# Preliminary Design Report
# Connect the Coast: An All Ages and Abilities Active Transportation Route Linking Langdale and Sechelt

Pacific Rim Hwy Multi-use Path, Credit Andrew Picard

Prepared by: GJD Planning + Design
November 2022

November 23, 2022

Transportation Choices Sunshine Coast
Attention: Alun Woolliams, President

**Preliminary Design Report - Connect the Coast: An All Ages and Abilities Active Transportation Route Linking Langdale and Sechelt**

On behalf of GJD Planning + Design, I am pleased to submit this preliminary design report for the proposed all ages and abilities, active transportation route from Langdale to Sechelt on the Sunshine Coast. We are grateful for the opportunity to work with TraC to improve active transportation, recreation, and tourism opportunities on the Sunshine Coast.

We acknowledge that Sunshine Coast from Langdale to Sechelt is on the unceded traditional territory of the shíshálh and the Sḵwx̱wú7mesh Nations.

We would like to acknowledge the support of many individuals and organizations that have dedicated time and resources to help complete this study, including:

- TraC's Leadership Team - Alun Woolliams, Tannis Braithwaite, Stephen Forgacs, Scott Nelson, and Tim Howard
- Sunshine Coast Regional District - Ian Hall, Shelley Gagnon, Raph Shay, Sam Adams, Jessica Huntington and Emilia Walton
- Ministry of Transportation and Infrastructure - Gabriel Lord, and Michael Braun

Our apologies to anyone we may have missed.

Efforts to build an accessible active transportation route along the Sunshine Coast would not have progressed to this stage without the investment of time, money and countless volunteer hours contributed by TraC and its members, supporters and community partners. In particular, this project and report would not have been possible without the financial support, hard work, dedication and detailed understanding of Sunshine Coast Highway 101 corridor offered by members of TraC's Leadership Team and Board. Thank you.

We look forward to continuing to support your team in efforts to realize an AAA AT route along the Sunshine Coast.

Yours Truly,

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# Contents

# Executive Summary

This report presents a preliminary design of an active transportation route for people ages 8 to 80 from Langdale ferry terminal to Sechelt on British Columbia's Sunshine Coast. The design is intended to help and encourage our local and provincial governments to construct this facility.

The Langdale ferry terminal and the town of Sechelt are connected by a 30-kilometre stretch of Highway 101. Although this stretch of highway runs through and connects the region's most densely populated communities, including Gibsons, Roberts Creek, Wilson Creek, Davis Bay and Sechelt, there is only 1.6 kilometres of active transportation infrastructure on or adjacent to the highway outside the Town of Gibsons and the District of Sechelt.

This leaves cyclists, pedestrians and people using mobility scooters without a safe route to travel between the six communities located along this corridor. 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 private vehicles.

This report presents the findings of a study of the Highway 101 corridor from Langdale to Sechelt. The study was commissioned by Transportation Choices Sunshine Coast (TraC). The study included a thorough review of GIS (geographic information system) data, including road and property boundaries, existing Ministry of Transportation and Infrastructure and local government plans, costing estimates and site visit analysis. The report breaks this corridor into 25 segments and presents recommendations for appropriate active transportation infrastructure to serve people of all ages and abilities, as well as high-level cost estimates for construction of the recommended infrastructure and assigns a priority for implementation to each segment based on a multiple accounts evaluation, as detailed in the report.

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

1. Segments 4, 5, 6, 7 are on Gibsons Way/Hwy 101 from N Fletcher Road to Highland/Lower Road.
2. Segments 18, 19, 20 on Hwy 101 from Bay Road in Davis Bay to Wharf Avenue in Sechelt.
3. Segments 1, 2, 3: Segment 1 is on Marine Drive from Langdale to School Road in Lower Gibsons. Segment 2 is northbound on Gibsons Way from School Road at Marine Drive to N Fletcher Road. Segment 3 is southbound on N Fletcher Road from Gibsons Way to School Road and on the west side of School Road to Marine Drive.
4. Segments 16, 17 are on Hwy 101 from Field Road to Bay Road.
5. Segments 21, 22: Segment 21 is on Hwy 101 (Wharf Avenue and Toredo Street), from Dolphin Street to Shorncliffe Avenue. Segment 22 is on Hwy 101 from Shorncliffe Avenue to Norwest Bay Road.
6. Segments 13, 14, 15 are on Hwy 101 from Roberts Creek Road to Field Road.
7. Segments 8, 9, 10, 11, 12 are on Hwy 101 from Lower/Highland Roads to Roberts Creek Road.

Segments 1A, 2A, 3A are on Hwy 101 from Langdale to Gibsons Way and are an alternative to Segments 1, 2 and 3, and would score 4th of 8, if included in the list above. However, Segments 1A, 2A, and 3A have less Projected Demand, offer less Connectivity and Safety improvements, and have less Community Support than Segments 1, 2 and 3. Further, Segments 1A, 2A and

3A, are more Costly to build, offer more Conflicts with other modes and infrastructure and bypass Lower Gibsons. These segments are thus not recommended, unless Segments 1, 2 and 3 prove impractical to construct.

The total planning level cost estimate for design and construction of the preferred routing is estimated at roughly $94.54 Million, based on planning level cost estimates provided by ISL Engineers, which has recently completed a number of transportation improvement projects on the Sunshine Coast. The total capital cost, if the alternate route (Segments 1A, 2A & 3A) via Hwy 101 from Langdale to Gibsons were constructed, would be approximately $125.44 Million. However, given that the route will likely be built in portions, and over time, it may be useful to consider the cost of various segments. For instance, the cost to construct the highest priority Segments (4 to 7) on Gibsons Way and Hwy 101, from N Fletcher Road to Lower Road/Highland Road, just over 4 km, will cost approximately $7.9 Million, less than $2 Million per km.

# INTRODUCTION

## 1.1 Background

With scattered populations and small to mid-sized towns that are often located some distance from one another, car ownership or access to a car remains essential to many rural residents on British Columbia's Sunshine Coast.

Yet today, with extreme weather events occurring with startling regularity and severity, our relationship with and reliance on fossil-fuel-powered private passenger vehicles is called into question. Rural communities can do more to reduce their reliance on private vehicles. Climate change aside, self-propelled or active transportation, such as walking and cycling, is recognized for its population health benefits. In addition, the lack of access to good active transportation infrastructure and frequent public transit service further disadvantages populations with less ability or desire to drive, such as children, the elderly, and people living in poverty.

What's missing in and between many rural communities, including those that dot the Sunshine Coast, is infrastructure that facilitates the safe and comfortable use of active transportation options. Residents and visitors are forced to drive to run errands, take the kids to school, get to work, visit friends or enjoy the area's sights and attractions. Often there are few to no viable options to do otherwise.

Sadly, Highway 101, the Sunshine Coast's connecting highway, offers safe passage only to motorized vehicles, with next-to-no provisions for active transportation. In fact, except for a 1.6 km stretch of multi-use path parallel to the highway in Roberts Creek, there is no safe and dedicated provision for active transportation along the highway outside the Town of Gibsons and the District of Sechelt.

The goal of this design process is to provide a preliminary design for an active transportation route to serve people of all ages and abilities from Langdale to Sechelt, and to prioritize segments along the route for implementation.

The construction of active transportation infrastructure on or adjacent to Highway 101 from Langdale to Sechelt will provide many benefits to residents, visitors and local businesses, including to:

1. 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

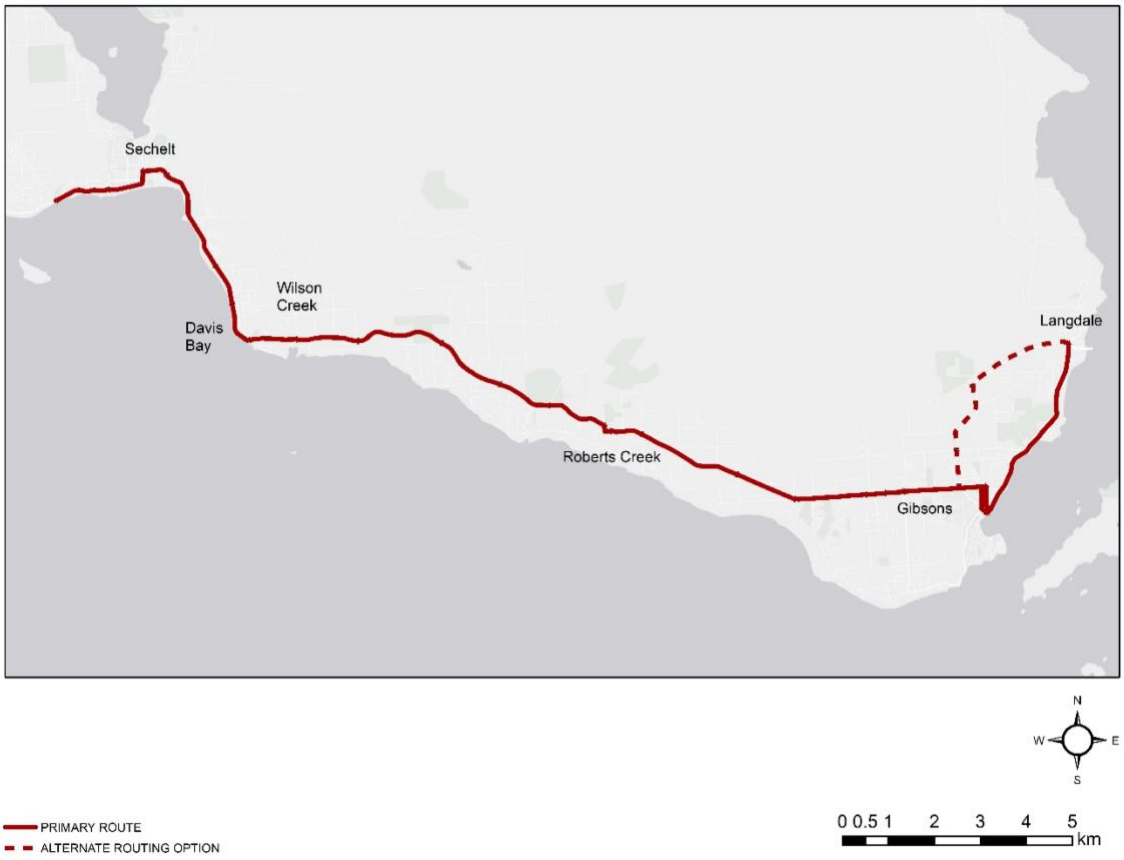
6. Reduce greenhouse gas emissions and vehicle kilometres travelled
7. Increase recreational opportunities.

This report presents the findings of a study of Highway 101 from Langdale to Sechelt. The study was commissioned by Transportation Choices Sunshine Coast (TraC). TraC works to support healthy communities and reduce the Sunshine Coast's carbon footprint by promoting more active and sustainable transportation alternatives to private vehicles, including cycling, walking, and transit.

## 1.2 Study Area

The study area, shown in **Figure 1** is on the Sunshine Coast in British Columbia, Canada and extends from Langdale Ferry Terminal to Norwest Bay Road in Sechelt, a distance of approximately 30 kilometres.

**Figure 1: The Active Transportation Route study area from Langdale to Sechelt**




The alignment for the active transportation route generally follows Sunshine Coast Highway 101. However, to provide a direct connection into Lower Gibsons, the preferred route follows Marine Drive from Langdale and links to Gibsons Way before climbing back up to Highway 101. An alternate route follows Highway 101 from Langdale, and bypasses Lower Gibsons.

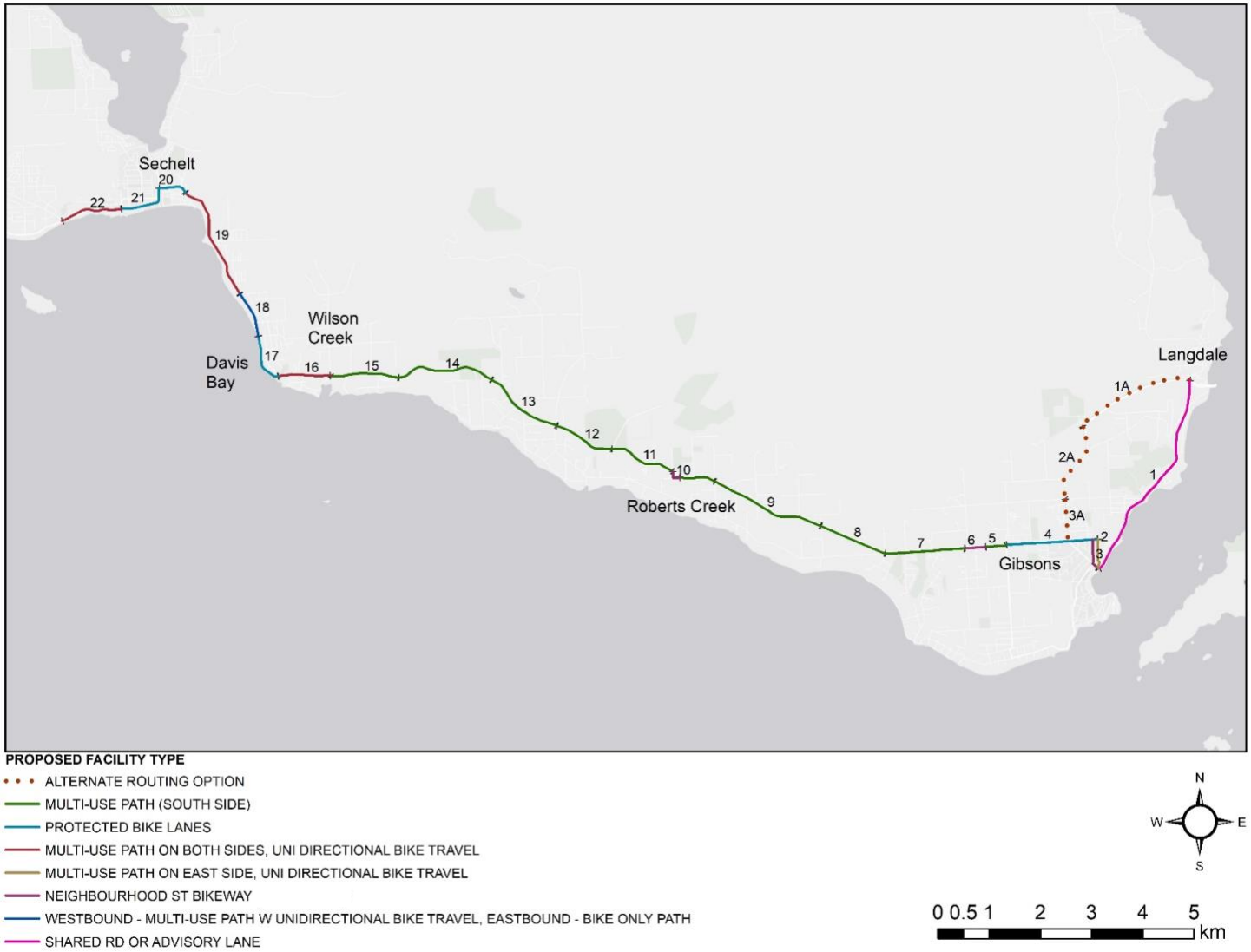
The study area was selected by TraC leadership as a priority for implementation, given existing travel demand and increasing development pressure within this southeastern portion of the Sunshine Coast.

## 1.3 Scope of Work

A detailed list of tasks associated with this assignment are listed in **Appendix A**. The scope of work included identifying and agreeing a preferred alignment and associated facility types to serve active transportation users of all ages and abilities travelling between Langdale, Gibsons, Robert Creek, Wilson Creek, Davis Bay and Sechelt. Appropriate facility design options were selected and sited by referencing provincial and federal active transportation facility design guidance and consideration of a variety of contextual factors as described in the Methods section of this report.

Given the length of the study area, the consulting team worked with TraC leadership to break the route into segments, as shown in **Figure 2**. This step allowed the consulting team to design active transportation facilities that are appropriate for the surrounding land use and to assess and prioritize segments for implementation.

**Figure 2: The AAA AT Route from Langdale to Sechelt broken into segments**



To prioritize each segment along the preferred and alternate route for implementation, the consulting team developed a Multiple Accounts Evaluation (MAE) tool. The MAE considers factors relevant to the decision-making process, under various account headings including:

1. Projected demand
2. Preliminary support from the public and relevant authorities
3. Ability to address known safety concerns
4. Connectivity with active transportation routes and transit services
5. Anticipated construction costs, and
6. Conflicts with other modes, private property, and existing infrastructure.

The MAE ranks each route segment on a score that weighs the criteria under Demand, Support, and Safety and Connectivity. Those route segments that score highest on the criteria within these accounts are ranked as highest priorities for implementation.

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

Planning level construction cost estimates were based on per kilometre construction cost estimates provided by ISL Engineering, see **Appendix B** for details. In their estimates, ISL broke the costs down into low, medium and high complexity facilities. In the case of multi-use paths, for example, the costing was broken down as follows:

- Low Complexity version (simple grading and paving, minor ditch work) $1.706 million/km
- Medium Complexity (Utility challenges, ie. drainage ditch relocation or undergrounding, pole relocation, and challenging tie-ins) $4.497 million/km
- High Complexity (As medium but with steep slopes and retaining walls required) $10.742 million/km

GJD has estimated 10 of the 25 segments to be low complexity multi-us paths. It is possible, however, that the complexity of some or all these segments will be greater than anticipated and that the ultimate cost to construct them will be higher than estimated. Construction costs will be clarified and updated through land surveys and conceptual and detailed facility design.

Going forward, TraC will use this report to support further conceptual and detailed design, stakeholder input, and regulatory review, in order to coalesce the support and resources required for implementation and ongoing operation and maintenance.

# METHODS AND DESIGN OVERVIEW

## 2.1 Background Data

To support selection of an appropriate alignment and AAA active transportation facility designs, the project team collected and mapped the following data:

- Road lines
- Street light points
- Hydro pole points
- Bus stop points
- Property parcels (including jurisdiction)
- Sunshine Coast Regional District active transportation facilities
- Suncoaster trails
- Contours (1 m intervals along associated road right-of-ways)
- Water lines
- 2021 Orthophotos
- Gas lines

This data allowed the consulting team to identify an appropriate alignment for the installation of active transportation facilities suitable for people of all ages and abilities along the recommended and alternate proposed alignments.

