



Cortes Island Transportation Demand Study

Final Report

Prepared for
Strathcona Regional District

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Project No.
6150.01

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EXECUTIVE SUMMARY

The goal of this Cortes Island Transportation Demand Study is to explore strategies to increase and enhance transportation options for Cortes Island residents and visitors, with the intention of reducing the Island's contribution to greenhouse gas emissions.

To do this we conducted a comprehensive public engagement process led by Cortes Island residents. An advisory committee was formed to inform the public engagement process and to maximize public participation. Surveys specific for residents and visitors were undertaken. The public engagement process guided the study to examine a variety of potential initiatives and strategies for increasing transport options on Cortes.

Options were explored by our team and analyzed in terms of cost to implement, feasibility and potential impact.

Our recommendations include:

- Introduction of a Transportation Demand Management (TDM) Task Force;
- Introduction of a Car-stop program;
- Revitalization of the Green Rider program;
- Introduction of a bicycle repair station;
- Introduction of various cycling safety improvements;
- Introduction of a Bike hub including a bicycle electric charging station and other cycling related amenities;
- Introduction of an electric vehicle charging station;
- Funding support for existing initiatives such as Cortesrideshare.ca;
- Exploration of Quadra Island crossing opportunities;
- Introduction of a webcam at Whaletown ferry terminal; and
- Further study to generate pedestrian roadside and short-cut path development.

Many initiatives entail further cooperation between stakeholders such as the introduction of an electric vehicle charging station, exploring Quadra Island crossing opportunities and potential alterations to the ferry reservation system.

The success of all recommendations is contingent on support by local residents. Local resident group's best understand the context of Cortes Island and will be fundamental towards realizing the objectives of this study.

1. BACKGROUND

Bunt & Associates were retained to conduct a Transportation Demand Study for Cortes Island, BC. Bunt teamed with Max Thaysen and Kate Maddigan, both Cortes Island residents, to conduct this study. Max and Kate spearheaded local engagement activities and were widely involved with report preparation.

The goal of this study was to examine transportation strategies and initiatives that can increase mobility options and reduce greenhouse gas emissions on Cortes Island for residents and visitors.

The location of Cortes Island in a regional context is shown in **Exhibit 1.1**.

1.1 Report Structure

This report is structured with four sections, they are:

- Section 2) Cortes Island Transportation Context – Existing options for traveling to Cortes and on Cortes Island are described along with current guiding policies.
- Section 3) Public Engagement – The study’s public engagement process is described. Feedback from the Visitor and Resident Surveys and the public Open Houses regarding potential transportation demand management initiatives are presented.
- Section 4) Transportation Initiatives – Potential initiatives are described, primary opportunities and constraints are discussed.
- Section 5) Recommendations – A summary of the potential initiatives are presented as well as approximate costs to implement. A priority list is then presented describing who would potentially spearhead the initiative and steps towards achieving the initiative.



Exhibit 1.1 Cortes Island Location

Cortes Island Transportation Demand Study
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2. CORTES ISLAND TRANSPORTATION CONTEXT

Cortes Island is situated at the northern end of the Strait of Georgia in Desolation Sound, between Vancouver Island and BC's mainland. The island currently (2017) has about 900 full-time residents, with most living on the southern portion of the Island. During the summer months the Island's population increases substantially.

There are three major commercial centres on Cortes:

- Whaletown near the ferry dock on the west side of the island,
- Manson's Landing on the southern end, and
- Squirrel Cove on the east side, facing Desolation Sound.

Distance from the ferry terminal at Whaletown to the island's largest commercial, residential, and recreational area of Manson's Landing, is approximately 15 kilometers.

2006 Census data indicated that Cortes Island has an average of 2.4 persons per household, for which is slightly below the provincial average of 2.5 persons per household. This average is projected to decrease slightly in coming years as a result of changing family compositions, a declining birth rate, and a larger percentage of seniors within the community. Senior (65 years of age and over) residents on Cortes form the largest demographic accounting for 45% of the island population.

Cortes Island's Official Community Plan (OCP) of 2012, providing guidance for future development, refers to transportation throughout the document. One of its guiding principles includes:

"develop a transportation system that meets the needs of Island residents and visitors, yet does not detract from the area's rural Northern Gulf Island character....and to facilitate the use of alternative transportation by the provision of bicycle paths, foot paths, and ride share opportunities."

Section 304 of the OCP, under "Community Goals" states:

"To lessen dependency upon traditional carbon culture, reduce green house gas emissions, and increase self-sufficiency in local energy needs through the production of non-fossil fuel sources of power."

Section 401.2 of the OCP goes on to support sustainable transportation goals with these policy objectives:

- *Promote the use of public transit, including bus service, to and from Campbell River;*
- *Support the development of a Transportation Demand Management Plan;*
- *The community shall pursue alternative transportation initiatives, such as a community bicycle project, a car co-op, and application to various alternative energy pilot projects;*
- *Development of infrastructure to support the use of electric vehicles; and*
- *Creation of a "car-stop system" through the use of designated stations.*

2.1 Getting to and from Cortes Island

Various methods of transportation provide a link from Cortes Island and Vancouver Island. BC Ferries provides a regularly scheduled daily service, via Quadra Island, which is the most utilized method for both residents and visitors. There are also shuttle buses, water taxis, shipping companies, and seaplanes to transport people and goods.

The following table provides a comparison of transportation options, based on cost.

Table 2.1: Campbell River to Cortes Island Transportation Options and Costs

ONE ADULT, ROUND-TRIP, TERMINAL TO TERMINAL, WITH DISCOUNT FERRY FARES (EXPERIENCE CARD)						DISCOVERY LAUNCH WATER TAXI	CORILAIR FLOATPLANE FLIGHT
Hitchhiker/ pedestrian passenger	With bicycle	With motorcycle	Cortes Connection shuttle	With standard vehicle	Quadra Taxi		
\$14.05	\$14.05	\$31.85*	\$38.05	\$49.60*	\$54.05**	One way: \$30 to \$80**	One way: \$99 + tax

*Vehicle fuel and maintenance costs for travel on Quadra is not included. BC Government reimburses employees' private vehicle use at \$0.53/km. Terminal to terminal distance on Quadra is 8 km, therefore vehicle costs for round trip estimated at \$8.48.

** depends on number of passengers

2.1.1 BC Ferries

BC Ferry ridership monthly data for summer and winter periods for Whaletown (Cortes Island) to Heriot Bay (Quadra Island) is presented in **Table 2.2**. The data shows the substantial seasonal variation in ferry traffic.

Table 2.2: BC Ferry Vehicle and Passenger Data - Cortes Island to Quadra Island

TIME PERIOD	MONTHLY VEHICLES	MONTHLY PASSENGERS	PASSENGERS/ VEHICLE
July 2016	3,469	6,581	1.90
February 2017	1,578	2,760	1.75

Cortes Island has regular BC Ferry service that provides 45 minute connections to Quadra Island. From Quadra Island's Heriot Bay it is an approximate 8 km road distance to Quadra Island's Quathiaski Cove ferry terminal which has a 10 minute BC Ferry connection to Campbell River on Vancouver Island. Campbell River has all major services and amenities and is serviced with BC Transit service as well as regional transportation options.

Once on Quadra Island from either Cortes or Campbell River there is an approximately 15 minute period between connecting ferries to provide time for vehicle Island crossing. Approximately 15% of vehicles and passengers that travel to Quadra Island from Campbell River continue on to Cortes Island. There are few options for pedestrians, or "walk-on" passengers, to get across Quadra Island in time for the second ferry connection, aside from a taxi ride by Quadra Taxi & Tours, or a ride from Cortes Connection. It is, however, common for locals to ask vehicle drivers

in the ferry line-up who are making the same connection for a ride across Quadra. However, as mentioned above, most vehicles will not be traveling to the other ferry. Donations toward gas are typically not expected.

The fact that Cortes Island does not have a direct connection to a major commercial centre, presents a transportation challenge for many, while contributing to Cortes Island's character and charm. Finding a balance between increased transportation options while recognizing and protecting the unique rural character of Cortes Island is a key consideration herein.

2.1.2 Flights

Flights are available during the summer months between Cortes Island and various locations including Campbell River, Vancouver and Seattle. Seaplane flights (Kenmore Air Seaplanes, Corilair Seaplanes and Van City Seaplanes) connect with Manson's Landing on the southwest corner of Cortes Island or to Cortes Bay/Government Dock.

2.1.3 Shuttle Services

The Cortes Connection is a scheduled passenger and freight service travelling between Cortes Island and Campbell River and, Cortes Island, (with stops on Quadra Island) and has been in operation for more than twenty years. It uses modified Econoline passenger vans, seating eleven, with room for freight. They travel 5 days per week in summer, and 2 or 3 days per week in winter, with one round-trip per day. Price options are presented in **Table 2.3**. Reservations are recommended.

Table 2.3: Cortes Connection Fees

CAMPBELL RIVER TO/FROM CORTES (SAME DAY)	ONE WAY	RETURN
Adult	\$19.50	\$33.50
Senior / Student	\$17.00	\$30.00
Child	\$12.00	\$18.00
Just Ferry to Ferry Across Quadra		
Adult	\$12.00	-
Child	\$6.00	-
Just on Cortes		
Adult	\$12.00	-
Child	\$6.00	-

Prices do not include the ferry fare.

2.1.4 Water Taxi

Water Taxi service is provided by Discovery Launch Water Taxi (between Campbell River, Quadra Island and Cortes Island) and Lund Water (between the Sunshine Coast and Cortes Island). The cost of one way travel between Cortes Island and Campbell River can be as low as \$30 depending on the number of other passengers; the cost can therefore also be much higher and the service is reliant on other passengers. In addition to these water taxi services there are various Marinas on Cortes used for private water vessels and boat charters.

2.1.5 Personal Watercraft

Many visitors arrive to Cortes Island by personal boat during the summer months. This group represented 10% of visitor survey respondents. This group has limited land transport option and expresses desire for easier access to island goods and services.

While many residents have their own boats, few of them use this transportation option to access Campbell River and beyond as driving and using BC Ferries is found to be more convenient.

2.1.6 Courier Service & Shipping

Transportation Demand Management (TDM) emphasizes the movement of people and goods, rather than just motor vehicles. It is therefore worth considering shipping options as an alternative to vehicle use.

There are several ways to ship goods to and from Cortes Island. There are three shipping providers available to the Cortes public. Other shipping companies are used by retail businesses.

Shipping provider comparison for a 20 lb, 2'X2'X2' box, shipped from Campbell River is provided below in **Table 2.4**.

Table 2.4: Shipping options between Cortes Island and Campbell River

PROVIDER BETWEEN CORTES ISLAND & CAMPBELL RIVER	DETAILS FOR SHIPPING ITEMS (DOCUMENTS, GROCERIES, BUILDING MATERIALS, FURNITURE, ETC)	RATE COMPARISON FOR 20 LB, 2'X2'X2' BOX (MARCH 2017)
Canada Post	Regular post, post-office pick up, delivery within 2-3 days.	\$22.37 plus tax (regular post)
The Cortes Connection Passenger & freight service	Door-to-door, same-day delivery, three times per week in winter, five days per week in summer. Econoline passenger van "with considerable room for freight".	\$19.80 plus tax (also offers sliding scale rate)
Lane 8 Courier Service	Door-to-door delivery, twice per week for next-day delivery. 10' cube truck.	\$15 plus tax
Discovery Launch Water Taxi	Scheduled runs on Fridays, beginning in June Unaccompanied freight is welcome. Boats can take up to 5000 lbs of freight.	\$50 plus tax minimum charge depending on size

Groceries are a common reason for travelling to Campbell River. Interviews with local grocers indicated that the cost of groceries, is about equal to those in Campbell River, however many people shop in Campbell River for the greater selection. The grocers mentioned that shipping is a big cost of theirs, largely due to the ferry wait times.

Some residents avoid costly trips to Campbell River for groceries by ordering online and having a shipping provider deliver to their home on Cortes. Some residents have recently enjoyed online grocery shopping from large crockery stores in Campbell River, having \$300 or more in groceries shipped to Cortes for \$20. The grocery store can afford this due to the likelihood of multiple deliveries on Cortes at once. Shopping online for groceries is said to be “just like walking down a store aisle” and is considered preferable to the expense and time of ferry travel and spending a day in Campbell River. One shopper indicated that a consumer, however, needs to be aware of which stores retrieve ordered products from their store in Campbell River, rather than ship the entire order from some distant warehouse, the extra travel time from a distant warehouse does little to realize a reduction in energy use and carbon emissions.

2.2 Getting around the Island

The Island’s road network is shown in **Exhibit 2.1**. Roads on Cortes traverse a varied topography, resulting in many sharp turns and hillocks, narrow spots, and at times poor visibility. The island is generally hilly, therefore travel by bicycle requires a certain level of fitness.

Cortes roads generally have one travel lane in each direction. Cortes main collector roadways have variable width with a measured median width of approximately 6.3 m with unpaved shoulders which vary from 0 to 0.6m in width. No paved bicycle paths or sidewalks exist along Cortes roadways. There are several trails for mountain biking on the island for recreation; however these do not connect Cortes’s three major community/ commercial areas.

Hitchhiking is favoured by many residents and can be an effective method of getting around. Anecdotally, getting to work on time by relying on hitchhiking alone can prove unreliable, but several people spoken to during the public engagement process have been doing this for years and seem satisfied. Payments for the rides are not commonplace.

The Cortes Connection as described above in Section 2.1.3 provides an option for travel on Cortes Island along its scheduled interisland route.

