Microtransit in Microcommunities:
A Community Bus Feasibility Study for Quadra Island Using Success Indicators from the Gulf Islands

by
Ericka Amador
Bachelor of Science, 2012

Thesis/Major Project Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Community Planning

in the Department of Community Planning, Faculty of Social Sciences

© Ericka Amador
Vancouver Island University
April 2020
Declarations

This Thesis is a product of my own work and is not the result of anything done in collaboration.

I agree that this Thesis may be available for reference and photocopying, at the discretion of Vancouver Island University.

Ericka Amador

[Signature]
Approval

Name: Ericka Amador
Degree: Master of Community Planning
Title: Microtransit in Microcommunities: A Community Bus Feasibility Study for Quadra Island Using Success Indicators from the Gulf Islands

Examining Committee:

Karin Albert
Supervisor
Adjunct Professor, VIU

Helen Cook
External Examiner
Senior Transportation Planner
Watt Consulting Group

Date Defended: April 2, 2020
Date Approved: April 27, 2020
Ethics Statement

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

a) human research ethics approval from the Vancouver Island University Research Ethics Board; or

b) Advance approval of the animal care protocol from the Vancouver Island University Animal Care Committee; or

c) Has conducted this research as a co-investigator, collaborator, or research assistant in a research project approved in advance of the author’s involvement.

A copy of the application has been filed with the Research Ethics Board at Vancouver Island University and inquiries may be directed to that authority.

Vancouver Island University
Nanaimo, British Columbia

Updated Spring 2017
Abstract

The community of Quadra Island, located off the east coast of Vancouver Island, does not have a public transportation option available to all. Several other island communities, including some in the Southern Gulf Islands and Gabriola Island operate community buses often run by volunteer administrators and drivers and funded by donations and grants to fill what is considered a transportation gap. To determine whether a community bus may be suitable for Quadra Island, a feasibility study was conducted which included a public survey and interviews with residents of the community and neighbouring Cortes Island. A recommendation to pursue service for five trips daily to serve major destinations is made as well as for next steps regarding engagement, governance, and implementation. Though indicators of success for rural transit may be unique for these remote islands, the indicator most likely to define success is system preservation in the form of secure funding and administration.

**Keywords:** transit; community bus; alternative transportation, rural; remote island; feasibility study; performance indicator
Dedication

To all those simply trying to get from point A to point B and those doing the work to ensure their liberty to move about freely.

To Mom, Dad, Timmy, Bunny, and Dal, thanks for inspiring me to fight for the little guy and supporting every one of my wildest dreams.

Finally, to the best wife a transit nerd could ask for, your love and support are the foundation upon which everything I do is built. Thank you for believing in me.
Acknowledgements

I’d like to offer sincere thanks to Karin Albert, for her words of wisdom, candor, and gentle nudges. I literally could not have done it without her.

To Helen Cook, whose comments were thought-provoking and insightful, great thanks.

Tania Wegwitz’s passion, knowledge, and genuine affection for community buses and small transit systems were vital to the success of this work. I thank her for all of her advice and insight.

Thanks to all those who were gracious enough to help me with this project by taking the survey, participating in interviews, or answering one of my million prodding emails. It really does take a village, or many small islands in this case.

Thanks to all of my professors and classmates who offered their support, expertise, and intellect. I will forever be indebted to you.

Finally, thank you to all the Female, Latinx, and Queer people who came before me. You’ve paved the way for my both my feet and my dreams. I’ll forever endeavour to pay it forward.
# Table of Contents

Declarations .................................................................................................................. ii
Approval ....................................................................................................................... iii
Ethics Statement ......................................................................................................... iv
Abstract ...................................................................................................................... v
Dedication .................................................................................................................... vi
Acknowledgements ................................................................................................... vii
Table of Contents ....................................................................................................... viii
List of Tables ............................................................................................................. xi
List of Figures ............................................................................................................ xii
List of Acronyms ....................................................................................................... xiv

## Chapter 1. Introduction ......................................................................................... 1
1.1. Research Objectives .......................................................................................... 2
1.2. Research Questions .......................................................................................... 3
1.3. Research Rationale and Approach .................................................................. 3
1.4. Format of Document ....................................................................................... 4

## Chapter 2. Literature Review .............................................................................. 5
2.1. Benefit-Cost Analyses ..................................................................................... 6
2.2. Performance Indicators ................................................................................... 8
2.3. Rural Transit Operations ................................................................................ 10
2.4. Success Indicators ........................................................................................... 11

## Chapter 3. Methods ............................................................................................. 14

## Chapter 4. Findings ............................................................................................. 19
4.1. Community Profile .......................................................................................... 20
4.1.1. Population and Demographics .................................................................... 20
4.1.2. Community Land Use and Form ................................................................. 23
4.1.3. Key Destinations and Transit Markets ....................................................... 31
    Community Amenities and Trip Generators ................................................... 33
    Ferries ............................................................................................................... 33
    Accommodations ............................................................................................... 41
    Tourism ............................................................................................................. 42
    Other Destinations ........................................................................................... 43
4.2. Existing Transportation Options ..................................................................... 44
4.2.1. Roadways .................................................................................................... 44
4.2.2. Car Stops .................................................................................................... 45
4.2.3. Bus Service ................................................................................................ 46
4.2.4. Campbell River Transportation Options .................................................. 48
4.2.5. Pedestrian Infrastructure and Conditions .................................................. 49
4.3. Community Engagement ................................................................................ 50
4.3.1. Survey .......................................................................................................... 50
5.3.1. Service Options for Quadra Island

4.4. Potential Transit Markets

4.4.2. Commuters

4.5. General Service Concepts

4.5.1. Gulf Island Community Buses

Chapter 5. Discussion

5.1. Community Transport Types

5.1.1. Scheduled

5.1.2. On Demand

5.1.3. Flexible

5.2. Service Assumptions

5.3. Service Options for Quadra Island

5.3.1. Service Options

Option 1. Weekday Commuter Service and Service on Quadra

Option 2. Essential weekday commuter service plus one midday trip

Option 3. Meets Cortes Island Sailings All Week

Pros and Cons

Key Takeaways From Review of Similar Systems

Gabriola’s GERTIE Success Indicators

ix
List of Tables

Table 1. List of rural transit performance indicators compiled for feasibility study......... 13
Table 2. Fare table for ferry sailings between Campbell River and Quadra Island........ 40
Table 3. Fare table for ferry sailings between Quadra Island and Cortes Island ......... 41
Table 4. Tourist accommodation on Quadra Island ............................................. 42
Table 5. Tourist destinations on Quadra Island .................................................... 43
Table 6. Age and Mobility Impairment................................................................. 52
Table 7. Gabriola Island and Quadra Island Comparison Table .............................. 66
Table 8. Gabriola Island and Pender Island Community Bus Success Indicators ....... 71
Table 9. Approximate schedule for Option 1.......................................................... 80
Table 10. Option 1 total high level estimated annual impacts ............................... 81
Table 11. Approximate schedule for Option 2...................................................... 83
Table 12. Option 2 total high level estimated annual impacts ............................... 85
Table 13. Approximate schedule for Option 3...................................................... 86
Table 14. Option 3 total high level estimated annual impacts ............................... 87
Table 15. Service Options Table .......................................................................... 88
List of Figures

Figure 1. Benefits of Rural Transit .................................................................................................................. 8
Figure 2. Study Area: Quadra Island, BC .......................................................................................................... 19
Figure 3. Quadra Island dwellings occupied by residency type ....................................................................... 20
Figure 4. Quadra Island resident type ............................................................................................................ 21
Figure 5. Age of Quadra Island population .................................................................................................... 22
Figure 6. Quadra Island residents under low-income cut-off ........................................................................ 23
Figure 7. Quadra Island Major Destinations .................................................................................................. 24
Figure 8. Potential new service area map from Campbell River Region Transit Future Plan (2011) .................. 26
Figure 9. Population density heatmap of Quadra Island ................................................................................ 27
Figure 10. Median household income and median total income after taxes for residents of Quadra Island compared to British Columbia residents ............................................................................ 28
Figure 11. Quadra Island commute mode share ............................................................................................... 29
Figure 12. Quadra Island resident commute length .......................................................................................... 30
Figure 13. Quadra Island residents time of departure from home for the day ................................................. 31
Figure 14. Map of Quadra Island from quadraisland.ca .................................................................................. 32
Figure 15. Ferry Passenger counts between Campbell River and Quadra Island (Q Cove) ............................... 34
Figure 16. BC Ferries schedule for Campbell River to Quadra Island (Q Cove) from bcferris.com .................. 35
Figure 17. BC Ferries schedule for Quadra Island (Q Cove) to Campbell River from bcferris.com ............... 36
Figure 18. Aerial photo of Quathiaski Cove BC Ferries terminal (Google Earth) ........................................... 37
Figure 19. Aerial photo of Heriot Bay BC Ferries terminal (Google Earth) ....................................................... 38
Figure 20. BC Ferries schedule for Quadra Island (Heriot Bay) to Cortes Island (Whaletown) from bcferris.com ............................................................................................................................. 39
Figure 21. BC Ferries schedule for Cortes Island (Whaletown) to Quadra Island (Heriot Bay) from bcferris.com ............................................................................................................................. 39
Figure 22. Screenshot of pedestrian walking toward the ferry terminal at Quathiaski Cove, Quadra Island (Google, 2020) ................................................................. 45
Figure 23. SD72 school bus schedule Route ................................................................................................... 47
Figure 24. SD72 school bus route 10 ............................................................................................................. 48
Figure 25. BC Transit map of bus stops in downtown Campbell River with walk distances and time to nearest stops (bctransit.com) ................................................................. 49
# List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC</td>
<td>British Columbia</td>
</tr>
<tr>
<td>CAD</td>
<td>Canadian Dollar</td>
</tr>
<tr>
<td>CIBATA</td>
<td>Cortes Island Business and Tourism Association</td>
</tr>
<tr>
<td>CRD</td>
<td>Capital Regional District</td>
</tr>
<tr>
<td>GERTIE</td>
<td>Gabriola Environmentally Responsible Trans-Island Express</td>
</tr>
<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
</tr>
<tr>
<td>OCP</td>
<td>Official Community Plan</td>
</tr>
<tr>
<td>SRD</td>
<td>Strathcona Regional District</td>
</tr>
<tr>
<td>TFP</td>
<td>Transit Future Plan</td>
</tr>
<tr>
<td>TNC</td>
<td>Transportation Network Company</td>
</tr>
</tbody>
</table>
Chapter 1.

Introduction

In large cities and metropolitan areas, public transit plays a strong role in increasing the available options to people for accessing jobs, goods, and services while decreasing greenhouse gas (GHG) emissions (Zhu et al., 2017). However, in small, rural, and isolated communities, residents and visitors typically have few transit options and tend to rely solely on their cars (Pucher & Renne, 2005). Car ownership can be a burden on households, especially those with lower income levels and those with aging residents who may no longer be able to drive themselves. This population will increasingly demand more and higher quality transportation options in order to stay in their homes as they age (O'Mahony, 1986). Younger people also tend to require alternatives to the car as the pressures of chauffeuring can decrease their independence and weigh on parents (Litman, 2015). Additionally, the effects of climate change have begun to exert pressure on all levels, including transportation agencies, elected officials, and individuals to reduce greenhouse gas emissions.

In some cases, community buses fill this gap of transport options in rural areas. These schemes are often founded, organized, and operated by volunteers or a community group as a service to certain populations (seniors, disabled) or open to all in order to connect people to major destinations or larger transit systems.