## 2.2 Field Visit

Members of TraC, and the consulting team travelled the entire study area by bicycle on May 7 and 8, 2022. The field visit was focused on considering alternative alignments throughout the study area, documenting existing conditions and assessing routing options through and around private property.

## 2.3 User Objectives and Design Vehicle

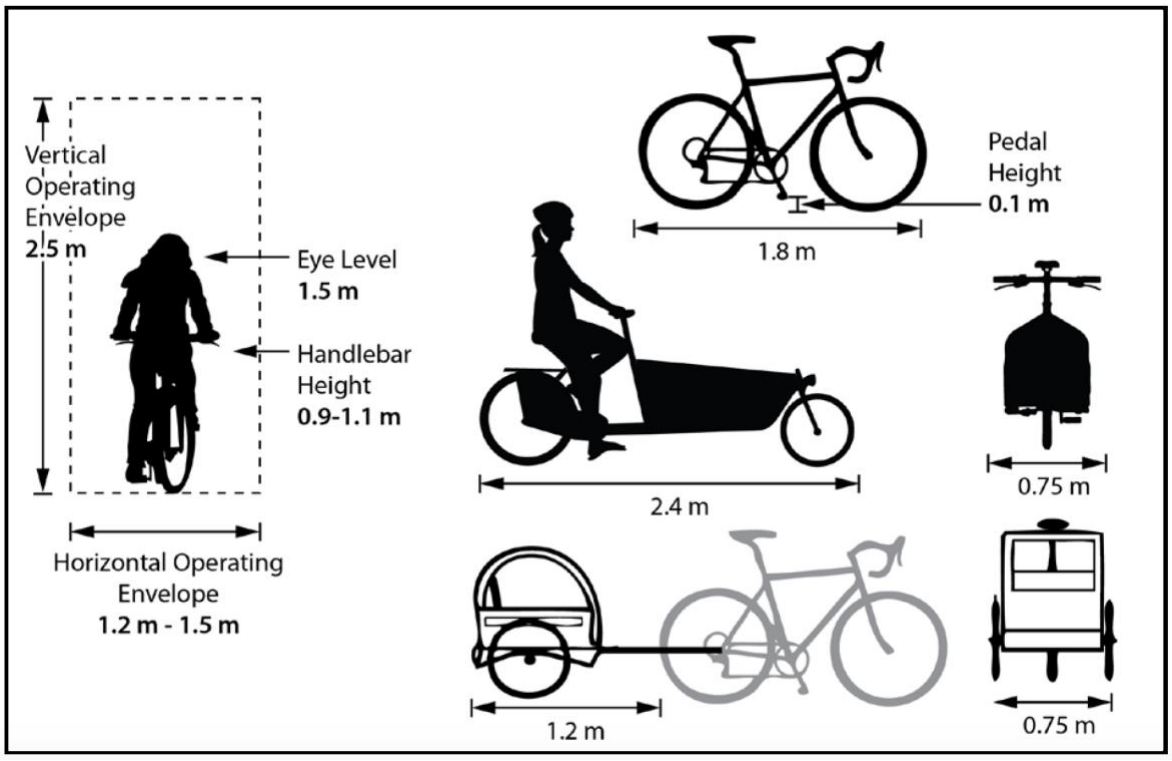
The purpose of this transportation facility is to serve trips by active transportation users from ages 8 to 80 in safety and comfort, throughout the year and who are travelling for a wide range of utilitarian and recreational trips. Active transportation users include pedestrians, people on human powered 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 British Columbia Insurance Corporation and other regulatory agencies

that helps to clarify the characteristics that make a vehicle compatible for use on transportation facilities that may be shared by people on bicycles, 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 3;**
- A weight of less than 30 kg;
- 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.

**Figure 3: Bicycle operating space**

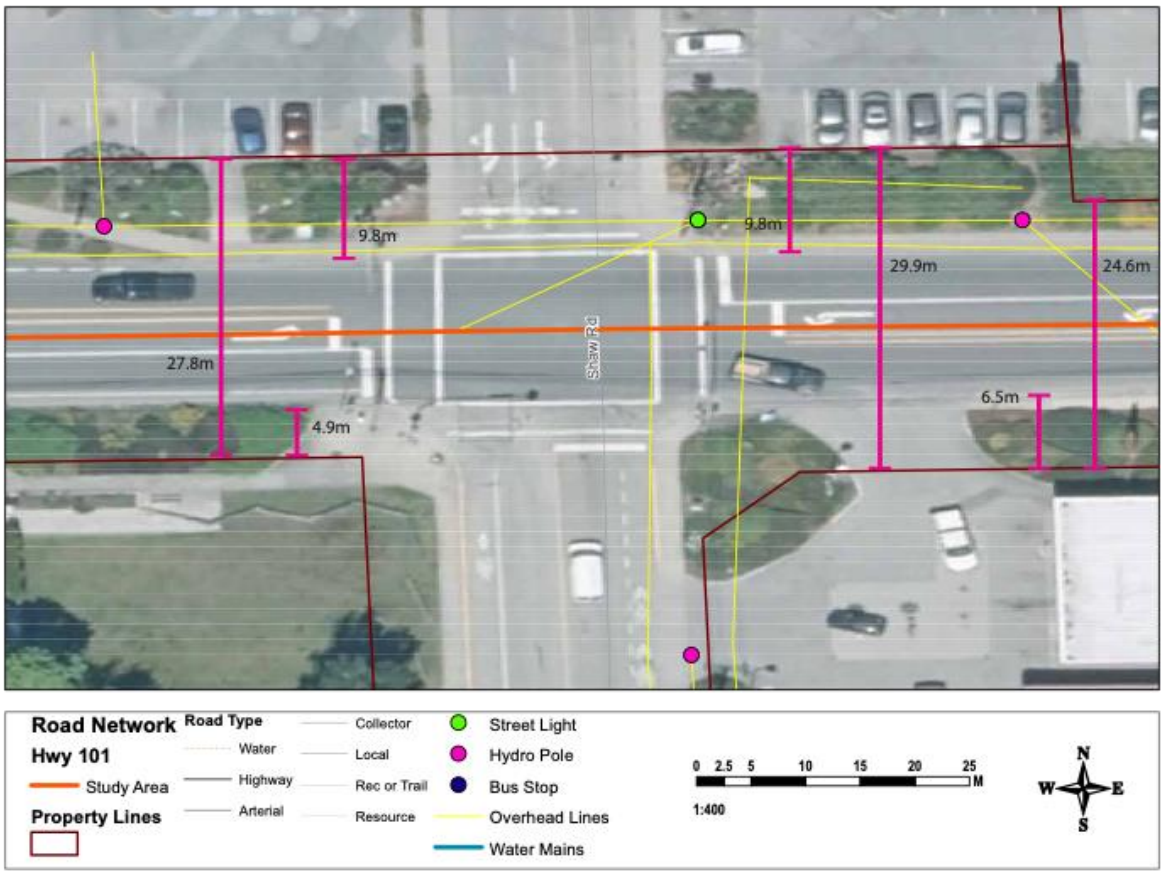



*Retrieved from TAC GDG*

## 2.4 Design Process and Considerations

**Figure 4** shows a plan view of a portion of Hwy 101 right-of-way and gives a sense of the analysis that was used to identify an appropriate alignment and active transportation facility for 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 4: Plan View of the intersection of Shaw Road and Sunshine Coast Highway**




Geographic Information System (GIS) data layers and images showing the location of each dataset, offer varying degrees of accuracy. Aerial photographs allow measurements to within +/- 20cm, while the location of elements within the landscape including, for example, street lights, hydro poles, bus stops, property lines, and gas lines are all accurate to within approximately 5 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 included:

- 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
- Existing development and anticipated demand
- Safety for active transportation facility users, and
- Provincial and federal design guidance concerning active transportation facility design.

## 2.5 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)
- British Columbia Ministry of Transportation's Supplement to TAC's Geometric Design Guide (MOTI, 2007), and
- British Columbia's Active Transportation Design Guide (MOTI, 2019).

## 2.6 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 in British Columbia's Active Transportation Design Guide and Transportation Association of Canada's Geometric Design Guide. In less developed parts of the study area, specifically between Pratt Road and Field Road, the recommended design consists of a 3-metre wide, paved multi-use path, physically separated from motor vehicle traffic and on the south side of the Highway. Since most residents live on the south-west side of the Highway, this alignment will make access more convenient, and minimize the number of times that vulnerable road users must cross the Highway to access the route. This option thus offers potential for improved traffic safety and reduced delays for motorists and active transportation users. This configuration will also protect the MUP from direct exposure to run-off from the mountains to the north-east, thus offering fewer complications for highway drainage and the possibility of lower maintenance costs.

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 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 2.5
- Vertical crest curve, minimum 30 m
- Vertical clearance 2.5 m
- Average Grade <8%, maximum grade 10% for short pitches only if required.

In urban areas, the preliminary design consists of uni-directional, protected bike lanes, 1.8 metres wide or more, and on both sides of the road, to reduce the potential for conflict between motorists and cyclists at driveways and intersections (where drivers may not expect cyclists to be travelling in two directions on one side of the street). For pedestrians, bi-directional sidewalk facilities of 1.8 metres or wider are proposed on both sides of the street, to allow flexibility and to reduce the impetus for pedestrians to cross Highway 101.

In suburban and constrained highway right-of-ways, the facility will consist of two multi-use paths on either side of the roadway, each 2.5 m or wider. People on bicycles will be required to travel one-way, consistent with motor vehicle traffic, while pedestrians and mobility aid users will be permitted to travel in both directions, on both sides of the road.

In instances where the right-of-way is extremely constrained, or where a local neighbourhood street is available to accommodate active transportation users, the speed limit will be lowered to 30 km/hr and pedestrians and bicycles will share the roadway with motor vehicle traffic.

In urban, suburban and constrained circumstances, all other geometric design characteristics, where appropriate, will be consistent with those of multi-use paths, as described above.

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.

## 2.7 Stakeholders

Stakeholder consultation for the Langdale to Sechelt, AAA AT Route has largely been led by TraC and no formal consultation or engagement processes have been conducted. For this phase of the design, the consulting team and TraC leadership met with Provincial and Regional representatives from Ministry of Transportation and Infrastructure and the Sunshine Coast

Regional District to:

- Review the scope of work
- Gather data
- Discuss concurrent studies and initiatives, and to
- Explore issues relevant to the preliminary design.

Prior to this study, TraC completed a survey of residents in the study area to ascertain their priorities for implementation of active transportation facilities along the proposed route from Langdale to Sechelt. The public's preferences are reflected in the Multiple Accounts Evaluation, and the full survey findings are available in **Appendix C**.

# PRELIMINARY DESIGN

## 3.1 Facility Design

The route will consist of the following active transportation facilities:

- 5.6 km of shared roadways, each with a recommended speed limit of 30 km/hr to facilitate shared use by motor vehicles and vulnerable road users
- 5.2 km of protected bike lanes and sidewalks, and
- 19.8 km of paved multi-use paths.

The configuration of these facilities varies from segment to segment and is more fully described in Section 3.3, Segment Description and Scoring.

## 3.2 Multiple Accounts and Criteria Overview

Segments favoured for implementation will exhibit the highest scores for criteria within the categories of Projected Demand, Community Support, and Connectivity and Safety. Projected Demand is deemed the most important consideration, Community Support the next most important and lastly Connectivity and Safety. Scores under each heading are weighted accordingly. The definition and scoring system for each criteria is described as follows:

- Projected Demand
    - Proximity to Priority Origins and Destinations
        - This criteria measured distance decay from priority destinations. Segments within 3 km of Langdale, Gibsons, and Sechelt scored 5 points. Segments within 3 km from Roberts Creek, Davis Bay and Wilson Creek scored 3 points. Those outside 3 km from these communities scored 1 point.
    - Population Density
        - Population density per hectare in associated census tracts. 10 points for those with 15+ people per hectare, 8 points for 10-14, 6 points for 9-5, 4 points for 4-1, and those with less than 1 get 1 point.
    - Cycling Mode Share
        - Drawn from Census Canada 2016, Journey to Work data from local census tracts. Those with greater than 5% of the adult population who commute regularly by bicycle earned 5 points, those with 4-5% got 4, those with 3-4% got 3, those with 2-3% got 2 and those with 0-2% got 1.
    - Pedestrian and Bicycle Counts
        - TraC has undertaken and reported periodic bicycle and pedestrian counts along the route (see **Appendix D** for details). Each segment receives a score in accordance with the highest hourly counts recorded within that segment. Those segments without a count are based on the average

score of counts within nearby segments. Counts occurred at 8 locations along the route, including 3 in Sechelt, 1 in Davis Bay, 4 in Roberts Creek and 2 in Gibsons and 1 in Langdale. Those locations with a tally of over 40+ active transportation users per hour received 5 points, those with 20-39 received 3 points, those with 1-19 got 1 point.

- Total possible score 25 points.

- Community Support
  - SCRD Preliminary Input
    - SCRD staff provided preliminary feedback for the route, ranking segments from high importance to low importance. Segments ranked very high were given a score of 5, those ranked high were given a score of 4, those ranked medium-high were given a score of 3, those medium-low a score of 2, those low a score of 1 and those very low or unranked were given a score of 0.
  - TraC Support
    - The TraC leadership team ranked each segment by their perceived importance to those on the leadership team, ranking segments from high importance to low importance. Segments ranked very high were given a score of 5, those ranked high were given a score of 4, those ranked medium-high were given a score of 3, those medium-low a score of 2, those low a score of 1 and those very low or unranked were given a score of 0.
  - Public Support
    - TraC conducted a public survey in 2020, asking people to identify priorities for improvement in active transportation infrastructure. Almost 200 people responded to the survey. Segments ranked first, second and third by the public were given a score of 5. Segments ranked fourth, fifth and sixth were given a score of 3. Lower ranked segments were given a score of 1. Unranked segments were given a score of 0.
  - Alignment w/ Provincial Grant Criteria
    - BC Provincial Active Transportation grants require projects funded to be part of an active transportation plan, and to be shovel ready in order to be considered for grant funding. While none of the projects are shovel ready, the bulk of the proposed alignment and alternative alignment form part of planned AT routes, as identified within local and regional planning documents. Segments fully on existing or planned AT routes were given a score of 5, Segments which partly followed a planned route were given a score of 3. Segments that did not follow planned routes were given a score of 1.
  - Total possible score 15 points.

- Connectivity and Safety
    - Connections to Existing AT Routes
        - Segments were scored based on their level of connectivity to existing active transportation routes. Segments which attached to 2 or more existing routes were given a score of 5, and those which connected to a single route were given a score of 3. Segments with no connection to an existing route were given a score of 0.
    - Availability of Reasonable Alternative Parallel Route
        - 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 that have an alternative route available, but of a lower quality, were given a score of 3. Those segments with an obvious and reasonable alternative route were given a score of 0.
    - Collisions Involving Vulnerable Road Users (VRUs).
        - This project aims to address protection of VRU's within the Sunshine Coast area. Segments with a history (last 5 years) of pedestrian or cyclist collisions were seen as priority to address the underlying safety issue by giving these VRUs a facility separate from vehicle traffic. Segments with 2 or more collisions (or a single fatality), with a VRU were given a score of 5, and those with a single collision were given a score of 3.
    - Connection to transit stops
        - This route can be seen as complementary to transit as a connection between SC communities. Assessed on a per km basis. Those with 3 or more stops per km along the section were given a score of 5. Those with between 1 stop and 3 stops, were given a score of 3. Those with less than a single stop per km were given a score of 1. Segments that did not have any transit stops were given a score of 0.
    - Total possible score 20 points.

The MAE ranks each route segment on a score that weights the criteria as follows:

- Projected Demand is considered most important and as such, these scores are multiplied by 3, for a possible total of 75 points;
- Preliminary Support scores are multiplied by 2, for a possible total of 30; and
- Safety and Connectivity are given no multiplier, for a possible total of 20.

Those route segments that score highest on these accounts are ranked as highest priorities for implementation, with a possible grand total of 125 points.

Anticipated costs and conflicts with other modes, infrastructure and private property are scored separately from Demand, Support, Connectivity and Safety. 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.

- Costs
    - Estimated Construction Cost Per Kilometre
        - Sections were scored based on their relative construction cost per km. Those facility types which are less than $1million per km are given a score of 5. Those in the $1-3 mil range are given a score of 3. Those greater than $3 mil per km are given a score of 1.
    - Private Property Conflicts
        - Property conflicts were broken into two types, Minor and Major, and were scored per km. Minor property conflicts are those where the routing will likely require the facility to encroach on an edge of a privately held lot. Major conflicts are those where the route will cross private property. Segments without any conflicts were given a full score of 5. Segments with a smaller number of minor conflicts (less than 10), were given a 3. Segments with a higher number of minor conflicts (10-20), or a single major conflict, were given a score of 1 pt. Segments with more than 20 minor conflicts (or 2+ Major) were given a score of 0.
    - Alignment with Planned Projects
        - Coupling this project with other roads projects will help facilitate completion. While individual sections may seem costly, they can be seen as rounding errors in the terms of the cost to complete major road construction projects, such as adding left turn or passing lanes. Sections that take place where MOTI or municipal roadway construction is planned, are given a score of 5.
    - Total possible score 15 points.

- Conflicts with other Modes and Infrastructure
    - Driveways and Intersections Crossed per KM
        - Intersections and driveways can negatively influence a segment's relative safety, as such features add potential conflict points between motor vehicles and VRUs. Scored at a per km basis. Segments with few conflict points (0-10) received a score of 5. Those with a higher number of conflicts (11-40) got a score of 3. Those with numerous (40+) conflict points got a score of 0.
    - Hydro and Streetlight Pole Conflicts per KM
        - Having to relocate hydro and streetlight poles can increase the cost of implementation. As such, those segments with few poles per km (0-5), that fall within the active transportation route right-of-way, received a score of 5. Segments with a higher number of poles (6-10) per km within the right-of-way, got a score of 3, while those with 11-20 poles received a single point. Those segments with over 20 potential poles within the AT route right-of-way scored 0.
    - Need to Eliminate or Narrow Shoulders

        - Segments that require narrowing or elimination of shoulders are both going to be more expensive to construct, and will likely garner less support than those that do not require reallocation of roadway space. Segments that do not require any narrowing or elimination of shoulders received a score of 5. Those that are expected to require narrowing got a score of 3, while segments with shoulders that will likely need to be removed were given a score of 0.
    - Need to Remove or Narrow Travel Lanes
        - Similar to the above, segments that will require narrowing or removal of vehicle travel lanes are expected to be more expensive to construct, and will likely garner less support than those that do not require reallocation of roadway space. Segments that do not expect any narrowing or elimination of travel lanes were given a score of 5. Those that are expected to require narrowing were given a score of 3, while segments with travel lanes expected to be removed were given a score of 0.
    - Total possible score 20 points.