Cortes Island Rideshare, a project of [Island Carshare Co-op](#), is designed to minimize the impacts of travel across Cortes Island, our region and beyond. The program has been growing and evolving for many years and is still struggling for widespread adoption. Many rides, offered or required, are currently advertised on the popular Cortes Tideline website. The Hollyhock Rideshare Board coordinates shared travel arrangements to or from Cortes Island.

2.2.1 Access to School

There is one publicly-funded kindergarten to grade 8 school on Cortes Island. It is located in the Manson’s Landing area. Children arrive by walking, bicycling, by car, or by school bus, which picks up children in Manson’s Landing, Whaletown and Squirrel Cove.

Children who desire public schooling beyond grade 8 are often re-located off-island where they reside either full or part time, with or without their parents.

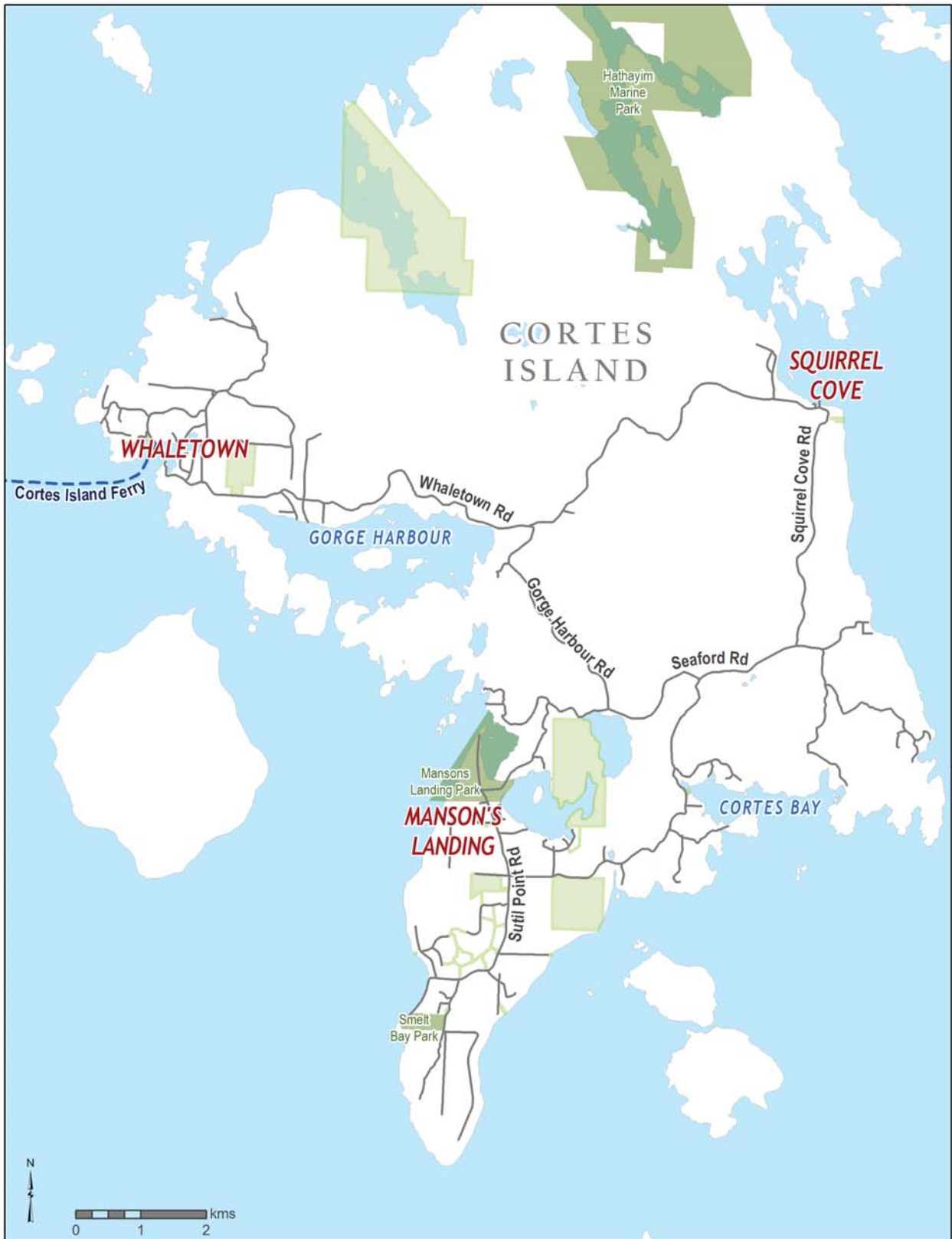


Exhibit 2.1 Cortes Island Roads

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3. PUBLIC ENGAGEMENT

Max Thaysen and Kate Maddigan, both Cortes Island residents led the local engagement process. Activities and initiatives include:

- Establishment of an advisory group – September 2016;
- Online discussion forum - September 2016 - June 2017;
- Visitor survey – September to October 2016;
- Open house 1 – November 2, 2016;
- Resident survey – December 2016 to January 2017;
- Open house 2 – March 26, 2017; and
- Stakeholder interviews - March 2017 to May 2017.

3.1 Advisory Group

The Transportation Demand Management Study's advisory group consisted of seven Cortes island transportation champions who have demonstrated previous interest and initiative toward improving transportation options in the community. We are grateful to the advisory group for all their work and support. They are: Sonya Friesen, Adam McKenty, Carrie Saxifrage, Barry Saxifrage, Noba Anderson, Oliver Kellhammer, and De Clarke. The group was asked to provide input and feedback on various aspects of the study, including recommendations and especially on the process of public consultation. The advisory group consulted with Kate and Max by email and in person. Their feedback was gathered regarding:

- Public consultation strategies to identify potential data gaps, and sensitive community issues;
- Visitor and resident survey design;
- Survey promotion, completion and collection;
- Building community interest and support for the project;
- Direction and results of the study; and,
- Exploring Cortes-specific transportation issues and solutions.

3.2 On-line Forum

An on-line forum was also created to facilitate more in-depth resident and visitor conversation regarding transportation on Cortes Island. Dozens of people participated and many good ideas, experiences, and concerns were shared. Topics and ideas included bike lane applicability, asking for rides on the ferry, lack of ferry reservation system issues, hitchhiking stories, experiences and success rates, and rideshare site promotion. These conversations helped confirm study scope.

3.3 Visitor Survey

A visitor survey was circulated to Cortes Island visitors in September and October of 2016. Visitors were defined as short-term visitors and seasonal residents. The majority of visitors were short term visitors with just 16 responses

(8%) staying longer than 6 weeks and most staying 1 week or less. Respondents were approached using the following methods:

- Businesses providing services to visitors were asked to share the online survey by promotion of social media and email lists. These included Tai'Li Lodge, Hollyhock, Cortes Island Vacation Rentals, the Seattle Yacht Club, and online boater forums.
- Paper copies of the survey were posted with drop-off envelopes at Gorge Harbour Marina, all five public docks, both community halls, the four grocery stores, Hollyhock, the museum, and the BC Ferry lounge.
- At the paper copy locations, respondents were invited to complete the survey online by accessing the online link or scanning the provided code. The online version of the Visitor's Survey was posted on the community website cortesisland.com.
- Visitors were approached in person on occasion at the ferry terminals and asked to fill out the survey.

A total of 224 Visitor Surveys were completed, representing approximately 650 visitors. Visitors travelling as a group were instructed to fill out one survey for the group. The survey is attached as **Appendix A**. Key transport related findings from the visitor survey are presented in **Exhibit 3.1**. A broader range of visitor survey findings are presented below.

- WHO - Approximately 57% of visitor respondents were in the 40-60 age category, 29% were in the 60 plus age group, 14% were ages 25-40 and 1% were ages 16-25. 42% of respondents were travelling with at least one dependant (families).
- TRANSPORT MODE GETTING TO CORTES - To travel to Cortes 80% of the respondents took a personal vehicle using BC Ferries. Approximately 9% came by personal boat, 3% by floatplane, 3% by water taxi, 2% hitchhiked, 2% came using a rental vehicle and 1% rode a bicycle (illustrated on Exhibit 3.1). Note the traveling to Cortes mode split data is considered insignificant due to sampling control these rates are, however, generally supported with independently calculated data using ferry vehicles, passengers, and float plane data.
- WHERE DID THEY STAY - Manson's Landing area was the location where most people lodged with approximately 22% of the responses, Gorge Harbour was second at 17%, followed by Whaletown at 15%, the remaining 46% of the respondents were widely spread throughout the Island (illustrated in Exhibit 3.1). The location of lodging was found to be spread throughout Cortes. The few areas of density are also a substantial distance apart. This presents difficulty for density related transport options such as shuttles and car-pooling initiatives. It is noted however that a route between Smelt Bay and Whaletown would capture approximately 66% of the surveyed visitors.
- HOW LONG DID THEY STAY- Approximately 54% of the visitor respondents spent one week or less on Cortes, 34% spend 1-3 weeks on Cortes, 8% spent more than 6 weeks on Cortes and 4% spent 3-6 weeks on Cortes (illustrated in Exhibit 3.1).

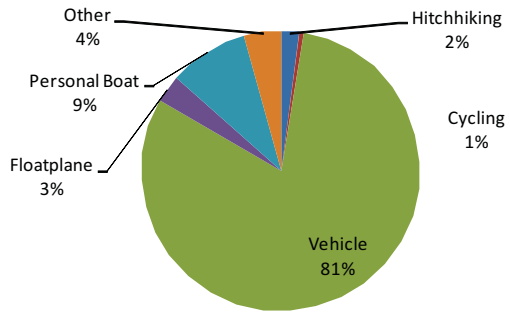
- TRANSPORT MODE WHILE ON CORTES ¹ - The visitor mode split while on Cortes was estimated at 53% by vehicle, 20% walking, 18% hitchhiking and 9% cycling (illustrated in Exhibit 3.1). 30% of visitors made at least one trip to Campbell River during their stay (in addition to passing through on route to Cortes).
- LENGTH OF ALL MODE TRIPS ON CORTES - Approximately 40% of total “all mode” trips taken by Cortes Visitors were estimated to be in the range of 1-3 km, a further 35% were estimated at an approximate 5km length, and 25% were described as 10-16 km in length.
- LENGTH OF VEHICLE TRIPS ON CORTES - Approximately 35% of vehicle trips taken by Cortes visitors were estimated to be in the range of 1-3 km, a further 40% were estimated at an approximate 5km length, and 25% were described as 10-16 km in length. The Island has a high percentage (75%) of vehicle travel distances at approximately 5km or less, suggesting potential for non-vehicle mode split increase.
- BARRIERS TO CURRENT MODES: Many barriers to using existing modes that were listed could be addressed with education/marketing, and increased impact of technology on items such as rideshare. The summer 'ferry wait-time' was offered as incentive to adopt alternatives. The majority of respondents listed no barriers to the existing modes of transport offered.
- DESIRE TO REDUCE PERSONAL CARBON FOOTPRINT - Over 78% of respondents declared that they were looking for ways to reduce their greenhouse gas emissions, 43% stated this as a strong desire.

Visitor respondents indicated their interest in the following transportation options by choosing 'quite likely', 'somewhat likely', or 'not very likely' to take regularly advantage of each. These are listed here in order of most “quite likely to take regular advantage of” selections. There were a total of 200 respondents.

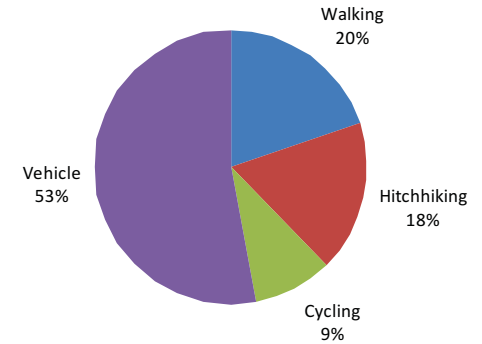
- Wider shoulders for walkers or cyclists (92 willing participants, 46% of respondents);
- Cycling – improvements to increase safety (49 willing participants, 25% of respondents);
- A scheduled min-bus service on Cortes (43 willing participants, 23% of respondents);
- E-bike/ moped rentals (31 willing participants, 16% of respondents);
- A shuttle across Quadra (29 willing participants, 15% of respondents);
- Ride-sharing (27 willing participants, 14% of respondents);
- Car-Sharing (22 willing participants, 11% of respondents);
- Cortes Taxi (20 willing participants, 10% of respondents);
- Water-taxi from Gorge Harbour to Manson’s Landing (19 willing participants, 10% of respondents);
- Designated car-stops for hitchhikers (16 willing participants, 8% of respondents); and,
- Infrastructure for electric vehicles (15 willing participants, 8% of respondents).

¹ Median value from trip number range used as factor to calculate total trips.