Quadra Island and Cortes Island are two islands off the east coast of Vancouver Island accessible from Campbell River by ferry. These two Discovery Islands, as they are known, are accessible by float plane as well, though most residents and visitors take a BC Ferry from Campbell River. The ferry arrives on the west side of Quadra Island at Quathiaski Cove (Q Cove). From there, if travelers would like to continue to Cortes Island, they must traverse Quadra and take a second ferry from the east side of the island at
Heriot Bay. The distance between the two ferry terminals on Quadra Island is 8.1 kilometers and travelers have about 15-20 minutes to make the trip in order to catch the next ferry to Cortes Island. If a traveler misses this second ferry, they must wait two hours until the next one. In the extreme case in which someone misses the last ferry at 6:45 pm, the next ferry to Cortes departs at 9:05 am the following day. Non-active options for crossing Quadra Island to the second ferry at Heriot Bay are to drive a car, take a Quadra Island taxi at a cost of approximately $20 CAD, or hitchhike. There is currently no publicly available transit option to either traverse or travel around Quadra Island. There is also no public transit on Cortes Island.

To determine whether a community bus might be the solution to the lack of transportation options on Quadra Island, a feasibility study was conducted derived from similar studies conducted for community buses in the Southern Gulf Islands. Specifically, this study analyzed demographic, employment, and housing data together with responses from an online survey distributed on Quadra Island and interviews with residents of Cortes Island and Quadra Island regarding their needs and capacity for a community bus.

Following the feasibility analysis, a recommendation for next steps in the implementation of a community bus scheme are made.

1.1. Research Objectives

Recently, alternatives such as community buses, carpools, car-sharing, taxis, bikeshares, and scooters, have come under increasing inquiry for their efficacy in transporting varying segments of the population (Ryus & Transportation Research Board of the National Academies, 2003). Since 2013, community buses in the Gulf Islands have endeavoured to fill the gaps in transportation and, today, they run on Galiano Island, Mayne Island, Saturna Island, Pender Island, and Gabriola Island. The unique location of Quadra Island effectively deems it a suburb of Campbell River and a gateway to Cortes Island. This study aims to provide a holistic picture to residents and decision-makers of the transport needs on the Island and provide scenarios for the operation of a community bus. The recommendations set forth in this document are based on those scenarios as well as the input by community members via the online survey and interviews.
1.2. Research Questions

This study reviewed success factors in order to explore the following question:

Is a community bus feasible for Quadra Island?

A feasibility study aims to determine whether certain metrics (such as ridership or revenue) could be achieved in distinct conditions (like the population or development pattern of a particular place), so a holistic review of existing community buses in similar communities is essential. Particular emphasis is placed on Gabriola Island’s GERITE bus as it is currently the only community bus of the five Gulf Island community bus systems above which has successfully transitioned to a publicly funded system through referendum and establishment of a regional district service.

1.3. Research Rationale and Approach

This project is the product of the researcher’s long-time interest in community buses in the Southern Gulf Islands and work on Pender Island and Gabriola Island with their systems. At the inaugural BC Community Bus Coalition meeting, residents of Cortes Island, looking to start a shuttle for their community to decrease car traffic on the ferry between Cortes Island and Campbell River, expressed interest in a feasibility study as a first step. As research into the community progressed, it became evident that transit on Quadra Island for residents, as well as passers-through and visitors, was desired by many. A feasibility study for a community bus for Quadra Island was the logical next step to inform decision-makers of attitudes, potential needs, options, and costs.

This report is the result and is intended for residents and visitors of Quadra and Cortes Islands, specifically for those community members interested in pursuing grassroots-led transit on Quadra Island, and for decision-makers such as the Strathcona Regional District representatives for their respective communities. This document should guide thoughtful consideration of transportation alternatives for an area that is rural and remote by nature in the face of the undeniable facts about demographics, human behaviour, and climate change.
Due to the potentially politically sensitive nature of the topic, it is worth noting that though the researcher had prior and continuing contact with community members in favour of increased transit options on Quadra Island, the feasibility study was carried out in a manner consistent with best practices, informed by the literature, interviews with supporters and opponents, and modeled on recent versions of feasibility studies for similar communities. Every effort was made to maintain impartiality with respect to data collection and analysis and the resulting recommendations.

This study aims to determine the feasibility of a community bus on Quadra Island. The intent is to inform decisions by community organizers, funding bodies, transportation agencies, and government officials regarding transit options.

1.4. Format of Document

Chapter 2 synthesizes the literature available on rural transit operations, cost-benefit analyses, and performance indicators. Chapter 3 discusses the methods used to create the feasibility study and those used to conduct the analysis. It describes the collection and analysis techniques for both quantitative and qualitative data. Chapter 4 details the findings of the surveys, interviews, and the feasibility study. Chapter 5 is a discussion of the findings and a detailed explanation of the options leading to the set of recommendations. It also discusses areas for future exploration and potential next steps. Chapter 6 concludes the major project.
Chapter 2. Literature Review

Feasibility studies and evaluation reports provide decision-makers the information they need to determine the fates of existing and potential community buses. Though there are many metrics available on conventional transit and whether certain routes and systems are worth running for the service they provide, few exist for community buses. There are no clearly defined, industry-recognized, indicators of success for these island community bus schemes.

Rapidly evolving technology in the transport sector, local governments, and the public demand that transportation be as effective as possible in terms of fuel efficiency, funding, and operations. Stakeholders are increasingly interested in whether community buses are meeting the needs of those they were intended to serve and how they might be integrated into larger transportation networks. Much research on public transit focuses on larger, more conventional, systems so that many questions about community buses, especially in rural, island areas, remain to be explored.

For the purposes of this study, a community bus will be defined as a community owned and operated transit service operating outside of a larger, conventional transit system (Cervero, 1997). A segment of the literature deals with the definition of community buses and seeks to separate them from other modes of community transit, sometimes called paratransit (Cervero, 1997). These services are also called minibus, dial-a-ride, jitneys, and paratransit for the elderly or disabled (Gillingwater & Sutton, 2014). Regardless of these often-competing definitions of service, the review of literature for this study will focus mainly on research pertaining to rural community buses serving low population areas. The literature currently available regarding community buses in rural, isolated areas can be categorized into three main themes: rural transit operations, benefit-cost analyses, and performance indicators. A review of comparable transit systems is included in section 4.5.1.
2.1. Benefit-Cost Analyses

Rural transit can offer a wide range of potential benefits. Among them are relief from social isolation, increased access to healthcare and other services for seniors, decreased dependence on the personal automobile, and increased access for disadvantaged groups (Godavarthy et al., 2015; Mattson & Ripplinger, 2011; Nelson et al., 2017; Southworth et al., 2005). These benefits are often weighed against financial costs to service providers as well as the GHGs emitted from what are typically diesel-burning vehicles (Cheyne & Imran, 2016; White et al., 1992).

Though many studies are based in the U.S., UK, China, and Japan, one Canadian study establishes five groups that are transportation disadvantaged: (1) older adults, (2) those with physical or mental disabilities, (3) youth, (4) people in low-income households, and (5) women. Therefore, the benefit of transit cannot be measured simply. Instead the efficiency of systems needs to be linked to the needs of the users it serves. For example, if a system transports the elderly to their health appointments, that benefit can be difficult to quantify, but is essential nonetheless (Mjelde et al., 2017).

One study found the benefit/cost ratio of providing service to those who would otherwise be unable to reach employment and other services to be greater than 1.0 (Southworth et al., 2005). That is, the benefit transportation service provides is at least equal to the cost. Others put that benefit-cost ratio of rural transit at 2.16 and cite a reduction in forgone general, medical, and work trips when rural transit is present (Godavarthy et al., 2015). Furthermore, the return on investment of rural transit has been found to be 3 to 1 in some studies with benefits such as allowing residents to live independently, increasing level of business activity within the community, allowing residents to live healthier lives and make more productive use of scarce local resources (Burkhardt, 1999). Studies have also found that better transit service leads to lower subsidy requirement which Mattson and Ripplinger recommend be provided in dollars per vehicle mile of service provided to ensure transit providers are planning and running the most effective service possible (Mattson & Ripplinger, 2011). The argument can be made that rural transit is worth the cost for the benefits it provides, and distinct conditions like
age of the population, development pattern, or distance from a major commercial center may play a role in that benefit/cost ratio.

Small urban transit systems can be as efficient as larger metropolitan systems and contribute to social and ecological benefits. Benefits such as reduction in GHGs and traffic congestion as well as social isolation may justify community bus subsidies (Mattson & Ripplinger, 2011). However, due to reduced levels of traffic congestion and lower ridership rates in rural areas opposed to large metropolitan areas, special considerations should be made for rural transit. Due to lower and more spread out populations on the islands, the added GHGs and low ridership levels may change the benefit/cost ratio found in the aforementioned studies (Mattson & Ripplinger, 2011).

While they may not always apply in rural settings, many benefits like parking cost savings, congestion mitigation, and land use impacts are not always studied in these analyses though they may be simpler to quantify than more abstract benefits like improved quality of life (Godavarthy et al., 2015). Other literature explores alternatives to small-town transit such as car-shares and taxis when it is deemed that the benefits may not outweigh the costs of running a community bus (Burkhardt, 1999).

Community-led social venture creation is distinct from for-profit ventures in that the former considers environmental and social value in addition to economic value. By considering the benefits to seniors, children, those with low income or unable to afford vehicles, and the environmental impacts of providing more transportation options, a community bus on Quadra Island can be considered as a community-led social venture. In this way, we may begin to understand the benefit/cost ratio of community buses on the islands. Further, Haugh describes the six stages of community-led social venture creation as opportunity identification, idea articulation, idea ownership, stakeholder mobilization, opportunity exploitation, and stakeholder reflection. This study is the second step of this process and provides recommendations for the latter four steps to be taken by members of the community (Haugh, 2007).
Baseline rural transit benefits statistics from Southworth et al. (2004) shows the benefits of rural public transit. Note that increase to user mobility accounts for most of the benefit of this type of transit while congestion mitigation in rural areas is not typically a factor.

It should be noted that there are limitations to using benefit-cost ratios exclusively to define the success of community buses. There are philosophical and other difficulties in ascribing numerical values to benefits as well as costs to establish mathematical ratios. Though benefit-cost is an important analysis tool, it is not, and should not be, the only tool used to indicate success or lack thereof of a community bus.

### 2.2. Performance Indicators

Conventional transit is measured against many performance indicators, but researchers tend to agree that rural transit should be held to slightly different standards since it may have different objectives and population densities are typically lower. Measures like output, effectiveness, efficiency, cost-effectiveness, quality, and impact can be measured in ways that reflect the unique conditions rural transit operates in (Anderson & Khan, 2014). Additionally, total expenses as well as fuel costs, maintenance, insurance, and employee salaries can be taken into account and compared to the vehicle operating hours, passengers transported, and vehicle miles (Anderson & Khan, 2014). For an even more robust indicator, measures of convenience and comfort might also be included along with measures of service coverage.
The California Department of Transportation (Caltrans) recognizes the following nine categories of performance indicators for rural transit (metrics identified for each are one example as there are usually many metrics to measure each indicator):

- **Mobility**, reliability, and accessibility are defined as the ability of passengers to reach desired destinations within reasonable time, cost, choice, dependability, and ease. They are usually measured by travel time, available travel choices, and on-time performance.
- **Productivity**, the throughput of the system, is typically measured by revenue per passenger kilometer.
- **System Preservation** is the extent to which vehicles and routes are able to continue operating, given the road conditions and vehicle maintenance and is measured by vehicle fleet age and road conditions.
- **Safety** is the reduction of injuries and measured by accident rates. It is most often the result of well-trained drivers, good, certified mechanics, and high-quality equipment in good, working order.
- **Environmental Quality** is the maintenance and enhancement of natural and human environment measured by GHG emissions.
- **Coordinated Transportation and Land Use** supports job and housing proximity and is measured by similar metrics as accessibility such as number of jobs accessible by transit.
- **Economic Development** is the contribution to the local economy measured by business relocation and jobs provided by service.
- **Return on Investment** is measured by cost per passenger ride.
- **Equity** is ensuring accessibility to transit service to all regardless of income, ability, or minority status usually measured by user cost and availability to all users. (CalTrans, 2006).