The MAE ranks each route segment on a score that weights the criteria as follows:

- Cost has a potential score of 15, and with a multiplier of 2, for a possible total of 30
- Conflicts with other modes and infrastructure has a maximum score of 20, and
- The possible grand total is thus 50 points.

## 3.3 Segment Description and Scoring

This section of the report describes existing conditions, the proposed facility and summarizes multiple accounts evaluation scores for each segment of the route. Measurements, data and criteria scores concerning existing and proposed cross sections are drawn from the multiple accounts evaluation in **Appendix E**. Images showing typical conditions for each segment, as well as examples of favourable and unfavourable conditions for active transportation users are available in **Appendix F**.

*Segment 1.*

- This segment is on Marine Drive from the Langdale ferry terminal to School Road and approximately 4.3 km. The right-of-way varies from 13.5 to 24 m wide with some portions expanding to 32 m in some locations. The total of the existing constrained elements is 13.5 m, as follows:

  *Existing*

| | | | |
|---|---|---|---|
| Constrained | 2.5 | 8.5 | 2.5 |
| | setback | roadway | setback |

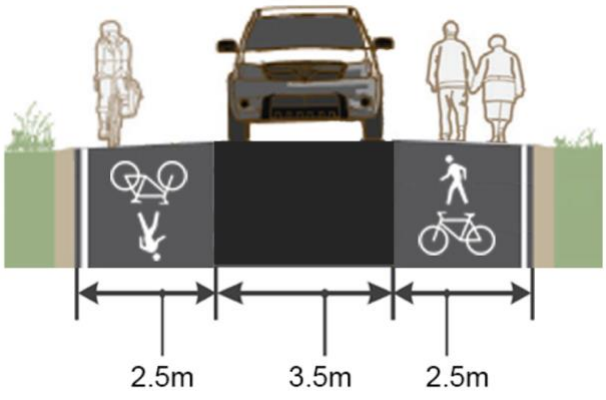
- The recommended design includes reducing the speed limit from 50 to 30km/hr, removal of all lane lines on the road, and installation of 2.5 m wide pedestrian and bicycle stencils on both sides of the road, highlighting the area where active transportation users will be given priority on the roadway, see **Figure 5** below. Motor vehicles travelling in opposing directions will share a 3.5 m wide travel lane, thus obliging them to shift into the pedestrian and bicycle priority area, yielding to vulnerable road users, to pass one another. This design is a hybrid between advisory lanes and a shared roadway, and is illustrated on page 2-17 of the Small Town and Rural Design Guide. The design is likely one of the cheapest to implement, but may be one of the most controversial, as it requires a reduced speed limit, thus adding approximately 3.5 minutes to motorists' travel time between Langdale and Gibsons. Yet improved access for active transportation users will benefit the many seniors and youth that live along this segment and will encourage visitors and residents to use active transportation when travelling between Langdale and Gibsons. There are no expected private property impacts associated with this option. The proposed design includes the following elements with a total width of 13.5 m:

  *Recommended*

| | | | | |
|---|---|---|---|---|
| 2.5 | 2.5 | 3.5 | 2.5 | 2.5 |
| setback | ped/bike priority area | bi-directional travel lane | ped/bike priority area | setback |

- This segment has a combined score of 107, ranking 8 out of 25 for Demand, Connectivity & Safety, and Support and with a combined score of 38, ranking 23rd for Cost and Conflicts, thus suggesting that this segment has a relatively low estimated construction cost ($460,000) and relatively few anticipated conflicts with existing infrastructure.

**Figure 5: Shared Road**




*Adapted from FHWA STAR Guide*

*Segment 2.*

- This segment is 600 m long and on Gibsons Way from North Fletcher Road to School Road at Marine Drive. The right-of-way is 19.7 m on average, with a paved area of about 9.5 to 10 m. Active transportation facilities on this section vary. From the south end a bike lane, sidewalk and period curb-side parking are included on the east side of the road. At Seaview Road the facility transitions to a shared walking and cycling lane, a sidewalk appears again beside the bike lane just before Hicks Lane, and this configuration continues beyond the end of this segment at N Fletcher Road.

  *Existing*

| | | | |
|---|---|---|---|
| 7.7 | 7.5 | 2 | 2.5 |
| setback | Roadway | Walk/Bike Accessible Shoulder | setback |

- The Recommended design involves a continuous 2.5 m wide paved MUP on the east side of the roadway from Marine Drive at School Road to Gibsons Way at N Fletcher Road. Bikes will be permitted to ride only north in the MUP while pedestrians will be permitted to travel in both directions. Those cyclists travelling south will use N Fletcher and School Roads to rejoin the route on Marine Drive. This approach allows pedestrians and cyclists to safely share a relatively narrow MUP, given that cyclists climbing this steep hill (with a grade of ~8.5%), will invariably be travelling at a slower speed that is compatible with those walking. Southbound cyclists who are confident and brave, may choose to use Gibsons Way and travel single file with cars in the general-purpose travel lane. The majority, however, will choose to turn right at N Fletcher Rd, using that quiet, local street to avoid having to merge with higher speed motor vehicle traffic. Pedestrians too will tend to use N Fletcher when travelling southbound, avoiding crossing Gibsons Way on a steep hill with higher speed motor vehicle traffic and following a curve in the road which suffers from poor sightlines. Wayfinding will be important at the top of N Fletcher to encourage cyclists and pedestrians to use that route to access Lower Gibsons. The recommended dimensions are listed below and are consistent with the existing cross section.

  *Recommended*

| | | | | | |
|---|---|---|---|---|---|
| 6.2 | 3.3 | 3.3 | 0.5 | 2.5 | 3.9 |
| setback | travel lane | travel lane | buffer | shared MUP bikes NB only | setback |

- This segment has a combined score of 97 (ranking 10 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 22, ranking 8th highest for Cost and Conflicts. The estimated construction cost for this segment is $3.2 Million.

*Segment 3.*

- This segment is 600 m long and designed to serve south and eastbound trips via N Fletcher Rd, from Gibsons Way to School Rd at Marine Drive. The total right-of-way is approximately 20 m wide, with a paved roadway of approximately 7.5 to 8 m wide.

*Existing and Recommended*

| | | |
|---|---|---|
| 6.5 | 7.5 | 6 |
| setback | Roadway (4.5m shared road and 1.5m concrete paths on each side) | setback |

- The recommended design involves no changes to the road cross section on N Fletcher Rd, however further signage and pavement markings might be added to reinforce the existing speed limit of 30 km/hr. If necessary, physical traffic calming could be installed if motor vehicle traffic tends to travel at speeds higher than 30 km/hr, even after signage and pavement markings denoting the lower speed limit are added. Along School Road from N Fletcher to Marine Drive would involve adding a protected bike lane, and changing the curbside parking to parallel or reverse angle parking.

- This segment has a combined score of 70 (ranking 17 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 40, ranking tied in 24th place for Cost and Conflicts, (indicating low cost and minimal conflicts). The estimated construction cost for this segment is $140,000, assuming physical traffic calming is needed.

*Segment 4.*

- This segment is 1.8 km long and on Gibsons Way, from N Fletcher Rd to Payne Rd. The right-of-way varies considerably, from 18.4 m to as wide as 34.8 m. The width of the roadway meanwhile, is relatively consistent, at around 14 m wide.

*Existing*

| | | | | |
|---|---|---|---|---|
| 1.3 | 4 | 3.7 | 3.8 | 1.2 |
| bike lane | travel lane | turn lane | travel lane | bike lane |

- Because of the variability of the total right-of-way, the focus is on the roadway from curb to curb. The proposed cross section includes protected bike lanes of 1.8 m and flexible bollards in a buffer of 0.4 m. Concrete jersey barriers are often recommended along this route to protect vulnerable road users. However, in this instance, flexible bollards are considered adequate in an urban setting where the speed limit is 50 km/hr. Much of this

segment already includes sidewalks of 1.8 m or wider. Impacts on private property are expected to be minimal for this proposed option.

Recommended

| | | | | | | |
|---|---|---|---|---|---|---|
| 1.8 | 0.4 | 3.3 | 3 | 3.3 | 0.4 | 1.8 |
| bike lane | buffer and barrier | travel lane | turning lane | travel lane | buffer and barrier | bike lane |

- This segment has a combined score of 128 (ranking 3 out of 25) for Demand, Connectivity & Safety, and Support, and a combined score of 32 (ranking tied for 19th) for Cost and Conflicts, (indicating low cost and minimal conflicts). The estimated construction cost for this segment is $150,000.

*Segment 5.*

- This segment is on Sunshine Coast Hwy, from Payne Rd to Hough Rd, just over 400 m. There is a small 200 m segment of multi-use path and sidewalk on the south side of the highway just east of Hough Road. The entire right-of-way is approximately 32.5 m wide.

*Existing*

| | | |
|---|---|---|
| 10 | 10.8 | 11.7 |
| setback | Roadway | setback |

- The recommended cross section takes advantage of the relatively wide right-of-way, to provide a 3 m wide multi-use path on the south side of the roadway. The proposed design includes generous setbacks from both the roadway and from adjacent private property, thus making full use of the entire right-of-way. The existing traffic signal at Payne/Pratt Road will allow users to transition from the active transportation facilities on both sides of the road east of Payne/Pratt, to AT facilities on one side of the road to the west.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3.4 | 3 | 4.5 | 1.5 | 3.3 | 3.3 | 1.5 | 12 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 127 (ranking 4 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 30 (ranking tied for 15th) for Cost and Conflicts. The estimated construction cost for this segment is $690,000.

*Segment 6.*

- This segment is on Carmen Road, a local neighbourhood street, from Hough to King Road, just over 400 m. The right-of-way includes a local neighbourhood street that is

paved, approximately 5.8 m wide, and which has no lane lines or associated paths or sidewalks.

- The recommended option involves no changes to the roadway, however we recommend reducing the speed limit from 50 to 30 km/hr and adding signage and pavement markings to reinforce the lower speed limit. If necessary, physical traffic calming could be installed if motor vehicle traffic travels at speeds higher than 30 km/hr, even after signage and pavement markings are added denoting the lower speed limit. Care will be required at Veterans Road to highlight a safe crossing for vulnerable road users, given the proximity of Carmen to Hwy 101 at this intersection.

- This segment has a combined score of 130 (ranking 2 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 40 (ranking tied for lowest in 24th) for Cost and Conflicts (indicating low cost and minimal conflicts). The estimated construction cost for this segment is $100,000.

*Segment 7.*

- This segment is 1.5 km and on Sunshine Coast Highway, from King Rd to Highland Rd. The right-of-way along this segment varies from 60+ m in some locations to as narrow as 29.6 m. Note however, that part of this right-of-way drops precipitously to the south for about 110 metres, just west of King Road, and crosses a creek that has a span of approximately 75 metres between the Poplars trailer park and Oceanview Drive. Two sections of multi-use paths with retaining walls are proposed to overcome these two challenges.

  *Existing*

| | | |
|---|---|---|
| 4.2 | 14.9 | 10.5 |
| setback | Roadway | setback |

- The recommended approach involves adding a multi-use path on the south side of the road. The dimensions for elements within much of the segment are described below and can be accommodated with ease, even at locations that are as narrow as 29.6 m.

  *Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0.5 | 3 | 5.6 | 1.5 | 3.5 | 3.5 | 1.5 | 10.5 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 131 (ranking 1 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 26 (ranking 11th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $7.0 million, due in part, to the need for a retaining wall through a total of 185 m within this Segment.

*Segment 8.*

- This segment is 1.4 km and on Sunshine Coast Highway, from Highland Rd to Leek Rd. Much of the right-of-way is approximately 28.5 m, as described in the following list of elements:

*Existing*

| | | |
|---|---|---|
| 10.4 | 11.6 | 6.5 |
| setback | roadway | setback |

- The recommended approach in this rural setting, involves a multi-use path on the south side of the roadway, bordered by a generous setback from private property and from the road right-of-way. At the cemetery at 1710 Hwy 101 and at 740 Leek Road, the path will likely encroach upon private property, or trees and landscaping for those properties that are on public lands.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2.5 | 3 | 6.5 | 1.5 | 3.5 | 3.5 | 1.5 | 6.5 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 67 (ranking tied for 20th out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 32 (ranking tied for 19th) for Cost and Conflicts, (indicating relatively low cost and conflicts). The estimated construction cost for this segment is $2.3 million.

*Segment 9.*

- This Segment is 2.3 km and on Sunshine Coast Highway, from Leek Rd to Orange/Joe Rd. Much of the right-of-way is approximately 30 m wide and shrinks to 19 m wide at various points. The Ministry of Transportation and Infrastructure is in the process of building a left-hand turn bay at Orange/Joe Road. This will likely impede the addition of a multi-use path through this segment, and require easements across, or purchase of, private property. The total of the constrained elements is approximately 19 m, as follows:

*Existing*

| | | |
|---|---|---|
| 3 | 12.2 | 3.8 |
| setback | roadway | setback |

- The recommended approach is to construct a 3 m wide shared use path on the south side of the roadway. The total width of the proposed elements is consistent with the existing, constrained right-of-way. There are a number of anticipated impacts on private property as listed in **Appendix G**.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0.5 | 3 | 0.6 | 1.5 | 3.5 | 3.5 | 1.5 | 4.9 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 60 (ranking tied for last, at 24 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 23 (ranking 9th) with relatively high Costs and Conflicts. The estimated construction cost for this segment is $3.9 million.

*Segment 10.*

- This segment is on Sunshine Coast Highway, from Orange Rd to Malcolm Creek Rd, approximately 850 m. Most of the right-of-way is about 30 m wide. The narrowest portion is 26 m wide, as reflected in the following elements.

*Existing*

| | | |
|---|---|---|
| 7.4 | 9.8 | 8.8 |
| setback | Roadway | setback |

- The recommended means to accommodate active transportation for people of all ages and abilities involves adding a 3 m wide path on the south side of the roadway. However, on Robson Road and Malcolm Creek Road (a stretch of about 300 m) it is recommended that the facility transition to a shared street, with a speed limit of 30 km/hr to better accommodate shared use by motor vehicles and vulnerable road users. This detour will avoid crossing private property on the Highway 101 right-of-way.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | 3 | 3 | 1.5 | 3.5 | 3.5 | 1.5 | 8 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 72 (ranking 16 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 30 (ranking tied for 15th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $1.2 million.

*Segment 11.*

- This segment is approximately 1.3 km and on Sunshine Coast Highway, from Malcolm Creek Rd to Largo Rd. Most of the right-of-way is 25 m wide, however there is a pinch point measuring 21.5 m wide, the elements of which are described in the following table.

*Existing*

| | | |
|---|---|---|
| 6.1 | 8.9 | 6.5 |
| setback | roadway | setback |

- The recommended option involves adding a 3 m wide multi-use path on the south side of the roadway with a small setback from private property and from the roadway, as described in the table below. Note however, that concrete jersey barriers are just 0.6 m wide, allowing adequate space to install a barrier that will protect vulnerable road users on the path from errant motor vehicles. There are 5 anticipated instances in which the path may stray onto private property. Those properties, and other properties that pose a potential conflict, are listed in **Appendix G**).

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0.5 | 3 | 1.5 | 1.5 | 3.5 | 3.5 | 1.5 | 6.5 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 74 (ranking 15 out of 25) for Demand, Connectivity & Safety, and Support, and a combined score of 25 (ranking 10th highest of 25) for Cost and Conflicts. The estimated construction cost for this segment is $2.3 million.

*Segment 12.*

- This segment is approximately 1.2 km and on Sunshine Coast Highway, from Largo Rd to Roberts Creek Rd. Most of the right-of-way is a minimum of 30 m wide. The dimensions for the existing right-of-way are as follows:

*Existing*

| | | |
|---|---|---|
| 15.6 | 11.2 | 3.2 |
| setback | roadway | setback |

- The recommended approach is to add a 3 m wide shared path on the south side of the road. The total of all the elements listed below is consistent with the existing available right-of-way. There are no expected property impacts. It's assumed that the multi-use path will be relatively straightforward to build, however, there is a challenging portion, of about 150 metres, on the south side of the highway near Cliff Gilker Park, in which the

landscape falls away sharply from the roadway. This challenge may increase construction costs but has not been investigated as part of this study.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9.3 | 3 | 4.5 | 1.5 | 3.5 | 3.5 | 1.5 | 3.2 |
| setback | multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 69 (ranking tied for 18 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 36 (ranking 22nd of 25) for Cost and Conflicts (indicating low cost and minimal conflicts). The estimated construction cost for this segment is $2 million.

*Segment 13.*

- This segment is approximately 1.6 km and on Sunshine Coast Highway, from Roberts Creek Rd to West of Pell Rd. Most of the right-of-way is 31.2 m wide, with a pinch point of 24.4 m. The total of all the constrained elements listed below is 24.4 m. This segment has an existing multi-use path on the northeast side of the highway that has not been properly maintained.

*Existing*

| | | | | |
|---|---|---|---|---|
| 3.7 | 9.8 | 6.8 | 3 | 1.1 |
| setback | roadway | setback | existing MUP | setback |

- The recommended approach for this segment of the route, is to install a 3 m wide multi-use path on the south side of the roadway. That MUP will be separated from the shoulder by a jersey barrier, and setback 0.5 m from private property. There are two instances, listed in **Appendix G**, in which private property may be impacted as this segment is built, and other locations where shoulders may need to be narrowed to accommodate the separated path.

*Recommended*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.5 | 3 | 0.6 | 1.5 | 3.5 | 3.5 | 1.5 | 6.2 | 3 | 1.1 |
| setback | MUP | setback | shoulder | travel lane | travel lane | shoulder | setback | existing MUP | setback |

- This segment has a combined score of 82 (ranking tied for 11 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 27 (ranking tied for 12th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $2.7 million.

*Segment 14.*

- This segment is approximately 2 km and on Sunshine Coast Highway, from West of Pell Rd to Jack Rd. Most of the right-of-way is 30 m or wider, with no pinch points along the route. The total of the combined existing elements listed below is 30 m.