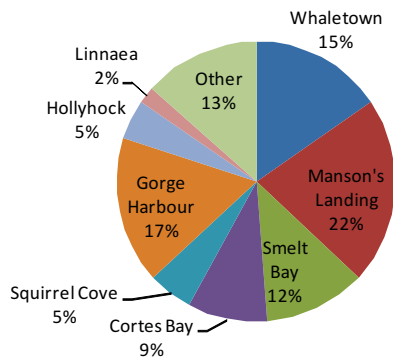
Transport Mode - Getting to Cortes



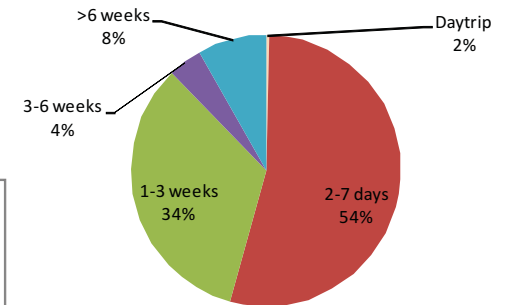
Transport Mode - While On Cortes



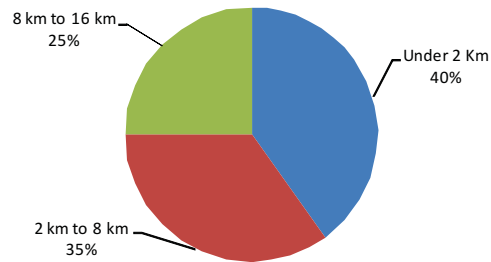
Lodging Location



Length of Stay



Visitor Travel Distance



Notes: 200 survey respondents

Exhibit 3.1 Visitor Survey Findings

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3.4 Resident Survey

A resident survey was circulated to Cortes Island residents in December 2016 and January 2017. Respondents were instructed to fill in one survey per household. The resident survey was provided on-line and in hardcopy, it was promoted using the following methods:

- Online survey advertised at cortesisland.com and for three weeks in the Cortes Marketer (local grocery flyer);
- Articles about transportation issues were posted at cortesisland.com and the opportunity was taken to remind people about the survey;
- Paper copies of the survey were mailed to every post office box on Cortes and could be returned by postage-paid mailbox drop;
- Paper copies were made available for pick-up at all retail outlets, on the ferry and post offices; and,
- Posters were posted at public places reminding people to fill out the survey by the deadline.

The survey captured a large cross-section of residents. Approximately 292 residents were accounted for in 150 surveys submitted (Survey instructions indicated one-per-household). The targeted group, full-time residents, was captured: 91% of the respondents declared spending 10 or more months per year on Cortes and 8% spending 8 - 10 months on Cortes per year.

The survey is attached as **Appendix B**. Key transport related findings from the resident survey are illustrated in **Exhibit 3.2**. A broader range of resident survey findings are presented below.

- WHO - The resident survey had 150 respondents, 45% were over the age of 60 which is fairly consistent with current demographics where approximately 39% are over 60 years of age. Resident respondents estimate that they spend on average approximately 10 - 15% of their income on transportation related expenses.
- WHERE DO THEY LIVE - 42% of respondents live in Manson's landing, 35% in Whaletown, 9% in Cortes Bay, 8% in Squirrel Cove and 6% in "other" areas. Based on this data a shuttle between Manson Landing and Whaletown could service approximately 77% of the Cortes population.
- TRANSPORT MODE WHILE ON CORTES - Resident mode split was estimated at 40% vehicle drivers, 18% vehicles with passengers (combined 58% vehicle mode split), 25% walking, 7% cycling and 3% hitchhiking (illustrated in Exhibit 3.2).
- SINGLE OCCUPANT VEHICLES - Approximately 69% of vehicle trips are single occupant trips.

- **LENGTH OF ALL MODE TRIPS ON CORTES** - Approximately 57% of “all mode” total trips taken by Cortes Island Residents are estimated to be in the range of 1-3 km, 21% were estimated at an approximate 5 km length, and 22% were described as 10-16 km in length.
- **LENGTH OF VEHICLE TRIPS ON CORTES** - Approximately 46% of personal vehicle trips taken by Cortes Island residents are estimated to be in the range of 1-3 km, 24% were estimated at an approximate 5 km length, and 30% were described as 10-16 km in length (illustrated in Exhibit 3.2). The Island has a high percentage (70%) of vehicle travel distances of approximately 5km or less, suggesting potential for non-vehicle mode split increase.
- **WHAT IS THE PURPOSE OF THEIR CORTES TRIPS** - Approximately 22% of the 3,185 total trips listed by Resident respondents were for shopping, 19% were for the post office, 16% were for recreation and 14% were for work (a full list of trip purposes are provided in Exhibit 3.2).
- **WHAT IS THE PURPOSE OF THEIR OFF_ISLAND TRIPS** - Approximately 26% of the 808 total trips off-island were for shopping, 13% were for medical care, 12% were for recreation and 9% were for banking (a full list of off-island trip purposes are provided in Exhibit 3.2).
- **DESIRE TO REDUCE PERSONAL CARBON FOOTPRINT** - Over 70% of respondents ranked their desire to find ways to reduce their personal carbon footprint at ≥ 8 out of 10 (10= very much) - and 43% were a 10/10.

Resident respondents indicated their interest in the following transportation options by choosing 'quite likely', 'somewhat likely', or 'not very likely' to take regularly advantage of each. These are listed here in order of most “quite likely to take regular advantage of” selections. There were a total of 150 respondents.

- Reservation system for the ferry (65 willing participants, 42% of respondents);
- Wider shoulders for walkers or cyclists (62 willing participants, 41% of respondents);
- A shuttle across Quadra (45 willing participants, 30% of respondents);
- Passenger ferry direct to major town centre (43 willing participants, 29% of respondents);
- Cycling – safer road travel (37 willing participants, 25% of respondents);
- Shuttle service to assist drivers who wish to leave their vehicle overnight in the ferry lineup (31 willing participants, 21% of respondents);
- A scheduled min-bus service on Cortes (27 willing participants, 18% of respondents);
- Designated car-stops for hitchhikers (25 willing participants, 17% of respondents);
- Public charging stations for electric bikes (15 willing participants, 10% of respondents);
- Cortes Taxi (12 willing participants, 8% of respondents);
- More transit in Campbell River (12 willing participants, 8% of respondents);
- Car Sharing (10 willing participants, 7% of respondents); and,
- Infrastructure for charging of electric vehicles (9 willing participants, 6% of respondents).

3.5 Visitor and Resident Survey Data Analysis

Most popular transportation improvement initiatives for Cortes residents and visitors concerned improved safety for pedestrians and cyclists. Residents also expressed a strong interest in a reservation system for ferries leaving the Island. Visitors had similar desires as residents with the addition of more short term services such as bicycle and moped rental options.

A combined priority list of options selected by residents and visitors is provided below:

- Wider shoulders for walkers or cyclists (154 willing participants, 44% of respondents);
- Cycling – improvements to increase safety (86 willing participants, 25% of respondents);
- A shuttle across Quadra (74 willing participants, 21% of respondents);
- A scheduled min-bus service on Cortes (70 willing participants, 20% of respondents);
- Designated car-stops for hitchhikers (41 willing participants, 12% of respondents);
- Ride-sharing (39 willing participants, 11% of respondents);
- E-bike/ moped rentals (32 willing participants, 9% of respondents);
- Car-Sharing (32 willing participants, 9% of respondents);
- Cortes Taxi (32 willing participants, 9% of respondents);
- Infrastructure for electric vehicles (24 willing participants, 7% of respondents).

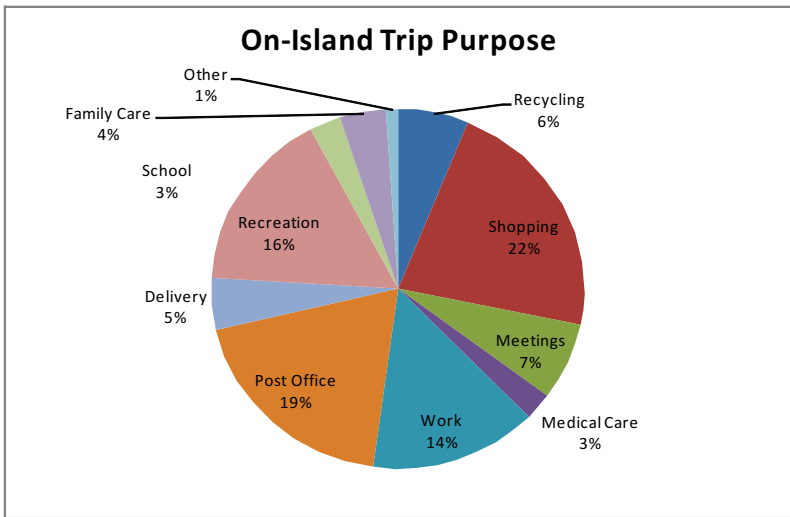
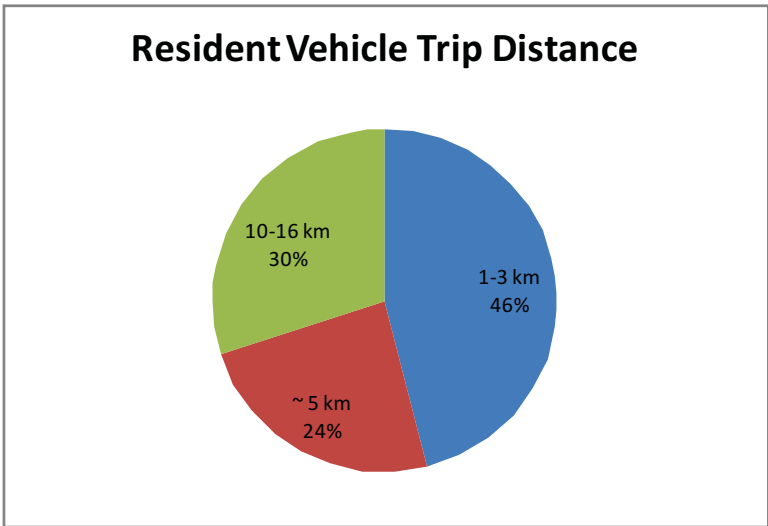
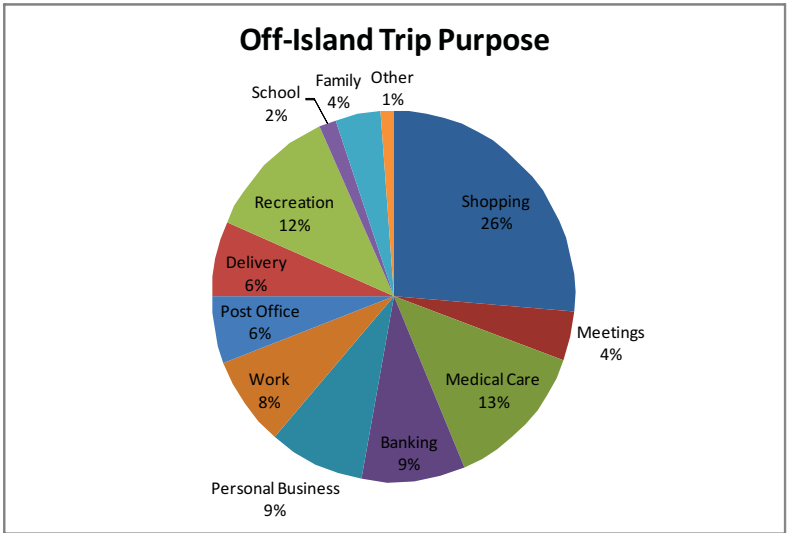
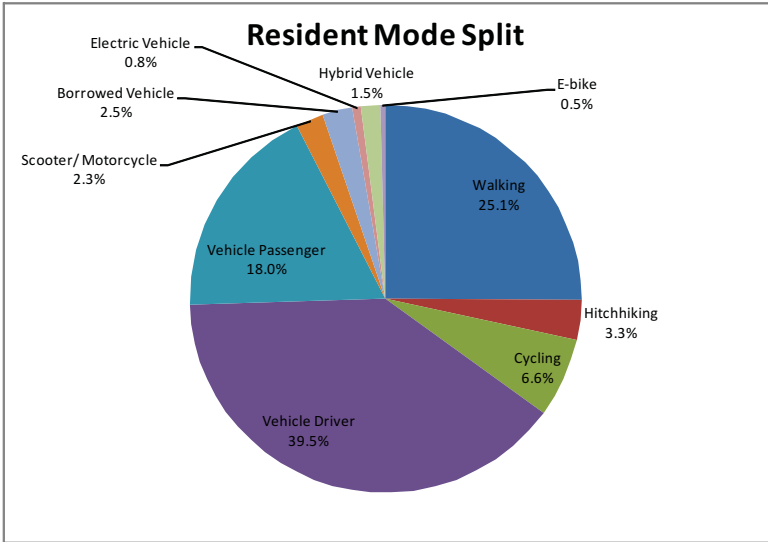
Many desires for both residents and visitors are items that are typically driven by private investment. These initiatives, such as the desire for passenger ferry or taxi routes may be realized through private business case development. However, other models exist for non-profit, social enterprise to partner with regional government to provide access to services.

3.6 Stakeholder Interviews

Many businesses, groups and individuals were sought out for interviews to explore in greater detail their transportation experiences and the challenges they or their customers encounter.

The Seattle Yacht Club expressed their boaters' frustration at the difficulty of reaching a retail store from Cortes Bay. Cyclists described their experience on the roads of Cortes. The Cortes Connection and Lane 8 shared details of their businesses and their role in the community. The Harbour Authority entertained the possibility of combining their regular route around the island with a shuttle service. The RCMP discussed road safety issues. The Klahoose First Nation Chief and council expressed that their members are well-served by their transportation options. The water taxis described the range of their services. The BC Ferry Advisory Committee shared the latest on upcoming ferry changes. Electric cyclists shared their experience with that mode. Regular hitchhikers reported on their successes. Local retail outlets expressed the competitiveness of their prices and impacting transportation issues.

Potential partnerships with the mentioned stakeholders are presented in Section 5.



Notes: 150 survey respondents

Exhibit 3.2 Resident Survey Findings

Cortes Island Transportation Demand Study
6150.01 August 2017



3.7 Open Houses

The two open houses allowed for discussion and increased context over the surveys. The first open house was conducted after the visitor survey had been released and prior to the resident survey.