Customer satisfaction is another performance indicator which often fits into other indicators and is measured with similar metrics to those of equity, mobility, accessibility, and reliability. Other performance indicators include travel time, security, and system speed (Ryus & Transportation Research Board of the National Academies, 2003). The community may decide how to prioritize their list of performance indicators and how they
rank relative to each other, but will find that most indicators are often correlated. Therefore, the most effective systems will perform well in all or most of the categories of performance indicators. For example, a community may deem safety their main priority, but will likely find that reducing property loss and human injury results in a more equitable system with a higher rate of system preservation. Similarly, focusing on coordinated transportation and land use results in economic development and return on investment, which in turn can increase ridership and therefore productivity.

2.3. Rural Transit Operations

There are myriad methods to provide service for those living in remote, isolated, and often spread out areas (Rosenbloom, 2003). This section summarizes the rationale behind rural transit schemes and the methods by which they operate to improve mobility and accessibility. Mobility has been defined as the “amount and type of travel that is possible” while accessibility is the “ability (in terms of time, cost, and effort) to reach desired destinations. Though mobility may be higher for rural residents than urban residents, as they tend to travel farther and more often, accessibility is usually lower as this car-based travel can be costly and time-consuming (Pucher & Renne, 2005).

Mobility and accessibility studies typically compare rural transit to large city, conventional, transit schemes and sometimes conclude that each is distinct and should be treated as such by transit planners, governing agencies, and the public (Mattson & Ripplinger, 2011). Though there is often plenty of information on ridership, the number of people being transported by community bus schemes, there is little information available on the riders themselves. Without understanding who is riding and where they board and disembark, it can be difficult to tailor routes and schedules to better serve populations in rural areas where there are fewer destinations and commuters than in larger cities (Southworth et al., 2005).

Fixed-route service has been found to provide a higher benefit-cost ratio than demand-responsive service (Godavarthy et al., 2015). Therefore, though rural transit typically serves circuitous, decentralized development, maintaining a fixed-schedule and route riders can become accustomed to, often works best (Godavarthy et al., 2015).
However, other studies suggest that flexible shared transport can be a tool planners can use to reduce GHG emissions and provide alternatives to residents of small towns and as a linkage to larger urban centers (Cheyne & Imran, 2016). Regardless of the service model, transit service should focus on coordinated service that serves all disadvantaged groups especially in areas with fewer transportation options (Marr, 2015).

Rosenbloom (2003) discusses five paradigms for rural transit. They: (1) serve as community change agents, (2) can optimize community transportation resources, (3) have the potential to become early adopters of technology and innovation, (4) act as public entrepreneurs, and (5) provide state-of-the-art service. Because these systems are small and typically only run one to a few buses at a time, they can experiment more freely to provide a service that most closely meets the needs of the community (Rosenbloom, 2003). Additionally, their small organizational structure allows them more flexibility for adaptive change (Rosenbloom, 2003). With this in mind, administrators of community buses may begin to prioritize their indicators of success for their respective systems.

2.4. Success Indicators

Though there are numerous studies focused on rural transit, few, if any, focus on small, rural islands. Though many rural communities may be seen as isolated “islands” away from major urban centers, the issues faced by island-dwellers may be distinct from those who are not forced to travel by a scheduled ferry to other communities, hospitals, schools, and jobs. Most studies also do not focus on Canada and, because the Gulf and Discovery Islands are governed differently than communities in other countries, there are unique factors contributing to a community bus’s success or lack thereof. The unique culture of the islands may also play a role in their success as well as their forced relationship with BC Ferries, Vancouver Island, and each other.

Some of the only literature available for these communities is produced by the transit authority in British Columbia, BC Transit, and by consulting firms hired by BC Transit, a local government, or a community organization. One such report is the Southern Gulf Islands Pender Island Community Bus Report which outlines many of the unique opportunities and challenges which face island communities off the coast of Vancouver.
Island (Watt Consulting Group, 2018). This study recommends a consistent, legible schedule that service adheres to and meets ferries whenever possible. By providing reliable, predictable service, community buses can grow ridership and increase their benefit-cost ratio.

Another such report is the Southern Gulf Islands Community Bus Assessment (2016). This report defines community buses and outlines the history of community buses in BC, and the factors contributing to their success. It concludes that “successful means sustainable” and that those community buses that are not reliant on a single champion, uncertain sources of funding, a small pool of volunteers for administration and/or driving, or a vehicle fleet in need of heavy maintenance have the best chance at operating in perpetuity. Those services that can demonstrate value to their community and operate sustainably in the long-term are thus successful. This type of System Preservation engenders reliability for passengers which in turn increases productivity and other success indicators as noted below in Table 1.

This study contributes to the literature by highlighting the relevant success indicators that can inform future studies for community buses on small rural islands. By applying them in the feasibility study for a community bus on Quadra island, this study demonstrates how to use success indicators to decide whether a community bus is the right fit to solve a community’s transportation issues.

Transit service should holistically benefit the communities it serves. Indicators which measure the provision of transportation to those who would otherwise not have access (mobility, accessibility) and the relief of traffic and parking congestion at ferry terminals will be specially considered for this study as they are most applicable to this remote, rural setting. The success indicators compiled for this study are displayed in Table 1 in the order of priority and consideration. The list and their order were created by the researcher and are based on the preceding literature review and data collected during the study including survey, interviews, and Southern Gulf Island systems review. Recommendations as a result of this feasibility study are made using this list of success indicators. It should be noted that though the list indicates priority for the researcher’s consideration in the feasibility of a community bus on Quadra Island, the indicators depend
and can influence one another as described previously. This list is a guide and provides only a starting point for feasibility analysis as well as a type of rubric by which to compare similar systems. Table 1 is used in section 4.5.1 to compare Gabriola Island’s GERTIE Bus to Pender Island’s Bus and determine which indicators of success each displays for possible emulation by a potential future Quadra Island Community Bus.

Table 1. List of rural transit performance indicators compiled for feasibility study.
Indicators are ranked according to priority with highest priority for Quadra Island at the top

<table>
<thead>
<tr>
<th>Success Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
</tr>
<tr>
<td>System Preservation (includes secure funding and admin)</td>
</tr>
<tr>
<td>Reliability</td>
</tr>
<tr>
<td>Accessibility</td>
</tr>
<tr>
<td>Mobility</td>
</tr>
<tr>
<td>Ridership</td>
</tr>
<tr>
<td>Equity</td>
</tr>
<tr>
<td>Productivity</td>
</tr>
<tr>
<td>Environmental Quality</td>
</tr>
<tr>
<td>Reduction of Ferry Vehicle Traffic Loads</td>
</tr>
<tr>
<td>Relief of Parking/Traffic Congestion (roads/ferry terminal)</td>
</tr>
<tr>
<td>Return on Investment</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
</tr>
<tr>
<td>Schedule Legibility</td>
</tr>
<tr>
<td>Partnerships</td>
</tr>
<tr>
<td>Social Isolation Reduction</td>
</tr>
<tr>
<td>Attractive Facilities and Vehicles</td>
</tr>
<tr>
<td>Economic Development</td>
</tr>
<tr>
<td>Public Awareness of Service</td>
</tr>
<tr>
<td>Health Services</td>
</tr>
<tr>
<td>Provision of State-of-the-Art Technology</td>
</tr>
<tr>
<td>Coordinated Transportation and Land Use</td>
</tr>
</tbody>
</table>
Chapter 3. Methods

This study is modeled on feasibility studies by BC Transit, the province’s transit provider, and Watt Consulting Group, a transportation planning and engineering consulting firm in Victoria, BC. These studies were chosen for their applicability in the Quadra Island context as BC Transit serves several communities with populations of less than 5,000 and Watt Consulting Group has conducted reports for community buses on the Southern Gulf Islands. For reference, the BC Transit’s Gabriola Island Transit Feasibility Study includes the following information:

1.0 Introduction
   Study Objectives
   Study Area
2.0 Community Profile
   Community Overview
   Community Evolution
   Population and Demographics
   Community Use and Land Form
   Amenities and Potential Trip Generators
3.0 Existing Transportation Options
4.0 Assessing Potential Markets for Transit
   People with a Disability
   Seniors
   School Students/Youth
   Younger Adults/College Students
   Adults
   Potential Markets Conclusions
5.0 General Service Concepts
   Transit Service Design Concepts
   Supplementary Service Concepts
6.0 Service Options
   6.1 Service Options Summary
   6.2 Service Options Conclusions
7.0 Integration and Implementation
8.0 Recommendations

The Watt Consulting Group Southern Gulf Islands Transit Support Pender Island Community Bus Technical Support Report discusses the existing system's background, vehicles, maintenance, fares, existing and potential customers, marketing, and future operating model recommendations. Using a combination of the two studies allows for consideration of potential service while accounting for potential implementation and operating scenarios.

This feasibility study reviewed documents and plans to determine existing conditions and community context, surveyed residents and visitors of Quadra Island, and interviewed residents of Quadra Island and self-identified and interested mobility advocates from Cortes Island. Documents reviewed regarding existing Southern Gulf Island community buses were the following:

General:

- Archived news
- Community bus websites
- Ridership information
- Survey results
- Referendum results

Operations:

- Schedule
- Maps
- Routes
- Fares
- Charter information
- Tour information
Funding:

- Budget
- Business plan
- Grant proposal submissions

Reports:

- AGM minutes
- Annual reports
- Third Party Feasibility Studies
- Gabriola Transit Feasibility Study – BC Transit, November 2010
- Southern Gulf Islands Service Discussion Document- Capital Regional District, BC Transit, 2014
- Bunt and Associates Transportation Demand Study for Cortes Island, 2017
- Watt Consulting Southern Gulf Islands Transit Support Pender Island Community Bus Technical Support, 2018

Documents reviewed regarding Quadra Island and its potential for transit were the following:

Plans:

- Community plans
- Land use designations
- Development permit areas
- Transportation plans
- Transit plans

General:

- Archived news
- Bylaws
Through purposive, convenience sampling, interviews were conducted with three members from Cortes Island, two members of Quadra Island, and one member from Gabriola Island to gain insight from local residents with interest or experience with transportation on their respective islands. The purpose was not to reach data saturation, but rather to fill data gaps revealed in the document review.

Interviews were conducted in person and were recorded on the researcher’s cell phone and summarized with consent from each participant. Key points and themes were sent to interviewees for their approval and their edits incorporated into the study. The information from interviews included in this study is the final, approved version of each participant’s interview notes. The interview with the Gabriola Island participant focused on the early steps of their community bus process, public support and opinion, and contributing factors to their success. Interviews with Quadra Island participants focused mainly on capacity (organizational and operational) to start and run a community bus as well as potential transit markets and operational aspects such as availability of vehicle storage areas and diesel fuel. Interviews with Cortes Island participants focused on the need of Cortes Island residents for transit on Quadra Island and potential partnerships. Interview summaries were made available to interviewees for approval within two weeks of the interview and any information not approved was omitted from the study. See Appendix H for interview questions.

Participants were expected to respond to interview questions to clarify information and trends from written, publicly available reports and data.

In order to collect public feedback about their travel needs, destinations, and opinions about a community bus, a survey was distributed electronically to residents and visitors of Quadra Island, Cortes Island, and Campbell River. During the period between September 4 and October 31, 2019, a Google Forms survey was distributed via email, and social media, and advertised through posters posted at major destinations on Quadra Island such as grocery stores, restaurants, and the library. A total of 139 responses were collected. Five responses were omitted for this study as the age of the respondents could not be verified per their selection of either “under 19 years of age” or “Prefer not to say”
for the question “Which age category best describes you?” The total sample size used for the survey analysis is 134.

This study was inductive with no hypothesis but rather formed a theory based on the qualitative data collected. Data from interviews and surveys was subjected to a thematic analysis that sought to create a theoretical framework rather than categorizing responses into a pre-defined framework. Data from interviews and surveys was collected into a database (matrix) and analyzed using Microsoft Excel. A list of success indicators was developed from the data collected (Table 1) and applied to determine the feasibility of a community bus on Quadra Island.
Chapter 4. Findings

Figure 2. Study Area: Quadra Island, BC
4.1. Community Profile

The community profile of Quadra Island and neighbouring communities is a necessary step in determining the nature of potential transit markets. The following sections describe land development patterns, policy related to transportation and land use as well as the locations where people live, work, and learn.

