of an approved active transportation network. Consequently, it ranks as the last priority for implementation within this study area. Yet, barriers to implementation are relatively low. For instance, the potential for private property conflicts and driveway and intersection crossings are both low on this stretch. On the other hand, capital costs are relatively high and this is the only segment in the study area that experienced a collision involving a vulnerable road user which was reported to ICBC between 2017-2022. As such, this segment has low barriers to implementation with a score of 11, ranking it as 17<sup>th</sup> of 20 segments.

# SEGMENT A5: SUNSHINE COAST HIGHWAY, MERCER ROAD (NORTH) TO BRYAN ROAD

This segment is a distance of 6,688 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	3	3 km from a secondary destination
Population Density per Metre of Route	3	The population density of the surrounding dissemination area is approximately 0.20 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 8.3% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	0	No connections identified
Available Parallel Alternate Routes	5	No alternate route exists
Connections to Transit Stops	0	0 stops per km
Support		
Government Ranking	3.8	Medium high
NGO Ranking	3.2	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	22	This is a relatively low priority for implementation, ranking $14^{\rm th}$ out of 20

#### BARRIERS TO IMPLEMENTATION

Cost		
Cost per Kilometre	2	\$3.5 million per km
Private Property conflicts	4	3.4 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	12 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017- 2022
Total	9	Ranked as moderately challenging to implement with a rank of $11^{\rm th}$ out of 20



With a score of 22, this segment is a relatively low priority for implementation. Although it is 3 km from a secondary town centre, it has a low population density, and a low cycling mode share. Approximately 8.3% of residents in the area identify as Indigenous, a moderately high proportion, but the route offers no connections to parks, beach access, grocery stores or transit stops. However, there is no alternate route, thus increasing this segment's priority for implementation. Government and NGO representatives ranked this segment as a medium high priority for implementation. Yet, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of a government approved active transportation network. Consequently, it ranks as the 14<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are moderate. For instance, with an estimated construction cost of \$3.5 million per kilometre, capital costs are considered moderately high. Yet, both private property conflicts and driveway and intersection crossings are relatively low. A score of 9 thus ranks this segment as 11<sup>th</sup> out of 20, suggesting that this segment has moderate barriers to implementation.
# SEGMENT A6: SUNSHINE COAST HIGHWAY, BRYAN ROAD TO MENACHER ROAD

This segment is a distance of 7,192 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	3	3 km from a secondary destination
Population Density per Metre of Route	2	The population density of the surrounding dissemination area is approximately 0.15 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 8.3% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	I	Francis Peninsula Road and Madeira Park Road offer a poor connection to a grocery store
Available Parallel Alternate Routes	2	Bypass via gravel road north of Bryan to Menacher Road and a partial bypass via Francis Peninsula Rd, Lagoon Rd, & Madeira Park Rd
Connections to Transit Stops	0	0 stops per km
Support		
Government Ranking	3.8	Medium high
NGO Ranking	3.3	Medium high
Alignment w/ Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	19.1	This is a low priority for implementation, with a rank of $18^{\rm th}$ of 20

Cost		
Cost per Kilometre	I	\$4.2 million per km
Private Property conflicts	3	7.4 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	13 potential driveway & intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	7	Ranked as challenging to implement with a rank of 4 <sup>th</sup> highest barriers of 20



With a score of 19.1, this segment is a low priority for implementation. Although it is 3 km from a secondary destination, it has a relatively low population density, and a low cycling mode share. Approximately 8.3% of residents in the area identify as Indigenous, a moderately high proportion, but the route offers poor connections to a single grocery store and no connections to transit. Further, there is an alternate route and partial bypass available, though both are uncomfortable and circuitous. Both government and NGO representatives ranked this segment as a medium high priority for implementation. Yet, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of a government approved active transportation network. Consequently, it ranks as the 18<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are relatively high. For instance, with an estimated construction cost of \$4.2 million per kilometre, capital costs are considered moderately high. Yet, both private property conflicts and driveway and intersection crossings are moderately low. A score of 7 thus ranks this segment as 4<sup>th</sup> out of 20, suggesting that this segment has relatively high barriers to implementation.

# SEGMENT A7: SUNSHINE COAST HIGHWAY, MENACHER ROAD TO HALLOWELL FOREST SERVICE ROAD

This segment is a distance of 8,276 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from any primary or secondary destination
Population Density per Metre of Route	I	The population density of the surrounding dissemination area is approximately 0.07 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 8.3% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	I	Garden Bay Road offers a poor connection to Garden Bay Marine Park
Available Parallel Alternate Routes	4	A partial alternate route is available via the Suncoaster Trail (circuitous and uncomfortable)
Connections to Transit Stops	0	0 stops per km
Support		
Government Ranking	4.3	High
NGO Ranking	3.2	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	18.5	Low priority for implementation, ranked 19 <sup>th</sup> of 20

Cost		
Cost per Kilometre	3	\$2.5 million per km
Private Property conflicts	4	2.7 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	5	5 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	12	Ranked as having few barriers to implementation with a ranking of $19^{th}$ of 20



With a score of 18.5, this segment is a low priority for implementation. It is more than 3 km from a primary or secondary town centre, it has a relatively low population density, and a low cycling mode share. Approximately 8.3% of residents in the area identify as Indigenous, a moderately high proportion, but the route offers only poor connections to Garden Bay Marine Park. Yet, there is a partial alternate route available via the Suncoaster Trail, though it is uncomfortable and circuitous. Government and NGO representatives respectively ranked this segment as a high and medium high priority for implementation. Yet, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of a government approved active transportation network. Consequently, it ranks as one of the lowest priorities for implementation at 19<sup>th</sup> of 20. Meanwhile, barriers to implementation are relatively low. For instance, with an estimated construction cost of \$2.5 million per kilometre, capital costs are considered relatively low. Further, the potential for private property conflicts and driveway and intersection crossings are relatively low. A score of 12 thus suggests this segment has low barriers to implementation.