*Existing*

| | | |
|---|---|---|
| 8.2 | 16.5 | 5.3 |
| setback | roadway | setback |

- The recommended approach is to install a traffic protected multi-use path on the south side of the roadway. The recommended approach can be accomplished without disrupting the current configuration or widths of motor vehicle travel lanes.

*Recommended*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4.2 | 3 | 4.0 | 1.5 | 3.5 | 3.5 | 3.5 | 1.5 | 5.3 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 67 (ranking tied for 20 out of 25) for Demand, Connectivity & Safety, and Support and with a combined score of 30 (ranking tied for 15th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $3.4 million.

*Segment 15.*

- This segment runs 1.3 km along Sunshine Coast Highway, from Jack Rd to Field Rd. Most of the right-of-way is 20m wide, as described in the table below.

*Existing*

| | | |
|---|---|---|
| 5 | 11.4 | 3.6 |
| setback | Roadway | setback |

- The recommended approach is to install a 3 m wide, multi-use path on the south side of the roadway, setback 0.5 m from private property and 2.9 m from the paved portion of the road. The distance of 2.9 m is not adequate to maintain the clear zone recommended in Transportation Association of Canada guidance, and as such, a jersey barrier, or some similar physical protection will be needed to protect vulnerable road users from errant motor vehicle traffic. The preliminary design anticipates 5 instances in which the path may stray onto private property, as shown in **Appendix G**.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0.5 | 3 | 2.9 | 1.5 | 3.5 | 3.5 | 1.5 | 3.6 |
| setback | Multi-use path | setback | shoulder | travel lane | travel lane | shoulder | setback |

- This segment has a combined score of 69 (ranking tied in 18 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 30 (ranking tied for 15th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $2.3 million.

*Segment 16.*

- This segment is just over 1 km long and on Sunshine Coast Highway, from Field Rd to Whitaker Rd. Most of the right-of-way is 20m wide, with short, intermittent sections that are 25 m wide. The elements below are consistent with the constrained portions of the right-of-way.

*Existing*

| | | |
|---|---|---|
| 0.5 | 16.7 | 2.8 |
| setback | Roadway | setback |

- The recommended approach involves installing 2.5 m wide multi-use paths on both sides of the roadway. These paths will be setback 2.9 m from private property on the south side and 0.5 m on the north side and protected by a physical barrier within a 1 m buffer adjacent to traffic. An existing traffic light at Field Road allows active transportation users to transition from a facility on one side of the Highway to AT facilities on both sides. To enhance safety, people on bicycles and micro-mobility devices will be obliged to travel only in the same direction as motor vehicle traffic on both sides of the road. It is expected that the multi-use paths will come into conflict with private property in 12 instances along the segment. The existing 33 m footbridges across Chapman Creek are well protected from motor vehicle traffic, but do not meet Transportation Association of Canada guidelines for the width of a facility designed to accommodate shared use by a variety of active transportation users. Yet, these facilities are safe and adequate to serve existing and anticipated demand. With that in mind, we recommend retaining the existing footbridges, rather than investing approximately $1.48 million to build bridges that have the recommended 2.5 m clear width.

*Recommended*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2.9 | 2.5 | 1 | 1.5 | 3.3 | 3.3 | 1.5 | 1 | 2.5 | 0.5 |
| setback | one-way bike travel MUP | buffer | shoulder | travel lane | travel lane | shoulder | buffer | one-way bike travel MUP | setback |

- This segment has a combined score of 82 (ranking tied for 11 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 12 (ranking tied for 3rd highest) for Cost and Conflicts. The estimated construction cost for this segment is $9.2 million.

*Segment 17.*

- This segment is 1 km long and on Sunshine Coast Highway, from Whitaker Rd to Bay Rd. The right-of-way through this segment varies from 20 to 26.8 m wide, with intermittent curb-side parking. This segment runs through Davis Bay and there are restaurants on one side of the roadway and a beachfront path on the other. The constrained elements of the roadway are apportioned as follows:

  *Existing*

| 4.5 | 10 | 5.5 |
|---|---|---|
| setback (sidewalk/furnishing zone/parking) | Roadway and shoulders | setback (furnishing zone/parking) |

- The recommended approach in this segment is to install:
  - Sidewalks on both sides of the roadway, 3 m wide at the waterfront and 2 m wide on the land side
  - A furnishing zone or buffer between pedestrians and cyclists of between 0.8 and 1.1 m
  - A buffer of 1 m between the bike lane and parking
  - Parking lanes of 2.5 m wherever space allows, and
  - Travel lanes of 3.3 m, thus offering an appropriate design for the commercial and recreational land uses along this stretch.

  This configuration will allow the proposed elements to fit within the available right-of-way, even in a location that is constrained to 20 m wide. Calculating construction costs for this segment was challenging given that it combines elements of protected bike lanes and multi-use paths. The cost is thus calculated as involving both protected bike lanes and multi-use paths on both sides of the roadway, hence the relatively high cost for this segment.

  *Recommended*

| 3 | 1.1 | 2 | 1 | 0 | 3.3 | 3.3 | 0 | 1 | 2 | 0.8 | 2 | 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sidewalk | furnishing zone | bike lane | buffer | parking | travel | travel | parking | buffer | bike lane | buffer | side walk | Set back |

- This segment has a combined score of 76 (ranking 14 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 16 (ranking 6th highest) for Cost and Conflicts. The estimated construction cost for this segment is $22 million.

*Segment 18.*

- This segment is just over 900 m long and on Sunshine Coast Highway, from Bay Rd to Havies Rd. The right-of-way includes stretches that are 20 m wide, some that are 25.5 m wide, and some of 32 m. For this preliminary design we assumed a constrained right-of-way of 20 m.

*Existing*

| 5.7 | 10.3 | 4 |
|---|---|---|
| setback | Roadway | setback |

- The recommended approach for this segment involves a setback of 3 m to property lines on the south side, a protected bike lane to accommodate cyclists travelling eastbound downhill. Shoulders and travel lanes in each direction, a barrier and buffer of 1 m, then a multi-use path that accommodates two-way pedestrian travel and one-way westbound bikes in the uphill direction. This proposed configuration just fits within the constrained right-of-way of 20 m.

*Recommended*

| 3 | 2 | 1 | 1.5 | 3.5 | 3.5 | 1.5 | 1 | 2.5 | 0.5 |
|---|---|---|---|---|---|---|---|---|---|
| setback | one-way bike lane | setback and barrier | shoulder | travel lane | travel lane | shoulder | buffer & barrier | one-way bike travel MUP | setback |

- This segment has a combined score of 105 (ranking 9 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 11 (ranking 2nd highest) for Cost and Conflicts. The estimated construction cost for this segment is $4.7 million.

*Segment 19.*

- This segment is 2.4 km long and on Sunshine Coast Highway, from Havies Rd to Chelpi Ave. Most of the right-of-way is 20 m wide, apportioned as shown in the table below, with a pinch point of 18.7 m.

*Existing*

| 5.3 | 10.9 | 3.8 |
|---|---|---|
| setback | Roadway | setback |

- The recommended approach for this segment involves a setback from private property of 0.5 m, multi-use paths on both sides of the road that accommodate two-way pedestrian travel and one-way bicycle travel. MUPs are protected from traffic by buffers

of 2.3 to .8 m and jersey barriers, while shoulders vary from 1.9 - 2.0 m. Yet, these elements fit within the 20 m right-of-way. At the pinch point, the buffers between shoulders and the MUP could be narrowed by a total of 1.3 m to accommodate all other elements as shown in the Table below. Along this segment, numerous private properties are likely to be impacted.

*Recommended*

| 0.5 | 2.5 | 2.3 | 1.9 | 3.5 | 3.5 | 2 | 0.8 | 2.5 | 0.5 |
|---|---|---|---|---|---|---|---|---|---|
| setback | one-way bike travel MUP | buffer | shoulder | travel lane | travel lane | shoulder | buffer | one-way bike travel MUP | setback |

- This segment has a combined score of 119 (ranking 6th highest out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 2 (ranking highest) for Cost and Conflicts. The estimated construction cost for this segment is $21.2 million.

*Segment 20.*

- This segment is 600 m long and on Sunshine Coast Highway, from Chelpi Ave to Wharf Ave. The width of the right-of-way varies through this segment with most stretches being 30+ or 23 m wide, with a pinch point of 20 m at the intersection with Dolphin Street. The elements below show the dimensions at a portion of the segment that is 23 m wide.

*Existing*

| 2 | 1.4 | 18 | 1.4 | 0.2 |
|---|---|---|---|---|
| setback | sidewalk | Roadway | sidewalk | setback |

- The recommended approach to accommodate active transportation users of all ages and abilities is to include small setbacks from private property of 0.5 m, sidewalks 2 m wide, a buffer of 0.3 m, protected bike lanes that are 2 m wide, a buffer of 0.6 m and two travel lanes in each direction that are each 3.3 m wide. The total width of this proposed option is 23 m, consistent with a relatively narrow portion of the existing right-of-way. At the pinch point at Dolphin Street, it is anticipated that setbacks and buffers could be removed and bike lanes and/or sidewalks narrowed to find the 3 m required to accommodate this constraint.

*Recommended*

| 0.5 | 2 | 0.3 | 2 | 0.6 | 6.6 | 6.6 | 0.6 | 2 | 0.3 | 2 | 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| setback | side walk | buffer | bike lane | buffer and curb | travel lanes | travel lanes | buffer and curb | bike lane | buffer | sidewalk | setback |

- This segment has a combined score of 121 (ranking 5 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 20 (ranking 7th highest) for Cost and Conflicts. The estimated construction cost for this segment is $630,000.

*Segment 21.*

- This segment is 1 lm long and includes Wharf Ave and Teredo St, from Dolphin St to Shorncliffe Ave. The existing right-of-way is typically 20 m wide, with a short pinch point of 17.3 m. The elements within the road right-of-way vary considerably, from approximately 12.5 m wide to 16 m where angle parking exists.

*Existing*

| 2.3 | 1.8 | 12.7 | 3.2 |
|---|---|---|---|
| setback | sidewalk | Roadway | setback |

- The recommended approach within this segment is to provide setbacks from private property of between 2.3 and 0.5 m. Sidewalks of between 1.8 and 2.1 m, buffers of 0.6 m, bike lanes of 2 m, buffers and curbs of between 0.7 and 0.8 m and travel lanes in each direction of 3.3 m wide (widths that are appropriate for an urban setting with a speed limit of 50 km/hr). The elements in the table below sum to 20 m, consistent with the existing right-of-way. At the pinch point, setbacks and buffers could be reduced to find the 2.7 m required to accommodate the narrower right-of-way. Within this segment, some portions of the proposed right-of-way may encroach on private property and will cross private property on at least one occasion. It should be noted too that protected bike lanes and sidewalks implemented or planned on Dolphin Street and Trail Avenue may function as an alternative to this segment, though there is some concern that these facilities will not be wide enough to serve anticipated demand.

  *Recommended*

| 2.3 | 1.8 | 0.6 | 2 | 0.8 | 3.3 | 3.3 | 0.7 | 2 | 0.6 | 2.1 | 0.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| setback | sidewalk | buffer | bike lane | buffer/ curb | travel lane | travel lane | buffer/ curb | bike lane | buffer | sidewalk | setback |

- This segment has a combined score of 66 (ranking 22 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 15 (ranking 5th highest) for Cost and Conflicts. The estimated construction cost for this segment is $1.1 million.

*Segment 22.*

- This segment is 1.2 km and on Sunshine Coast Highway, from Shorncliffe Ave to Norwest Bay Rd. Most of the right-of-way is 30 m wide, with a portion 20 m wide. The total of typical elements measures 30 m wide.

*Existing*

| | | |
|---|---|---|
| 4.4 | 15.6 | 10 |
| setback | Roadway | setback |

- The recommended approach fits within the constrained portion of the segment and includes 3 m wide multi-use paths on both sides of the roadway. There is an existing 3 m wide, paved multi-use path that is approximately 200 m long and on the north side of the road. This facility has been factored into the cost for this segment. Despite the width, people on bicycles will be permitted to travel only in the direction of motor vehicle traffic, to reduce the potential for conflicts with other vulnerable road users and motor vehicle traffic.

*Recommended*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0.7 | 3 | 1.5 | 1.5 | 3.4 | 3.4 | 1.5 | 1.5 | 3 | 0.5 |
| setback | one-way bike travel MUP | buffer | shoulder | travel lane | travel lane | shoulder | buffer | one-way bike travel MUP | setback |

- This segment has a combined score of 82 (ranking tied in 11 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 12 (ranking tied for 3rd highest) for Cost and Conflicts. The estimated construction cost for this segment is $3.7 million.

*Alternative Routing Segments*

The following three segments are recommended as an alternative to Segments 1, 2 and 3, covering a similar portion of the route:

*Segment 1A.*

- This segment is 2.4 km long and on Sunshine Coast Highway, from Port Mellon Hwy to Stewart Rd. The right-of-way is quite wide, greater than 100 m for most of this segment, with a pinch point of 61.4 m near the western end, which forms the basis for the proposed design.

*Existing*

| | | |
|---|---|---|
| 7.7 | 26 | 27.7 |
| setback | Roadway | setback |

- The recommended design involves establishing two active transportation paths on the north side of the highway, including a 2.5 m wide multi-use path to serve pedestrians travelling east and west and cyclists travelling westbound. Cyclists travelling eastbound, down this steep section, will be provided a traffic separated path with a clear width of at

least 2 m. Both paths will be separated from the roadway by a setback of at least 16 metres. Placing the paths on the northside of Hwy 101 will allow vulnerable road users to avoid coming into conflict with high volumes of motor vehicles turning northbound to eastbound and westbound to southbound at Stewart Road.

*Recommended*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.7 | 2.5 | 3.6 | 4 | 4.3 | 3.6 | 3.7 | 4.3 | 19 | 2 | 1 | 2.5 | 3.2 |
| Set back | shoulder | travel lane | travel lane | shoulder & barrier | travel lane | travel lane | shoulder | Set back | Bike Lane | Buffer & Curb | Multi-use Path | Set back |

- This segment has a combined score of 60 (ranking tied for last) for Demand, Connectivity & Safety, and Support and a combined score of 27 (ranking tied for 12th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $27.2 million.

*Segment 2A.*

- This segment is 1.2 km and on Stewart Rd and North Rd, from Sunshine Coast Highway to Reed Rd. Most of the right-of-way is 20.2 m wide. Private properties at the south end of this segment extend into the existing roadway and will be crossed by the proposed active transportation facility.

*Existing*

| | | |
|---|---|---|
| 1 | 12.2 | 7 |
| setback | Roadway | setback |

- The recommended approach involves adding a multi-use path on the northwest side of the roadway with a setback from the road of approximately 3 m.

*Recommended*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 2.1 | 4 | 4 | 2.1 | 3 | 3 | 1 |
| setback | shoulder | travel lane | travel lane | shoulder | setback | Multi-use path | setback |

- This segment has a combined score of 62 (ranking 23 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 28 (ranking 14th of 25) for Cost and Conflicts. The estimated construction cost for this segment is $2.8 million.

*Segment 3A.*

- This segment is just over 800 m and runs on North Rd, from Reed Rd to Gibsons Way. Most of the right-of-way is approximately 26 m wide, with a pinch point of 20.3 m.

*Existing*

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.7 | 2 | 1.7 | 0.9 | 3.4 | 3.4 | 0.9 | 1.7 | 1.6 | 1.9 | 1.8 |
| setback | sidewalk | bike lane | buffer | travel lane | travel lane | buffer | bike lane | furnishing zone | sidewalk | setback |

- The recommended option is consistent with the 26 m wide right-of-way and involves no changes to the existing configuration, except that barriers will be added to protect cyclists from motor vehicle traffic. Note that in the last two blocks from Kiwanis Way to Hwy 101 that the right-of-way narrows, and additional space appears to be needed to accommodate right turning motor vehicles. Through this section the recommended cross section can be maintained by simply reducing the setback on the west side of the road to 1 m.

*Recommended*

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.7 | 2 | 1.7 | 0.9 | 3.4 | 3.4 | 0.9 | 1.7 | 1.6 | 1.9 | 1.8 |
| setback | sidewalk | bike lane | buffer and barrier | travel lane | travel lane | buffer and barrier | bike lane | furnishing zoner | sidewalk | setback |

- This segment has a combined score of 110 (ranking 7 out of 25) for Demand, Connectivity & Safety, and Support and a combined score of 34 (ranking 21st of 25) for Cost and Conflicts. The estimated construction cost for this segment is $900,000.

## 3.4 Segment Amalgamation and Evaluation

The entire 30 km route was broken into 8 groups of segments, some with as few as 2 segments, and some with as many as 5 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.

| Stretch | Segments | Ranking: Demand, Connectivity & Safety Community Support 1 highest priority 8 lowest | Ranking: Cost Conflicts 1 high 8 low |
|---|---|---|---|
| Langdale to Gibsons, via Marine Dr. | 1-3 | 3 | 8 |
| Langdale to Gibsons, Via Hwy 101 | 1A-3A | 4 | 6 |
| N Fletcher Rd in Gibsons to Highland/Lower Rd | 4-7 | 1 | 7 |
| South/East of Roberts Creek, Lower Rd to Roberts Ck Rd | 8-12 | 8 | 5 |
| Roberts Creek to Wilson Creek, Roberts Creek Rd to Field Rd | 13-15 | 7 | 4 |
| Wilson Creek through Davis Bay, Field Rd to Bay Rd | 16-17 | 4 | 3 |
| Davis Bay to Sechelt, Bay Rd to Wharf Ave | 18-20 | 2 | 1 |
| Through Sechelt, Dolphin Ave to Norwest Bay Rd | 21-22 | 6 | 2 |

The segments 4-7, from N Fletcher Rd in Upper Gibsons to the turn off to Roberts Creek at Lower/Highland Road have the strongest case for early implementation, with the highest ranking for Projected Demand, Connectivity, Safety and Community Support and the second lowest ranking for Cost and Conflicts, ranking 7th of 8. Davis Bay to Sechelt (segments 18-20), by contrast, is a high priority for implementation, scoring 2nd highest for Demand, Connectivity, Safety and Community Support, but with the highest anticipated Cost and Conflicts of any option. The preferred routing from Langdale to Gibsons via Marine Drive (segments 1-3), also has a strong case for implementation with the 3rd highest ranking for potential Demand, Connectivity, Safety and Community Support, and the lowest anticipated Cost and Conflicts. Meanwhile the segments through Sechelt (21-22) rank relatively low at 6th of 8 for Projected Demand, Connectivity, Safety and Community Support, and one of the highest for Costs and Conflicts, ranking 2nd highest of 8.