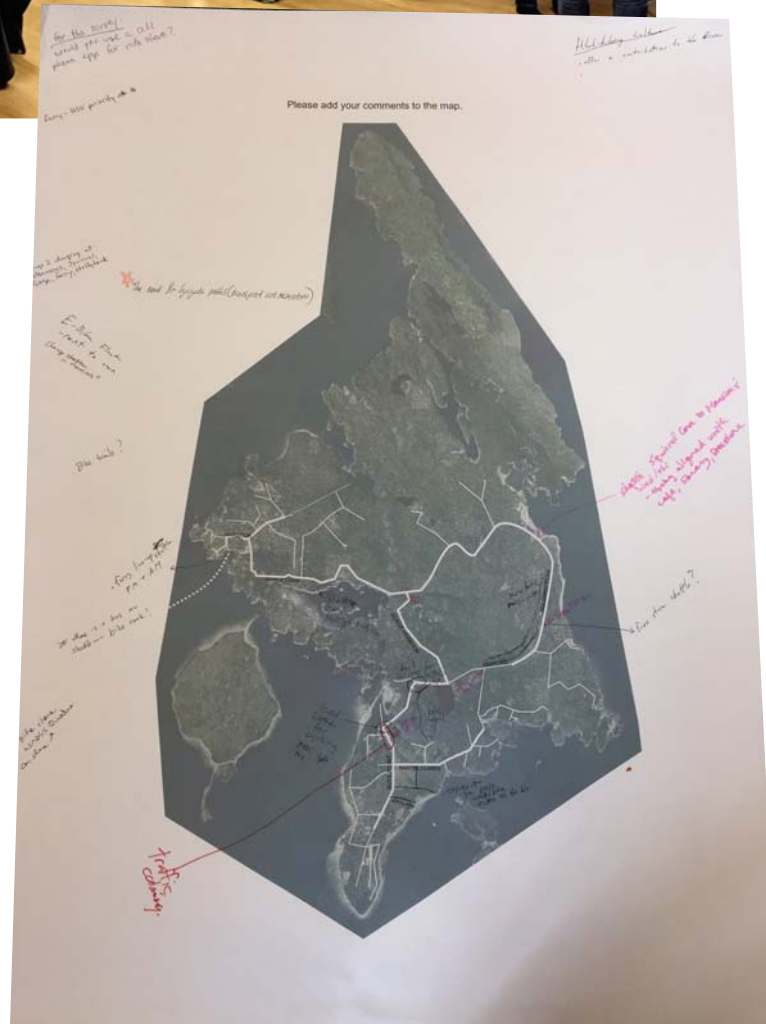
The people of Cortes were invited by word-of-mouth, postings on message boards outside stores, three weeks of advertisements in the local flyer and articles of interest on the community website, cortesisland.com.

On November 2, 2016 the first open house was held at the Gorge Hall on Cortes Island, it attracted approximately 24 visitors. The goals of the first open house were to initiate contact with Cortes residents to gather ideas and suggestions for new initiatives, and issues/concerns relating to transportation on Cortes Island.

A second open house was held on March 26, 2017 at Manson's Landing on Cortes Island, it attracted approximately 16 visitors. Goals of the second open house were to stimulate further discussion on the identified and researched potential transportation initiatives and to present the findings of our visitor and resident surveys.

We believe the attendance of both open houses was impacted by the breadth of other opportunities for participation such as the surveys, advisory group meetings, the on-line forum, and stakeholder interviews.

Photos and notes from Open House One and Two are presented in **Exhibits 3.3** and **3.4** respectively.



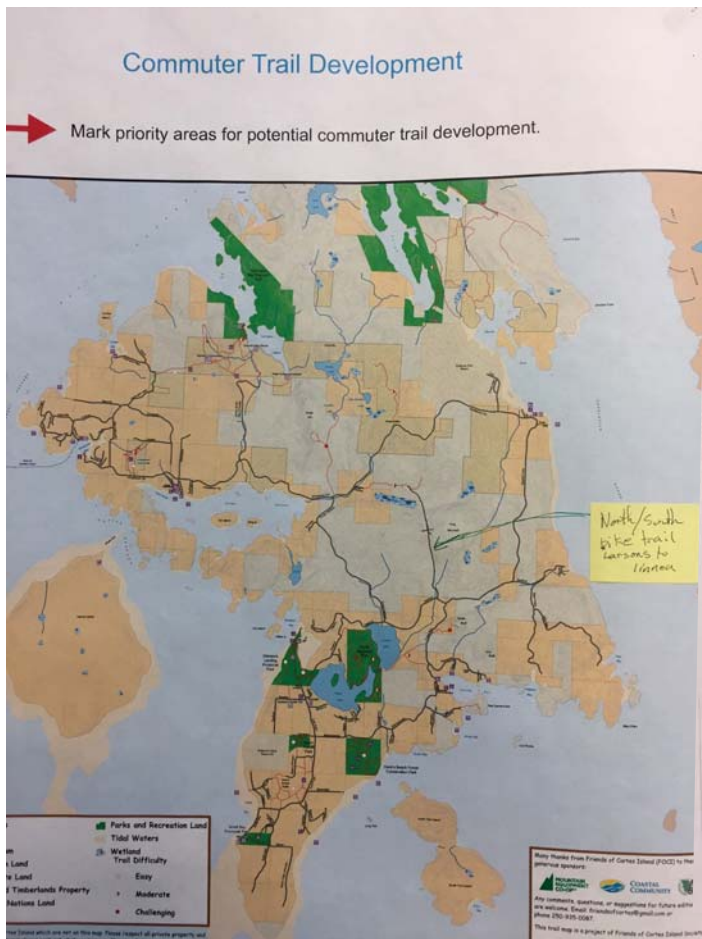
Comments Posted Counter Clockwise.

- Ferry HOV Priority
- Stage 2 Charging at: Manson's Squirrel, Gorge, Ferry, Hollyhock.
- Need bike paths, commuter not recreational.
- E-bike Fleet - rent to own. Charge Station at Manson's.
- Bike Trails?
- Ferry Line-up shuttle PM and AM.
- If there is a bus or shuttle - add bike rack.
- Bike share across Quadra, Or car-share.
- Traffic calming (arrow to Manson's Landing area).
- Shuttle for Gorge music.
- Bad corner for cycling.
- Easement for more walk and bike route to Hollyhock.
- Bad area for bikes.
- Add bike trail.
- Free store shuttle.
- Shuttle Squirrel Cove to Manson's Wednesday and Friday timing aligned with café, library and free store.
- Hitchhiking culture - offer a contribution to the driver.

Exhibit 3.3 Open House 1

Cortes Island Transportation Demand Study
6150.01 August 2017





Car Stops

- Similar to a bus stop, ideally there is space for a pull-out.
- They can include amenities such as a bench, shelter, maps.
- They indicate support for hitchhiking, increase visibility and social legitimacy of hitchhiking.

Write your ideas:

If so, then where? Mark on map

Hitchhiking Public Education

- Promote safe hitchhiking, best practice or etiquette.
- Help advertise to newcomers the accepted presence of this practice.

Write your ideas:

Revitalize Green Rider Program

- The program involved the distribution of stickers for car windows of those willing to pick-up hitchhikers and make riders more comfortable asking for rides.
- Consider rejuvenation of this low-cost program designed to encourage more hitchhiking and pickup of hitchhikers.

Write your ideas:

Rideshare Programs

- Cortes Rideshare is the existing on-line program which does not get a lot of use, however the survey revealed many were not fully aware of it.
- Consider creating incentives for Rideshare drivers to increase rides offered.
- On-demand ride services such as Uber use location-based apps that enable hiring on on-demand private driver, these often mobile based apps require good cellular service.
- Improvements to cellular service are anticipated over time, however active lobbying for increased service remains a contentious item for some Cortes residents. The OCP identifies better coverage as a priority. The SRD is working on better coverage based on a broad resolution.
- Pursue designated driver program, likely to be volunteer based endeavor targeting major community events.

Write your ideas:

Super-Drivers

- Drivers with regular routes voluntarily post their schedules and offer rides, driving down the uncertainty of finding a ride.
- Could be member-driven if security is a concern.

Write your ideas:

Island Car-Share Co-ops

- To encourage transportation sharing by fostering shared ownership of cars, vans, trucks and bicycles.
- Allows use of vehicles on a short-term basis, paying only for the time/km's used, with low monthly membership charge.
- Co-ops are typically privately operated. Could dovetail with a privately owned and operated vehicle rental service.

Write your ideas here:

Pender Island - Car Stop
 TAP form for the car less
 Please explore, Yes!
 Just for 1st Ferry
 Marketing blitz
 Found language on ride-share site confusing - wasn't sure where to post my request. Consider changing language to "to Cortes" and "from Cortes"
 *Taxis will work with the province to connect 100% of British Columbia 10 years from the commencement of - stipulated in BC's 2011 10 y

Foot Passengers Traversing Quadra Island

- Explore partnering with existing passenger shuttle providers (Holyhock, Cortes Connection) to provide service on Quadra.
- Explore partnerships with Quadra groups (i.e. Quadra Circle, Chamber of Commerce, Mudge Band).
- Consider revitalizing Green-Rider Program (discussed on other board).

Write your ideas:

Ferry Reservations

- Would need to limit number of reservable spaces.
- Concerns regarding fairness and equality, those without internet service at disadvantage.
- Would require separate line-up area/ space.
- Would need BC Ferry coordination for reservation processing.

Write your ideas here:

Shuttle Bus on Cortes

- Likely to have insufficient ridership due to Cortes population and density.
- Difficult for BC Transit involvement due to their ridership criteria and need to have drivers and buses return to Campbell River.
- Potential opportunity for private service during summer months with consideration of boater demographics.
- Potential opportunity to partner with existing amenities such as the school bus, public dock inspections and/or existing passenger transport providers.

Write your ideas here:

Island Car-Share Co-ops

- To encourage transportation sharing by fostering shared ownership of cars, vans, trucks and bicycles.
- Allows use of vehicles on a short-term basis, paying only for the time/km's used, with low monthly membership charge.
- Co-ops are typically privately operated. Could dovetail with a privately owned and operated vehicle rental service.

Write your ideas here:

Please explore, Yes!
 Just for 1st Ferry
 Marketing blitz
 Found language on ride-share site confusing - wasn't sure where to post my request. Consider changing language to "to Cortes" and "from Cortes"
 *Taxis will work with the province to connect 100% of British Columbia 10 years from the commencement of - stipulated in BC's 2011 10 y

Comments Posted Above

Left Poster

- North/ South bike trail Larsons to Linnea.

Centre Poster

- Rideshare shelters, bike shelters.

- How much money is BC Ferries losing? Better of people leave cars behind (for BC Ferries).

- Ratings for drives and riders (rideshare).

- Marketing blitz (rideshare).

- TAP form for the carless.

- Found language on ride-share site confusing - wasn't sure where to post my request. Consider changing language to "to Cortes" and "from Cortes"

Right Poster

- Please explore, Yes! (ferry reservations).

- Just for 1st Ferry (ferry reservations).

- Carstops at cell service (signs of cell service).

Exhibit 3.4 Open House 2

Cortes Island Transportation Demand Study
6150.01 August 2017



4. TRANSPORTATION INITIATIVES

Several transportation initiatives were identified as being suitable to the Cortes Island context. They were discussed during the public engagement process and are presented below in no particular order.

4.1 Transportation Demand Management Task Force

Transportation Demand Management (TDM) describes the overall effort to reduce demand and dependency on single occupancy vehicle use. A TDM Task Force group can assist or oversee a variety of initiatives described within this report. A TDM Task Force would continue to engage with SRD and the Cortes Island community. They would help facilitate TDM initiatives and provide information regarding Cortes Island transportation options.

Appointing a TDM Task Force will help to focus various potential initiatives into prioritized action items. The coordinator or coordinating group would be responsible for developing, implementing and maintaining TDM programs. They would establish mode split targets, monitor progress and allocate available funds to various initiatives. A potential structure for a TDM Task Force is discussed in Section 5.1.

4.2 Bus/ Shuttle Transit

Public or private shuttle service or bus service could be internal to Cortes Island or its routing could include service on Quadra Island hence providing a connection to Campbell River. A discussion for each route type is presented below.

4.2.1 BC Transit Cortes Island Only Shuttle

Bus service on Cortes Island would presumably connect major Cortes Island destinations using a loop service with potential destinations being the Whaletown ferry terminal, Squirrel Cove and Manson's Landing. A full loop trip distance would be approximately 40km.

Obstacles

Greater Vancouver's TransLink quotes a minimum population density of 20 residents per hectare to support a community shuttle². If just the southern half of Cortes Island (6,500 hectares) is considered this method would equate to a required population base of approximately 13,000 residents, which is well over current Cortes Island population levels of approximately 1,000 residents. This suggests that an on-Island only shuttle would have difficulty reaching required ridership levels necessary to justify service.

Average operating cost for BC Transit Regional Transit Systems was \$106 per service hour in 2014/15³. If a bus service was provided for 8 hours per day, one day a week for 52 weeks the annual costs would equate to

²http://www.translink.ca/media/Documents/plans_and_projects/transit_service_guideline/Transit%20Services%20Guidelines%20Public%20Summary.pdf

³ <https://bctransit.com/servlet/documents/1403643424968>.

approximately \$44,000 (or approximately \$50,000 if ferry costs are also included in the route). This does not include capital costs of purchasing a bus.

In general BC Transit is funded 52% by provincial transfers, 28% from local government and 17% from bus fares (3% other)⁴. To achieve this 17% fare revenue level, revenues would need to be approximately \$163 per week which equates to approximately 10 riders per day at a \$2.50 fare. Again, this does not include costs of purchasing a bus.

The survey and open houses found considerable concern that a subsidized bus or shuttle service could unfairly compete with the existing Cortes Connection business.

Many comments in the residents' survey indicated primary barriers to using the Cortes Connection is its limited scheduled service and its price. Cortes transportation advocates, and survey results support the idea that subsidizing the Cortes Connection to make its service more financially accessible and more frequent would be a constructive step towards providing bus like service on Cortes without competing with the existing service. Alternatively promoting the Cortes Connection could result in increased use and subsequently increased service.