# SEGMENT A8: SUNSHINE COAST HIGHWAY, HALLOWELL FOREST SERVICE ROAD TO DAN BOSCH PARK ENTRY

This segment is a distance of 4,973 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from any primary or secondary destination
Population Density per Metre of Route	2	The population density of the surrounding dissemination area is approximately 0.12 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 8.3% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	I	Poor connection via Hallowell to Spipiyus Provincial Park.
Available Parallel Alternate Routes	4	A partial alternate route is available via the Suncoaster Trail (circuitous and unpaved)
Connections to Transit Stops	0	0 stops per km
Support		
Government Ranking	4.5	High
NGO Ranking	3.2	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	19.7	Low priority for implementation, ranked 16 <sup>th</sup> of 20

Cost		
Cost per Kilometre	I	\$4.1 million per km
Private Property conflicts	4	1.8 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	5	3 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	10	Ranked as having moderate barriers to implementation with a ranking of 12 <sup>th</sup> out of 20



With a score of 19.7, this segment is a low priority for implementation. It is more than 3 km from a primary or secondary town centre, it has a relatively low population density, and a low cycling mode share. And, although a relatively high proportion of residents identify as Indigenous at 8.3%, the route offers only a poor connection to Spipiyus Provincial Park. Yet, there is a partial alternate route available via the Suncoaster Trail, though it is uncomfortable and circuitous. Government and NGO representatives respectively ranked this segment as a high and medium high priority for implementation. Yet, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of a government approved active transportation network. Consequently, it ranks as one of the lowest priorities for implementation at 16<sup>th</sup> of 20. Meanwhile, barriers to implementation are moderate with a ranking of 12<sup>th</sup> of 20. For instance, the potential for private property conflicts and driveway and intersection crossings are both relatively low, yet with an estimated construction cost of \$4.1 million per kilometre, capital costs are considered relatively high, thus balancing out to a moderate score.

# SEGMENT A9: SUNSHINE COAST HIGHWAY, DAN BOSCH PARK TO EARLS COVE FERRY TERMINAL

This segment is a distance of 5,716 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

# IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from any primary or secondary destination
Population Density per Metre of Route	2	The population density of the surrounding dissemination area is approximately 0.11 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 8.3% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	<u> </u>	Poor connection to Ambrose Lake Provincial Park
Available Parallel Alternate Routes	4	A partial alternate route is available via the Suncoaster Trail (circuitous, unpaved, rugged and hilly)
Connections to Transit Stops	0	0 stops per km
Support		
Government Ranking	4.0	High
NGO Ranking	3.2	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	0	Does not qualify for grant funding
Total	19.2	This is a low priority for implementation, with a rank of $17^{\text{th}}$ out of 20

Cost		
Cost per Kilometre	0	\$5.4 million per km
Private Property conflicts	4	1.7 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	6 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	7	Ranked as challenging to implement with a rank of 4 <sup>th</sup> highest costs of 20



With a score of 19.1, this segment is a low priority for implementation. It is more than 3 km from a primary or secondary town centre, it has a relatively low population density, a low cycling mode share, offers poor connections to a single park and no connections to transit. Yet, approximately 8.3% of residents in the area identify as Indigenous, a moderately high proportion. There is a partial alternate route available, though it is uncomfortable and circuitous. Government and NGO representatives respectively ranked this segment as a high and medium high priority for implementation. Yet, there are no capital projects planned by local government or provincial agencies that might leverage construction of active transportation improvements, nor is this route part of a government approved active transportation network. Consequently, it ranks as 17<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are relatively high. For instance, with an estimated construction cost of \$5.4 million per kilometre, capital costs are considered high. While, both private property conflicts and driveway and intersection crossings are moderate. A score of 7 thus ranks this segment as 4<sup>th</sup> out of 20, suggesting that this segment has high barriers to implementation.

# SEGMENT AI0: SUNSHINE COAST HIGHWAY, SALTERY BAY FERRY TERMINAL TO ROBERTS ROAD

This segment is a distance of 8,333 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the south, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from any primary or secondary destination
Population Density per Metre of Route	I	The population density of the surrounding dissemination area is approximately 0.08 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	2	Approximately 7.4% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	One average and one poor connection to Saltery Bay Provincial Park and Mermaid Cove Park
Available Parallel Alternate Routes	5	No alternate route exists
Connections to Transit Stops	I	0.2 stops per km
Support		
Government Ranking	2.5	Medium
NGO Ranking	2.8	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	5	Qualifies for provincial grant funding
Total	24.3	This is a moderate priority for implementation, with a rank of $11^{\rm th}$ of 20

Cost		
Cost per Kilometre	2	\$3.3 million per km
Private Property conflicts	5	0.5 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	5	5 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	12	Ranked as having few barriers to implementation with a ranking of 19 <sup>th</sup> of 20



With a score of 24.3, this segment is a moderate priority for implementation. It is more than 3 km from a primary or secondary town centre, it has a relatively low population density, and a low cycling mode share. Meanwhile, approximately 7.4% of residents in the area identify as Indigenous, a moderately high proportion, the route offers connections to Saltery Bay Park and Mermaid Cove Park and there is no alternate route, thus boosting its score. Yet, there are few connections to transit and no capital projects planned by local or provincial agencies that might leverage construction of active transportation improvements. On the other hand, government and NGO representatives respectively ranked this segment as a medium and medium high priority for implementation and this route is part of a government approved active transportation network. Consequently, it ranks as 11<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are relatively low. For instance, both private property conflicts and driveway and intersection crossings are low. While with an estimated construction cost of \$3.3 million per kilometre, capital costs are considered moderate. This segment is thus ranked as having few barriers to implementation.