4.1.1. Population and Demographics

As of the 2016 Census, the population of Quadra Island was 2,431, a 6.5% decrease from 2,601 in 2011 (Statistics Canada, 2016). This population lives in approximately 1,519 private dwellings, 1,169 of which are occupied by usual residents, or those who live on the island full-time (Statistics Canada, 2016).

![Pie chart showing the proportion of full-time and part-time residents in Quadra Island dwellings.](image)

**Figure 3. Quadra Island dwellings occupied by residency type**

Home ownership rates are relatively high on Quadra; 77.4% of residents own the home they live in while 26.6% are renters (Statistics Canada, 2016). Population density on Quadra is 0.3 persons per square kilometre though that number is higher in more densely populated neighbourhoods such as Heriot Bay (163.1) and Quathiaski Cove (162.3) (Statistics Canada, 2016).
Though the population declined on Quadra Island between 2011 and 2016, population grew in BC as a whole which makes population projections for Quadra Island for the year of this study difficult. For this study, the 2016 Census population count of 2,431 is used.

The median age on Quadra Island is 56.3 (compared with the BC median age of 43) with 28.6% of residents aged 65 and over and a further 24.3% of residents aged 55 to 64. About 10.3% of residents are aged 5 to 19 while children under 5 years make up about 3.7% of the population. A majority of families (71.5%) are composed of two people and the average family size is 2.5 persons (Statistics Canada, 2016). According to a survey by the Strathcona Community Health Network (2018), 28% of Quadra Island residents indicated that distances to services and amenities would present a barrier to aging in place over the next five years.
According to the Strathcona Community Health Network’s Regional Housing Needs Assessment (2018), approximately 9% of Quadra Residents and 17% of Cortes residents fall under the low-income cut-off compared with the BC percentage of 11%. Each of these islands has a large percentage of young children who fall under the low-income cut-off at 20% and over 35% respectively. This high proportion of children living in households with low income is interesting to planning transit on the island as they fall into two of the five categories of people identified in section 2.1 who tend to take transit most often (Mjelde et al., 2017).

Figure 5. Age of Quadra Island population
4.1.2. Community Land Use and Form

Quadra Island is characterized by rural development interspersed with neighbourhoods resembling suburban developments. The Quadra Island Official Community Plan Bylaw, 2007 Bylaw No. 3050 (OCP) discourages settlement of new areas and encourages infill in existing neighbourhoods (Strathcona Regional District, 2018).

In regards to transportation on the island, the OCP mentions encouraging a road network that keeps with the natural environment and active transportation on existing roads. Specific to the reduction of greenhouse gas emissions, the OCP supports the reduction of transportation emissions by pursuing walkable communities, shuttle and bus service, and incentives for zero emission vehicles. It further promotes objectives for concentrating further commercial development in existing areas, in particular Quathiaski Cove and Heriot Bay (Strathcona Regional District, 2018).

Figure 6. Quadra Island residents under low-income cut-off
Figure 7. Quadra Island Major Destinations
The OCP also outlines the manner in which the Ministry of Transportation and Infrastructure should interact with the island including “Public transport systems and programs or initiatives that promote shared ridership and pedestrian and bicycle movement shall be encouraged.” It also aims to reduce dependency on automobiles and includes an initiative for special parking spaces for shared vehicles in the Quathiaski Cove Village Plan (Strathcona Regional District, 2018)

BC Transit’s Transit Future Plan (TFP) for Campbell River (2011) identifies incorporating areas outside of the City of Campbell River into the existing transit system as a second priority or medium to long term initiative. Public consultation during the TFP process identified Quadra Island as a potential future service area. A feasibility study in partnership with the Strathcona Regional District to determine need, governance models, cost-sharing and prioritization within the larger Campbell River Transit system was identified as a next step (BC Transit, 2011).c. It should be noted that though a feasibility study conducted by BC Transit may be similar to this study, they are distinct particularly in regards to this study’s omission of cost-sharing options (between the province and local government), approach to public engagement, and partnership with the local government. It should be noted that this study was completed wholly independently of BC Transit.
The land area of Quadra Island is 9,238.49 km². Most residents are concentrated in neighbourhoods along the loop created by West Road and Heriot Bay Road on the southern portion of the island, see Figure 14. Anchored by Quathiaski Cove in the west, Heriot Bay to the north and Cape Mudge and the South End to the south, the loop has the highest population density on the island with several neighborhoods scattered around more northern areas near Bold Point (Northeastern portion) and Granite Bay (Northwest tip). The topography of Quadra Island is relatively variable. Most inhabited areas sit at around 140 m with several areas near Granite Bay climbing to around 450 m. Some areas, like Quathiaski Cove and Heriot Bay sit fewer than 100 m above sea level (topographic-map.com, 2019). The climate year-round is relatively mild, particularly compared to Canadian small community counterparts. Summers are warm and typically dry, while winters are cool and wet averaging about 190 days of precipitation annually (Climate Campbell River, 2020).
Figure 9. Population density heatmap of Quadra Island
Based on address point data. The blue color represents areas of low residential density, red color represents higher residential density.

Approximately 90% of the dwellings on the island are single-detached homes and 32.5% of the population lives alone (Statistics Canada, 2016), creating a condition for social isolation of a large segment of the population. Given that transit seeks to reduce social isolation, or reduces it as a positive side effect, this statistic may indicate an opportunity for transit on the island. According to the census, about one-fifth of all residents are spending more than 30% of their income on shelter, although this number
decreases to 16.9% for owners and increases for renters to 39.6% (Statistics Canada, 2016).

The employment rate on the island is 50.4 and unemployment 10.6 (Statistics Canada, 2016). Unemployment is defined as those who were available for work but without employment at the time of the census (Statistics Canada, 2016). The census also revealed that 18.5% of those who work, do so from home while 62.1% work at a usual place, or specific address. This means that about half of those of working age and able to work, do commute to a typical location.

Median total income is $24,224 after taxes for Quadra Island, about $5,000 less than the British Columbia median total income of $29,783 (Statistics Canada, 2016). The trend continues with median household income at $45,563 after taxes while the British Columbia median household income is $61,280 after taxes (Statistics Canada, 2016). Of those with low income status as defined by the threshold in 2016, about one quarter each were aged 0 to 17 and 65 and over (Statistics Canada, 2016).

![Figure 10. Median household income and median total income after taxes for residents of Quadra Island compared to British Columbia residents](image-url)
For residents with a usual place of work, 62.6% work within Quadra Island, while 23.7% commute to a different census division within the Strathcona Regional District (SRD) (Statistics Canada, 2016). Another 13% commute to a different census division outside of the SRD (Statistics Canada, 2016). Mode share data showed 62.8% drive to work, 11% walk, 4.7% bicycle and 9.3% take transit (Statistics Canada, 2016). There is no bus or rail service on the island so those taking transit may be referring to the ferry or bus transit in Campbell River.

Figure 11. Quadra Island commute mode share

Commutes are typically shorter than 15 minutes (39%), though 26.2% of residents commute 15-29 minutes, 22.7% commute 30 minutes to one hour, and over 11% of commuters travel for an hour or more (Statistics Canada, 2016).
Figure 12. Quadra Island resident commute length

Those who commute leave their home for the day at various times, but 57.5% leave between the hours of 6 a.m. and 9 a.m. The rest leave between the hours of 5 a.m. to 6 a.m. or 9 a.m. to noon (Statistics Canada, 2016).
Figure 13. Quadra Island residents time of departure from home for the day

4.1.3. **Key Destinations and Transit Markets**

This section includes an overview of where people live, shop, socialize, and recreate to illustrate potential transit trip generators, markets, and destinations.
Figure 14. Map of Quadra Island from quadraisland.ca
Community Amenities and Trip Generators

The following information is presented to illustrate the destinations and trip generators available on Quadra Island. Places like hotels, resorts, shopping, tourist destinations, and other services generate trips from on and off island origins so an inventory is suitable to determine where residents and visitors might be travelling.

Ferries

Though Quadra Island is home to many businesses, including restaurants and grocery stores, many people travel to the ferry to reach Campbell River only 1.8 nautical miles, or 10 minutes away, as it is the nearest major commercial centre. Campbell River is home to a hospital, hardware stores, schools, and many employers. For these reasons, the ferry terminal at Quathiaski Cove is considered a major destination for those living and visiting Quadra Island.

BC Ferries runs 17 ferries daily from Campbell River to Quadra Island (18 on Fridays and Saturdays). Ferries begin running at 6:40 am and sail every hour on the half hour afterward until 10:30 pm, except for Fridays and Saturdays when there is a 11:30 pm sailing. The 6:15 pm sailing is the last connection for those bound to Cortes Island. Annual ferry data shows passenger counts increase steadily between February and the end of summer, peaking in August and declining during the months of September through the winter reaching their lowest point in February (see figure below) (bcferries.com). In February 2019, a total of 12,191 vehicles and 25,759 passengers made this trip from Campbell River to Quadra Island. August 2019 numbers were significantly higher at 21,747 vehicles and 52,723 passengers.
Figure 15. Ferry Passenger counts between Campbell River and Quadra Island (Q Cove)
Vehicles Campbell River denotes those vehicles departing from Campbell River. Data from bcferries.com.
Ferries from Quathiaski Cove on Quadra Island to Campbell River begin running daily at 6:15 am and continue every hour on the hour afterward. There is a total of seventeen sailings in this direction, except for Fridays and Saturdays when there is an additional sailing at 11:00 pm. In February 2019, a total of 12,541 vehicles and 25,140 passengers made this trip, while August 2019 numbers were 22,187 vehicles and 49,891 passengers.

**Figure 16. BC Ferries schedule for Campbell River to Quadra Island (Q Cove) from bcferries.com**
When departing from Campbell River, those continuing across Quadra Island to Cortes Island are provided with a courtesy lane to allow those vehicles to unload first once on Quadra Island “in order that they will have enough time to cross Quadra Island to board the ferry bound for Cortes Island” (BC Ferries, 2020b). However, the BC Ferries website makes it clear that travelers are processed on a first come, first served basis so this courtesy lane does not give priority to Cortes Island bound passengers. The courtesy lane also does not operate during busy traffic periods and all traffic is treated on a first come, first served basis.

Figure 17. BC Ferries schedule for Quadra Island (Q Cove) to Campbell River from bcferries.com

<table>
<thead>
<tr>
<th>Leave Quadra Island (Quathiaski Cove)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:15 am     <strong>Daily except Dec 25 &amp; Jan 1</strong></td>
</tr>
<tr>
<td>7:05 am     <strong>Daily except Sun and Dec 25 &amp; Jan 1</strong></td>
</tr>
<tr>
<td>8:00 am     <strong>Daily</strong></td>
</tr>
<tr>
<td>9:00 am !! <strong>Daily</strong></td>
</tr>
<tr>
<td>10:00 am    <strong>Daily</strong></td>
</tr>
<tr>
<td>11:00 am    <strong>Daily</strong></td>
</tr>
<tr>
<td>12:00 pm    <strong>Daily</strong></td>
</tr>
<tr>
<td>1:00 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>2:00 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>3:05 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>4:00 pm     <strong>Daily except Tue are (DC)</strong></td>
</tr>
<tr>
<td>5:00 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>5:50 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>7:00 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>8:00 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>9:00 pm     <strong>Daily</strong></td>
</tr>
<tr>
<td>10:00 pm    <strong>Daily</strong></td>
</tr>
<tr>
<td>11:00 pm Fri &amp; Sat only</td>
</tr>
</tbody>
</table>

**DC**

Tuesday sailings will be replaced by Dangerous Cargo sailings. No other passengers permitted.