4.2.2 Non – BC Transit Options

Augmenting non-BC Transit existing services could take the form of:

- Cortes Connection augmentation or promotion;
- Using the Island's school bus or potentially increase the operation of the school bus's current runs to include regular citizen pick-up/ drop-off;
- Coordinate with Harbour Authority's regular daily route around Island;
- Volunteer-operated bus, operated once or twice per week, following example of other Gulf islands;
- Engage with ride-hailing service to provide public transport⁵,

Primary opportunity over a multiple-island transit service is that the vehicle and driver would not need to return to off-Island locations.

Priority target time periods for bus service would be Monday and Thursday, which are the heaviest ferry usage days for Cortes residents.

⁴ https://bctransit.com/*/about/facts/regional

⁵ Example: www.thestar.com/news/gta/2017/04/03innisfil-taps-uber-to-fill-public-transit-void.html

Cortes Connection

The Cortes Connection already has service for trips from Cortes to Campbell River. The Cortes Connection does same-day runs to Campbell River three times per week in the winter (Monday, Wednesday and Friday) and 5 days per week in the summer (Monday to Friday). For door-to-door service, adults pay \$19.50 one way, \$33.50 return, not including ferry fares, with reduced rates for seniors, students and children. "Ferry to ferry" service, or rides across Quadra one way are \$12.00 for an adult. For rides on Cortes only, adults pay \$12.00 (refer to Table 2.1 for complete list of fare prices). Further information at <http://www.cortesconnection.com/fares.php>. The Cortes Connection also provides shipping services.

Efforts to expand this service could be undertaken, which could involve subsidizing service or promoting the service. Supporting Cortes Connection could increase ridership which may allow for lowered prices and increased service. Currently price comparison between private vehicle use and Cortes Connection is not great: for an adult passenger travelling round trip to Campbell River on the Cortes Connection is \$47.55 for door-to-door service, compared with one adult using their own vehicle round trip which is calculated at approximately \$58.00 (including crossing Quadra Island mileage costs). It is noted that there is little precedence of using public funds to subsidize private business in efforts to increase service or lower prices.

Survey Comments regarding Cortes Connection

"it's a service on Cortes that ships goods and people from our southern settlement through the rest of the island and across to CR. Great service."

"they'll run errands like paperwork or whatever you want, they'll even pay for an item for you and collect later."

"under-utilized"

"operators are very knowledgeable and passionate about Cortes transportation issues."

School Bus

Cortes Island's school bus does two trips around the island per weekday during the school year.

School District 72 can be engaged to explore the potential to share the use of their school bus. Though currently it operates under a school bus permit, designated for school district registered students, with increased insurance considerations for other uses. Sharing may take the form of use by the Island's Carshare program or potentially a review of the logistics of hitchhiker pick-up during return journeys when students are not on the bus.

Harbour Authority

The Harbour Authority regularly (daily) sends a vehicle around to all five Cortes Island government docks. This regular routing around the Island may present an opportunity to provide a driver for regular pick-up of hitchhikers if the Harbour Authority was able to overcome insurance obstacles. Exploring potential synergies with this existing regular vehicle route is encouraged.

4.2.3 BC Transit Operated Inter-Island Transit Connection

Our visitor and resident survey found strong desire lines between Campbell River and Cortes Island destinations. A transit route connecting Cortes Island's major areas with Campbell River would need to originate on Cortes Island which presents the constraint of having a transit vehicle and driver on Cortes Island to begin the service day.

A potential route to service the travel requirements of Cortes Island residents would begin on Cortes Island with an approximate 6:30 AM departure from Smelt Cove, then travel to Manson's Landing, Squirrel Cove, Whaletown, then board the 7:50 Whaletown to Heriot Cove Quadra Island ferry, cross Quadra Island, then board the 9:00 AM Quathiaski Cove to Campbell River ferry. Return service would be provided during the afternoon period.

Obstacles

To allow the bus to originate and terminate service in Campbell River would require an additional service run to Cortes Island from Campbell River during the prior evening and a return to Campbell River in the evening of the service date. Both are major obstacles, the first a logistic and monetary cost of staging a bus and driver overnight on Cortes Island and the second difficult as a shuttle bus traveling back to Campbell River would need to leave Cortes by 5:50 PM to meet BC Ferry scheduling.

A route that began in Campbell River would essentially need to make two round trips in one day in order to provide Cortes Island residents the opportunity to make a day visit to Campbell River. Due to current BC Ferry scheduling this route would result in very little time in Campbell River and therefore would defeat a primary purpose of the route.

Examples

Both Bowen Island and Texada Island have BC Transit operated bus service linking to off-island destinations. Bowen Island has a population base of approximately 3,500 with a substantial percentage of off-island commuters making it a difficult comparison with Cortes Island⁶.

BC Transit provides a Texada Island to Powell River route one day per week⁷. The bus route begins in Powell River and takes the ferry to Texada Island where it continues its route to Shelter Point and then returns to Powell River. The round trip is completed twice every Thursday. The population of Texada Island is 1,200 which is just slightly higher than Cortes Island. Incorporating potential ridership on Quadra Island with its population of approximately 2,500 residents presents the potential for ridership levels greater than Texada Island.

⁶<https://bowenland.civicweb.net/document/110137/BOWEN%20ISLAND%20Final%20Report%20Stantec.pdf?handle=2D45287B2CB84B7AB3EFC1EE39241702>

⁷ <https://bctransit.com/powell-river/schedules-and-maps/route-overview?route=13>

4.2.4 Quadra Island Traversing Bus Connection

Many survey respondents stated the most effective and simple way to reduce Cortes Island's carbon footprint and enhance transport sustainability is to focus energy on a cross-Quadra bus or shuttle service.

A consistent and dependable route across Quadra Island would allow Cortes residents to walk on the Whaletown to Quadra and Quadra to Campbell River ferries as they could be dropped off/ picked up at the Cortes ferry and use Campbell River's BC Transit system to reach Vancouver Island destinations.

We received various comments at the open houses and in the Resident Survey confirming that the Quadra Island crossing is indeed a major barrier for many Cortes residents:

Survey Comments:

"If a service was available to shuttle us across Quadra that would be awesome, you wouldn't have to bug people for rides. Some sort of bus system on Cortes would be handy for people who don't drive or can't afford a vehicle etc..."

"It is the across-Quadra stretch that discourages me from going to Campbell River."

A shuttle bus service over Quadra Island may be more feasible than a Cortes Island route considering the opportunity to also incorporate Quadra Island resident ridership.

Current options for foot-passenger travel across Quadra Island are walking, hitchhiking, the Quadra Island Taxi, and the Cortes Connection which operates a passenger van (same day service three times per week in winter and 5 days per week in summer).

Quadra Crossing Opportunities

One opportunity to increase existing services is to support the Cortes Connection with funding to assist with growth opportunities if they in fact desire growth. Respondents have suggested a second vehicle, which could ideally provide a second daily trip. Exploration of requirements for the Cortes Connection to obtain another van and hire more drivers can be explored with Cortes Connection operators.

Survey Comment:

"Twice as many Cortes Connection runs (perhaps on the first, second and last two ferries on the return) would provide a better contingency and flexibility for Cortes residents. Respondents also would like the fares to be congruent with what BC Transit charges."

Quadra Island School District 72's Route 10 bus runs High School and Elementary runs in the AM and PM. The High School for Quadra children is in Campbell River. The Elementary school is on Quadra Island near the Campbell River ferry. The High School run ends at 8:40 AM and the PM run ends at 4:53. Opportunities to have the bus

conduct one or two cross Island (ferry to ferry) trips could be explored with the School District. Funding for the additional driver and bus time would need to be compensated by rider fees and/ or subsidized by SRD.

Emerging new public-private partnerships that could be suitable to the cross-Quadra connection are being tested in a various locations in Canada. For example in Innisfil, Ontario, the regional government is running a pilot project where they subsidize Uber rides within the region. This lowers the cost of the rides for the citizens from \$15-20 to \$3-5, or about equivalent to bus fare. In that example the cost of operating a low ridership transit system in a rural community is in the millions, while the subsidies to Uber are costing \$150k. The on-demand public transport is more flexible, operating at all times and it is more efficient with regards to greenhouse gas emissions⁸. With unknown and inconsistent ridership across Quadra, UberPool could provide the kind of on-demand service to fit the Island's need. A similar subsidy could potentially be offered to The Quadra Taxi, although during our public outreach they've expressed insufficient resources to meet the needs of customers in winter.

Community leaders on Quadra Island were contacted for their views on current Quadra transportation perspectives and initiatives. To explore opportunities to include a Quadra Island ferry to ferry cross Island service should be explored further with Quadra Island organizations such as:

- Quadra Circle;
- Chamber of Commerce;
- Mudge Band;
- Discovery Island Newspaper;
- School District 72; and,
- Quadra Island Regional Director.

⁸ <https://innisfil.ca/mygovernment/planningforourfuture/BringingTransittoInnisfil>.

Gabriola Island – Gertie Bus Service Case Study

Gabriola Island located approximately 5 km east of Nanaimo has a population of approximately 4,000 residents. The [Gabriola bus](#) came into being in June of 2013, after an advocate group undertook a 3-year pilot project to ascertain feasibility of a permanent bus service on Gabriola. Using volunteers for driving and administration, capital funds were secured from the Regional District of Nanaimo (RDN) administered Community Works Fund, donations made by community members, and funding from BC Hydro, the project has been a resounding success. On February 13, 2016, 66.9% of ratepayers approved tax support for Gertie, the community-run public bus through a [referendum](#). The approved budget for June-December 2016 and 2017-2018 provides service at current levels with paid drivers.

The Gabriola bus group in 2013 tried to get BC Transit included in their funding, but BC Transit had a funding freeze and didn't approve expansion. They also tried to piggy-back on Nanaimo Transit's BCT funding, but that was unsuccessful.

Gabriola believes they are better off not to be part of BC Transit because their funding requires specific (large) vehicles, and union drivers which don't work well in a rural setting.

Gabriola Proposal to the RDN 2012: <http://gabriolacommunitybus.com/wp-content/uploads/2017/01/gabriola-shuttle-bus-proposal-july-2012.pdf>

BC Transit Feasibility Study for Gabriola Island 2010 (with community context):
<http://gabriolacommunitybus.com/wp-content/uploads/2017/01/bc-transit-feasibility-study.pdf>

Gabriola's Proposal to the Community Works Fund 2013: <http://gabriolacommunitybus.com/wp-content/uploads/2017/01/gabriola-community-bus-proposal-january-2013.pdf>

Mayne Island

Bus Service Case Study

Mayne Island is a 21-square-kilometre island in the southern Gulf Islands chain of British Columbia. It is situated midway between the Lower Mainland of BC and Vancouver Island. It has an estimated population of just over 1,000.

[Mayne Island Bus Society](#), began their 2-year pilot in the summer of 2013. Using volunteer drivers, the Mayne Island Bus Society established an operating cost of about \$8000 annually, funded with donations and fares. The buses operate during specific days and times of the week according to high or low season. With inclusion of BC Transit system proving to be too costly, they have been able to show that operation is sustainable without taxation but some community support. The system reduces tourist vehicle traffic to the Island, reduces congestion, and carbon footprint.

Volunteer Drivers

Mayne Island (and Gabriola Island) have used volunteer drivers in their bus pilot initiatives. Drivers must have a Class 4 unrestricted licence to operate a passenger van or bus. Training was provided and paid for by the Gabriola bus society, on the condition drivers commit to drive for at least 6 months. Criminal record check was also required.

STAR (Senior's Transportation Access and Resources) has a "Volunteer Driver's Training Manual".

Regarding volunteer drivers on Gabriola: Drivers were paid to conduct the required driver training on the condition that they make a commitment to drive for at least 6-months.

4.3 BC Ferry Service Augmentation

Currently Cortes Island's Whaletown Ferry terminal operates with a first come, first on ferry system, it does not take reservations. Correspondingly, it is a regular practice for residents to drive to the ferry three times to take it once: two people drive to the ferry in two separate vehicles, they leave one vehicle in the ferry lineup overnight to ensure a place on the morning's first ferry, and they drive again in the morning to rejoin their waiting vehicle.

The introduction of a reservation system faces a few key obstacles, primarily there are no BC ferry staff at the Whaletown terminal to administer the service nor is there a separate lane to stage reserved vehicles.

Allowing reservations may result in visitors taking up the reservable spaces putting additional pressure on Cortes residents. Having a "resident only" reservation system would add further administration work and would be difficult to implement.

Opportunity to create a new reserved line would likely need to take space on the east side (counter flow) of the approach roadway that is currently used for informal parking and drop-off/ pick-up activity (area located north of the formal roadside parking spaces, shown below in **Figure 4.1**). Ferry attendants from the arriving boat would need to check these vehicles for proof of a reservation.

Figure 4.1: Potential Location for Whaletown Ferry Reservation Line



Survey responses varied on this topic, many expressed a desire for a reservation system while others thought it would be unfair and difficult to implement. Some respondents in favour of a reservation system suggested a maximum number of reservations would be needed, perhaps at six vehicles which represents approximately 20% of the ferry's capacity (and also appears to fit the capacity of the potential reservation line).

Residents were queried about the likelihood of their using a reservation system. Of 133 responses to that question, 65 indicated that they were quite likely to use the system, 28 indicated they were somewhat likely and 40 reported that they are not very likely to take advantage of the reservation system.

BC Ferries is currently in a process to re-examine all of its 47 ferry terminals. This review will include a review of Whaletown's line-up configuration, its parking and the potential addition of a reservation system. Engaging with BC Ferries will further inform opportunities and constraints for this initiative.