# CONCLUSION

## 4.1 Overview and Limitations

This report offers a preliminary design for a proposed active transportation route from Langdale to Sechelt. 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 and GIS 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 TraC leadership and government agencies in completing a business case, stakeholder engagement, conceptual and detailed designs, and fundraising required for implementation.

## 4.2 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.

## 4.3 Closing

This report has been prepared by GJD Planning + Design for the benefit of Transportation Choices (TraC) - Sunshine Coast. 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 TraC.

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# FIGURES

# APPENDICES

## Appendix A: List of Tasks identified in the Scope for Connect the Coast

| HWY 101 AT INFRASTRUCTURE ASSESSMENT & DESIGN |
|---|
| 1. Data Acquisition and Review |
| 2. Site Visit and Assessment of Current Infrastructure |
| 3. Identify and Agree Appropriate Design Guidance |
| 4. Preliminary Alignment, Facility Design & Segmentation |
| 5. Identify Unit Costs |
| 6. Agree Criteria to Prioritize Segments for Implementation |
| 7. Scoring and Prioritization |
| REPORTING |
| 1. Draft Report |
| 2. Final Report |
| 3. Present the Findings |

# Appendix B: Planning Level Cost Estimates

## Planning Level Cost Estimates
## Highway 101 Langdale to Sechelt

Cost Estimate Prepared by Roy Symons P.Eng. On August 9, 2022. Cost estimates are based on real projects and tender bids and/or engineers estimates for detailed design. Source of cost estimates is confidential but reflect similar projects per assumptions denoted below. Where costs are from prior years, inflation has been added per Bank of Canada rates, and all costs were converted to a per km rate based on real project length.

Per Engineers and Geoscientists British Columbia (EGBC) guidance with respect to project cost estimating *"It is important to recognize that, until a project is actually constructed, a cost estimate represents the best judgement of the professional engineer in the light of their experience and knowledge and the information available at the time. Its completeness and accuracy is influenced by many factors, including the project status and development stage. Estimates have a limited life, and are subject to inflation and fluctuating market conditions. The estimates above are Class D estimate (±50%) described by EGBC as: a preliminary estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client's broad requirements. This overall cost estimate may be derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects."*

Original Scope:
1. 2 way Multi-use path - 3 m wide, paved with a .5 m gravel shoulder on each side
2. Protected Bike Lanes - unidirectional, 2.0 m wide with a casted curb
3. Protected Bike Lanes - unidirectional, 2.0 m wide with a pin in place curb, topped with flexible bollards
4. Protected Bike Lanes - unidirectional, 2.0 m wide with flexible bollards
5. Bike only path - unidirectional 2.5 m wide, paved
6. Cost for a jersey barrier (with dimensions)
7. MUP on both sides of the street - unidirectional for bikes and bi-directional for pedestrians - 2.4 m wide, paved with a .5 m gravel shoulder on each side
8. Bike boulevard - basic traffic calming to achieve 30 kmh speed limits, signage and pavement markings
9. Advisory lanes involving taking a 10 m paved cross section (3.5 m lanes each direction and 1.5 m shoulder each direction), removing the existing lane line markings and re-striping to include marked shoulders of 3.0 m and a single travel lane of 4 m

Adjsuted Facility Types as Discussed:

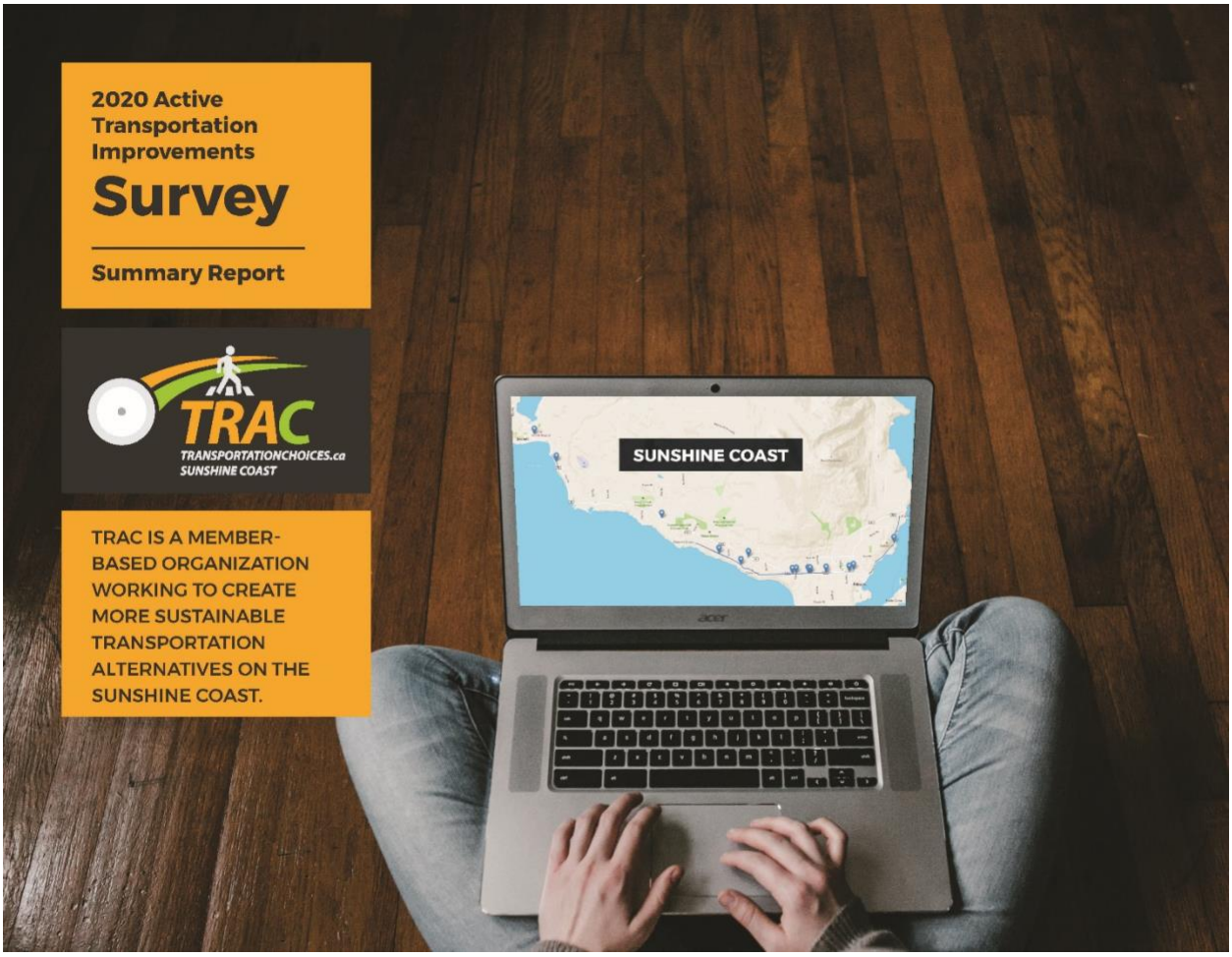
| Facility | Assumptions | 2022 Construction Cost per km | Engineering 10% | Contingency 50% | Total Planning Level Cost per km |
|---|---|---|---|---|---|
| Low Complexity MUP | Simple grading and paving, minor ditch work | $ 1,033,922 | $ 103,392 | $ 568,657 | $ 1,705,971 |
| Medium complexity MUP | Utility challenges, i.e., drainage ditch relocation or undergrounding, pole relocations, challenging tie-ins | $ 2,725,744 | $ 272,574 | $ 1,499,159 | $ 4,497,477 |
| High Complexity MUP | As medium but with steep slopes and retaining walls required | $ 6,510,345 | $ 651,034 | $ 3,580,690 | $ 10,742,069 |
| Basic Bike Boulevard | Centre line eradication, speed cushions, sharrow pavement markings | $ 140,400 | $ 14,040 | $ 77,220 | $ 231,660 |
| Advisory Bike Lanes | Line eradication and replacement | $ 64,947 | $ 6,495 | $ 35,721 | $ 107,162 |
| Protected bike lanes with pre-cast curb | Both directions, line eradication, precast curbs (2.5m length), plus flex posts, pavement markings & signage, no widening or repaving* | $ 661,277 | $ 66,128 | $ 363,702 | $ 1,091,107 |
| Protected bike lanes with Jersey Barrier | Both directions, line eradication, precast barrier (3.0m length), pavement markings & signage, no widening or repaving* | $ 720,319 | $ 72,032 | $ 396,176 | $ 1,188,527 |
| Protected bike lanes with flex posts | Both directions, assumes posts added along existing bike lane pavement marking at 10m spacing, no widening or repaving* | $ 53,058 | $ 5,306 | $ 29,182 | $ 87,546 |

* if widening required, combine with MUP costs above and adjust for widths

Appendix C: TraC survey of residents regarding priorities for implementation of an all ages and abilities active transportation route along the Sunshine Coast

Full report:
https://transportationchoices.ca/wp/wp-content/uploads/2020/09/2020-AT-Survey-Supplementary-Report.pdf

Summary Report:
https://transportationchoices.ca/wp/wp-content/uploads/2020/09/TraC_2020-Survey-Results-Final.pdf



## Overview

**Marine Dr between Town of Gibsons and Langdale ferry**

*"The road is so narrow and often has piled up debris - urgently needs improvement."*

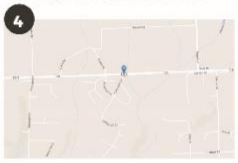
**Hwy 101 eastbound from Selma Park Rd to Nestman Rd**

*"I have ridden it for 25 years with many close calls and one sideswipe hit...does not allow riding and large trucks side by side."*

**Hwy 101 multi-use path from Pratt Rd to Oceanview Dr**

*"Most adults I talk to tell me they don't cycle along the highway because it is too dangerous with cars going over 80km."*

**Hwy 101 at Poplars Trailer Park**

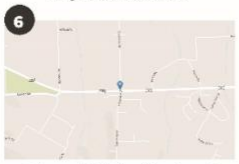


*"Very difficult to cross during high traffic times, feel like I'm risking my life every time...won't let my child ride his bike to school due to crossing risk."*

**Gibsons Way from School Rd to Sunnycrest Rd**

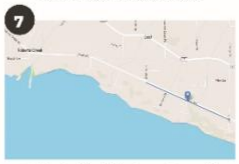
*"Heavy ferry traffic and lots of foot traffic makes this a danger zone."*

**Hwy 101 at Oceanview Dr**



*"The speed limit should be dropped to 50km/h...there are always people on the highway either walking, running, or bicycling."*

**Lower Rd oceanside shoulder**

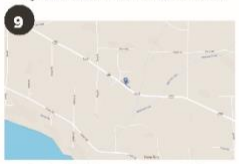


*"This shoulder is high use often with young children and families. Widening will greatly reduce risk to all users."*

**Hwy 101 and Wharf St westbound**

*"A green bike lane is a good idea as this is a heavy traffic congestion area with many left and right turns, including pedestrians."*

**Hwy 101 westbound at Oldershaw Road**

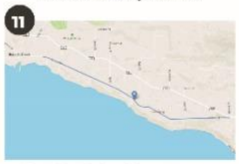


*"The sight lines on this part of the highway are extremely poor (on a corner, with a hill, and a blind intersection)."*

**North Rd southbound from Hillcrest Rd to School Rd**

*"With a high school and an elementary school in close proximity, either one separated path or bike lanes in both directions is needed."*

**Lower Rd Advisory Bike Lane**



*"Repairing the shoulder or outer areas of the roadway would likely suffice."*

**Hwy 101 and Marlene Rd**

*"Putting crossing lights at Flume and Highway 101 might be even better as it is a dangerous intersection."*



## Background

Walking or cycling on the Sunshine Coast can range from safe and enjoyable to very dangerous, depending on the user and the location. Unfortunately, certain high-risk locations are unavoidable and still a part of many trips. In early 2020, members of TraC met with regional management at the Ministry of Transportation and Infrastructure (MOTI) to review active transportation infrastructure issues. One item discussed was the Community Safety Enhancement Program. Under this program active transportation enhancement projects are chosen by MOTI through consultation with local governments and law enforcement.

In June 2020 TraC developed a survey to provide more information regarding active transportation infrastructure needs on the Sunshine Coast. The survey identified twelve locations of concern and asked respondents to indicate which ones posed the highest risk to cyclists and pedestrians. The survey was distributed to over 1,000 subscribers on TraC's mailing list A public notice was also placed in the local newspaper inviting all coastal residents to participate.

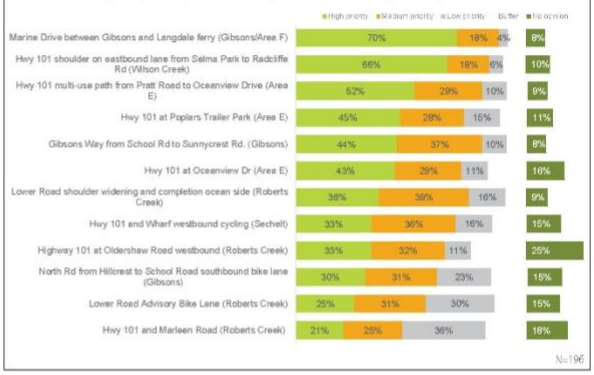
For a more detailed version of this report visit
**http://transportationchoices.ca/wp/survey-results-2020/**

### A Call to Action

Survey respondents clearly indicated that:

- Much of the cycling and walking infrastructure on Sunshine Coast roadways is unsafe or not enjoyable in locations.
- There is inadequate separation from vehicles and dangerous highway crossings.
- Road shoulders are poorly-constructed and not maintained.
- There is a strong demand for a continuous coast-wide cycle route completely separated from vehicle travel.

Responses varied by where respondents lived, but Marine Drive between Gibsons and the Langdale ferry and Highway 101 in Wilson Creek were indicated as the highest priority areas for improvement among all respondents.




To view an interactive version of this chart visit **http://transportationchoices.ca/wp/survey-results-2020**

### Key actions to rectify these issues include:

- The rapid completion of bikeable shoulders along Highway 101.
- Regular ongoing maintenance of these shoulders.
- Creation of a continuous coast-wide non-highway route using secondary roads.

Appendix D - Pedestrian and Bicycle Count Report for 8 locations along the Hwy 101 alignment from Langdale to Sechelt

| Location | Sum of Ped and Bike, To Hourly | MUP Section | Date | Day | Time | Weather | # of Cyclists | # of Pedestrians |
|---|---|---|---|---|---|---|---|---|
| BC101@Davis Bay Wharf | 137.5 | **17** | 2022-08-25 | Thursday | 12:00 – 14:00 | hot sunny | 13 | 262 |
| BC101@Field Road | 17.5 | **15 and 16** | 2022-09-23 | Friday | 12:30 – 14:30 | cool cloudy | 9 | 26 |
| BC101@Field Road | 29 | **15 and 16** | 2022-06-02 | Thursday | 10:15 – 12:15 | warm sunny | 9 | 49 |
| BC101@Jack Road | 4.5 | **14 and 15** | 2021-06-01 | Tuesday | 13:00 – 15:00 | hot sunny | 8 | 1 |
| BC101@Jack Road | 7 | **14 and 15** | 2021-06-26 | Saturday | 16:30 – 18:30 | hot sunny | 14 | 0 |
| BC101@Jack Road | 7.5 | **14 and 15** | 2021-08-06 | Friday | 09:30 – 11:30 | cool cloudy | 13 | 2 |
| BC101@Jack Road | 3 | **14 and 15** | 2022-07-14 | Thursday | 15:00 – 17:00 | hot sunny | 5 | 1 |
| BC101@Joe Road | 10 | **9 and 10** | 2021-08-10 | Wednesday | 15:30 – 17:30 | warm sunny | 13 | 7 |
| BC101@Lower Road | 11 | **7 and 8** | 2021-05-31 | Monday | 16:00 – 18:00 | warm sunny | 14 | 8 |
| BC101@Lower Road | 8.5 | **7 and 8** | 2021-06-27 | Sunday | 16:30 – 18:30 | hot sunny | 13 | 4 |
| BC101@Lower Road | 11 | **7 and 8** | 2021-07-31 | Saturday | 09:00 – 11:00 | warm cloudy | 18 | 4 |
| BC101@Lower Road | 10 | **7 and 8** | 2022-08-05 | Friday | 13:15 – 15:15 | warm sunny | 20 | 0 |
| BC101@RCPP | 4 | **14** | 2021-06-05 | Saturday | 15:30 – 17:30 | cool cloudy | 8 | 0 |
| BC101@RCPP | 1.5 | **14** | 2021-07-08 | Thursday | 18:30 – 20:30 | warm sunny | 3 | 0 |
| BC101@RCPP | 12 | **14** | 2021-08-29 | Sunday | 10:30 – 12:30 | wam sunny | 21 | 3 |
| BC101@RCPP | 8 | **14** | 2022-08-01 | Monday | 14:15 – 16:15 | hot sunny | 15 | 1 |
| BC101@Reed Road | 26 | **3A** | 2022-06-11 | Saturday | 12:00 – 14:00 | cool rainy | 30 | 22 |
| BC101@Tsain-Ko Mall | 9.5 | **19 and 20** | 2021-06-03 | Thursday | 07:00 – 09:00 | warm sunny | 9 | 10 |
| BC101@Tsain-Ko Mall | 16.5 | **19 and 20** | 2021-07-04 | Sunday | 13:30 – 15:30 | warm sunny | 19 | 14 |
| BC101@Tsain-Ko Mall | 11 | **19 and 20** | 2021-09-23 | Thursday | 17:30 – 19:30 | warm sunny | 9 | 13 |
| BC101@Tsain-Ko Mall | 24 | **19 and 20** | 2022-08-06 | Saturday | 10:45 – 12:45 | warm sunny | 15 | 33 |
| BC101@Veteran's Road | 16 | **6 and 7** | 2021-06-02 | Wednesday | 15:50 – 17:50 | hot sunny | 16 | 16 |
| BC101@Veteran's Road | 10.5 | **6 and 7** | 2021-06-25 | Friday | 12:00 – 14:00 | hot sunny | 10 | 11 |
| BC101@Veteran's Road | 31 | **6 and 7** | 2021-08-28 | Saturday | 09:30 – 11:30 | warm sunny | 36 | 26 |
| BC101@Veteran's Road | 25.5 | **6 and 7** | 2022-07-24 | Sunday | 15:00 – 17:00 | warm sunny | 30 | 21 |
| Beach@Cedar Grove | 9 | **N/A** | 2022-06-07 | Tuesday | 11:00 – 13:00 | warm sunny | 7 | 11 |
| Beach@Cedar Grove | 13.5 | **N/A** | 2022-06-08 | Wednesday | 16:00 – 18:00 | warm sunny | 9 | 18 |
| Beach@Cedar Grove | 14 | **N/A** | 2022-06-12 | Sunday | 12:00 – 14:00 | wam sunny | 19 | 9 |
| Beach@Marlene | 22.5 | **N/A** | 2022-06-06 | Monday | 16:30 – 18:30 | warm sunny | 15 | 30 |
| Marine@Central | 7.5 | **1** | 2022-06-07 | Tuesday | 15:00 - 17:00 | warm cloudy | 8 | 7 |
| Marine@Central | 17 | **1** | 2022-07-30 | Saturday | 10:00 – 12:00 | hot sunny | 28 | 6 |