# SEGMENT ALL: SUNSHINE COAST HIGHWAY, ROBERTS ROAD TO LANG BAY ROAD

This segment is a distance of 4,233 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the south, or ocean side, of the Highway. The following is a summary of the MAE findings:

### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	Over 3 km from primary or secondary destinations
Population Density per Metre of Route	3	The population density of the surrounding dissemination area is approximately 0.30 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	2	Approximately 7.4% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	Beach access via a moderately comfortable connection on Roberts Road. Canoe Main offers a comfortable but unpaved connection to Lois Lake
Available Parallel Alternate Routes	3	Reasonable but circuitous and partial alternate route via Roberts Road, Scotch Fir Place, and Loubert Road
Connections to Transit Stops	I	0.5 stops per km
Support		
Government Ranking	2.5	Medium
NGO Ranking	2.8	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	5	Fully qualifies for grant funding
Total	24.3	Moderate priority for implementation, ranked 11 <sup>th</sup> of 20

Cost		
Cost per Kilometre	3	\$2.9 million per km
Private Property conflicts	4	1.4 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	6 potential driveway / intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	10	Ranked as having moderate barriers to implementation with a ranking of 12 <sup>th</sup> of 20



With a score of 24.3, this segment is a moderate priority for implementation. It is more than 3 km from a primary or secondary town centre, it has a relatively low population density, and a low cycling mode share. Meanwhile, approximately 7.4% of residents in the area identify as Indigenous, the route offers connections to Saltery Bay Park and Mermaid Cove Park and there is no alternate route, thus boosting its score. Yet, there are few connections to transit and no capital projects planned by local or provincial agencies that might leverage construction of active transportation improvements. On the other hand, government and NGO representatives respectively ranked this segment as a medium and medium high priority for implementation and this route is part of a government approved active transportation network. Consequently, it ranks as 11<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are relatively low. For instance, both private property conflicts and driveway and intersection crossings are low. Yet, with an estimated construction cost of \$3.3 million per kilometre, capital costs are considered moderate. This segment is thus ranked as having relatively low barriers to implementation.

# SEGMENT A12: SUNSHINE COAST HIGHWAY, LANG BAY ROAD TO PINE TREE ROAD

This segment is a distance of 5,235 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the south, or ocean side, of the Highway. The following is a summary of the MAE findings:

### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from any primary or secondary destination
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is approximately 0.42 residents per metre of route
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 9.6% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	4	Connections key destinations via relatively comfortable connections on Lang Bay Road, Mahood Road and Donkersly Road. Connection to Lois Lake via a poor connection on Dixon
Available Parallel Alternate Routes	5	No alternate route
Connections to Transit Stops	3	I.I stops per km
Support		
Government Ranking	3	Medium high
NGO Ranking	3	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	5	Fully qualifies for grant funding
Total	32	This is a moderately high priority for implementation, with a rank of 8 <sup>th</sup> of 20

Cost		
Cost per Kilometre	3	\$2.7 million per km
Private Property conflicts	4	3.6 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	16 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	10	Ranked as having moderate barriers to implementation with a ranking of 12 <sup>th</sup> of 20



This Segment is more than 3 km south of Powell River, and has a low cycling mode share, yet, it has a relatively high proportion of residents who identify as Indigenous. Further, it offers relatively comfortable connections for pedestrians and cyclists to beach access and parks and relatively frequent access to transit stops, and there is no continuous alternate route for active transportation users, all of which increases its priority for implementation. Further, both NGO and government representatives ranked this Segment as a medium high priority for implementation. And, while there are no capital projects planned by local or provincial agencies that might leverage construction of active transportation improvements, this route is part of a government approved active transportation network. Consequently, it ranks as the 8<sup>th</sup> highest priority for implementation are moderate, with anticipated construction costs, potential private property conflicts and driveway and intersection crossings all moderate or relatively low on this stretch.

# SEGMENT A13: SUNSHINE COAST HIGHWAY, PINE TREE ROAD TO JOYCE AVE

This segment is a distance of 9,450 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path on the south, or ocean side, of the Highway. The following is a summary of the MAE findings:

### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	I	More than 3 km from any primary or secondary destination
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is approximately 0.41 residents per metre of route
Cycling Mode Share	2	0.7% of adults employed outside the home commute regularly by bicycle
Indigenous Population	3	Approximately 9.6% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	Poor quality connections to grocery stores and parks via Padgett Road, and Highway 101 at Joyce and opposite Maris Road.
Available Parallel Alternate Routes	4	Partial alternate route via Padgett Road.
Connections to Transit Stops	I	0.4 stops per km
Support		
Government Ranking	3.3	Medium high
NGO Ranking	3.3	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	5	Fully qualifies for grant funding
Total	29.6	This is a moderately high priority for implementation, with a rank of 10 <sup>th</sup> of 20

Cost		
Cost per Kilometre	3	\$3.0 million per km
Private Property conflicts	2	10.1 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	I	21 potential driveway / intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017- 2022
Total	6	Ranked as having high barriers to implementation with a ranking of 3 <sup>rd</sup> of 20



With a score of 29.6, this segment is a moderate priority for implementation. It is more than 3 km from a primary or secondary town centre, it has a relatively high population density, and a relatively low cycling mode share. Meanwhile, approximately 9.6% of residents in the area identify as Indigenous, this route offers connections to parks and grocery stores and there exists only a partial and uncomfortable alternate route, thus boosting its score. Yet, there are few connections to transit and no capital projects planned by local or provincial agencies that might leverage construction of active transportation improvements. On the other hand, government and NGO representatives ranked this segment as a medium high priority for implementation and this segment is part of a government approved active transportation network. Consequently, it ranks as 10<sup>th</sup> of 20 priorities for implementation. Meanwhile, barriers to implementation are high. For instance, both private property conflicts and driveway and intersection crossings are relatively high and at \$3.3 million per kilometre, costs are considered moderate. This segment is thus ranked as having relatively high barriers to implementation.