**!!**

The 9:00 am sailing from Quadra is a popular commuter crossing and has the potential to overload.
Quathiaski Cove ferry terminal has about 50 parking spaces for vehicles and no bicycle parking though cyclists may lock their bikes to a railing. Vehicle parking costs $3.00 per day and is paid through an automated ticket machine. There is a pick up and drop off space and shelter with ample room for a bus to pick up and drop off. Pedestrians walking off or onto the ferry have a shoulder to walk on, but no sidewalks exist along Quathiaski Cove Road. The ferry between Quadra Island and Campbell River has capacity for 70 vehicles and 400 persons including crew.
Heriot Bay ferry terminal is at the northern end of West Road at the intersection of Heriot Bay Road. Vehicle traffic lines up along the shoulder on the east side of West Road. There are no sidewalks for walk on passengers, nor waiting facilities. The neighbouring Heriot Bay Inn is home to a pub and restaurant and has a covered patio. Additionally, the Heriot Bay Tru Value Foods lies about 250 metres south of the terminal and contains a grocery store and coffee shop. The ferry between Quadra Island and Cortes Island has capacity for 26 vehicles and 150 persons, including crew.

BC Ferries runs 6 ferries daily from Heriot Bay on Quadra Island to Whaletown on Cortes Island. Ferries begin running at 9:05 am and continue at 5 past the hour, every two hours until the last ferry to Cortes at 6:45 pm. In February 2019 these six sailings transported 1,690 vehicles and 2,882 passengers while 3,955 vehicles and 8,198 passengers were transported on this same route in August 2019.
Figure 20. BC Ferries schedule for Quadra Island (Heriot Bay) to Cortes Island (Whaletown) from bcferries.com

Ferries from Cortes Island to Quadra Island begin running at 7:50 am daily and sail every two hours at fifty minutes past the hour until the last ferry to Quadra at 5:50 pm. In February 2019, 1,692 vehicles and 2,894 passengers made this trip while 4,002 vehicles and 8,464 passengers took this same route in August 2019.

### Leave Quadra Island (Heriot Bay)

<table>
<thead>
<tr>
<th>Time</th>
<th>Service Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:05 am</td>
<td>Daily except Dec 25 &amp; Jan 1</td>
</tr>
<tr>
<td>11:05 am</td>
<td>Daily except Tue are (DC)</td>
</tr>
<tr>
<td>1:05 pm</td>
<td>Daily</td>
</tr>
<tr>
<td>3:05 pm</td>
<td>Daily</td>
</tr>
<tr>
<td>5:05 pm</td>
<td>Daily</td>
</tr>
<tr>
<td>6:45 pm</td>
<td>Daily</td>
</tr>
</tbody>
</table>

DC: Tuesday sailings leaving Quadra Island at 11:05 am will be replaced by Dangerous Cargo sailings. No other passengers permitted.

Figure 21. BC Ferries schedule for Cortes Island (Whaletown) to Quadra Island (Heriot Bay) from bcferries.com

### Leave Cortes Island (Whaletown)

<table>
<thead>
<tr>
<th>Time</th>
<th>Service Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:50 am</td>
<td>Daily except Dec 25 &amp; Jan 1</td>
</tr>
<tr>
<td>9:50 am</td>
<td>Daily</td>
</tr>
<tr>
<td>11:50 am</td>
<td>Daily</td>
</tr>
<tr>
<td>1:50 pm</td>
<td>Daily except Tue (DC)</td>
</tr>
<tr>
<td>3:50 pm</td>
<td>Daily</td>
</tr>
<tr>
<td>5:50 pm</td>
<td>Daily</td>
</tr>
</tbody>
</table>

DC: Tuesday sailings leaving Cortes Island at 1:50 pm will be replaced by Dangerous Cargo sailings. No other passengers permitted.
One reason passengers may wish to travel on foot rather than with their vehicle is cost. For the ferry crossing between Campbell River and Quadra Island, the fare for a passenger 12 years or older is $8.90. There is an additional $20.65 charge to bring a vehicle. Those with a BC Ferries Experience Card receive a $3.75 savings per passenger 12 years and older and save $7.55 per vehicle. Those with a permanent disability on the BC Resident Assistance Program travel for $4.45 if they are 12 years and older while seniors travel for free Monday to Thursday excluding statutory holidays. Students always travel free for school events. However, vehicles always pay a fare.

Table 2. Fare table for ferry sailings between Campbell River and Quadra Island

<table>
<thead>
<tr>
<th>Type</th>
<th>Fare</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 years and older</td>
<td>$8.90</td>
</tr>
<tr>
<td>Vehicle</td>
<td>$20.65</td>
</tr>
<tr>
<td>Total per sailing with vehicle for one passenger</td>
<td>$29.55</td>
</tr>
<tr>
<td>BCF Experience Card discount per passenger</td>
<td>$3.75</td>
</tr>
<tr>
<td>BCF Experience Card discount per vehicle</td>
<td>$7.55</td>
</tr>
<tr>
<td>Total per sailing with vehicle with BCF Experience discounts</td>
<td>$18.25</td>
</tr>
<tr>
<td>BC Resident Assistance program discount</td>
<td>$4.45</td>
</tr>
</tbody>
</table>

The fare for a bus on this crossing is $2.25 per foot of the length of the bus for buses licensed to carry 16 or more passengers. For a typical 23-foot shuttle bus, the fare would amount to $51.75 each way plus fares per passenger within the vehicle.

For the ferry crossing between Quadra Island and Cortes Island, the fare for a passenger 12 years or older is $10.45. There is an additional $24.10 charge to bring a vehicle. Those with a BC Ferries Experience Card receive a $3.55 savings per passenger 12 years and older and save $7.05 per vehicle. Those with a permanent disability on the BC Resident Assistance Program travel for $5.25 if they are 12 years and older while seniors travel for free Monday to Thursday excluding statutory holidays. Students always travel free for school events. However, vehicles always pay a fare.
Table 3. Fare table for ferry sailings between Quadra Island and Cortes Island

<table>
<thead>
<tr>
<th>Type</th>
<th>Fare</th>
<th>Description</th>
<th>Total per sailing with vehicle for one passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 years and older</td>
<td>$10.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle</td>
<td>$24.10</td>
<td>Total per sailing with vehicle for one passenger</td>
<td>$34.55</td>
</tr>
<tr>
<td>BCF Experience Card discount per passenger</td>
<td>$3.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCF Experience Card discount per vehicle</td>
<td>$7.05</td>
<td>Total per sailing with vehicle for one passenger with BCF Experience discounts</td>
<td>$23.95</td>
</tr>
<tr>
<td>BC Resident Assistance program discount</td>
<td>$5.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fare for a bus on this crossing is $3.05 per foot of the length of the bus for buses licensed to carry 16 or more passengers. For a typical 23-foot shuttle bus, the fare would amount to $70.15 each way plus fares per passenger within the vehicle.

It is worth noting that if Quadra Island decided to move forward with a community bus, it is possible that the need for BC Ferries to expand parking facilities on the island and in Campbell River as well as Cortes Island might decrease. This could also decrease the burden on their fleet so that they may find it unnecessary to increase the number of sailings to and from Quadra Island or the size of their fleet to accommodate the increasing number of cars. This needs further analysis and discussion with BC Ferries.

Accommodations

The Island is home to nine accommodations of various types including hotels, inns, resorts, and one campground. Additionally, a scan of Airbnb showed 57 active listings ranging from capacity of 2-10 guests at the time of writing. Though, assuming 1 guest per room, these accommodations represent about 675 visitors, it is difficult to predict how many of these visitors would use transit if provided on Quadra Island especially given the lack of parking near the Campbell River ferry terminal. However, the accommodations provided on Quadra Island could represent a potential trip generator for both visitors and employees.
Table 4. Tourist accommodation on Quadra Island

<table>
<thead>
<tr>
<th>Name</th>
<th>Accommodations Capacity</th>
<th>Neighborhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harbour House</td>
<td>3 rooms</td>
<td>Quathiaski Cove</td>
</tr>
<tr>
<td>Heriot Bay Inn</td>
<td>10 rooms, 3 cabins</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td>Gowlland Harbour Resort</td>
<td>9 rooms, 1 honeymoon suite, 4 houses</td>
<td>Gowlland Harbour</td>
</tr>
<tr>
<td>Whiskey Point Resort</td>
<td>22 rooms</td>
<td>Quathiaski Cove</td>
</tr>
<tr>
<td>Seascape Resort and Marina</td>
<td>11 rooms</td>
<td>Quathiaski Cove</td>
</tr>
<tr>
<td>Tsa Kwa Luten Lodge</td>
<td>35 rooms</td>
<td>Quathiaski Cove</td>
</tr>
<tr>
<td>Teku Resort</td>
<td>2 cabins, 7 suites, 13 RV and campsites</td>
<td>Drew Harbour</td>
</tr>
<tr>
<td>Discovery Islands Lodge</td>
<td>8 rooms, 1 cabana,</td>
<td>Surge Narrow Road</td>
</tr>
<tr>
<td>April Point Resort and Spa</td>
<td>36 rooms and 11 suites, 4 oceanfront houses</td>
<td>April Point</td>
</tr>
<tr>
<td>We Wai Kai Campground</td>
<td>147 sites</td>
<td>Drew Harbour</td>
</tr>
</tbody>
</table>

Visitors arriving by boat typically lack transportation to travel by land. Marinas around the island, therefore, can be effective trip generators for transit. There are currently four marinas serving a total of about 135 vessels. These marinas are concentrated in Quathiaski Cove and Heriot Bay. Quadra Island Harbour Authority in Quathiaski Cove accommodates approximately 30 vessels and in Heriot Bay accommodates about 50 vessels. The Heriot Bay Inn accommodates about 25 vessels. Taku Resort in Heriot Bay accommodates around 30 vessels. Read Island is also home to about 60 residents who are within boating distance of Heriot Bay marinas.

Tourism

As with most of the islands off the coast of British Columbia, tourism is a major contributor in the economy of Quadra Island. The island sees nearly 10,000 visits during
the summer. The table below summarizes the tourism activities and locations that draw tourists to Quadra Island.

Table 5. Tourist destinations on Quadra Island

<table>
<thead>
<tr>
<th>Type</th>
<th>Destination</th>
<th>Neighborhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Tours</td>
<td>Coast Mountain Expeditions</td>
<td>Surge Narrows</td>
</tr>
<tr>
<td></td>
<td>Wildcoast Adventures</td>
<td>Quathiaski Cove</td>
</tr>
<tr>
<td></td>
<td>Spirit of the West Adventures</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td></td>
<td>Quadra Island Kayaks</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td>Scenic and Wildlife</td>
<td>Protected Water Charters</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td></td>
<td>Boonie Charters</td>
<td>April Point Marina</td>
</tr>
<tr>
<td></td>
<td>AG Fish Enterprises</td>
<td>Quathiaski Cove</td>
</tr>
<tr>
<td></td>
<td>Sutil Charters</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td>Cultural Tours and Attractions</td>
<td>Nuyumbalees Cultural Centre</td>
<td>Cape Mudge</td>
</tr>
<tr>
<td>Hiking, Mountain Biking</td>
<td>Island Cycle</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td></td>
<td>Trails</td>
<td>Mount Seymour</td>
</tr>
</tbody>
</table>

Other Destinations

There is an art gallery and at least a dozen pubs and restaurants mainly concentrated in and near Heriot Bay and Quathiaski Cove.

Additionally, there are two schools on the island, Quadra Children’s Centre (Quathiaski Cove) and Quadra Elementary School (Quathiaski Cove). Older children commute to Campbell River for secondary school. At least fifty stores and other employers call the island home including one grocery store in Heriot Bay and two in Quathiaski Cove. See Appendix C for a detailed list.
There is also a community center on West Road which hosts several music and other festivals each year which draw people from across the island and region. It also hosts a number of community gatherings and a soup lunch open to all on Wednesdays throughout the year.

4.2. Existing Transportation Options

Current transportation options on Quadra Island include a taxi service and at least three other specialized transport services. Quadra Taxi operates a minivan on the island. Cape Mudge Band runs a van for their elder members which travels around the island as needed and to Campbell River twice per week (We Wai Kai Nation, 2019). Quadra Circle Community Connections Society transports seniors and those with a disability or illness to shopping, health, social or other appointments, and shopping on Quadra Island, Campbell River, and Courtenay (Quadra Circle Community Connection Society, 2019). Phone or email reservations are accepted at least twenty-four hours in advance of a trip. Walcan Seafood Ltd. operates their own private vanpools for their employees from Campbell River to their location on Quadra Island approximately seven kilometres northwest of Heriot Bay (personal communication, 2019). These existing transportation options are potential partners, administrators, and/or operators for a community bus that serves the general public.