Appendix E - Multiple Accounts Evaluation Segment Scoresheet for Connect the Coast

Online version
https://docs.google.com/spreadsheets/d/1n5MLD7B3NFHfhDdRGDjv1qC0GZCn5DAB/edit?usp=sharing&ouid=114173457544647101410&rtpof=true&sd=true

**MAE Segment Descriptions**

| Segment ID | On<br>From<br>To | Side of Road | Facility Type | Length of Segment<br>(M) |
|---|---|---|---|---|
| 1 | Marine Dr<br>Langdale Ferry<br>School Rd<br>Gibsons Way | Both | SHARED RD OR EDGE LANE | 4278 |
| 2 | School Rd<br>N Fletcher Rd<br>N Fletcher Rd<br>Gibsons way | East | MULTI-USE PATH, ONE WAY BIKES | 713 |
| 3 | School Rd<br>Gibsons Way<br>N Fletcher Rd | Both | NEIGHBOURHOOD ST BIKEWAY | 601 |
| 4 | Payne rd.<br>SCH<br>Payne Rd | Both | PROTECTED BIKE LANE | 1693 |
| 5 | Hough Rd<br>Carmen Rd.<br>Hough Rd. | South | MULTI-USE PATH | 403 |
| 6 | King Rd<br>SCH<br>King Rd | ON | NEIGHBOURHOOD ST BIKEWAY | 413 |
| 7 | Highland<br>SCH<br>Highland rd | South | MULTI-USE PATH | 1559 |
| 8 | Leek Rd.<br>SCH<br>Leek Rd. | South | MULTI-USE PATH | 1367 |
| 9 | Orange rd.<br>SCH<br>Orange Rd. | South | MULTI-USE PATH | 2267 |
| 10 | Malcolm Creek rd.<br>SCH<br>Malcom Creek Rd | South | MULTI-USE PATH<br>AND NEIGHBOURHOOD STREET BIKEWAY | 868 |
| 11 | Largo Rd<br>SCH<br>Largo Rd | South | MULTI-USE PATH | 1338 |
| 12 | Roberts Creek Rd.<br>SCH<br>Roberts Creek Rd | South | MULTI-USE PATH | 1195 |
| 13 | W of Pell Rd.<br>SCH<br>W of Pell Rd. | South | MULTI-USE PATH | 1605 |
| 14 | Jack Rd.<br>SCH<br>Jack Rd | South | MULTI-USE PATH | 1969 |
| 15 | Field Rd.<br>SCH<br>Field Rd. | South | MULTI-USE PATH | 1341 |
| 16 | Whitaker Rd.<br>SCH<br>whitaker rd | Both | MULTI-USE PATH ON BOTH SIDES, UNI<br>DIRECTIONAL BIKE TRAVEL | 1025 |
| 17 | Bay rd.<br>SCH<br>Bay Rd. | Both | PROTECTED BIKE LANES & PEDESTRIAN PATHS<br>ON EACH SIDE | 977 |
| 18 | Havies Rd.<br>SCH<br>Havies Rd | Both | WESTBOUND - MULTI-USE PATH W<br>UNIDIRECTIONAL BIKE TRAVEL, EASTBOUND -<br>BIKE ONLY PATH | 921 |
| 19 | chelpl Ave<br>SCH<br>chelpl ave. | Both | MULTI-USE PATH ON BOTH SIDES, UNI<br>DIRECTIONAL BIKE TRAVEL | 2362 |
| 20 | wharf ave<br>wharf Ave, Teredo St<br>Dolphin st | both | PROTECTED BIKE LANES | 578 |
| 21 | Shorecliffe Ave<br>SCH<br>Shorecliffe ave | both | PROTECTED BIKE LANES | 1009 |
| 22 | Norwest Bay Rd | Both | MULTI-USE PATH ON BOTH SIDES, UNI<br>DIRECTIONAL BIKE TRAVEL | 1221 |
| **ALTERNATE ROUTES** | | | | |
| 1A | SCH<br>Port Mellon Hwy<br>Stewart Rd<br>Stewart Rd, North Rd | North | MULTI-USE PATH | 2407 |
| 2A | SCH<br>Reed Rd<br>North Rd<br>Reed Rd | West and North | MULTI-USE PATH | 1620 |
| 3A | Gibsons Way | Both | PROTECTED BIKE LANES | 822 |

## MAE Segment Scores: Projected Demand

| | | | | Projected Demand | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Distance Decay between Priority Destinations | | Population Density | | Mode Share of Cycling | | Ped and Bike Counts | Highest Count per Segment | Score | Project Demand Total |
| Segment ID | On<br>From<br>To | Segment Destination | Langdale, Gibsons, Sechelt = 5<br>Roberts Creek, Davis Bay, Wilson Creek = 3<br>Outside 3 km of Community = 1 | Population Density / hectacre | 15+, 10 pts.<br>10-14, 8 pts.<br>9-5, 6 pts.<br>1-4 4 pts.<br><1 2 pt. | From local Muni data (2016 Census) | >5%, 5 pts<br>4-5%, 4 pts<br>3-4%, 3 pts<br>2-3%, 2 pts<br>0-2%, 1 pt | Location observed | Highest Count per Segment (per hr) and Date | 40 +, 5 pts<br>20 - 39, 3 pts<br>1 -19, 1 pt | /25 max |
| 1 | Marine Dr<br>Langdale Ferry<br>School Rd<br>Gibsons Way | Langdale/Gibsons | 5 | 2.06 | 4 | 0 | 0 | Marine@Central | 17 - 220607 | 1 | 10 |
| 2 | School Rd<br>N Fletcher Rd<br>N Fletcher Rd | Gibsons | 5 | 15.58 | 10 | 0 | 0 | Average of Nearest Counts | 24 | 3 | 18 |
| 3 | Gibsons way<br>School Rd<br>Gibsons Way | Gibsons | 5 | 15.58 | 10 | 0 | 0 | Average of Nearest Counts | 24 | 3 | 18 |
| 4 | N Fletcher Rd<br>Payne rd.<br>SCH | Gibsons | 5 | 5.63 | 6 | 5.2 | 5 | Average of Nearest Counts | 24 | 3 | 19 |
| 5 | Payne Rd<br>Hough Rd<br>Carmen Rd. | Gibsons | 5 | 3.8 | 4 | 5.2 | 5 | Average of Nearest Counts<br>BC101@Veteran's Road | 24 | 3 | 17 |
| 6 | Hough Rd.<br>King Rd<br>SCH | Gibsons | 5 | 6.18 | 6 | 0 | 0 | BC101@Veteran's Road | 31 - 210828 | 3 | 14 |
| 7 | King Rd<br>Highland<br>SCH | Gibsons | 5 | 6.18 | 6 | 2.5 | 2 | BC101@Lower Road | 31 - 210828 | 3 | 16 |
| 8 | Highland rd<br>Leek Rd.<br>SCH | Roberts Creek/Gibsons | 1 | 1.01 | 4 | 4.5 | 4 | | 11 - 210731 | 1 | 10 |
| 9 | Leek Rd.<br>Orange rd.<br>SCH | Roberts Creek | 1 | 1.01 | 4 | 4.5 | 4 | Average of Nearest Counts | 11.5 | 1 | 10 |
| 10 | Orange Rd.<br>Malcolm Creek rd.<br>SCH | Roberts Creek | 3 | 1.49 | 4 | 6.9 | 5 | Average of Nearest Counts | 11.5 | 1 | 13 |
| 11 | Malcom Creek Rd<br>Largo Rd<br>SCH | Roberts Creek | 3 | 1.49 | 4 | 6.9 | 5 | Average of Nearest Counts | 11.5 | 1 | 13 |
| 12 | Largo Rd<br>Roberts Creek Rd.<br>SCH | Roberts Creek | 3 | 7.21 | 6 | 0 | 0 | Average of Nearest Counts | 11.5 | 1 | 10 |
| 13 | Roberts Creek Rd<br>W of Pell Rd.<br>SCH | Roberts Creek | 3 | 4.14 | 4 | 5.6 | 5 | Average of Nearest Counts | 11.5 | 1 | 13 |
| 14 | W of Pell Rd.<br>Jack Rd.<br>SCH | Roberts Creek | 3 | 1.45 | 4 | 0 | 0 | BC101@RCPP<br>BC101@Field Road | 12 - 210829 | 1 | 8 |
| 15 | Jack Rd<br>Field Rd.<br>SCH | Roberts Creek | 3 | 1.45 | 4 | 0 | 0 | BC101@Field Road | 29 - 220602 | 3 | 10 |
| 16 | Field Rd.<br>Whitaker Rd.<br>SCH | Wilson Creek / Davis Bay | 3 | 1.45 | 4 | 0 | 0 | BC101@Davis Bay Wharf | 29 - 220602 | 3 | 10 |
| 17 | whitaker rd<br>Bay rd.<br>SCH | Davis Bay | 3 | 1.45 | 4 | 0 | 0 | | 137.5 - 220825 | 5 | 12 |
| 18 | Bay Rd.<br>Havies Rd.<br>SCH | Davis Bay / Sechelt | 3 | 1.99 | 4 | 0 | 0 | Average of Nearest Counts<br>BC101@Tsain-Ko Mall | 80.75 | 5 | 12 |
| 19 | Havies Rd<br>chelpi Ave<br>SCH | Sechelt | 5 | 1.99 | 4 | 0 | 0 | BC101@Tsain-Ko Mall | 24 - 220806 | 3 | 12 |
| 20 | chelpi ave.<br>wharf ave<br>wharf Ave, Teredo St | Sechelt | 5 | 14.63 | 8 | 4.8 | 4 | | 24 - 220806 | 3 | 20 |
| 21 | Dolphin st<br>Shorecliffe Ave<br>SCH | Sechelt | 5 | 9.95 | 6 | 0 | 0 | Nearest Count | 24 - 220806 | 3 | 14 |
| 22 | Shorecliffe ave<br>Norwest Bay Rd | Sechelt | 5 | 4.9 | 4 | 2.8 | 2 | Nearest Count | 24 - 220806 | 3 | 14 |
| **ALTERNATE ROUTES** | | | | | | | | | | | |
| 1A | SCH<br>Port Mellon Hwy<br>Stewart Rd<br>Stewart Rd, North Rd | Langdale/Gibsons | 5 | 0.02 | 2 | 0 | 0 | Average of Nearest Counts | 15 | 1 | 8 |
| 2A | SCH<br>Reed Rd<br>North Rd | Gibsons | 5 | 0.02 | 2 | 0 | 0 | Average of Nearest Counts<br>BC101@Reed Road | 15 | 1 | 8 |
| 3A | Reed Rd<br>Gibsons Way | Gibsons | 5 | 5.63 | 6 | 5.2 | 5 | | 13 - 220611 | 1 | 17 |

## MAE Scores: Connectivity and Ease of Use

| | | Connectivity & Ease of Use | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Connection to existing AT Routes | | Parrallel Alternative Route Connections | Good Alternative Exists, 0 pts Problematic or Circuitous Alternative, 3 pts No Real Alternative, 5 pts. | Addresses Challenges or Conflicts | | Transit Stops per km | | Connectivity / Ease of Use Total |
| Segment ID | On From To | From SCRD bike layer | 2+ connections, 5 pts 1 connection, 3 pts | Reasonable alternative available. | | Segment has bike or pedestrian related collision within last 5 years (ICBC) | 2+ Collisions or Fatality, 5 pts 1 Collision, 3 pts | Transit Stops per km | 3+ Stops, 5 pts 1 - 2 Stops, 3 pts >0 and<1, 1 pts | 20 |
| | Marine Dr Langdale Ferry | | | | | | | | | |
| 1 | School Rd Gibsons Way | 2 | 5 | Problematic | 3 | none | 0 | 4.7 | 5 | **13** |
| | School Rd N Fletcher Rd | | | | | | | | | |
| 2 | N Fletcher Rd N Fletcher Rd | 1 | 3 | Problematic | 3 | 1 bike | 3 | 3.4 | 5 | **14** |
| | Gibsons way School Rd | | | | | | | | | |
| 3 | Gibsons Way N Fletcher Rd | 0 | 0 | Problematic | 3 | 1 ped, 1 bike | 5 | 0.0 | 0 | **8** |
| | Payne rd. SCH Payne Rd | | | | | | | | | |
| 5 | Hough Rd Carmen Rd. Hough Rd. | 2 | 5 | Problematic | 3 | none | 0 | 0.0 | 0 | **8** |
| 6 | King Rd SCH King Rd | 2 | 5 | Problematic | 3 | 1 bike | 3 | 2.4 | 3 | **14** |
| 7 | Highland SCH Highland rd | 2 | 5 | None | 5 | none | 0 | 1.9 | 3 | **13** |
| 8 | Leek Rd. SCH Leek Rd. | 2 | 5 | Problematic | 3 | none | 0 | 1.5 | 3 | **11** |
| 9 | Orange rd. SCH Orange Rd. | 0 | 0 | Problematic | 3 | none | 0 | 1.3 | 3 | **6** |
| 10 | Malcolm Creek rd. SCH Malcom Creek Rd | 0 | 0 | Problematic | 3 | none | 0 | 1.2 | 3 | **6** |
| 11 | Largo Rd SCH Largo Rd | 0 | 0 | Problematic | 3 | 1 ped | 3 | 0.7 | 1 | **7** |
| 12 | Roberts Creek Rd. SCH Roberts Creek Rd | 2 | 5 | Problematic | 3 | 1 ped | 3 | 0.8 | 1 | **12** |
| 13 | W of Pell Rd. SCH W of Pell Rd. | 2 | 5 | Good | 0 | 1 bike | 3 | 1.2 | 3 | **11** |
| 14 | Jack Rd. SCH Jack Rd | 1 | 3 | None | 5 | none | 0 | 1.5 | 3 | **11** |
| 15 | Field Rd. SCH Field Rd. | 0 | 0 | None | 5 | 1 ped | 3 | 0.7 | 1 | **9** |
| 16 | Whitaker Rd. SCH whitaker rd | 0 | 0 | None | 5 | 1 ped | 3 | 2.9 | 3 | **11** |
| 17 | Bay rd. SCH Bay Rd. | 0 | 0 | Good | 0 | none | 0 | 7.2 | 5 | **5** |
| 18 | Davies Rd. SCH Davies Rd | 0 | 0 | Problematic | 3 | none | 0 | 2.2 | 3 | **6** |
| 19 | chelpi Ave SCH chelpi ave. | 0 | 0 | None | 5 | 1 ped | 3 | 7.0 | 5 | **13** |
| 20 | wharf ave wharf Ave, Teredo St | 0 | 0 | None | 5 | none | 0 | 1.7 | 3 | **8** |
| 21 | Shorecliffe Ave SCH Shorecliffe ave | 0 | 0 | Good | 0 | 8 ped, 1 bike | 3 | 0.0 | 0 | **3** |
| 22 | Norwest Bay Rd | 0 | 0 | None | 4 | none | 0 | 0.8 | 1 | **5** |
| **ALTERNATE ROUTES** | | | | | | | | | | |
| | SCH Port Mellon Hwy | | | | | | | | | |
| 1A | Stewart Rd Stewart Rd, North Rd | 1 | 3 | Problematic | 3 | none | 0 | 0.0 | 0 | **6** |
| | SCH North Rd | | | | | | | | | |
| 2A | Reed Rd Reed Rd | 0 | 0 | Problematic | 3 | 1 bike | 3 | 0.6 | 1 | **7** |
| 3A | Gibsons Way | 1 | 3 | Problematic | 3 | 2 bike | 5 | 4.9 | 5 | **16** |