# SEGMENT A14: SUNSHINE COAST HIGHWAY (MARINE AVE), JOYCE AVE TO WHARF STREET AT WILLINGDON AVE

This segment is a distance of 3,579 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the road right of way and within its own right of way on the west, or ocean side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	5	Within 3 km of a primary destination.
Population Density per Metre of Route	5	Population density of surrounding dissemination area is approximately 0.82 residents per metre of route
Cycling Mode Share	2	0.9% of adults employed outside the home commute regularly by bicycle
Indigenous Population	2	Approximately 6.3% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	Poor quality connections to grocery stores and parks and beach access via Highway 101 and via Windsor/Victoria Street
Available Parallel Alternate Routes	2	Uncomfortable but direct and complete alternate route via Joyce.
Connections to Transit Stops	3	I.7 stops per km
Support		
Government Ranking	4	High
NGO Ranking	4.2	High
Alignment with Planned Project	0	No alignment with planned capital projects in near future
Alignment with Grant Funding	5	Fully qualifies for grant funding
Total	35.2	High priority for implementation, ranking 3 <sup>rd</sup> of 20

Cost		
Cost per Kilometre	0	\$7.6 million per km
Private Property conflicts	2	14.2 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	18 potential driveway / intersection crossings per km
Collisions Involving AT Users	0	No collisions involving AT users 2017-2022
Total	5	High barriers to implementation, ranking of 2 <sup>nd</sup> of 20



This Segment is south of the BC Ferry terminal in the City of Powell River, has a relatively high population density and cycling mode share, and a moderate proportion of residents (at over 6%) who identify as Indigenous. Further, this segment offers a number of connections for pedestrians and cyclists to parks, grocery stores and beach access within the area, and access to a relatively high number of transit stops. On the other hand, there is an existing, reasonably comfortable alternate parallel route for active transport users. Meanwhile, both NGO and government representatives ranked this segment as a high priority for implementation and this route is identified as a planned active transportation facility within Powell River's Bicycle Network Strategy. Consequently, it ranks as the 3<sup>rd</sup> highest priority for implementation. Unfortunately, barriers to implementation are also high, ranking 2<sup>nd</sup> highest of 20. Anticipated construction costs are high as are the number of anticipated encroachments on private property. Driveway and intersection crossings are relatively low, but still a challenge.

# SEGMENT A15: WILLINGDON AVE AND BEACH TRAIL AND YEW/WALNUT AND ARBUTUS AVENUE, ENDING AT THE INTERSECTION OF ARBUTUS AND SYCAMORE

This segment is 9,268 metres long. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the road right of way, and within its own right of way, on the west side of the Highway, as well as an on-road Neighbourhood Street Bikeway and an accompanying sidewalk through the Townsite National Historic District. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	5	Within 3 km of a primary town centre.
Population Density per Metre of Route	3	The population density is approximately 0.22 residents per metre of route
Cycling Mode Share	3	1.2% of adults employed outside the home commute regularly by bicycle
Indigenous Population	4	Approximately 18.7% of residents identify as Indigenous
Connectivity		
Proximity to Key Destinations	4	Numerous average quality connections to grocery stores, parks and beach access
Available Parallel Alternate Routes	2	Reasonably comfortable alternate route via Joyce, Hydro Line trail, Timberlane, Maple and Sycamore
Connections to Transit Stops	I	0.5 stops per km
Support		
Government Ranking	4.5	Very high
NGO Ranking	4.3	High
Alignment with Planned Project	0	No alignment with planned capital projects in near future
Alignment with Grant Funding	5	Qualifies for grant funding
Total	35.8	High priority for implementation, Ranked 2 <sup>nd</sup> of 20

Cost		
Cost per Kilometre	3	\$2.4 million per km
Private Property conflicts	4	4.5 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	8 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No collisions involving AT users 2017-2022
Total	10	Moderate barriers to implementation, Ranked 12 <sup>th</sup> of 20



This segment is within the City of Powell River, has a relatively high population density and cycling mode share, and a relatively high proportion of residents (at over 18%) who identify as Indigenous. Further, this segment offers active transportation connections for pedestrians and cyclists to parks, grocery stores and beach access within the area. On the other hand, there is an existing, and reasonably comfortable alternative, parallel route for active transport users and limited connections along this route to transit stops, thus reducing its overall score, relative to the highest ranked segment. Yet, both NGO and government representatives ranked this segment as a high or very high priority for implementation and this route is identified as a planned active transportation facility within Powell River's Bicycle Network Strategy. Consequently, it ranks as the 2<sup>nd</sup> highest priority for implementation. Moreover, barriers to implementation are moderate to low, ranking below average at 12<sup>th</sup> of 20. Anticipated construction costs and driveway and intersection crossings are relatively low, while potential private property conflicts are relatively high.