Since there is already a ferry advisory council (FAC) working with BC Ferries on this and other items of concern to islanders, the most appropriate action to take on this matter is for SRD to share the results of the survey and the preferences it indicates with the FAC.

4.3.1 On-Line BC Ferry Line-up Camera

Another potential initiative to assist residents wishing to plan for ferry use is an on-line camera that would allow residents to monitor the line-ups at the Whaletown terminal.

4.4 Cycling

Cycling is widely regarded as one of the most efficient forms of transportation. Various cycling related initiatives were identified during the public engagement process. They relate to three key themes: cyclist safety, combining with other modes of transport, and electric bike promotion.

The surveys revealed that 35% of visitor vehicle trips and 46% of resident vehicle trips were in the 1-3km category, indicating the potential for greatly increased share of cycling in the mode split.

4.4.1 Cycling Safety

When combining the Resident and Visitor survey responses, road safety for cyclists and pedestrians was shown to be the most popular option for increasing non-private vehicle mode splits.

Many residents have said they would be interested in using their bike for transportation more, but feel certain sections of the roads are not as safe as they need them to be.

Survey Comments:

"As elders, we're limited. But we want wider shoulder, bike lanes for the grandchildren. Our roads are dangerous for cyclists."

"I strongly support improved walking and biking safety."

"I believe that a cycling and walking trail connecting major centers on Cortes is the best option for promoting sustainable basic transportation. It could also become a tourist attraction if done properly, bringing income to the island."

Many of the regular cyclists on Cortes reported experiencing sufficient safety on Cortes roads. These cyclists derive some of their confidence from understanding how to position themselves on the road, being visible and to discourage passing at inappropriate times. This aligns with cyclist safety statistics that indicate that the majority of cyclist-vehicle collisions are caused by cyclists. This highlights the importance of a cycling education program to improve cyclist safety.

Generally we identified two project areas for increased cyclist road safety. They are: increasing the space between vehicles and vulnerable road users and, second, slowing vehicles in problematic areas. Initiatives for each type of action are presented below in **Table 4.1**.

Table 4.1: Cyclist Safety Improvement Options

GOAL	METHOD	OPPORTUNITIES
Increase Space Between Vehicles and Cyclists	Road widening	Allows for bike/ vehicle separation
	Roadside pedestrian trail development	Synergy with pedestrian desires
	Motorist awareness	Increase cyclist presence awareness with signage and road marking can increase bike/vehicle separation
Slow Vehicles in Problematic Areas	'Share the Road' signage	Cost effective. Improves cyclist presence awareness
	Bike road stencils	Cost effective. Improves cyclist presence awareness
	Share the Road awareness campaign material on ferry	Cost effective. Improves cyclist presence awareness
	Promote cyclist visibility	Promote bike light usage
	Promote cycling	Increased cyclist presence leads to increased motorist awareness and anticipation

Several specific locations have been identified as being in need of cyclist safety improvements by the public engagement process. They include:

- On Seaford Rd, between intersections with Gorge Harbour Rd and Sutil Point Rd;
- Bartholomew Rd, various parts; and,
- The access to Lagoon Road.

The addition of bike lanes requires adequate road width to accommodate a minimum of 3m wide vehicle travel lanes. Proper bike lanes require a width of a minimum 1.2m resulting in an overall required asphalt width of 8.4m. Currently the average road width on Cortes's major roadways is approximately 6.2 to 7 m in width; hence substantial road widening would be required to introduce bike lanes. Adding road width is a very costly endeavor and is therefore typically applied to roadways with higher vehicle and cyclist volumes. Also, road widening often presents the undesired effect of increased vehicle speeds.

In Cortes's rural roadway context, making motorists more aware of cyclists and control their speed are considered a primary objective.

It is also noted that road widths on Cortes are not consistent often due to shoulder degradation (asphalt breaking along road edges). Road edge degradation is a safety concern for cyclists especially as cyclists typically travel along the road edges. More regular sweeping and repair of this area is recommended. To do this the TDM Task Force can liaison with the Ministry of Transportation and Infrastructure, Campbell River. Keeping a clean road edge helps keep bikes from swerving into the roadway as they avoid debris.

4.4.2 Combining Cycling with Other Transport Modes

Due to long travel distances, often cycling cannot be done in isolation but rather requires coordination with other transportation modes. Opportunities to better coordinate cycling with other transport modes mentioned during the public engagement process are:

- Bike rack on school bus;
- Bike repair station at ferry; and,
- Bike repair station or other cycling support amenities at private businesses such as the Co-op.

4.4.3 Electric Bicycle Initiatives

Electric bicycle, or ebike, use has grown dramatically over the past ten years. An electric power boost has made cycling more attractive to many people in the large “interested but concerned” potential cyclist demographic. In reviewing the barriers to cycling from the surveys, one can see that energy and time required (speed, hills) are most common. Ebikes reduce these issues substantially.

The range for many electric bikes on a full charge is approximately 50 km. Maximum charging time for an 8 lb lithium bike battery is about 4 hours, but the bulk of the charge happens in the first 2 hours. A typical charge uses about \$.10 of energy, uses a common household electrical outlet, and can be made available at community halls and businesses across the Island.

The TDM task force would approach community centres and businesses to identify locations for covered bike racks that have access to an electrical outlet plug. Signage would encourage access.

Like cycling in general, the more people that are exposed to electric bikes, the more popular they can become. Promotion of electric bikes and the encouragement of local businesses to provide charging opportunities will lead to greater use.

Ebikes can be cost prohibitive for individuals, unless they can be part of a TDM program that is subsidized for ebikes, mirroring that offered by provincial governments for electric vehicles.

Group purchasing can offer many synergies such as the sharing of parts and servicing abilities, as well as the advantages of cost savings from bulk purchases.

Island Carshare Co-op has taken a lead on electric bike use on Cortes recently with a community event held at Manson’s market twice in April of 2017. The purpose of the event was to explore options regarding e-bikes, potential for member bulk purchases and to gain experience from other electric bike owners and those interested in perhaps getting an electric bike or learning more about them.

4.5 Walking

The public engagement process identified the desire for commuting trails in addition to recreational trails. These trails would offer pedestrian routes as an alternative to sharing roads with vehicles. Many roadside walkers are uncomfortably close to vehicle traffic. Priority locations would bypass hills or road curves which have sightline issues. Separated pedestrian trails along road edges are also supported by survey feedback. Examples of roadside pedestrian paths are found on various other Gulf Islands such as Hornby Island which is shown in **Figure 4.2** below.

Figure 4.2: Roadside Trail on Hornby Island



The SRD Parks Department manages over 50 parks and hundreds of kilometres of trails to protect the region's environmental and cultural values, and to provide a diverse range of recreational opportunities. SRD Parks Department in conjunction with local community groups such as Friends of Cortes Island Society and/ or walking or hiking groups could explore funding option to conduct a Commuter and Recreational Pedestrian Trail Enhancement Study. The study would examine potential locations for bypass trails and road side trails.

Priority for sidewalk or roadside expansion development would generally be at the highest pedestrian volume locations such as from Manson's Hall to the School.

As Cortes's roadways also service pedestrian travel, traffic calming is, again, an important measure towards the safety of all vulnerable road users.

4.6 Hitchhiking

The public engagement process indicated that hitchhiking is a very popular mode of transportation on Cortes. Hitchhiking is essentially un-organized carpooling or ridesharing. Hitchhiking is also considered a very efficient form of transportation in term of costs to implement and green house emissions. There is very little incremental pollution or fuel consumption, also no funding organization or infrastructure is required.

There are several initiatives that could help increase the mode-share of hitchhiking on Cortes. They are discussed below.

4.6.1 Car-Stops

Car-Stops are roadside areas designated for the pick-up of hitchhikers. These are similar to a bus stop. They are typically located at a roadside pull-over area. They are marked with signage such as shown in **Exhibit 5.1**. They can also offer other related amenities such as information about hitchhiking best practise, a bench, lighting and/or a shelter. Ideally, they are located with adequate sightlines for approaching vehicles, near development clusters and facing traffic that is exiting a commercial area.

While they function to provide an expected location for both motorists and hitchhikers, perhaps most importantly, Car-Stops help to legitimize and promote hitchhiking as an accepted and legal transportation option to residents and visitors in areas where other forms of mass transportation are not viable.

Pender Island Car-Stop Implementation Example

With the help of grants from the CRD and the Lions Club of British Columbia to buy the signs; the enthusiasm of a group of volunteers from Moving Around Pender (MAP) Alternative Transportation Society to erect them, and community support to use them

Reference: <https://barrymathias.net/car-stops/>

4.6.2 Green Rider Program

The Green Rider program was a successful public education campaign initiated on Cortes circa 1995 to promote hitchhiking, especially across Quadra. The Friends of Cortes Island Society distributed stickers for people to put in their car windows. The stickers indicated to pedestrians on the ferry or in the line-up that the vehicle operator was interested in offering rides to people who needed them, when they have space. This made riders more comfortable asking drivers. The logo from the sticker, a green thumb sprouting from the earth, was also distributed around the island to increase awareness of the initiative and the presence of hitchhiking on Cortes. A brochure was printed that described the project goals and methods. The major stated goal of the program was reducing ferry wait times by reducing vehicle traffic - an underappreciated benefit to ridesharing.

This project could be revived at low cost and to the benefit of many. Low cost funding from SRD would be enough to jumpstart this program.

4.6.3 Public education

There are many common mis-perceptions and obstacles that limit hitchhiking, for example some people are unsure about the legalities of hitchhiking. Hitchhiking on Cortes is legal when done from the safety of the road's shoulder. Some people have safety concerns; some resent giving others rides for free. Some hitchhikers may feel

that hitchhiking is too unreliable. Some of these barriers to hitchhiking growth can be addressed with public education.

The provision of Car-stop(s) and the Green Rider program offer an opportunity to provide information to potential hitchhikers and drivers to dispel concerns about legality and create social acceptance of hitchhiking on Cortes.

An informative poster highlighting the Car-stop(s) and Green Rider stickers would help educate future hitchhikers and drivers. The poster could be placed on the ferry or posted on a website. The education campaign could also address some examples of best practices such as offering bus-fare-equivalent funds to the driver, and reducing personal odors.

Key messages regarding hitchhiking include:

- It's legal,
- It's okay to offer/accept financial compensation for vehicle fuel and vehicle use,
- It's part of the culture on Cortes Island,
- Riders are reducing pollution and ferry wait-times,
- It's okay to not pick-up.

Best practices for hitchhiking include:

- Hitchhike during daylight hours or illuminate yourself,
- Trust your safety instincts,
- Minimize your odours,
- Offer gas money if you can;
- Ask for rides at higher activity areas.

4.6.4 Super-Drivers

Super Drivers is a potential initiative where drivers who have regular, frequent routes volunteer to post their schedule and provide rides to others. This helps address the timing uncertainty of hitchhiking. The Super Drivers program is much like a car-pooling program, but less regular. The program could be especially valuable in the early part of the day when travelers are heading to time sensitive appointments or employment start times.

The project could be a simple coordinator-organized online list of driver-volunteers, their schedules and phone numbers. This initiative could be brought into the existing work done by Cortesrideshare.ca.

An example Super Driver could be the Harbour Authority vehicles which do daily routes around the Island as they could pick-up hitchhikers at their discretion if permitted to do so.

Super Drivers could also dovetail with a Designated Driver program which could be organized by that event's organizing group. An example of a Designated Driver program is A Safe Alternative⁹ driving service which operates in the lower mainland.

4.7 Ride-share

Ride-share generally refers to the prearranged sharing of one's vehicle trip. Being prearranged allows ridesharing to be more reliable and safer-feeling for riders than hitchhiking. As it is organized, ridesharing often involves cost sharing between the motorist and the rider. There are various forms of ridesharing:

- Ride-hailing refers to one time rides, the driver is not already heading that direction therefore the ride is usually for profit similar to a taxi or Uber service.
- Ride-sharing refers to one time rides, the driver is already planning to head that direction; usually not profit motivated but could be used for cost sharing.
- Carpooling refers to multi-occasion advance arranged rides; usually not profit motivated; costs shared with drivers.

The current rideshare board, www.cortesrideshare.ca, is sponsored by Island Carshare Coop with the support of www.cortesisland.com. Over time, ridesharing has established a strong presence on Cortes. It is the intention of Island Carshare Co-op to promote more "on island " ridesharing; currently only the further destination off island rides are offered. Cortesrideshare.ca is linked to the Island's community website (cortesisland.com) with "needed rides" and "available rides" listed.

Mobile phone access to the rideshare site is being worked on and will facilitate "Real-time" or "dynamic " (in the moment) posting of short notice rides. This rideshare network is developed by the West Kootenay Ecosociety and can link to other communities.

Cortesrideshare.ca with the Island Carshare Coop has established a strong presence on Cortes. Cortesrideshare advertises needed rides and available rides on the Island's community website, cortesisland.com.

A mobile device able app would help support and grow this existing service. The app's success is largely contingent on cellular reception, or widespread wireless internet. Currently Cortes' cellular reception is not strong, however we have heard from SRD that better internet coverage for Cortes Island is on its way.

"Telus will work with the province to achieve the goal of connecting 100% of British Columbia's population in 10 years from the commencement of the term."

- Stipulated in BC's 2011 10 year service agreement Telus

⁹ <http://www.asaride.com/>

Strategies to encourage increased Rideshare use include:

- Connect/ link to Vancouver Island rideshare sites;
- Encourage advertised events to remind about ridesharing (organizers especially could post their route);
- Secure funding for advertising, prizes for drivers and the creation of a mobile app;
- Incorporate shipping of goods and packages;
- Include in the 'Welcome to Cortes Transportation' brochure;
- Increased cellular reception.