## MAE Scores: Community Support

| | | Support | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | SCRD Prelim Input | | TRAC Support | | Public Survey Ranking | | Alignment with Prov Infrastructure Grant Requirements | | Support Total |
| Segment ID | On<br>From<br>To | Prelim ranking of segment from SCRD Staff | Very High - 5pts<br>High - 4pts<br>Medium High - 3pts<br>Medium Low - 2pts<br>Low - 1<br>Very Low - 0 pts | Ranking of segment by TRAC | Very High - 5pts<br>High - 4pts<br>Medium High - 3pts<br>Medium Low - 2pts<br>Low - 1<br>Very Low - 0 pts | Ranking from 2020 AT Survey Supplementary Report 1 | High Ranking, 5pts<br>Medium Ranking, 3 pts<br>Low Ranking, 1 pt<br>Unranked, 0 pts | Fully Qualifies, partially qualifies, does not qualify | Entire segment is on planned route, 5 pts<br>Part of Segment is on planned route, 3 pts<br>No Part of Segment is on planned route, 0 pts | /15 max |
| 1 | Marine Dr<br>Langdale Ferry<br>School Rd<br>Gibsons Way | Medium High | 3 | High | 4 | Rank 1 | 5 | Entire, SCRD BP Area G | 5 | 17 |
| 2 | School Rd<br>N Fletcher Rd<br>N Fletcher Rd<br>Gibsons way | Very Low | 0 | Very Low | 0 | Unranked | 0 | Entire, TC Map 3 | 5 | 5 |
| 3 | School Rd<br>Gibsons Way | Very Low | 0 | Very Low | 0 | Unranked | 0 | No part on planned route | 0 | 0 |
| 4 | N Fletcher Rd<br>Payne rd.<br>SCH | Very High | 5 | Very Low | 0 | Rank 5 | 3 | Entire, TC Map 3 | 5 | 13 |
| 5 | Payne Rd<br>Hough Rd<br>Carmen Rd. | Very High | 5 | Very High | 5 | Rank 3 | 5 | Entire, TC Map 3 | 5 | 20 |
| 6 | Hough Rd.<br>King Rd<br>SCH | Very High | 5 | Very High | 5 | Rank 3 | 5 | Entire, SCRD BP Area G | 5 | 20 |
| 7 | King Rd<br>Highland<br>SCH | Very High | 4 | Very High | 5 | Rank 4, Rank 6 | 5 | Entire, SCRD BP Area D | 5 | 19 |
| 8 | Highland rd<br>Leek Rd.<br>SCH | Very Low | 0 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 5 |
| 9 | Leek Rd.<br>Orange rd.<br>SCH | Very Low | 0 | Very Low | 0 | Rank 8 | 1 | Entire, SCRD BP Area D | 5 | 6 |
| 10 | Orange Rd.<br>Malcolm Creek rd.<br>SCH | Medium Low | 2 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 7 |
| 11 | Malcom Creek Rd<br>Largo Rd<br>SCH | Medium Low | 2 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 7 |
| 12 | Largo Rd<br>Roberts Creek Rd.<br>SCH | Very Low | 0 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 5 |
| 13 | Roberts Creek Rd<br>W of Pell Rd.<br>SCH | Very Low | 0 | Medium Low | 2 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 7 |
| 14 | W of Pell Rd.<br>Jack Rd.<br>SCH | Very Low | 0 | Medium Low | 2 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 7 |
| 15 | Jack Rd<br>Field Rd.<br>SCH | Very Low | 0 | Medium Low | 2 | Unranked | 0 | Entire, SCRD BP Area D | 5 | 7 |
| 16 | Field Rd.<br>Whitaker Rd.<br>SCH | Very High | 5 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area S | 5 | 10 |
| 17 | whitaker rd<br>Bay rd.<br>SCH | Very High | 5 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area S | 5 | 10 |
| 18 | Bay Rd.<br>Havies Rd.<br>SCH | Very High | 5 | High | 4 | Rank 2 | 5 | Entire, SCRD BP Area S | 5 | 19 |
| 19 | Havies Rd<br>chelpi Ave<br>SCH | Very High | 5 | High | 4 | Rank 2 | 5 | Entire, SCRD BP Area S | 5 | 19 |
| 20 | chelpi ave.<br>wharf ave<br>wharf Ave, Teredo St | Very High | 5 | High | 4 | Rank 8 | 1 | Entire, SCRD BP Area S | 5 | 15 |
| 21 | Dolphin st<br>Shorecliffe Ave<br>SCH | Very Low | 0 | Very Low | 0 | Rank 8 | 1 | Entire, SCRD BP Area S | 5 | 6 |
| 22 | Shorecliffe ave<br>Norwest Bay Rd | Very High | 5 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area S | 5 | 10 |
| **ALTERNATE ROUTES** | | | | | | | | | | |
| 1A | SCH<br>Port Mellon Hwy<br>Stewart Rd<br>Stewart Rd, North Rd | Medium High | 3 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area F | 5 | 8 |
| 2A | SCH<br>Reed Rd<br>North Rd | Medium High | 3 | Very Low | 0 | Unranked | 0 | Entire, SCRD BP Area F | 5 | 8 |
| 3A | Reed Rd<br>Gibsons Way | Medium High | 3 | Very Low | 0 | Rank 10 | 1 | Entire, SCRD BP Area F | 5 | 9 |

## MAE Scores: Cost, Conflicts with Private Property and Project Alignment

| | | | Cost | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Fac type per km | | Private Property Conflicts | | Planned Projects | | Cost Total |
| Segment ID | On From To | $/km | < 1 Mil$, 5 pts 1 - 3 Mil$, 3 pts >3 Mil$, 0 pts | # of likely property conflicts, degree of conflicts | 0 Expected Property Conflicts, 5 pts 1 - 10 Minor Conflicts, 3 pts 11 - 20 Minor Conflicts, or 1 Definite Impact , 1 pt 20+ Minor Conflicts, or 2+ Definite Impacts, 0 pts | Project aligns with planned MOTI or Muni road project | Aligns with planned road project, 5 pts Partial alignment, 3 pts | /15 max |
| 1 | Marine Dr Langdale Ferry School Rd | $ 107,162 | 5 | NA | 5 | None | 0 | 10 |
| 2 | Gibsons Way School Rd N Fletcher Rd | $ 4,497,477 | 0 | 1 minor (565 Seaview Rd) Local gvt lot that extends to middle of intersection (417 Marine, uncscored) | 3 | None | 0 | 3 |
| 3 | N Fletcher Rd Gibsons way School Rd | $ 231,660 | 5 | NA | 5 | None | 0 | 10 |
| 4 | Gibsons Way N Fletcher Rd Payne rd. | $ 87,546 | 5 | None | 5 | None | 0 | 10 |
| 5 | SCH Payne Rd Hough Rd | $ 1,705,971 | 3 | 1 Minor (1103 SCH) | 3 | None | 0 | 6 |
| 6 | Carmen Rd. Hough Rd. King Rd | $ 231,660 | 5 | NA | 5 | None | 0 | 10 |
| 7 | SCH King Rd Highland | $ 4,480,573 | 0 | 7 Minor (1542 - 1572 Larchberry Way) | 3 | None | 0 | 3 |
| 8 | SCH Highland rd Leek Rd. | $ 1,705,971 | 3 | 1 Minor (740 Leek Rd) | 3 | None | 0 | 6 |
| 9 | SCH Leek Rd. Orange rd. | $ 1,705,971 | 3 | 2 Major (2089 SCH, 2475 SCH) and 3 Minor | 0 | None | 0 | 3 |
| 10 | SCH Orange Rd. Malcolm Creek rd. | $ 1,360,997 | 3 | 4 Minor (2534, 2572 Miles Rd, and 2643, 2563 SCH) | 3 | Highway 101 - Joe Road Intersection Improvements underway | 0 | 6 |
| 11 | SCH Malcom Creek Rd Largo Rd | $ 1,705,971 | 3 | 5 Minor (2781, 2945, 2897 SCH, 1152 Blackburn Rd, and PID 010053875) | 3 | Highway 101 - Joe Road Intersection Improvements underway | 0 | 6 |
| 12 | SCH Largo Rd Roberts Creek Rd. | $ 1,705,971 | 3 | None | 5 | None | 0 | 8 |
| 13 | SCH Roberts Creek Rd W of Pell Rd. | $ 1,705,971 | 3 | 2 Minor (3299 SCH and 1319 Roberts Creek Rd) | 3 | None | 0 | 6 |
| 14 | SCH W of Pell Rd. Jack Rd. | $ 1,705,971 | 3 | 1 Minor (1570 Jack Rd) | 3 | None | 0 | 6 |
| 15 | SCH Jack Rd Field Rd. | $ 1,705,971 | 3 | 5 Minor (416 Browning, 4315 SCH, 4339 SCH, pid 005430861) | 3 | None | 0 | 6 |
| 16 | SCH Field Rd. Whitaker Rd. | $ 8,994,954 | 0 | 12 Minor (4433 - 4595 SCH) | 1 | None | 0 | 1 |
| 17 | SCH whitaker rd Bay rd. | $ 22,575,245 | 0 | 6 Minor (4636 - 4648 SCH, 4684 SCH, 4748 SCH) | 3 | None | 0 | 3 |
| 18 | SCH Bay Rd. Havies Rd. | $ 5,091,741 | 0 | 5 Minor (4902 - 4908 SCH, 4913 Geer Rd, 5021 SCH, 5021 Geer Rd) | 3 | None | 0 | 3 |
| 19 | SCH Havies Rd chelpi Ave | $ 8,994,954 | 0 | 60 Minor Conflicts | 0 | None | 0 | 0 |
| 20 | SCH chelpi ave. wharf ave | $ 1,091,107 | 3 | 2 Minor (5629 SCH and Band Lands) | 3 | None | 0 | 6 |
| 21 | wharf Ave, Teredo St Dolphin st Shorecliffe Ave | $ 1,091,107 | 3 | 8 Minor (5559 - 5549 Wharf Ave, 5485 - 5477 Wharf Ave, 5454 Trail Ave, 5729 Teredo St), 1 Major (5655 Teredo St) | 1 | None | 0 | 4 |
| 22 | SCH Shorecliffe ave Norwest Bay Rd | $ 3,054,261 | 0 | 6 Minor (5849 - 5860 Barnacle St, 5872 SCH, 6010 - 6014 Silverstone Ln, 6133 SCH) 1 Major (5860 Barnacle St) | 1 | None | 0 | 1 |
| **ALTERNATE ROUTES** | | | | | | | | |
| 1A | SCH Port Mellon Hwy Stewart Rd | $ 11,287,623 | 0 | 1 possible (1405 Port Mellon Hwy is crown land with the existing hwy built on it) | 5 | None | 0 | 5 |
| 2A | Stewart Rd, North Rd SCH Reed Rd North Rd | $ 1,705,971 | 3 | 1 Minor (1125 Stewart Rd) | 3 | None | 0 | 6 |
| 3A | Reed Rd Gibsons Way | $ 1,091,107 | 3 | NA | 5 | None | 0 | 8 |

## MAE Scores: Conflicts with other Modes and Infrastructure

| | | Conflicts with Other Modes and Infrastucture | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Driveways and Intersections crossed per km | | Hydro and Streetlight Poles Potential Conflicts | | Need to Remove or Narrow Shoulders | | Need to Narrow or Remove Travel Lanes | | Conflicts on Other Modes and Infrastructure Total |
| Segment ID | On<br>From<br>To | Driveways and Intersections crossed per km | 0 - 10 crossed, 5 pts<br>11 - 40 crossed, 3 pts<br>>40 crossed, 0 pts<br>(NSB = 5) | Streetlight and Hydro poles within 5m of path per km | 0 - 5 conflicts, 5 pts<br>6 - 10 conflicts, 3 pts<br>11 - 20 conflicts, 1 pt<br>>20 conflicts, 0 pts | No Change, Narrow Shoulders, Remove Shoulders | No Change, 5 pts<br>Narrow, 2 pts<br>Remove, 0 pts | No Change, Narrow of Travel Lane, Removal of Travel Lane | No Change, 5 pts<br>Narrow, 2 pts<br>Remove, 0 pts | /20 MAX |
| 1 | Marine Dr<br>Langdale Ferry<br>School Rd | 22 | 3 | NA | 5 | NA | 5 | NA | 5 | 18 |
| 2 | Gibsons Way<br>School Rd<br>N Fletcher Rd | 7 | 5 | 15 | 1 | No Change | 5 | No Change | 5 | 16 |
| 3 | N Fletcher Rd<br>Gibsons way<br>School Rd | NA | 5 | NA | 5 | NA | 5 | NA | 5 | 20 |
| 4 | Gibsons Way<br>N Fletcher Rd<br>Payne rd.<br>SCH | 40 | 3 | NA | 5 | Narrow | 2 | Narrow (@ intersections with left turn lane) | 2 | 12 |
| 5 | Payne Rd<br>Hough Rd<br>Carmen Rd. | 10 | 5 | 7 | 3 | No Change | 5 | No Change | 5 | 18 |
| 6 | Hough Rd.<br>King Rd<br>SCH | NA | 5 | NA | 5 | NA | 5 | NA | 5 | 20 |
| 7 | King Rd<br>Highland<br>SCH | 4 | 5 | 5 | 5 | No Change | 5 | No Change | 5 | 20 |
| 8 | Highland rd<br>Leek Rd.<br>SCH | 4 | 5 | 4 | 5 | No Change | 5 | No Change | 5 | 20 |
| 9 | Leek Rd.<br>Orange rd.<br>SCH | 2 | 5 | 5 | 5 | Narrow | 2 | No Change | 5 | 17 |
| 10 | Orange Rd.<br>Malcolm Creek rd.<br>SCH | 10 | 5 | 10 | 3 | No Change | 5 | No Change | 5 | 18 |
| 11 | Malcom Creek Rd<br>Largo Rd<br>SCH | 6 | 5 | 18 | 1 | Narrow | 2 | No Change | 5 | 13 |
| 12 | Largo Rd<br>Roberts Creek Rd.<br>SCH | 7 | 5 | 5 | 5 | No Change | 5 | No Change | 5 | 20 |
| 13 | Roberts Creek Rd<br>W of Pell Rd.<br>SCH | 6 | 5 | 8 | 3 | Narrow | 2 | No Change | 5 | 15 |
| 14 | W of Pell Rd.<br>Jack Rd.<br>SCH | 2 | 5 | 9 | 3 | No Change | 5 | No Change | 5 | 18 |
| 15 | Jack Rd<br>Field Rd.<br>SCH | 1 | 5 | 7 | 3 | No Change | 5 | No Change | 5 | 18 |
| 16 | Field Rd.<br>Whitaker Rd.<br>SCH | 28 | 3 | 35 | 0 | Narrow | 2 | No Change | 5 | 10 |
| 17 | whitaker rd<br>Bay rd.<br>SCH | 29 | 3 | 35 | 0 | Narrow | 2 | No Change | 5 | 10 |
| 18 | Bay Rd.<br>Havies Rd.<br>SCH | 51 | 0 | 61 | 0 | Remove | 0 | No Change | 5 | 5 |
| 19 | Havies Rd<br>chelpi Ave<br>SCH | 41 | 0 | 37 | 0 | Remove | 0 | Narrow | 2 | 2 |
| 20 | chelpi ave.<br>wharf ave<br>wharf Ave, Teredo St | 31 | 3 | 33 | 0 | No Change | 5 | Remove | 0 | 8 |
| 21 | Dolphin st<br>Shorecliffe Ave<br>SCH | 36 | 3 | 26 | 0 | Narrow | 2 | Narrow | 2 | 7 |
| 22 | Shorecliffe ave<br>Norwest Bay Rd | 16 | 3 | 25 | 0 | Remove | 0 | No Change | 5 | 8 |
| **ALTERNATE ROUTES** | | | | | | | | | | |
| 1A | SCH<br>Port Mellon Hwy<br>Stewart Rd | 2 | 5 | 2 | 5 | Narrow (as MUP begins) | 2 | No Change | 5 | 17 |
| 2A | Stewart Rd, North Rd<br>SCH<br>Reed Rd | 6 | 5 | 12 | 1 | No Change | 5 | No Change | 5 | 16 |
| 3A | North Rd<br>Reed Rd<br>Gibsons Way | 39 | 3 | NA | 5 | No Change | 5 | No Change | 5 | 18 |

## MAE Weighted and Combined Scores & Estimated Construction Cost for Each Segment

| Segment ID | On / From / To | Projected Demand | Connectivity & Safety | Support | PD/C&S/S Grand Total | *PD/C&S/S Ranking* | Cost | Conflicts w/ Other Modes and Infrastructure | C/C Grand Total | *C/C Ranking* | Appx Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 75 | 30 | 20 | 125 | | 30 | 20 | 50 | | |
| | Marine Dr | | | | | | | | | | |
| | Langdale Ferry | | | | | | | | | | |
| 1 | School Rd | 30 | 26 | 51 | 107 | *8* | 20 | 18 | 38 | *23* | $460,000 |
| | Gibsons Way | | | | | | | | | | |
| | School Rd | | | | | | | | | | |
| 2 | N Fletcher Rd | 54 | 28 | 15 | 97 | *10* | 6 | 16 | 22 | *8* | $3,210,000 |
| | N Fletcher Rd | | | | | | | | | | |
| | Gibsons way | | | | | | | | | | |
| 3 | School Rd | 54 | 16 | 0 | 70 | *17* | 20 | 20 | 40 | *24* | $140,000 |
| | Gibsons Way | | | | | | | | | | |
| | N Fletcher Rd | | | | | | | | | | |
| 4 | Payne rd. | 57 | 32 | 39 | 128 | *3* | 20 | 12 | 32 | *19* | $150,000 |
| | SCH | | | | | | | | | | |
| | Payne Rd | | | | | | | | | | |
| 5 | Hough Rd | 51 | 16 | 60 | 127 | *4* | 12 | 18 | 30 | *15* | $690,000 |
| | Carmen Rd. | | | | | | | | | | |
| | Hough Rd. | | | | | | | | | | |
| 6 | King Rd | 42 | 28 | 60 | 130 | *2* | 20 | 20 | 40 | *24* | $100,000 |
| | SCH | | | | | | | | | | |
| | King Rd | | | | | | | | | | |
| 7 | Highland | 48 | 26 | 57 | 131 | *1* | 6 | 20 | 26 | *11* | $6,990,000 |
| | SCH | | | | | | | | | | |
| | Highland rd | | | | | | | | | | |
| 8 | Leek Rd. | 30 | 22 | 15 | 67 | *20* | 12 | 20 | 32 | *19* | $2,330,000 |
| | SCH | | | | | | | | | | |
| | Leek Rd. | | | | | | | | | | |
| 9 | Orange rd. | 30 | 12 | 18 | 60 | *24* | 6 | 17 | 23 | *9* | $3,900,000 |
| | SCH | | | | | | | | | | |
| | Orange Rd. | | | | | | | | | | |
| 10 | Malcolm Creek rd. | 39 | 12 | 21 | 72 | *16* | 12 | 18 | 30 | *15* | $1,180,000 |
| | SCH | | | | | | | | | | |
| | Malcom Creek Rd | | | | | | | | | | |
| 11 | Largo Rd | 39 | 14 | 21 | 74 | *15* | 12 | 13 | 25 | *10* | $2,280,000 |
| | SCH | | | | | | | | | | |
| | Largo Rd | | | | | | | | | | |
| 12 | Roberts Creek Rd. | 30 | 24 | 15 | 69 | *18* | 16 | 20 | 36 | *22* | $2,040,000 |
| | SCH | | | | | | | | | | |
| | Roberts Creek Rd | | | | | | | | | | |
| 13 | W of Pell Rd. | 39 | 22 | 21 | 82 | *11* | 12 | 15 | 27 | *12* | $2,740,000 |
| | SCH | | | | | | | | | | |
| | W of Pell Rd. | | | | | | | | | | |
| 14 | Jack Rd. | 24 | 22 | 21 | 67 | *20* | 12 | 18 | 30 | *15* | $3,360,000 |
| | SCH | | | | | | | | | | |
| | Jack Rd | | | | | | | | | | |
| 15 | Field Rd. | 30 | 18 | 21 | 69 | *18* | 12 | 18 | 30 | *15* | $2,290,000 |
| | SCH | | | | | | | | | | |
| | Field Rd. | | | | | | | | | | |
| 16 | Whitaker Rd. | 30 | 22 | 30 | 82 | *11* | 2 | 10 | 12 | *4* | $9,220,000 |
| | SCH | | | | | | | | | | |
| | whitaker rd | | | | | | | | | | |
| 17 | Bay rd. | 36 | 10 | 30 | 76 | *14* | 6 | 10 | 16 | *6* | $22,060,000 |
| | SCH | | | | | | | | | | |
| | Bay Rd. | | | | | | | | | | |
| 18 | Havies Rd. | 36 | 12 | 57 | 105 | *9* | 6 | 5 | 11 | *3* | $4,690,000 |
| | SCH | | | | | | | | | | |
| | Havies Rd | | | | | | | | | | |
| 19 | chelpi Ave | 36 | 26 | 57 | 119 | *6* | 0 | 2 | 2 | *1* | $21,250,000 |
| | SCH | | | | | | | | | | |
| | chelpi ave. | | | | | | | | | | |
| 20 | wharf ave | 60 | 16 | 45 | 121 | *5* | 12 | 8 | 20 | *7* | $630,000 |
| | wharf Ave, Teredo St | | | | | | | | | | |
| | Dolphin st | | | | | | | | | | |
| 21 | Shorecliffe Ave | 42 | 6 | 18 | 66 | *22* | 8 | 7 | 15 | *5* | $1,100,000 |
| | SCH | | | | | | | | | | |
| | Shorecliffe ave | | | | | | | | | | |
| 22 | Norwest Bay Rd | 42 | 10 | 30 | 82 | *11* | 2 | 8 | 10 | *2* | $3,730,000 |
| **ALTERNATE ROUTES** | | | | | | | | | | | $ 94,540,000 |
| | SCH | | | | | | | | | | |
| | Port Mellon Hwy | | | | | | | | | | |
| 1A | Stewart Rd | 24 | 12 | 24 | 60 | *24* | 10 | 17 | 27 | *12* | $27,200,000 |
| | Stewart Rd, North Rd | | | | | | | | | | |
| | SCH | | | | | | | | | | |
| 2A | Reed Rd | 24 | 14 | 24 | 62 | *23* | 12 | 16 | 28 | *14* | $2,800,000 |
| | North Rd | | | | | | | | | | |
| | Reed Rd | | | | | | | | | | |
| 3A | Gibsons Way | 51 | 32 | 27 | 110 | *7* | 16 | 18 | 34 | *21* | $900,000 |
| | | | | | | | | | | | $ 125,440,000 |