# SEGMENT A16: SUNSHINE COAST HIGHWAY, SYCAMORE STREET TO GIBSONS BEACH ROAD

This segment is a distance of 4,505 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the Highway right of way and running on the north and east sides of the Highway. The following is a summary of the MAE findings:

# IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	3	Within 3 km of a ťišosəm town centre.
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is approximately 0.45 residents per metre of route
Cycling Mode Share	4	2.1% of adults employed outside the home commute regularly by bicycle
Indigenous Population	4	Approximately 18.7% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	3	Average quality connection to grocery store and parks
Available Parallel Alternate Routes	4	Partial problematic alternate route via various unpaved paths
Connections to Transit Stops	5	2.7 stops per km
Support		
Government Ranking	4.0	High
NGO Ranking	4.0	High
Alignment with Planned Project	0	No alignment with planned projects in near future
Alignment with Grant Funding	3	Partially qualifies for grant funding
Total	38.0	This is the highest priority for implementation, with a ranking of 1 <sup>st</sup> out of 20

Cost		
Cost per Kilometre	2	\$3.7 million per km
Private Property conflicts	3	6.2 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	II potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	8	Ranked as having moderately high barriers to implementation with a ranking of 8 <sup>th</sup> of 20



This segment is within the City of Powell River, has relatively high population density, the highest current cycling mode share for commute trips of any segment within the study area and over 18 percent of residents identify as Indigenous. Further, this segment offers relatively comfortable connections for pedestrians and cyclists to parks and grocery stores and relatively frequent access to transit stops, yet there is no continuous alternate route for active transportation users. Further, both NGO and government representatives ranked this segment as a high priority for implementation and part of this route is identified as a planned active transportation facility within Powell River's Bicycle Network Strategy thus making it partially eligible for provincial grant funding. Consequently, it ranks as the highest priority for implementation amongst all those within the study area. Yet, barriers to implementation are relatively significant. Anticipated construction costs, potential private property conflicts and driveway and intersection crossings are all moderate to high on this stretch, thus ranking this segment as having the 8<sup>th</sup> highest barriers to implementation.

# SEGMENT A17: SUNSHINE COAST HIGHWAY, GIBSONS BEACH ROAD TO SOUTHVIEW ROAD

This segment is a distance of 5,344 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the Highway right of way and on the west or ocean side of the Highway. The following are the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes
Projected Demand		
Proximity to Population Centres	3	Within 3 km of tišosəm town centre.
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is approximately 0.53 residents per metre of route
Cycling Mode Share	I	Very few adults commute regularly by bicycle
Indigenous Population	5	Approximately 79.8% of residents in the surrounding dissemination area identify as Indigenous
Connectivity		
Proximity to Key Destinations	4	An average quality connection to beach access via Sliammon Road and to Sliammon Lake via Eagle Drive and a poor connection to a grocery store.
Available Parallel Alternate Routes	3	Partial but reasonably comfortable bypass via Harwood, Beach, Eagle, River, Sliammon, Salish and Klahanie
Connections to Transit Stops	I	0.7 stops per km
Support		
Government Ranking	3.5	Medium high
NGO Ranking	3.8	Medium high
Alignment with Planned Project	0	No alignment
Alignment with Grant Funding	5	Qualifies for grant funding
Total	33.3	High priority for implementation, ranked 5 <sup>th</sup> of 20

Cost		
Cost per Kilometre	I	\$4.2 million per km
Private Property conflicts	3	7.7 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	12 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	7	Ranked as having moderately high barriers to implementation with a ranking of $4^{th}$ of 20



This segment extends north from the City of Powell river, through tišosəm. It has a moderate population density, a low cycling mode share, and a high proportion of residents (at almost 80%) who identify as Indigenous. Further, this segment offers a number of connections for pedestrians and cyclists to parks, grocery stores and beach access. On the other hand, there are few connections to transit and a reasonably comfortable alternative parallel active transportation route for a portion of this segment, thus somewhat limiting its priority for implementation. Moreover, there is no planned capital project that might help to leverage construction of a Multi-Use Path<sup>8</sup>. Yet, both NGO and government representatives ranked this segment as a medium high priority for implementation and it qualifies for provincial capital grant funding. Consequently, it ranks as the 5<sup>th</sup> highest priority for implementation. Unfortunately, barriers to implementation are also high. Anticipated construction costs are high and the number of anticipated encroachments on private property and conflicts on driveways and intersections are moderately high, thus ranking this segment as 4<sup>th</sup> highest of 20 for its barriers to implementation.

<sup>&</sup>lt;sup>8</sup> Tla'amin Nation recently approved a plan to extend the sewer line from Wildwood to tišosəm. This project may help leverage construction of a Multi-Use Path if constructed using a cut and cover technique. However, Wildwood is approximately 150 metres above sea level, while tišosəm is close to sea level. It is thus more likely that the sewer extension will be constructed through tunnelling, thus leveraging little or no benefit for the construction of a MUP. Further investigation should be undertaken during future phases of this study to confirm this preliminary conclusion.

# SEGMENT AI8: SUNSHINE COAST HIGHWAY, SOUTHVIEW ROAD TO CRAIG ROAD

This segment is a distance of 4,471 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the Highway right of way and running on the east or inland side of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes	
Projected Demand			
Proximity to Population Centres	I	Not within 3 km of a primary or secondary town centre.	
Population Density per Metre of Route	4	The population density of the surrounding dissemination area is approximately 0.43 residents per metre of route	
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle	
Indigenous Population	5	Approximately 79.8% of residents in the surrounding dissemination area identify as Indigenous	
Connectivity			
Proximity to Key Destinations	3	Poor quality connections to beach access via Sturt Road and Southview	
Available Parallel Alternate Routes	5	None identified	
Connections to Transit Stops	I	0.7 stops per km	
Support			
Government Ranking	3.5	Medium high	
NGO Ranking	3.8	High	
Alignment with Planned Project	0	Noalignment	
Alignment with Grant Funding	5	Qualifies for grant funding	
Total	32.3	This is a high priority for implementation, with a ranking of $6^{th}$ of 20	