Cortesrideshare.ca supports the ability to ship goods. This is a service that could be further promoted by a TDM coordinator.

4.8 Car-share

Car-sharing refers to the shared ownership of a vehicle co-operatively, or corporately, or peer-to-peer. In all forms, the driver reserves a vehicle for short-term use and typically pays per-km, usually with a capital investment.

Car-sharing promotes an increase in multi-modal transportation in several ways. The per-km fees help make the cost of vehicle operation more tangible and direct; supporting more sensible economic decision making. Also, having a vehicle in the driveway makes it very easy to hop in and go, while a co-op car often requires more effort, helping to moderate vehicle usage.

Substantial informal peer-to-peer car-sharing does occur presently on Cortes. The Cortes Island Carshare Co-op (<http://www.islandcarshare.ca>) was established in 2013. The intention is for members of this non-profit to own and drive a fleet of shared vehicles, which would be parked in designated hubs in places convenient to concentrations of members. Four to five such hubs would be located across the Island with vehicles that could rotate and be returned to any hub. Two of the most useful locations for a co-op vehicle are in Campbell River which would allow residents to travel on Vancouver Island, and on Quadra Island.

The Co-op would take care of everything related to Co-op vehicles, and arrange and pay for vehicle maintenance, repairs, insurance, gas, and cleaning. Members would reserve blocks of time, as short as one hour through a Co-op-managed on-line vehicle reservations system.

This Community Service Co-op is organized by local volunteers and has been guided by the experience of other established car-shares coops such as Kootenay Carshare, and Modo. Supporting this group presents an ideal form of subsidizing an established group that understands the needs and potential of these endeavours.

A primary obstacle for the introduction of a designated car-share vehicle on Cortes is that it is likely to start with just one vehicle which would service such a large area. Having the vehicle return to a common location may prove difficult; hence, potential users are likely to have difficulty getting to the vehicle in order to use it. Likewise, when they are finished with the vehicle they would need to get the vehicle back to a common area and again need assistance getting back to their origin. With urban car-coops, this is typically overcome with a critical mass of

vehicles which keeps vehicles spread out and hence there is typically a vehicle within walking distance of the user's origin. The large area and low population density of Cortes would require widespread adoption to be a success on Cortes. However, peer to peer sharing and the sharing of specialty vehicles such as trucks or vans may find success within the islandcarshare.ca and cortesrideshare.ca platforms.

4.9 Bike-share Co-operative.

Bike-share programs have gained popularity in communities throughout North America. They can range from sophisticated and expensive operations such as Vancouver's recently initiated Mobi program to small scale programs where bikes are informally shared between community members.

A bike-share program for Cortes would likely be a small-scale program that would start with a few free-to-use bikes and look to expand organically. A sensible start for a program such as this is as an extension of the existing Carshare program where it would also include bicycles and/or electric bicycles. The bikes would likely be centralized around Manson's Landing where various destinations are within a short bike ride. They could fill the niche of people who wish to run various errands in a particular area without the use of a vehicle. This would be especially useful in Campbell River for those who chose to travel without vehicles.

The program could start informally with donated bikes that are marked as shared bikes for community use around the Manson's Landing area. In this scenario, the program would likely not require membership but rather the bikes would be made available for anyone that wanted to use them. They would be marked with instructions to keep them or return them to a designated area (i.e. Manson's Landing), the bikes would likely be maintained on a volunteer basis. The program would benefit from modest funding.

Resident Comment:

If people could hitch or bus to a major centre, bike around to run errands and then hitch/bus home. That could make the bus/hitch more feasible. I sometimes don't hitch because I have too many stops, even if they're within biking range of each other.

4.10 Electric Vehicles

Electric Vehicles (EVs) are a low-carbon, clean-air, efficient transportation option. There is strong evidence that the transition to electric vehicle technology is inevitable due to fuel and carbon costs. If the TDM Task Force seeks and acquires Gas Tax funds, Cortes can support this technology.

Barriers to widespread adoption of EV technology include the lack of fast-charging stations, relatively high capital costs and disparaging myths¹⁰.

¹⁰ <https://watershedsentinel.ca/articles/bigoil-fictions/>

At present the cost of buying a new EV can be off-set over the life of the vehicle by much lower operating costs - both maintenance and fuel. There are also subsidies available for the purchase of EVs (up to \$8,250 for a new EV in BC). These factors bring EVs into the low-cost range of new-car options. A public education campaign about these opportunities would help with adoption; this is an item that a TDM Task force could address.

There are three different types of home Electric Vehicle chargers available:

- Level 1 - A 110 volt charger with a normal home plug-in outlet; can take up to 8-20 hours to fully charge; better if the plug is outside, with covered spot for the charger; cost \$0 - \$400.
- Level 2 - A 240 volt charger with a plug on it like the kind a home electric dryer has, and takes less time to charge a vehicle than a Level 1 charger; can fully charge a vehicle from 0 per cent charge in about four to six hours; this is the type installed at Hollyhock; cost approximately \$1,500 for home version and \$4,000-\$10,000 for a public station.
- Level 3 - use a 480 volt system and can charge a vehicle to 80 per cent in about 30 minutes, making longer trips more feasible for EV drivers; cost \$13k-\$100k.

A Prius Hybrid EV has a 20 km range and can be charged in ½ hour on a Level 2 charger at a cost of \$.50 at present electricity costs in BC. A person could charge their Tesla EV for 5 hours and go over 100 km on that charge at a cost of about \$2.50.

Currently there is one EV charger on Cortes located at Hollyhock, which is free to use. Additional chargers located around the island, such as at the Gorge Hall or Marina, Manson's Landing, Whaletown Ferry parking lot and Squirrel Cove would support the Island's transition to Electric Vehicles.

4.11 Alternative Vehicles/ Golf carts

The desire for golf cart use was expressed during the public engagement process. In particular between the Seniors Village and Manson's Landing retail outlets. BC's Ministry of Transportation has recently (August 2016) authorized a pilot project that allows golf cart use on certain approved roads in Qualicum Beach and Chase, BC. Requirements specify that the carts are only to be used during daylight hours, at speeds not to exceed 30 km/hr. The golf carts need to be registered and insured, drivers need to have a valid driver's license, and passengers under 9 years of age are not allowed.

The program is described in more detail below, and further information is available on the website (link provided below).

Effective September 2016, the Ministry of Transportation and Infrastructure has authorized a pilot project to allow golf carts to operate on certain approved local roads in the Town of Qualicum Beach and the Village of Chase. The golf carts must meet certain operating and vehicle requirements to be considered a neighbourhood golf cart.

This pilot is part of the ministry's commitment to work with ICBC to explore opportunities to allow drivers more choices to use slow-moving vehicles in smaller communities as outlined in B.C. on the Move, A 10-Year Transportation Plan. Even as our population ages, there is still the expectation that people can move about freely. In smaller communities, people are interested in utilizing new vehicle technologies to make short trips on low volume roads while not being constrained to driving an automobile.

This pilot project will allow us to make sure that the conditions work and that we can accommodate neighbourhood golf carts safely. We will assess the project for up to two years. This will give us time to work with municipalities and to obtain feedback from the community to determine whether the project can be expanded to other locations.¹¹

It is recommended that interested Cortes residents be included in the pilot project, or considered for inclusion after the pilot program is complete. This could be spearheaded by the Cortes Island Seniors Society (CISS). Jurisdiction would need to be established with Strathcona Regional District, as the program is currently administered by municipalities who issue permits for golf cart use on municipal roads.

4.12 Water-taxi

Water Taxis are currently available on Cortes. They are often a higher cost option compared to the ferry. The cost for a one-way trip to Manson's Landing starts at \$210 Canadian for one person and can go down to a minimum of \$30 if there are 8 or more people on the boat. During the busy summer season, ferry wait-times can make the cost more appealing by greatly reducing travel time. The water taxi can deliver passengers to/from Campbell River in 30 minutes, as compared to 1.5 hours of ferry travel without overloads; with overloads, the trip can be considered more like 4 hours, one-way. Usually water-taxis are provided as a charter service, but for part of the summer there are regular daily runs to Manson's Landing.

Currently, a subsidized service would be costly and would compete with existing ferry services.

One alternative to promote cost sharing could be for Cortesrideshare.ca to consider including boat ride sharing options in addition to car ride-share.

Water taxi service can be useful for shipping freight as well - \$50 for unaccompanied freight.

¹¹ <http://www2.gov.bc.ca/gov/content/transportation/driving-and-cycling/road-safety-rules-and-consequences/neighbourhood-golf-carts>

5. RECOMMENDATIONS

5.1 Funding & Operating

5.1.1 Strathcona Regional District

Cortes Island falls under the jurisdiction of Strathcona Regional District (SRD). SRD Area Director for Cortes Island is currently (May 2017) Noba Anderson. SRD has regular funding budgets for SRD transportation items. SRD has the ability to apply for grants. SRD would also be the primary contract with BC Transit. Many recommendations in **Tables 5.1** and **5.2** recommend SRD funding; this refers to direct funding from regular budget streams and also grant application assistance.

5.1.2 Other Potential Funding Streams

Community Works Funds (CWF), also known as Gas Tax Funds, are a natural fit for many of the initiatives identified in this report. This study itself is being funded through CWF. Project eligibility can be found at www.ubcm.ca/EN/main/funding/renewed-gas-tax-agreement/commeunity-works-fund.html

BC Healthy Living Alliance has stated that the province's new 30-year transportation plan should "Address the needs of small towns and rural communities by providing funding and policy support for innovative approaches to public transit within communities and between regional centres."

BC Transit's new 30-year strategic plan has expressed support for rural and First Nations communities by enabling residents to connect to each other and link to education, health, and other services and daily needs.

BC on the Move, a 10-year transportation plan for BC, found support for rural transit in the results of their extensive province-wide 2014 survey. One of the strongest survey findings was positive support for strengthening transit service across BC (outside lower mainland). While transit service may not be considered viable for Cortes Island in isolation, this survey again reaffirms the need for increased transportation options for locations such as Cortes.

5.1.3 Local non-profit and charitable societies

As with most public initiatives, items discussed within this report will need to be spearheaded and supported by Cortes local non-profit and charitable societies. There is a wealth of such groups on Cortes that currently promote transportation initiatives on the Island. Supporting and procuring funding for these efforts will help to ensure the success and realization of transportation initiatives discussed herein. Local groups that could play an important role in initiative implementation include but are not limited to:

- Friend of Cortes Island Society (FOCI);
- Island Carshare Co-op (operators of Cortesrideshare.ca);
- Cortes Island Seniors Society (CISS);
- Cortes Island Tideline (cortesisland.com);
- Cortes Island Museum and Archives Society (Visitor's Centre);
- South Cortes Community Association;
- Harbour Authority;
- Cortes Island Business and Tourism Association; and,
- Cortes Community Health Association.

These groups would report to SRD in terms of initiatives, opportunities and associated costs. SRD would review opportunities and allot funding or grant application assistance.

5.2 Initiative Summary

The following summary of transportation initiatives and strategies presented in **Table 5.1** does not include all discussed items, but rather items selected based on an initial feasibility analysis. For additional ideas and suggestions, see the visitor and resident survey results in Appendices A and B.

The items listed in Table 5.1 are a summary of strategies and options for realizing those strategies presented with cost considerations. Not all are recommended initiatives.

All costs presented in Table 5.1 are approximate and should not be referenced outside of this report.

Table 5.1: Summary of Potential Transportation Initiatives and Strategies

#	STRATEGY	INITIATIVE	APPROXIMATE COST
1	Transportation Demand Management (TDM) Organization and Promotion	Appoint a TDM Task Force, responsible for developing, implementing and maintaining transport programs and initiatives. Task force hires coordinator.	Reduced costs if formed from an existing group such as Friends of Cortes and/ or this Study's Advisory group. -coordinator implements initiatives, creates education campaigns, advocacy - estimated cost \$10,000 annually with supporting grants
2	Pedestrian Infrastructure Improvements	A) Pursue grant funding for a Commuter and Recreational Pedestrian Trail Enhancement Study.	SRD Parks Department to undertake as part of a parks and greenway master plan, or if SRD commissions a study to determine priority actions - estimated cost \$20,000.
		B) Develop segments of off-street pathway system to buffer pedestrians from vehicle traffic.	*\$100/ meter, prior to land costs. Could be done piece by piece as land and funding is procured, with priority given to the most dangerous road sections.
3	Hitchhiking Promotion	A) Introduce a Car-Stop to encourage and provide legitimacy to hitchhiking. Car-Stop should include items described in Exhibit 5.1 . Recommended location also shown in Exhibit 5.1.	\$2,000 per Car-Stop - sign, installation, regulatory process.
		B) Review implemented Car-Stop use, best practise and to determine feasibility of potential future additional Car-Stop locations.	\$500, conducted by TDM Task Force.
		C) Green Rider car sticker program, and hitch-hiking education campaign.	\$1,000 one-time cost for sticker printing and promotion (poster on ferry and in Tideline).
4	Rideshare Promotion	A) Support resident use of existing regional ride share program (cortesrideshare.ca). Create app.	<ul style="list-style-type: none"> Create cortesrideshare.ca app \$1,000 onetime fee. Advertise in Tideline for rideshare events \$500 annually. Administrative, domain name, operations variable costs, estimated at \$2,500 annually. TDM coordinator to promote use of rideshare for all public events.
		B) Create Super Driver designation on rideshare platform.	Provide incentives \$200 annually - promotion and prizes for Super Drivers. \$500 annual coordinator
		C) Explore potential for boat inclusion on cortesrideshare.ca. platform.	Explore expansion into boat ride-sharing \$500 promotion and webpage development.
		D) Link cortesrideshare.ca to SRD website.	\$200
5	Cycling Promotion	A) Provide a bicycle repair station at the Whaletown Ferry Terminal adjacent to the existing bike rack.	\$1,200 plus installation.
		B) Contact retailers/community hall in Manson's Landing to gauge interest in having a bike repair station/ cycling amenities on their property.	\$500 from coordinator wages.
		C) Purchase cyclist amenities such as a bench, map and water fountain. Examples provided on Exhibit 5.2 .	Variable. Bench -approx. \$1,000, map approx. \$1,000, water fountain approx. \$2,000, assumed land donation.
		D) Add Bike Rack to School Bus.	\$1,200 plus installation.
		E) Explore option of adding bicycles to islandcarshare.ca range of services.	Look for donation bikes, \$200 yearly to islandcarshare.ca to