4.2.1. Roadways

Roads on Quadra Island are owned and maintained by the Ministry of Transportation and Infrastructure (MOTI) (Strathcona Regional District, 2007). Most rights-of-way are a standard 20 meters wide with one 3.7-metre-wide lane in each direction and one 3-metre shoulder on either side. There are few sidewalks present on the island, instead pedestrians use the shoulder on the side of the highway. Sidewalks present are reserved for private properties in front of shops, restaurants and schools. Cortes is characterized by much the same land development pattern and street form.
As mentioned, the OCP outlines walking and cycling infrastructure and initiatives such as identifying potential walking paths, supporting neighbourhood form that supports walking, cycling or ride-share, and encouraging walking and cycling by separating such modes from traffic in the Quathiaski Cove Village Plan. This Village Plan within the OCP encourages greenway connections to and from the village as well as a network of such paths to facilitate the travel to and from the village by alternate modes in order to reach greenhouse gas emission reduction targets (Strathcona Regional District, 2018).

4.2.2. Car Stops

Quadra Island is home to a number of “car stops” which act like bus stops for private vehicles (Quadra Island, 2019). Car stops work in the following way: If a person wishes to get a ride from someone, they stand at a “car stop” and wait for a driver to pull up in their vehicle. They may exchange information such as destination, desired “tip” or other money to cover the cost of fuel, if any, or any other information either party deems important. If both the driver and potential passenger agree, the passenger gets in the car and receives a ride (Mayne Island, 2019). Car stops are common on several of the islands of the coast of Vancouver Island and can be found on Cortes Island, Pender Island, and Mayne Island as a formalized mode of hitch-hiking (Mayne Island, 2019; “Pender Island car stop map,” 2016; Quadra Island, 2019). As of this writing, there is very little data available about car stop usage on the island, but depending on their locations, they may be suitable transit stops for a community bus.
4.2.3. Bus Service

School bus service is provided to Quadra Island residents by School District 72 (SD72). On school days, a high school run begins at the Walcan Turnaround at 7:14 am and makes its way to Heriot bay via Hyacinthe Bay Road and onto the ferry via West Road at 7:50 am. It operates the opposite route in the afternoon beginning at 2:50 pm and ending at 4:00 pm. The elementary run takes much the same route beginning at 8:08 am and ending at Quadra School at 8:39 am with the afternoon route beginning at 4:02 pm at the ferry and ending at the Walcan turnaround at 4:38 pm. At 5 pm, the bus makes its way back to Quadra school for the evening (SD72, 2019). See Figures 23 and 24.

Another route begins at Green Road and Noble Road and loops toward the south at Cape Mudge before heading to the northeast portion of the island at Heriot Bay Road and Pine Tree Drive.

<table>
<thead>
<tr>
<th>Route</th>
<th>Quadra Island</th>
<th>P.M.</th>
<th>ELEMENTARY RUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:14</td>
<td>WALCAN TURNAROUND</td>
<td>2:50</td>
<td>903 WEST ROAD</td>
</tr>
<tr>
<td>7:15</td>
<td>1970 HYACINTHE BAY ROAD (DUBOIS)</td>
<td>2:52</td>
<td>COMMUNITY CENTRE</td>
</tr>
<tr>
<td>7:17</td>
<td>HYACINTHE BAY / LAKEBURG</td>
<td>2:53</td>
<td>ACROSS FROM CANADA FLAG</td>
</tr>
<tr>
<td>7:19</td>
<td>HYACINTHE BAY / ENDERSBY</td>
<td>2:54</td>
<td>1156 WEST ROAD</td>
</tr>
<tr>
<td>7:21</td>
<td>1595 HYACINTHE BAY ROAD (GREGGS)</td>
<td>2:56</td>
<td>WEST / RAYDON</td>
</tr>
<tr>
<td>7:22</td>
<td>1529 HYACINTHE BAY ROAD (DEMILLE)</td>
<td>2:58</td>
<td>CAMP HOMewood</td>
</tr>
<tr>
<td>7:23</td>
<td>ANTLER / CRAMER</td>
<td>2:59</td>
<td>WEST / GOWLAND HARBOUR</td>
</tr>
<tr>
<td>7:25</td>
<td>1504 HERIOT BAY</td>
<td>3:05</td>
<td>WEST ROAD ACROSS FROM COMMUNITY GARDEN</td>
</tr>
<tr>
<td>7:27</td>
<td>HERIOT BAY / BUER</td>
<td>3:11</td>
<td>WEST / SCHOONER (FIREHALL)</td>
</tr>
<tr>
<td>7:28</td>
<td>1387 HERIOT BAY</td>
<td>3:13</td>
<td>NEWELL DRIVEWAY</td>
</tr>
<tr>
<td>7:32</td>
<td>REBECCA SPIT (TURNAROUND)</td>
<td>3:17</td>
<td>1387 HERIOT BAY</td>
</tr>
<tr>
<td>7:34</td>
<td>HERIOT BAY / NEWELL DRIVEWAY</td>
<td>3:19</td>
<td>REBECCA SPIT (TURNAROUND)</td>
</tr>
<tr>
<td>7:35</td>
<td>WEST / SCHOONER (FIREHALL)</td>
<td>3:22</td>
<td>ANTLER / CRAMER</td>
</tr>
<tr>
<td>7:36</td>
<td>WEST HYACINTHE BAY</td>
<td>3:24</td>
<td>1529 HYACINTHE BAY ROAD (DEMILLE)</td>
</tr>
<tr>
<td>7:38</td>
<td>WEST / GOWLAND HARBOUR</td>
<td>3:25</td>
<td>1506 HYACINTHE BAY ROAD (GREGGS)</td>
</tr>
<tr>
<td>7:39</td>
<td>CAMP HOMewood</td>
<td>3:27</td>
<td>HYACINTHE BAY / ENDERSBY</td>
</tr>
<tr>
<td>7:40</td>
<td>WEST / RAYDON</td>
<td>3:32</td>
<td>HYACINTHE BAY / LAKEBERG</td>
</tr>
<tr>
<td>7:41</td>
<td>1156 WEST ROAD</td>
<td>3:34</td>
<td>1970 HYACINTHE BAY ROAD (KELLERHALLS)</td>
</tr>
<tr>
<td>7:42</td>
<td>1103 WEST ROAD</td>
<td>3:36</td>
<td>WALCAN TURNAROUND</td>
</tr>
<tr>
<td>7:43</td>
<td>WEST ROAD @ CANADA FLAG</td>
<td>4:00</td>
<td>FERRY</td>
</tr>
<tr>
<td>7:44</td>
<td>QUADRA STORAGE</td>
<td>4:00</td>
<td></td>
</tr>
<tr>
<td>School Run</td>
<td>Elementary Run</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:02 FERRY</td>
<td>8:08 WALCAN TURNAROUND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:05 CROSSWAY ACROSS FROM</td>
<td>8:09 HYACINTHE BAY (KELLERHALS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCHOOL</td>
<td>8:12 HYACINTHE BAY / LAKEBERG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:06 QUADRA STORAGE</td>
<td>8:14 HYACINTHE BAY / ENDERSBY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:07 COMMUNITY CENTRE</td>
<td>8:15 1596 HYACINTHE BAY ROAD (GREGGS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:09 1103 WEST ROAD</td>
<td>8:16 1529 HYACINTHE BAY ROAD (DEMILLE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:10 1156 WEST ROAD</td>
<td>8:17 ANTLER / CRAMER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:11 CAMP HOMEWOOD</td>
<td>8:19 NEWELL DRIVEWAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:12 WEST / GOWLAND HARBOUR</td>
<td>8:20 HYACINTHE BAY / BUER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:13 1375 WEST ROAD</td>
<td>8:22 1387 HERIOT BAY ROAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:14 COMMUNITY GARDEN</td>
<td>8:24 REBECCA SPIT (TURNAROUND)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:15 WEST / SCHOONER (FIREHALL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:16 HERIOT BAY ROAD (NEWELL DRIVEWAY)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:17 HERIOT BAY / BUER</td>
<td>8:27 WEST / SCHOONER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:18 1387 HERIOT BAY ROAD</td>
<td>8:29 WEST / HYACINTHE BAY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:20 REBECCA SPIT TURNAROUND</td>
<td>8:30 1375 WEST ROAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:23 ANTLER / CRAMER</td>
<td>8:31 WEST / GOWLAND HARBOUR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:25 1529 HYACINTHE BAY ROAD (DEMILLE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:27 1596 HYACINTHE BAY ROAD (GREGGS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:31 HYACINTHE BAY / ENDERSBY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:33 HYACINTHE BAY / LAKEBERG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:35 COMMUNITY CENTRE</td>
<td>8:36 903 WEST ROAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:38 WALCAN TURNAROUND</td>
<td>8:37 SCHOOL: QUADRA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 SCHOOL: QUADRA</td>
<td>8:39 SCHOOL: QUADRA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 23. SD72 school bus schedule Route

<table>
<thead>
<tr>
<th>Route</th>
<th>Quadra Island</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>HIGH SCHOOL RUN</td>
<td>2:50</td>
<td>SCHOOL: QUADRA</td>
</tr>
<tr>
<td></td>
<td>SCHOOL: QUADRA</td>
<td>2:54</td>
<td>GREEN / NOBLE</td>
</tr>
<tr>
<td>7:01</td>
<td>CAPE MUDGE VILLAGE</td>
<td>2:56</td>
<td>CAPE MUDGE VILLAGE</td>
</tr>
<tr>
<td>7:03</td>
<td>CAPE FLATS @ WE WAI</td>
<td>2:59</td>
<td>WE WAI / CAPE FLATS</td>
</tr>
<tr>
<td>7:09</td>
<td>JOYCE / LIGHTHOUSE TURNAROUND</td>
<td>3:01</td>
<td>CAPE MUDGE / WE WAI</td>
</tr>
<tr>
<td>7:14</td>
<td>SUTIL / PETROGLYPH TURNAROUND</td>
<td>3:02</td>
<td>350 CAPE MUDGE</td>
</tr>
<tr>
<td>7:18</td>
<td>350 CAPE MUDGE ROAD</td>
<td>3:04</td>
<td>JOYCE / LIGHTHOUSE TURNAROUND</td>
</tr>
<tr>
<td>7:19</td>
<td>CAPE MUDGE / WE WAI</td>
<td>3:09</td>
<td>SUTIL / PETROGLYPH</td>
</tr>
<tr>
<td>7:21</td>
<td>CAPE MUDGE / GROUSE</td>
<td>3:13</td>
<td>530 CAPE MUDGE</td>
</tr>
<tr>
<td>7:23</td>
<td>767 SMITHS</td>
<td>3:16</td>
<td>CAPE MUDGE / GROUSE</td>
</tr>
<tr>
<td>7:24</td>
<td>SMITHS / CEDAR</td>
<td>3:19</td>
<td>845 SMITHS</td>
</tr>
<tr>
<td>7:27</td>
<td>QUADRA LOOP (UPPER)</td>
<td>3:24</td>
<td>QUADRA LOOP (UPPER)</td>
</tr>
<tr>
<td>7:34</td>
<td>HERIOT BAY / MILFORD TURNAROUND</td>
<td>3:28</td>
<td>HERIOT BAY / PINE TREE</td>
</tr>
<tr>
<td>7:36</td>
<td>HERIOT BAY / ANIMAL FARM</td>
<td>3:32</td>
<td>HERIOT BAY / MILFORD (TURNAROUND)</td>
</tr>
</tbody>
</table>
There is a large gap during the middle of the day when the school buses are not utilized for student transport. This may be an opportunity for partnership so that the buses might transport people to major destinations on Quadra during the midday hours.