Cost			
Cost per Kilometre	I	\$4.7 million per km	
Private Property conflicts	4	2.9 property conflicts per km	
Conflicts and Safety			
Driveways and Intersections per KM	3	8 potential driveway and intersection crossings per km	
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022	
Total	8	Ranked as having moderately high barriers to implementation with a ranking of 8 <sup>th</sup> of 20	



This segment 18 extends north from tišosəm but is further than 3 km from a town centre. It has a relatively high population density, a low cycling mode share, and a high proportion of residents (at almost 80%) who identify as Indigenous. Further, this segment offers a number of connections for pedestrians and cyclists to parks, grocery stores and beach access, and there is no parallel alternate route available. On the other hand, there are few connections to transit, thus somewhat limiting its priority for implementation. Yet, both NGO and government representatives ranked this segment as a medium high priority for implementation and it qualifies for provincial capital grant funding. Consequently, it ranks as the 6<sup>th</sup> highest priority for implementation. Unfortunately, barriers to implementation are also high. Anticipated construction costs are high and the number of anticipated encroachments on private property and conflicts on driveways and intersections are moderately high, thus ranking this segment as 8<sup>th</sup> highest of 20 for its barriers to implementation.

# SEGMENT AI9: SUNSHINE COAST HIGHWAY, CRAIG ROAD TO MALASPINA ROAD

This segment is a distance of 5,175 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the Highway right of way and running on the east, or inland side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes	
Projected Demand			
Proximity to Population Centres	3	Within 3 km of a secondary town centre.	
Population Density per Metre of Route	3	The population density of the surrounding dissemination area is approximately 0.24 residents per metre of route	
Cycling Mode Share	I	Very few adults employed outside the home commute regularly by bicycle	
Indigenous Population	3	Approximately 12.1% of residents in the surrounding dissemination area identify as Indigenous	
Connectivity			
Proximity to Key Destinations	3	Poor quality connections to beach access and parks via Malaspina Road, and Emmonds Road	
Available Parallel Alternate Routes	4	Poor connection to problematic backcountry route	
Connections to Transit Stops	<u> </u>	0.4 stops per km	
Support			
Government Ranking	3.5	Medium high	
NGO Ranking	3.8	High	
Alignment with Planned Project	0	No alignment	
Alignment with Grant Funding	5	Qualifies for grant funding	
Total	30.3	This is a moderately high priority for implementation, with a ranking of 9 <sup>th</sup> of 20	

Cost			
Cost per Kilometre	I	\$4.7 million per km	
Private Property conflicts	4	2.5 property conflicts per km	
Conflicts and Safety			
Driveways and Intersections per KM	5	4 potential driveway and intersection crossings per km	
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022	
Total	10	Ranked as having moderately high barriers to implementation with a ranking of 12 <sup>th</sup> of 20	



This segment is within 3 km of a secondary town centre, has a moderately high population density, a low cycling mode share, and a relatively high proportion of residents (at over 12%) who identify as Indigenous. Further, this segment offers a number of connections for pedestrians and cyclists to parks, and beach access and there is no available parallel route, both of which boost its score. On the other hand, there are few connections to transit, thus somewhat limiting its priority for implementation. Yet, government and NGO representatives respectively ranked this segment as a medium high and high priority for implementation. And, although there is no alignment with planned roadway improvement projects that might leverage implementation, this segment is part of a planned active transportation network, thus boosting its priority for implementation. Consequently, it ranks as a moderate priority at 9<sup>th</sup> of 20 segments. Moreover, barriers to implementation are also moderate. Anticipated construction costs are high, yet the number of anticipated encroachments on private property and conflicts with driveways and intersections are both low, thus ranking this segment as 12<sup>th</sup> highest of 20 for its barriers to implementation.

## SEGMENT A20: SUNSHINE COAST HIGHWAY, MALASPINA ROAD TO THE LUND DOCK

This segment is a distance of 3,150 metres. The proposed facility is a 2-way, 3 metre wide Multi-Use Path within the Highway right of way and running on the east, or inland side, of the Highway. The following is a summary of the MAE findings:

#### IMPLEMENTATION CRITERIA

Criterion	Score	Notes	
Projected Demand			
Proximity to Population Centres	3	Within 3 km of a secondary town centre.	
Population Density per Metre of Route	3	The population density of the surrounding dissemination area is approximately 0.40 residents per metre of route	
Cycling Mode Share	I	Very few adults employed outside the home commuter regularly by bicycle	
Indigenous Population	3	Approximately 8.3% of residents in the surrounding dissemination area identify as Indigenous	
Connectivity			
Proximity to Key Destinations	3	Poor quality connections to Downtown Lund, via the Highway, and to Diver's Rock Provincial Park via Finn Bay Road and to Okover Arm Park via Malaspina Road	
Available Parallel Alternate Routes	5	No reasonable alternative available.	
Connections to Transit Stops	I	0.5 stops per km	
Support			
Government Ranking	3.8	Medium high	
NGO Ranking	4.3	High	
Alignment with Planned Project	0	No alignment	
Alignment with Grant Funding	5	Qualifies for grant funding	
Total	32.1	This is a moderately high priority for implementation, with a ranking of 7 <sup>th</sup> of 20	

Cost		
Cost per Kilometre	I	\$4.7 million per km
Private Property conflicts	3	5.7 property conflicts per km
Conflicts and Safety		
Driveways and Intersections per KM	3	4 potential driveway and intersection crossings per km
Collisions Involving AT Users	0	No documented collisions involving AT users 2017-2022
Total	7	Ranked as having high barriers to implementation with a ranking of 4 <sup>th</sup> highest of 20



This segment is within 3 km of a secondary town centre and has a moderately high population density of 0.40 residents per metre of route. Further, a relatively high proportion of residents (at over 8.3%) identify as Indigenous. Further, this segment offers a number of connections for pedestrians and cyclists to parks, grocery stores and beach access and there is no available parallel route, both of which boost its score. On the other hand, there are few connections to transit, and the cycling mode share is relatively low, thus limiting its priority for implementation. Yet, government and NGO representatives respectively ranked this segment as a medium high and high priority for implementation. And, although there is no alignment with planned roadway improvement projects that might leverage implementation, this segment is part of a planned active transportation network, thus boosting its priority for implementation. Consequently, it ranks as a moderately high priority, ranked at 7<sup>th</sup> out of 20 segments. Meanwhile, barriers to implementation are moderate. Anticipated construction costs are high, yet the number of anticipated encroachments on private property and conflicts on driveways and intersections are both relatively low, thus ranking this segment as 4<sup>th</sup> highest of 20 for its barriers to implementation.