#	STRATEGY	INITIATIVE	APPROXIMATE COST
		Including a bike in Campbell River.	maintain and administrate.
6	Cycling Safety	A) Traffic Calming – ‘Share the Road’ sign installation (TAC’s WC-19 with WC-19S Tab) or preferably sign that includes pedestrian such as MUTCD’s sign as shown in Exhibit 5.3. Recommended location also shown in Exhibit 5.3.	\$250 each plus installation. MoTI jurisdiction.
		B) Bicycle Pavement Markings.	\$50 each plus installation. MoTI jurisdiction.
		C) Road widening for bike lane additions in strategic locations.	* \$500/ meter. MoTI jurisdiction.
		D) Cyclist safety campaign in conjunction with Bike to Work Week. Cycling safety courses in summer and at school. Bike light give-aways, electric bike demonstrations.	\$500 for promotion, bike light give-away. \$200 per half day course. MoTI jurisdiction.
		E) Road surface and road edge asphalt improvements.	* \$250/ m. MoTI jurisdiction.
7	Electric Bicycle Promotion	a) Gauge interest of commercial operators to adding electric charging ability to their bike parking area. b) support/subsidize a local bike mechanic to install/maintain Cortes Custom e-bike kits – reducing cost/uncertainty by 50%... Cost: \$2500. c) Encourage BC Ferries to install an electric bicycle charging station on the Cortes Ferry.	\$200
8	Electric Vehicle Promotion	Provide an electric vehicle charging station at 1) Manson’s Landing, 2) Whaletown Ferry Terminal.	\$1,500 installed, assumed land donation.
9	Shuttle Bus	A) Explore option to use Cortes School Bus as a shuttle for community events.	\$200
		B) Promote Cortes Connection; provide a link on SRD website.	\$200
		C) Subsidize or promote Cortes Connection.	Variable, likely long-standing commitment required.
		D) Engage Harbour Authority regarding potential for cooperation.	\$200
10	Quadra Island Crossing	Contact Quadra Island Stakeholder groups. Explore subsidized ride-hailing service. Connect with Quadra Regional Director with BC Transit.	\$200
11	BC Ferries	A) Engage with BC Ferries to explore opportunities to add reservation system to Cortes- Quadra ferry.	\$200
		B) Engage with BC Ferries regarding feasibility of introducing an on-line camera showing Whaletown ferry queues.	\$200
12	Car Share	A) Promote existing islandcarshare.ca platform.	Variable.
		B) Provide Car-share vehicle (s).	\$20,000 plus administration and vehicle maintenance. These programs work better with more vehicles and vehicle types hence a larger vehicle network may be required. Or lease Electric Vehicle for approximately \$250/month.
		C) Provide Car-share parking spaces in publicly accessible area.	Variable. No need until designated vehicles are acquired.
13	Alternative Vehicle Use	Explore barriers to the use of golf carts and other non-typical vehicles on Cortes roads.	\$200

*There is wide variance on road work costs depending on need for excavation, retaining wall structures etc. This quoted cost per meter represents the cost to widen or re-surface a roadway in an urban context.

Create Car-Stop with sign as shown below (this sign is used on Pender Island). The regulations as shown below should also be included. It is recommended that the fourth regulation - "But the ride is free so consider it a gift" be omitted or be reworded to allow coordination with Cortes's ride share initiatives.



Recommended location shown above. Location dependent on coordination with nearby retail businesses. Recommended location is northbound on Sutil Point Road, north of Charlotte Road as close to Charlotte Road as possible. Pull over area should have a minimum width of 3 m. If adjacent to the intersection then a minimum of length of 10m length is recommended, if further north then the area should be longer as stopping vehicles will have better sight lines to the area. Area shown below.

Exhibit 5.1 Car Stop Recommended Location

Cortes Island Transportation Demand Study
6150.01
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Bicycle Amenities

- Provision of a bicycle repair station (example shown in top left photo) recommended for Whaletown Ferry Terminal adjacent to the terminal's bicycle rack.
- Coordinate with local commercial businesses to explore opportunities for them to donate space for other publically funding cycling hub amenities such as a map, rest areas, a public water fountain (examples shown in below photo), or electric bicycle charging (example shown in top right photo), or a bicycle repair station.



Electric Vehicle Charging

Coordinate with local businesses to explore opportunities for them to donate space for the introduction of publically funded electric vehicle charging station (example shown in below photo). Priority location is in Manson's Landina commercial area.



Exhibit 5.2 Bicycle and Electric Charging Amenities

Cortes Island Transportation Demand Study
6150.01 August 2017



Installation of one 'Share the Road' sign. Manual of Uniform Traffic Control Devices (MUTCD) sign shown below recommended over Transportation Association Of Canada's (TAC) WC-19 sign due to it also including a pedestrian.



South facing sign for Island arriving vehicles on Harbour Road at closest available location to the ferry terminal (near intersection with Byers Point Road) that has appropriate sight lines.

Exhibit 5.3 Share the Road Signage Location

Cortes Island Transportation Demand Study
6150.01 August 2017

5.3 Priority List

Table 5.2 below presents the recommended priority list for implementation. The priority list was established based on:

- Survey and open house feedback;
- Review of best practice from comparable locations; and,
- Cost/ benefit analysis to establish which initiatives are most feasible and have best potential for return on investment.

Priority is also given to initiatives that are considered most appropriate for public investment. These are initiatives where associated costs are not ongoing requiring annual or regular funding but rather one time capital investment projects that take advantage of short term or one-time grant funding opportunities.

Group listed under the “Who” heading in Table 5.2 are the groups that would likely champion the initiative and report back to SRD in terms of opportunity and associated costs. SRD would approve task/ expenses prior to the undertaking of tasks.

Items in Table 5.2 are grouped into two broad categories short-term and long-term initiatives. Long term initiatives are those that require further study or alignment with on-going work programs. Short- term initiatives can be pursued at any time.

Items in Table 5.2 are not listed in order of priority; rather specific initiatives considered to be “high” priority are highlighted in **yellow**.

Of the high priority initiatives, our recommended first action would be the formation of the TDM task force. The TDM task force would then organize to best achieve the remaining Priority 1 initiatives. The task force would report directly to SRD and could include an SRD staff representative and / or liaison.

The initiatives generally fall under three categories:

- Do – meaning the initiative can be undertaken with funding support and the suggested organization presented within the table.
- Promote – Many initiatives are already underway, the action recommended herein speaks to obtaining funding to promote those current initiatives. This may vary from the SRD providing a link on its website to funding for promotion or administration of an initiative.
- Engage or Explore – These are initiatives that require further investigation, typically for collaboration with other groups or governing bodies. These items can be undertaken by those identified. If the opportunity to further pursue the initiative is present then those stakeholders would pursue the required next steps for funding and implementation.

Table 5.2: Initiative Priority List

TABLE 5.1 #	INITIATIVE	WHO	PATH FORWARD
	Short Term		
1	Create a Transportation Demand Management (TDM) Task Force and coordinator.	Task Force to be spearheaded through Friends of Cortes community group and Island Carshare Co-op's Sonya Friesen and a SRD representative such as Noba Anderson. SRD to oversee Task Force organization. Task Force to report to SRD.	SRD to provide funding, as well as assist with grant proposals. Task Force responsible for fund application, allocating funds for initiatives and pre-determined administrative costs. SRD to assign a staff member for contact liaison, project oversight.
3A	Introduce a pilot Car-Stop.	Coordinated by TDM Task Force, SRD funded.	Refer to Exhibit 5.1. To be reviewed after one year.
3B	Revitalize Green Rider Program.	Coordinated by TDM Task Force coordinator/FOCI, SRD funded.	Sticker printing, distribution and promotion.
4A,B,C,	Funding for Cortesrideshare.ca	Island Carshare Co-op operator of Cortesrideshare.ca, SRD funded.	Seek yearly funding of approximately \$5,000 to offset costs to run Cortesrideshare.ca for tasks such as updating website, administration and promotion and growth of the webpage.
4D	Link Cortesrideshare.ca to SRD website.	SRD.	Promote, provide links to existing services such as Lane 8, Cortes Connection, water taxi services.
5A	Bike Repair Station at BC Ferry Whaletown ferry terminal.	Coordinated by TDM Task Force and BC Ferries, SRD funded.	Contact BC Ferries Advisory Committee. Seek SRD funding.
5B, C	Add cycling support amenities.	Coordinated by TDM Task Force, SRD funded.	Contact retailers in Manson's Landing to gauge interest in having cycling support amenities on their property. Refer to Exhibit 5.2.
5D	Add bike rack to school bus.	TDM Task Force approach School District 72.	Contact School Board to determine process.
6A	'Share the Road' sign installed for vehicles entering island from ferry.	SRD Engineering Service Department. MoTI jurisdiction.	Exact location and installation to be determined by SRD Engineering/ MoTI. Refer to Exhibit 5.3.
6B	Add bike stencil to Seaford Road, west of its intersection with Gorge Harbour Road (for southbound traffic) and on Seaford Road south of Cortes Island hotel (northbound traffic).	SRD Engineering Service Department. MoTI jurisdiction.	Exact location and installation to be determined by SRD Engineering/ MoTI.
6D	Cyclist safety campaign in conjunction with "Bike to Work" Week.	Coordinated by TDM Task Force, SRD funded.	Apply for SRD funding to hold event, perhaps at a public market or event. Bike light give-away.
7	Electric charging ability to commercial area bike parking. Or at community halls -as community service, publicly funded.	Coordinated by TDM Task Force, retailer funded.	Gauge interest of commercial operators to provide electric charging to their bike parking. TDM task force to select location(s) based on commercial operator interest, funding availability.
8	Promote Electric Vehicle use, provide Level 2 Electric Vehicle charger.	Coordinated by TDM Task Force, SRD funded.	SRD funding support for purchase of electric charging station. Contact retailers in Manson's Landing to gauge interest in having an electric vehicle charging station on their property or at community halls.

9A	Explore option to use School Bus as a shuttle for community events and daily commuting for public.	TDM Task Force approach School District 72.	Contact School Board to determine feasibility.
9B	Promote Cortes Connection.	SRD and Cortes Connection.	SRD approach Cortes Connection to offer link on SRD webpage.
10	Increase Quadra Island crossing options.	TDM Task Force.	Liaison with Quadra Island groups to explore opportunities for public transport options from Heriot Bay to Quathiaski Cove. BC Transit requires Quadra Island regional director to initiate.
11A,B	Explore opportunities to <ul style="list-style-type: none"> Add reservations for the Cortes Island to Quadra Island ferry route and, Add on-line queue camera. 	TDM Task Force and BC Ferry Advisory Committee.	Approach existing BC Ferries Advisory Committee for the Campbell River - Quadra - Cortes Island routes.
13	Review barriers for golf cart use on Cortes roadways.	Cortes Island Seniors Society with SRD support.	Express interest to Ministry of Transportation and Infrastructure.
Long Term			
2A	Conduct a Commuter and Recreational Pedestrian Trail Enhancement Study linking to existing initiatives such as the Cortes Island parks and greenways plan.	SRD and SRD Parks Service Department.	SRD to seek internal resources for its Parks Service Department to conduct/ continue a Cortes Commuter and Recreational Pedestrian Trail Enhancement Study as part of the Cortes Island parks and greenways plan.
2B	Explore opportunities to develop segments of trails parallel to roadways.	SRD and SRD Parks Service Department and SRD Engineering Service Department.	SRD to seek internal resources for its Parks or Engineering Service Departments to conduct/ continue a Cortes Commuter and Recreational Pedestrian Trail Enhancement Study.
3A	Potentially add additional Car-Stops.	TDM Task Force, SRD funded.	TDM Task Force to conduct review and submit a summary to SRD 1 year from first Car-Stop Implementation. Recommend next locations.
6E	Improve roadway asphalt surfacing.	MoTI.	SRD/ TDM Task Force to encourage MoTI's road maintenance program to consider cyclists in their evaluation by including road edge continuity as part of their evaluation process when determining future resurfacing priorities.

5.3.1 First Steps

The first recommended course of action is the organization of the TDM Task Force. It is then recommended that the TDM Task Force determine the priority of the “high priority” initiatives. Suggested first action items are:

- Car-Stop (Table 5.2 Item 3A);
- Green Rider Program (3B); and,
- Seek funding support for Cortesrideshare.ca (4).

For SRD spearheaded initiatives the suggested priority order is:

- ‘Share the Road’ sign (6A);
- Bicycle road stencil (6B);
- Provide links to Cortesrideshare.ca and Cortes Connection on its webpage (4D);
- Work to establish funding streams for initiatives presented in Table 5.2 and also to support the administration of Cortes Island’s TDM Task Force;
- Assign a staff member or liaison to the TDM Task Force; and,
- The TDM Task Force should strive to provide SRD with regular updates regarding the progress and standing of all initiatives presented in Table 5.2.