### 4.2.4. Campbell River Transportation Options

The neighbouring community of Campbell River is serviced by transit through a partnership between the City of Campbell River, Strathcona Regional District, and BC Transit (City of Campbell River, 2019). Passengers coming from Quadra Island who wish to use the service can travel by ferry from Quathiaski Cove to Campbell River and walk approximately 450 m to the nearest transit stop. There are 12 bus stops in the area. The stops nearest to the ferry terminal serve routes to Willow Point, Campbellton, Quinsam and North Island College. The Community Centre Exchange stops serve routes 2, 3, and 8 and are a 550 m or an approximately seven-minute walk from the ferry terminal. Stops at Dogwood and 11th Ave and 12th Ave serve route 1 Campbellton/Willow Point and route 7 Petersen and are approximately 800 m from the ferry terminal, or about a ten-minute walk (City of Campbell River, 2019).
Figure 25. BC Transit map of bus stops in downtown Campbell River with walk distances and time to nearest stops (bctransit.com)

4.2.5. Pedestrian Infrastructure and Conditions

Though streets are not particularly narrow at about 14 metres from curb to curb, sidewalks are present on most streets in the downtown core of Campbell River. The map below shows walk circles for 400 m, 800 m, and 1000 m from the ferry terminal.
Figure 26. Walk circles from Campbell River ferry terminal. 400, 800, 1000 meters. (Google, 2020)

4.3. Community Engagement

4.3.1. Survey

A survey of Quadra residents and visitors was conducted during the months of September and October 2019 via Google Forms. The following section describes the responses gathered from 134 participants. Though the survey responses represent the thoughts of a small proportion of people who either visit or live on Quadra Island, together with the other sources of data, they help illustrate the desire and need for transit on the island. Therefore, the survey results merely contribute to the overall feasibility study rather
than compose the entirety of factors considered for making recommendations. The survey is meant to add another source of data directly from stakeholders in addition to statistics, plans, and other reports reviewed here.

Though efforts were made to distribute the survey widely, the results here are analyzed and shared with the understanding that many voices have not yet been heard and that this sample may not be representative of the entire population. Further efforts for community engagement should be made as part of the recommendations in this study.

**Age and Ability**

The most common age for survey respondents was 55-74 at 42.5% with 35-54 a close second at 34.3% of all respondents. Only one of the ten participants aged over 75 years uses a mobility device such as a wheelchair to get around. A total of six respondents indicated they use a wheelchair or mobility device while another three indicated “maybe/unsure” for the question: “Does anyone in your household use a wheelchair or other mobility device to get around?”

![Age of survey participants](image-url)

**Figure 27. Age of survey participants**
Table 6. Age and Mobility Impairment

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Participants in Age Group with Mobility Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-24</td>
<td>1</td>
</tr>
<tr>
<td>25-34</td>
<td>1</td>
</tr>
<tr>
<td>35-54</td>
<td>0</td>
</tr>
<tr>
<td>55-74</td>
<td>6</td>
</tr>
<tr>
<td>75+</td>
<td>1</td>
</tr>
</tbody>
</table>

Where Respondents Live

A large number of survey respondents (39 or 29.1%) did not provide a response for the question: “Which of the following best describes where you live?” Nearly half, or 42.54%, of all survey respondents indicated that they live on Quadra Island. Thirty-five, or 26.12% of all respondents indicated living on Cortes Island while 3 (2.24%) live in Campbell River. In total, 95 of the 134 respondents indicated which neighborhood they live in.

Figure 28. Where respondents live
For the 57 respondents who live on Quadra Island, 15 live in Quathiaiski Cove, 16 in Heriot Bay, seven in Quadraloop, six in South End, four in each the East Side and Bold Point, two in each Hooleyville and Gowlland Harbor, and one in Granite Bay. Of the 35 respondents who live on Cortes Island, 15 live in Whaletown, 14 in Mason’s Landing, four in Squirrel Cove, and two in Cortes Bay.

![Diagram of Quadra Island neighborhoods]

**Figure 29. Where Quadra Island-dwelling respondents live**

**Where Respondents Work**

Thirty-four respondents indicated the question about where they work was not applicable, eight responded they work from home and 68, or 47.6% of total survey respondents indicated working in a neighborhood in Campbell River, Cortes Island, or Quadra Island.

Thirty-eight (35.2%) respondents indicated they work in a different neighborhood than the one they live in. Of those, 18 live on Quadra Island and work in a different neighborhood on the same island. Another eight live on Quadra Island and commute to Campbell River for work. Nine respondents (8.3%, n=108) living on Cortes Island commute to a different neighborhood on the same island for work. None of the respondents who live on Cortes Island indicated working on Quadra Island or Campbell River. Thirty-five respondents (31.5%) indicated this question was “not applicable,” 27 of whom are aged 55 and over.
**Travel Mode for Work**

Of the 96 respondents to whom the question “What is your usual method of getting to work?” applied, 67 (69.8%, n=96) drive to work while two more ride in a vehicle as a passenger. This means that a total of 69, or 71.9% of 96 working respondents are dependent on a vehicle for their commute to work. Worth noting are the 13 respondents who reported biking to work and the ten who walk.

![Travel mode to work of survey respondents](image)

Figure 30. Travel mode to work of survey respondents

**Where Respondents Learn**

Most respondents (102) indicated that the question: “Where do members of your household attend school?” was not applicable. Of the 31 to whom the question applied, 15 have a person in their household attending school on Quadra Island, ten in Campbell River, and four on Cortes Island. Twenty, or 64.5% of those indicated that a personal vehicle is their main mode of transport to school while eight ride the school bus.

**Time Respondents leave and return home for the day**

When asked what time they generally left home for the day, most respondents indicated times between 6 am and 8 am (64 respondents) though this question garnered a wide range of responses as noted in the figure below.
When asked what time they return for the day, the responses varied across a wide range as well. A surprising number of respondents indicated times in the early morning, with a spike of eleven respondents indicating returning home for the day at 5 am. This may be the result of shift workers returning home, or an error by some of the respondents wishing to indicate 5 pm. However, without evidence of this phenomenon, the results were recorded as shown. There is a clear peak in responses in the hours between 3 pm and 6 pm.

Figure 31. Time of departure from home for the day

Figure 32. Time of return home for the day
Where respondents travel for errands and recreation

Forty respondents (29.9%, n=134) indicated visiting Quathiaski Cove daily for errands and recreation, while 37 indicated weekly and 11 monthly. Thirty-six respondents indicated visiting Heriot Bay daily (26.9%, n=134), 28 weekly, and 20 monthly. Those visiting Rebecca Spit reported visiting weekly or monthly at the highest rates, 26 and 22 respondents respectively. Forty-one respondents indicated travelling to Campbell River weekly for errands or recreation while another 56 visit monthly for these reasons. Eight respondents visit daily though only two of those respondents indicated living on Quadra Island and one on Cortes Island. Forty-seven of the respondents who indicated visiting Campbell River weekly or monthly (n=97) live on Quadra Island while 13 live on Cortes Island.

![Chart showing travel frequency to different locations](image)

Figure 33. Where survey respondents travel for errands and recreation

Likelihood of using transit

When asked “If transit were provided on Quadra Island, would you or members of your household use it?,” 81 respondents indicated “Yes”, 29 indicated “Maybe,” and 18 indicated “No.” Other responses included conditions such as only if the service picked up at the respondent’s home, mostly in the winter, or for events and festivals.
Figure 34. Likelihood of using transit if provided on Quadra Island

Of those who indicated a positive response (yes, maybe, occasionally for events), 49 respondents live on Quadra and 28 live on Cortes. It is likely that more respondents to this question live on either Quadra or Cortes Islands, but due to the large number of respondents who did not indicate where they live (39 respondents), it is impossible to make accurate estimates based on the survey data.

Figure 35. Where respondents who indicated they would use transit live
The online survey then asked respondents to “please rank how likely you or someone else in your household is to use the following services:” The rankings are below. The most popular response was a shuttle to the ferry terminals, followed by a bus that goes to Campbell River a few times per week, then a bus that runs during morning and evening commute times. A bus that requires you to make a reservation in advance of your trip garnered the fewest “Very Likely” responses and the most “Unsure” responses.

![Figure 36. Likelihood of using various types of transit service](image)

The survey then asked respondents to indicate what type of service was most important to them. The options were transit service to the ferry to Campbell River, transit service to the ferry to Cortes Island, or transit service that serves local destinations on
Quadra Island. The purpose of this question was to further determine whether respondents are mainly interested in a ferry shuttle or a bus that services Quadra Island. The most popular response was transit service to the ferry to Campbell River followed by transit service that serves local destinations. However, on Quadra Island, due to the loop created by its two main roads to Heriot Bay and Quathiaski Cove, it is possible to design transit service that serves all three priorities (See Image 2).

When asked how often respondents traveled by ferry to Campbell River from Quadra in the past six months, 21.6% (n=134) indicated that they travel one to two days per week. 4.5% indicated three to four times per week while 8.2% indicated five or more times per week. 49.3% of respondents travel to Campbell River a few times per month. Combined, 83.6% of respondents travel to Campbell River at least a few times per month or more. Only 22 people indicated traveling to Campbell River once every few months, but perhaps most interestingly, no respondent chose the response “I have not traveled to Campbell River in the past 6 months.”

![Figure 37. Frequency of travel to Campbell River by survey respondents](image)

Travel mode to the ferry was predominantly by car at 86 or 64.2% of respondents driving alone and an extra 8.2% of respondents driving with at least one passenger for a
total of 72.4% using a personal vehicle as their main method. Fourteen respondents reported walking or cycling to the ferry while three hitch hike. One person reported using the senior transport service offered by the senior’s society (Quadra Circle Community Connections Society).

**Figure 38. Travel mode to ferry**

**Cross-Quadra Travel**

Those traveling to Cortes Island do so much less frequently with a majority of respondents (72.2%, n=133) making the trip once every few months or not at all in the past 6 months. Only 1.5% of respondents make this trip one to two days per week, 2.3% make it 3 to 4 times a week and 24.1% make it a few times per month.

Of those who make the trip to Cortes Island a few times per month, 35 (26.3%) live on Cortes Island. The same number of respondents reported traveling between Campbell River and Quadra Island a few times a month. It may be inferred that these respondents are those who travel from Cortes Island (Whaletown) to Heriot Bay on Quadra Island, across the island to Quathiaski Cove to travel by ferry to Campbell River.
4.3.2. Interviews

To gauge the level of capacity and for more information about potential vehicle storage sites, maintenance venues, and other pertinent information, interviews with residents on Quadra Island were conducted. The main themes that emerged from the interviews are below.

Quadra Island

Who might ride the bus? What is the need?

A need for transit to take people to health appointments so they no longer need to rely on friends and family to provide rides was identified. One interviewee mentioned a growing number of seniors who no longer leave their house due to age, weather, or inability to drive or lack of access to a vehicle. They recalled a service that would transport patients to the clinic every few weeks but ceased due to a complaint, leaving a void in service options. There is also a chauffeuring burden for parents of older children who cannot yet drive but who desire more freedom and independence. Furthermore, the ferries often experience overloads during the busy season, sometimes leaving passengers who cannot get their vehicle onto the ferry behind and waiting for the next sailing. Transit would enable people to walk on the ferry rather than drive. Additionally, some people do not own vehicles due to unaffordability or preference so transit would fill an important transport gap for them.

Major destinations on the island

The interviewees identified the resorts and other tourist attractions as major destinations on Quadra Island as well as the lighthouse and Cape Mudge Village. Major destinations for local residents include Quathiaski Cove and Heriot Bay.

Human resource capacity and organizations on the island

Organizations who could act as potential partners, administrators, or operators of a community bus on Quadra Island were identified as Quadra Circle, The Cycling Coalition, Pathways, Quadra Island Recreation Society, Chamber of Commerce, and Community Center. The local golf course currently picks up patrons at the ferry and
transports them to the course and Walcan Seafood currently operates vanpools for employees to their work site on Walcan Road on the northwest side of the island.