#### EVALUATION SUMMARY

To identify logical groupings of segments for implementation, the entire 110 km route was broken into 6 groups of segments, some with as few as 1 segment, and some with as many as 4 segments. We totalled the scores for each group of segments and divided by the number of segments to get average scores. The rankings are listed below. Note that those ranked as the highest priority for implementation have the highest combined Demand,

Connectivity and Support scores, while those with the lowest scores for Cost and Conflict face the highest barriers to implementation.

Location	Segments	Ranking: Demand, Connectivity & Support I highest priority 6 lowest (average score)	Ranking: Cost and Conflict I high 6 low (average score)
Hwy 101 at Joyce Avenue to Hwy 101/Arbutus Avenue at Sycamore Street	A14 - A16	l (36.3)	2(7.7)
Norwest Bay Road to Redrooffs Road (south)	AI	2(34.8)	1(1)
Hwy 101 from Gibsons Beach Road to the wharf in Lund	A17 to A20	3(32)	3(8)
Hwy 101 from Saltery Bay to Joyce Avenue	AI0 to AI3	4(27.5)	5(9.5)
Hwy 101 from Redrooffs Road to Bryan Road	A2 to A5	5(20.57)	6(9.75)
Hwy 101 from Bryan Road to Earls Cove	A6 to A9	6(19.1)	4(9)

The segments A14 to A16 from Highway 101 at Joyce Avenue to Highway 101/Arbutus at Sycamore Street in Powell River have the strongest case for early implementation, with the highest ranking for Projected Demand, Connectivity, and Support. Yet, segments A14 to A16 face the second highest Cost and Conflicts toward implementation. Segment A1, from Norwest Bay Road in Sechelt to Redrooffs Road is the second highest priority for implementation but faces the highest barriers to implementation. Segments A17 to A20 on Highway 101 from Gibsons Beach Road to the wharf at Lund are the 3<sup>rd</sup> highest priority for implementation and have the 3<sup>rd</sup> highest barriers to implementation. Segments A10 to A13 from Saltery Bay to Joyce Avenue in Powell River are ranked 4<sup>th</sup> as a priority for implementation, but with the second lowest anticipated barriers to implementation. Segments A2 to A5 on Highway 101 from Redrooffs Road to Bryan Road rank the second lowest priority for implementation, but with the lowest barriers to implementation. Highway 101 from Bryan Road to Earls Cove (segments A6 to A9) ranks as the last priority for implementation, but with relatively low barriers to implementation, ranking 4<sup>th</sup> of 6.

# CONCLUSION

### OVERVIEW AND LIMITATIONS

This report offers a preliminary design for a proposed active transportation route from Sechelt to Lund. The alignment and facility design were based on an understanding of:

• The available right of way

- Physical and jurisdictional constraints
- Surrounding land uses and development
- Preliminary stakeholder input
- Relevant orthophotos, GIS based, and other relevant data provided by local, regional, provincial and federal agencies, and
- Reference to appropriate provincial, federal and international design guidance.

This report is not accompanied by comprehensive stakeholder or public engagement and does not purport to fully reflect the input of all stakeholders. Instead, the focus was on completing a preliminary design, involving a determination of an appropriate and technically feasible alignment and associated facility design options. These are supported by planning level capital cost estimates for each segment of the route. The outcome is a report that will support Sunshine Coast Tourism and government agencies in completing a business case, stakeholder engagement, conceptual and detailed designs, and fundraising required for implementation.

### NEXT STEPS

There are a number of significant steps that must be taken to progress this project to construction and operation. Any further work should be supported by a formalized consultation process to document all stakeholder input for incorporation in the detailed design. The following initiatives should be undertaken to coalesce community support and resources required to support such a major capital investment. The following project components are discrete and require expertise from different disciplines but may occur simultaneously for efficiency and continuity.

- Operations and Management Agreement the long-term success of any transportation facility relies on effective operations and management. Relevant authorities must maintain the infrastructure, manage risks and liability, plan for emergencies, respond to user feedback, and guide day to day operations. Given the scope of this project and jurisdictional overlap, agreement concerning roles, responsibilities, resource requirements and funding sources are needed in advance of construction to effectively manage this infrastructure.
- Business Case Development a value proposition is required to evaluate the benefit, cost and risks associated with the proposed active transportation facilities, to generate public support and to convince decision makers to invest public funds in this project.
- Stakeholder and Public Engagement formalized engagement will garner public interest and assist all levels of government in considering policies and funding arrangements to support this project.
- Conceptual and Detailed Design land surveys, conceptual and detailed designs, supported by stakeholder input, will each be needed to clarify infrastructure design, and construction costs.
- Permitting & Land Acquisition stakeholders such as regulatory agencies, local governments and utility owners must be consulted through formal review and permitting processes. Land acquisition or easements will be required from private landowners.

# CLOSING

This report has been prepared by GJD Planning + Design for the benefit of Sunshine Coast Tourism and associated government and community partners. The information and data contained in this report represents the author's best professional judgement considering the knowledge, information, and data available at the time of preparation.