## MAE Scores and Ranking for Grouped Segments

| SEG Groups | Demand Weighted | Connections Weighted Adjusted | Support Weighted | Sum Total, Weighted | Rank, Weighted, |
|---|---|---|---|---|---|
| 4,5,6,7 | 49.5 | 25.5 | 36 | **111** | *1* |
| 18,19,20 | 44 | 18.0 | 35.3 | **97.3** | *2* |
| 1,2,3 | 46 | 23.3 | 14.7 | **84.0** | *3* |
| 16,17 | 33 | 16.0 | 20 | **69** | *4* |
| 1A,2A,3A | 33 | 19.3 | 16.7 | **69** | *4* |
| 21,22 | 42 | 8.0 | 16 | **66** | *6* |
| 13,14,15 | 31 | 20.7 | 14.0 | **65.7** | *7* |
| 8,9,10,11,12 | 33.6 | 16.8 | 12 | **62.4** | *8* |

| SEG Groups | Cost Weighted | Conflicts Weighted | Sum Total, Weighted | Rank, Weighted |
|---|---|---|---|---|
| 18,19,20 | 6.0 | 5.0 | **11.0** | *1* |
| 21,22 | 5.0 | 7.5 | **12.5** | *2* |
| 16,17 | 4.0 | 10.0 | **14.0** | *3* |
| 13,14,15 | 12.0 | 17.0 | **29.0** | *4* |
| 8,9,10,11,12 | 11.6 | 17.6 | **29.2** | *5* |
| 1A,2A,3A | 12.7 | 17.0 | **29.7** | *6* |
| 4,5,6,7 | 14.5 | 17.5 | **32.0** | *7* |
| 1,2,3 | 15.3 | 18.0 | **33.3** | *8* |

## Appendix F: Images showing Existing Typical, Best and 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 at the following address.
https://drive.google.com/drive/folders/1dsQurjXtSHWf5VmpiEUA2OSNcm1HnP4Z

SEGMENT 1 – Marine Drive: Langdale to Lower Gibsons



SEGMENT 2 – Gibsons Way: School Road at Marine Drive to North Fletcher at Highway 101

SEGMENT 3 – North Fletcher: Gibsons Way at Highway 101 to School Road at Marine Drive

SEGMENT 4 - Highway 101: North Fletcher to Payne


SEGMENT 5 – Highway 101: Payne to Hough

SEGMENT 6: Hough to King on Carmen Road

SEGMENT 7: King to Highland/Lower Road

SEGMENT 7: King to Highland/Lower Road

SEGMENT 8: Highland to Leek

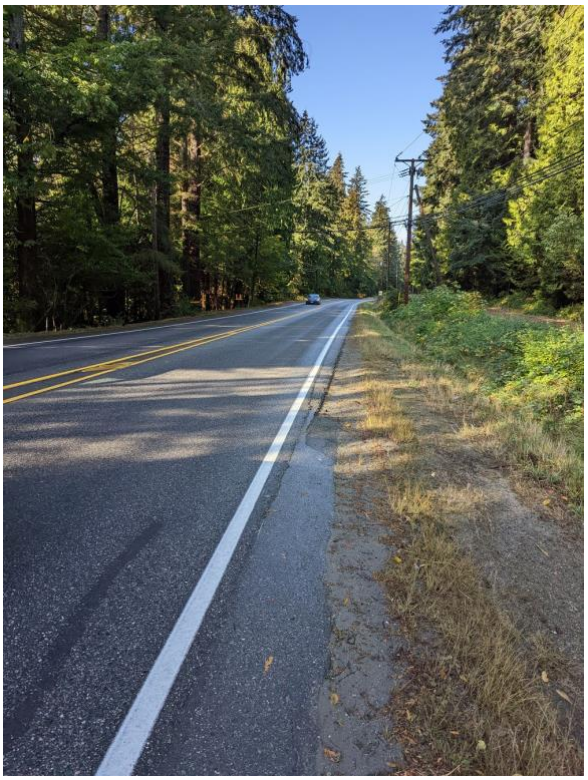
SEGMENT 9 – Leek to Orange/Joe

SEGMENT 10 – Orange/Joe to Malcolm Creek

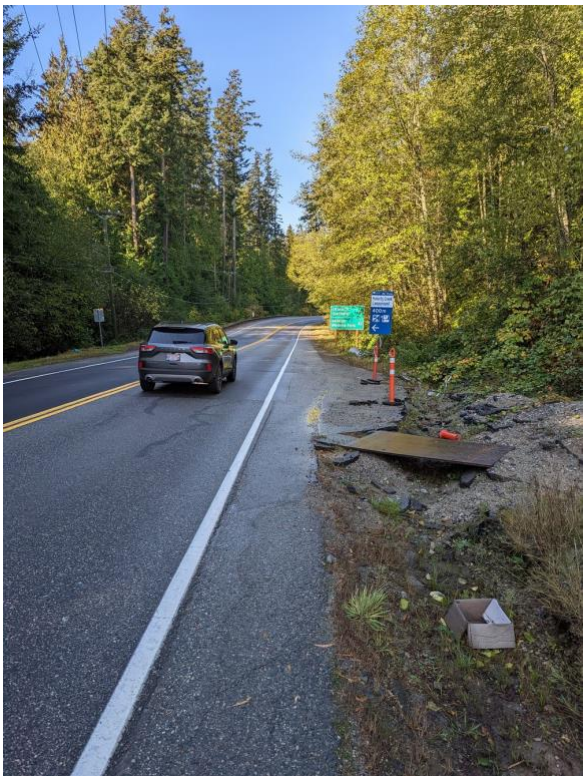

SEGMENT 11 – Malcolm Creek to Largo

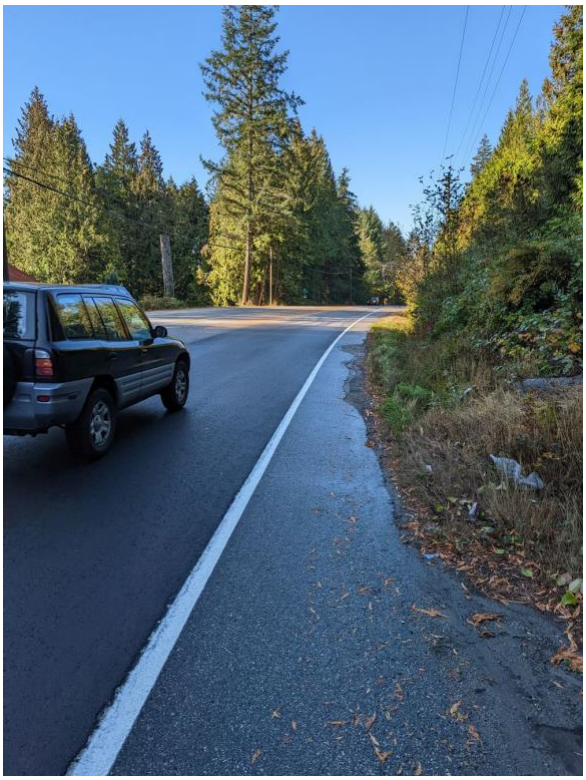
SEGMENT 12 – Largo to Roberts Creek Road


SEGMENT 13 – Roberts Creek Road to West of Pell



SEGMENT 14 – West of Pell to Jack Road





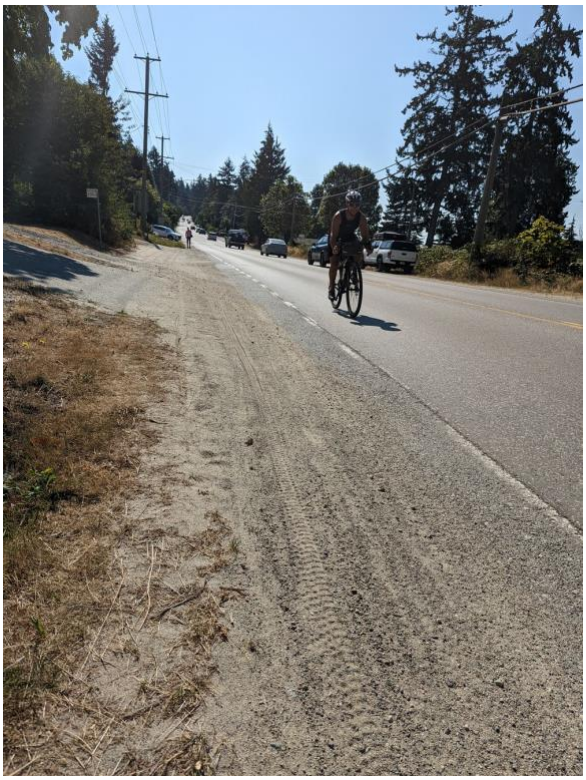
SEGMENT 15 – Jack to Field

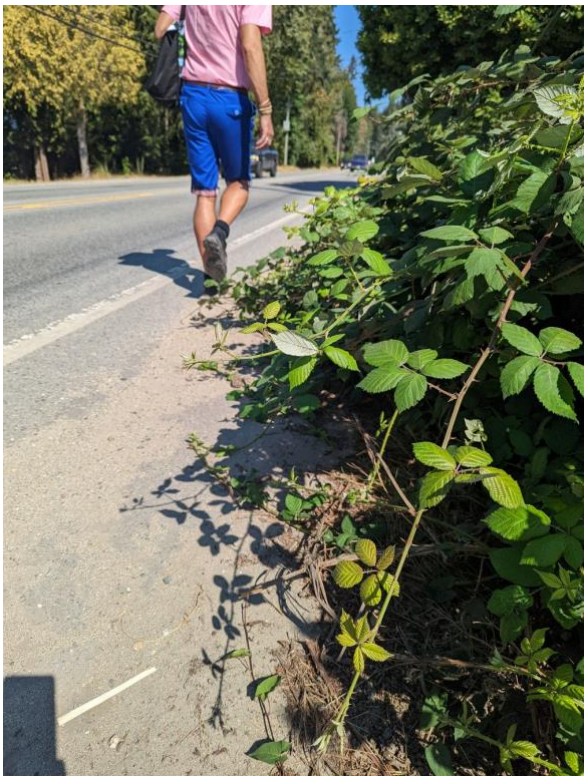

SEGMENT 16 – Field to Whitaker

SEGMENT 17 – Whitaker to Bay

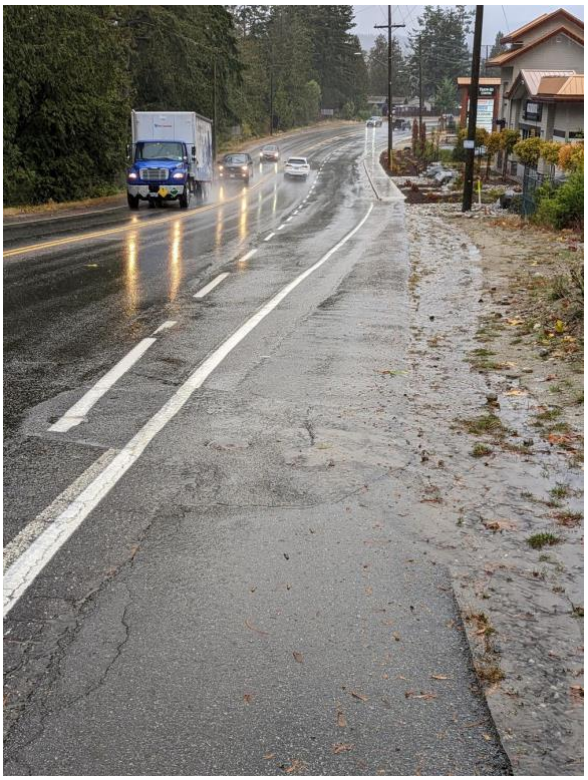
SEGMENT 18 – Bay to Havies


SEGMENT 19 – Havies to Chelpi





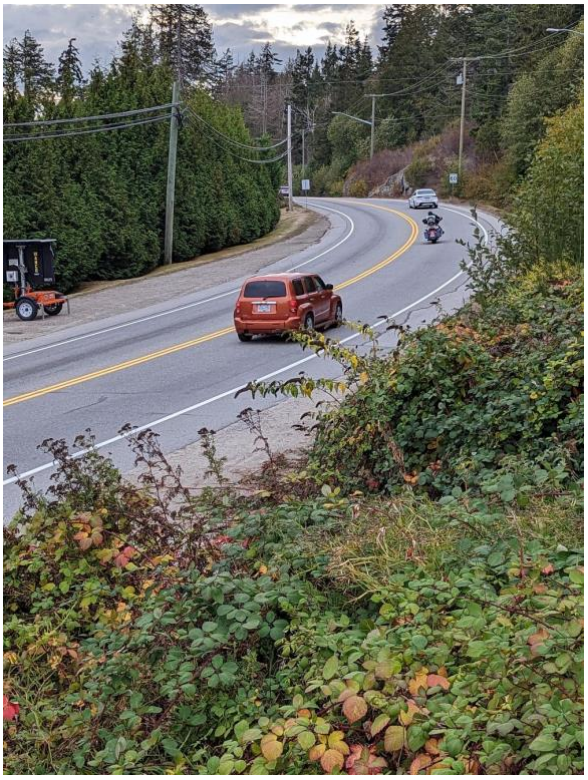
SEGMENT 19 – Havies to Chelpi (continued)



SEGMENT 20 – Chelpi to Wharf

SEGMENT 21 – Wharf and Teredo Streets: from Dolphin to Shorncliff

SEGMENT 22 – Shorncliff to Norwest Bay Road

SEGMENT 1A - Highway 101: Langdale Ferry Terminal to Stewart Road

SEGMENT 2A – Stewart Road and North Road: Highway 101 to Reed Road

SEGMENT 3A – North Road: from Reed to Gibsons Way

COMING SOON

Appendix G: Property Conflicts within each Segment of the Connect the Coast Route

| Segment ID | # of likely property conflicts, degree of conflicts |
|---|---|
| **1** | NA |
| **2** | 1 minor (565 Seaview Rd)<br>Local gvt lot that extends to middle of intersection (417 Marine, unscored) |
| **3** | NA |
| **4** | None |
| **5** | 1 Minor (1103 SCH) |
| **6** | NA |
| **7** | 7 Minor (1542 - 1572 Larchberry Way) |
| **8** | 1 Minor (740 Leek Rd) |
| **9** | 2 Major (2089 SCH, 2475 SCH) and 3 Minor |
| **10** | 4 Minor (2534, 2572 Miles Rd, and 2643, 2563 SCH) |
| **11** | 5 Minor (2781, 2945, 2897 SCH, 1152 Blackburn Rd, and PID 010053875) |
| **12** | None |
| **13** | 2 Minor (3299 SCH and 1319 Roberts Creek Rd) |
| **14** | 1 Minor (1570 Jack Rd) |
| **15** | 5 Minor (416 Browning, 4315 SCH, 4339 SCH, pid 005430861) |
| **16** | 12 Minor (4433 - 4595 SCH) |
| **17** | 6 Minor (4636 - 4648 SCH, 4684 SCH, 4748 SCH) |
| **18** | 5 Minor (4902 - 4908 SCH, 4913 Geer Rd, 5021 SCH, 5021 Geer Rd) |
| **19** | 60 Minor Conflicts |
| **20** | 2 Minor (5629 SCH and Band Lands) |
| **21** | 8 Minor (5559 - 5549 Wharf Ave, 5485 - 5477 Wharf Ave, 5454 Trail Ave, 5729 Teredo St), 1 Major (5655 Teredo St) |
| **22** | 6 Minor (5849 - 5860 Barnacle St, 5872 SCH, 6010 - 6014 Silverstone Ln, 6133 SCH) 1 Major (5860 Barnacle St) |
| **ALTERNATE ROUTES** | |
| **1A** | 1 possible (1405 Port Mellon Hwy is crown land with the existing hwy built on it) |
| **2A** | 1 Minor (1125 Stewart Rd) |
| **3A** | NA |