GJD Planning + Design denies any liability to other parties that may obtain access to this report for any injury, loss or damage suffered by such parties arising from their use of, or reliance upon this report without the express written permission of GJD Planning + Design and Sunshine Coast Tourism.

# GJD Planning

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# APPENDICES

#### APPENDIX A

# CONNECT THE COAST: PHASE 2 PRELIMINARY DESIGN SCOPE SUMMARY

#### **Project Meetings**

Regular meetings with the consultant and client throughout the duration of the project. Prepare for, attend, and provide meeting notes as required for ten (10) meetings of one (1) hour each<sup>9</sup>.

#### **Data Acquisition and Review**

Obtain and review data including, but not limited to: GIS based data showing the Highway 101 Right of Way from Norwest Bay Road to Finn Bay Road in Lund including, general purpose travel lanes, shoulders, property lines and ownership, above and below ground utilities, and topography. Recent, high resolution aerial images for the entire segment of Highway 101, (that are dated and ideally at 1 pixel for every 20cm). We'll work with Sunshine Coast Tourism to identify transportation capital projects planned and underway along Highway 101 throughout the study area with contact information for an associated PM, should we have any questions. No fieldwork or original data generation is anticipated.

#### Identify Existing Active Transportation Infrastructure

Identify and assess relevant active transportation (AT) infrastructure within the study area noting facility type and width.

#### Identify and Agree Appropriate AT Design Guidance

Review the BC Active Transportation Design Guide (2019) and other appropriate design guides including the Transportation Association of Canada's Geometric Design Guide (2017) and the FHWA Small Town and Rural Multimodal Networks Design Guide (2016) to identify and describe facility design guidance that is appropriate for Highway 101. Use the following 3 case studies as precedents: Tofino's multi-use path beside Pacific Rim Highway #4, Telkwa-Smithers Multi-use Path seaside Highway 16, and Okanagan Rail Trail bordering Highway 97.

#### Identify and Assess Gaps in AT Infrastructure

Identify and assess gaps in AT infrastructure along Highway 101 from Norwest Bay Road in Sechelt to Wharf Street in Powell River, noting what improvements are required to achieve an all ages and abilities (AAA) standard.

<sup>&</sup>lt;sup>9</sup> Note that it became apparent upon commencing the project, that a Steering Committee made up of government and NGO representatives from the study area would be needed to oversee the study. The scope was thus amended, to include 3 meetings with the Steering Committee during the course of the study. For each meeting, the Consulting team prepared, developed a PowerPoint presentation, attended and presented, and provided summary meeting notes to participants.

#### **Identify Unit Costs**

Identify and agree with the client per metre costs to construct facility types that would be sufficient to meet an AAA standard. For this step we'll utilize the capital cost estimates developed by ISL for phase 1 from Langdale to Sechelt, and we'll update those costs so that they are applicable to phase 2 (Sechelt to Lund)

#### **Complete Planning Level Cost Estimates**

Complete planning level cost estimates based on the unit costs established in Task 6 and required to fill each AT gap within the Highway 101 study area with AAA AT facilities.

#### Agree Criteria to Prioritize Upgrades

Work with the client and relevant stakeholders to agree criteria and weighting of those criteria to assess and prioritize improvements along Highway 101. We'll utilize the criteria developed for Phase I as a starting point to allow for continuity.

#### **Prioritize AT Upgrades**

Prioritize AT upgrades along the Highway 101 segment based on the criteria and weighting established in Task 8. ISL's role will be to provide an independent review of the criteria and the assessment of those criteria undertaken by GJD staff.

#### **Preliminary Report**

Provide a draft preliminary report identifying and assessing AT infrastructure required to meet an AAA standard along Highway 101 from Norwest Bay Road in Sechelt to Wharf Street at Marine Ave in Powell River and prioritizing segments along this route for construction based on the agreed criteria. Submit memo to SCT staff and stakeholders for comments and edits.

#### **Final Report**

Update and finalize the Preliminary Report based on one round of comments and edits from the client and stakeholders.
### APPENDIX B

Images showing Existing Typical, Best, or Worst conditions within each Route Segment Identified within the Connect the Coast Study Area

Representative samples are show on the following page, a full listing can be found by visiting this Dropbox folder.

SEGMENT AI - Norwest Bay Road to Redrooffs Road (South)











SEGMENT A3 - Redrooffs Road (North) to 9844 Highway 101

SEGMENT A4 - 9844 Highway 101 to Mercer Road (North)



SEGMENT A5 - Mercer Road (North) to Bryan Road



SEGMENT A6 - Bryan Road to Menacher Road





SEGMENT A7 - Menacher Road to Hallowell FSR Road (North)

**SEGMENT A8 -** Hallowell FSR Road (North) to Dan Bosch Park





#### SEGMENT A9 - Dan Bosch Park to Earl's Cove



SEGMENT AIO - Saltery Bay to Roberts Road





SEGMENT AII - Roberts Road to Lang Bay Road



### SEGMENT AI2 - Lang Bay Road to Pine Tree Road



# SEGMENT AI3 - Pine Tree Road to Joyce Avenue





# **SEGMENT A14 -** Joyce Avenue at SCH to Wharf at Willingdon

**SEGMENT A15** - Wharf at Willingdon to Arbutus Avenue at Sycamore Street



**SEGMENT A16** - Arbutus Avenue at Sycamore Street to Gibsons Beach Road





#### SEGMENT AI7 - Gibsons Beach Road to Southview Road



SEGMENT A18 - Southview Road to Craig Road



SEGMENT AI9 - Craig Road to Malaspina Road



SEGMENT A20 - Malaspina Road to Lund Boat Ramp