**Vehicle Storage and Maintenance**

Interviewees suggested an industrial site at Quadra Storage, the Quathiaski Cove Industrial Area, and the community centre as potential vehicle storage sites. At the time of the interviews, there was no diesel fuel available on the island for wheeled vehicles, though diesel was available at the Heriot Bay docks. Additionally, the interviewees identified several mechanics who were likely accredited to perform maintenance on a small bus on the island.

**Other notes**

Other topics of discussion identified potential synergistic effects of transit coupled with increased electric bicycles on the island for tourists and other visitors. Additionally, the provision of parking for residents of Quadra at the Tyee Shopping center, located close to the ferry terminal in Campbell River, was mentioned along with concerns about its permanent availability.

**Cortes Island**

Due to the high level of interest shown by residents of Cortes in transit across Quadra Island, several of them were interviewed as well. The major themes from those interviews are as follows.

**Who might ride the bus? What is the need?**

The main need for Cortes Island residents is for cross-Quadra service (from Heriot Bay to Quathiaski Cove and back) particularly for those who would rather not drive for environmental reasons, or those who cannot or should not drive such as the elderly traveling to doctor’s appointments or children and youths. Currently, those who need transport to Campbell River for medical appointments may travel for free on the ferry and bring a driver and vehicle free of charge. They may also be granted priority boarding if they meet the requirements for Medical Assured Loading and have a letter from their doctor (BC Ferries, 2020a).
A desire was expressed for a more formalized method of hitch-hiking across Quadra Island as currently some send their children along as passengers in other people’s vehicles. Safety, equity, and environmental concerns were a priority for this group. A company named Cortes Connection served residents of Cortes twice per week prior to 2017 and would transport travelers to Campbell River for errands and return the same day. Since then, they have ceased operations and their two vans are now decommissioned. Without that service, there is no other public transport option.

**Partnership Opportunities**

A desire for and recognition that partnership with Quadra Island organizations and residents was paramount to the success of a cross-Quadra transit option was also evident. Potential partners identified were BC Transit, BC Ferries, Friends of Cortes Island Society, Transportation Network Companies (TNCs), also known as ride-hailing companies, Cortes Island Business and Tourism Association (CIBATA), the community halls on Cortes, South Cortes Community Association, Whaletown Community Association, Yacht clubs, resorts, Harbour Authority, School District, Island Carshare Co-Op, Hollyhock (currently owns and operates two vans), and Klahoose First Nation. It is worth noting that since the interview, it was discovered that Klahoose First Nation has purchased a vehicle for its members and has plans to sell any excess seats to non-members as available.

**4.4. Potential Transit Markets**

**4.4.1. Seniors**

This segment of the population does not typically need transit service during morning and evening commute hours, but may require mid-day service for shopping, social outings, and medical and other appointments on Quadra Island or in Campbell River. According to survey results, about 50 seniors who responded indicated they would be likely to use the service with one person providing the caveat that they would require a pick up from their home. This indicates a desire for transportation options for those who either do not drive or are likely to cease driving in the near future.
4.4.2. Adults

Commuters

According to the 2016 census journey to work data, approximately 46.9% of Quadra residents are aged 19-60. Assuming this segment of the population is eligible for work, and 62.1% have a usual place of work to which 62.8% commute by car, that means approximately 445 people are driving to work per weekday assuming a typical Monday-Friday schedule (Statistics Canada, 2016). Some of these commuters may shift modes to transit if offered. Assuming 5% ridership (City of Campbell River et al., 2012) commuter service could serve about 22 people per commute period or about 8 riders per hour assuming a peak period of approximately three hours.

Visitors/Cross-Quadra Traffic

Visitors to Quadra Island who do not wish to drive onto the ferry might ride transit if offered. Those who continue to Cortes Island or coming from Cortes Island on the way to Campbell River are another market for transit if they prefer to walk on the ferry and ride transit or walk once in Campbell River. During the summer months, ferries can often be full and vehicles may wait one or more sailings to board. A community bus might be particularly popular during these times especially on event weekends when music and other festivals are held on Cortes Island and Quadra Island. Assuming full capacity for the six weekends during the major festivals each summer, a bus could run at around 20-40 passengers per hour at those times.

4.4.3. Youth

Young people on Quadra Island who do not yet have a driver’s license or vehicle to drive would likely take transit to local destinations, social outings, or to the ferry if offered. Currently, bicycle and pedestrian infrastructure is restricted to the shoulders of major roads on Quadra Island so few options exist for youth wishing to travel independently in their community. The Quadra Community Centre, major commercial centers of Heriot Bay and Quathiaski Cove, as well as beaches and the many hiking and mountain biking trails may be destinations for this population segment.
4.5. General Service Concepts

4.5.1. Review of Similar Systems

The following section reviews comparable community bus systems in the region with the indicators of success identified in Table 1 as a lens for understanding how they perform.

Gulf Island Community Buses

Gabriola Island

Gabriola Island is a community of 4,000 permanent residents about a 30-minute ferry ride from Nanaimo, BC. Many residents commute to work on the ferry and high school students travel to Nanaimo for school as well. There was a taxi but no public transit on the island until a group of interested residents came together and asked BC Transit for a transit feasibility study in 2010. As a result of this study, the group decided against BC Transit service and instead piloted a community transit project, GERTIE (Gabriola’s Environmentally Responsible Trans-Island Express) in 2013. Residents were fairly supportive from the beginning, and after three years, a referendum to partially fund the system with property taxes passed in 2016 (Gabriola Community Bus, 2020). Service began with 2 flexible routes and two fixed routes and today, GERTIE operates 55 hours per week on 4 fixed routes Monday through Saturday. In 2017, GERTIE transported approximately 15,640 passengers, up from 13,840 in 2016 (Gabriola Community Bus, 2019).

Today, drivers and a driver coordinator are paid from the property tax, grant, and donation-based funding GERTIE receives. In 2019, GERTIE transported about 20,000 passengers. Four percent of those passengers were seniors, 73% adults, 20% youth and 2% children under 6 years of age (Gabriola Community Bus, 2019).

The table below summarizes some of the major similarities of Gabriola Island and Quadra Island. This is provided for comparison of the two communities and to help gauge ridership potential on Quadra Island since Gabriola’s GERTIE has the most stable funding source (system preservation) of all systems reviewed.
Table 7. Gabriola Island and Quadra Island Comparison Table

<table>
<thead>
<tr>
<th>Community</th>
<th>Age</th>
<th>Population Density</th>
<th>Ferry Sailing Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-15</td>
<td>15-64</td>
<td>65+</td>
</tr>
<tr>
<td>Gabriola Island</td>
<td>7.4%</td>
<td>55%</td>
<td>37.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gabriola to Nanaimo ~20 min</td>
</tr>
<tr>
<td>Quadra Island</td>
<td>10.5%</td>
<td>61.1%</td>
<td>28.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Quadra to Campbell River ~ 10 min</td>
</tr>
</tbody>
</table>

Gabriola Island is similar to Quadra Island in age distribution, relative population density, and its proximity to a larger commercial center by a short ferry ride. Though Gabriola Island is much smaller than Quadra Island in terms of land area, the more densely populated area bounded by Heriot Bay and Quathiaiski Cove on Quadra Island is even smaller than all of Gabriola Island. This area is approximately 35 km$^2$ compared to Gabriola’s total land area of 57.76 km$^2$. Both communities are developed in a loop layout with residential and commercial development concentrated around the main loop with some roads and residential development reaching out beyond the main loop. These similarities may indicate that a community bus is feasible on Quadra Island as it is on Gabriola Island.

Pender Islands

North Pender Island is a community of 2,067 a 40-minute ferry ride away from Swartz Bay on Vancouver Island with a population density of 39.6 persons per square kilometer. Though the bus did not service the southern, more sparsely populated, portion of the Pender Islands, service ceased in 2018 after its three and a half year pilot citing volunteer administrator and driver fatigue as well as a lack of sufficient and consistent funding (Moving Around Pender, 2018). The bus was purchased with funds from the Capital Regional District and operations relied exclusively on grants and donations (Watt
Consulting Group, 2018). An end-of-pilot survey suggested respondents found the service valuable, but many did not use the service themselves. Service made a brief return for twenty service days over ten weeks in Summer 2019 during which the bus transported 1079 passengers, or about 54 passengers per service day (about 6.7 rides per hour). However, citing the unforeseen maintenance costs during Spring 2019 and the lack of sufficient donations, at the time of this writing, the Pender Island Community bus is on an indefinite hiatus (Moving Around Pender, 2020).

North Pender Island (where service was located on Pender Islands) and Quadra Island are similar in population, and land area (North Pender Island – 34 km^2). However, Pender Island Bus service has been the victim of insufficient funding. Ridership in the summer 2019 was adequate to offset the theoretical GHG emissions produced by the service and those using it had increased mobility and accessibility. Therefore, lack of financial sustainability, and therefore inability to pay drivers and a coordinator, as well as a vehicle fleet with maintenance issues has ultimately rendered this service infeasible.

**Mayne Island**

Mayne Island, a community of 1000 permanent residents, is home to a community bus that picks up from the ferry terminal year-round Thursday to Sunday (Mayne Island Bus, 2019). Drivers are volunteers and route the bus depending on advance phone and email requests. This flexible transit has been operating since 2013 and transports about two thousand passengers per year (Drdul, 2016). This service began as a pilot and after two years was deemed a success by the community and began operating as a regular service to meet the needs of the aging population and to fill the transportation gap as there are no taxis or school buses. It is funded by donations and the Tru-Value grocery store’s Community Spirit Program (Mayne Island Bus, 2019).

**Saturna Island**

Saturna Island is home to only 350 permanent residents (Statistics Canada, 2017c). There is no taxi on the island, but the local Lion’s Club owns and operates an on-demand community bus about 3 days per week. Trips are scheduled by phone or email and service destinations such as the ferries and event venues. All drivers are volunteers and their website states that ridership is growing. The bus serves many tourists and
charters and is funded by grants and donations (Saturna Island Tourism Association, 2015).

**Galiano Island**

Galiano Island is a community of about 1,045 permanent residents (Statistics Canada, 2017a). As of this writing, a community bus meets the Friday evening and Saturday morning ferry arrivals from Victoria and Vancouver during the summer from April to September. For a passenger fare of $3.00 - $15.00, depending on the destination, drivers service the island with flexible routing. Seat reservations can be made by email and additional runs may be scheduled dependent on demand and availability of drivers (Galiano Community Bus, 2020). This service is geared toward tourists and visitors rather than full-time residents.

**Hornby Island**

Hornby Island, home to 1,016 permanent residents, runs a scheduled, fixed route bus with 4 trips each in the morning and afternoon (Statistics Canada, 2017b). On Friday nights, another 4 trips run in the evening from 7:55 pm to 10:44 pm. On weekdays, service runs from 9:55 am to 7:35 pm, meeting the ferry on each of its eight daily bus trips. The ferry makes 12 daily trips to Hornby each day except Fridays when there are two extra trips at 8:45 pm and 10:05 pm. See Appendix F. This service began as a pilot in 2017, ceased for a brief period, and made a return for the summer of 2019 (Holmes, 2018; Hornby Bus, 2018).

Hornby Island is similar to Cortes Island in location and relationship to a larger island. They are both also popular tourist destinations. To reach Hornby Island, visitors must first travel to and traverse Denman Island from Buckley Bay on Vancouver Island. From the eastern coast of Denman Island, a 10-minute ferry transports passengers to the Hornby Island Shingle Spit Ferry Terminal. A survey distributed as part of the feasibility study conducted in 2018, 72.73% of respondents indicated they would ride the bus if “there was a connecting bus across Denman Island” (Holmes, 2018). This may be an indication that residents and visitors of Cortes Island might consider alternatives to their personal vehicle if transit across Quadra Island were available.
Key Takeaways From Review of Similar Systems

Each system reviewed has achieved some degree of success when viewed through the lens of the success indicators compiled in this report. Their corresponding administrators should be lauded for their efforts at increasing mobility and accessibility in their communities. The following are the key takeaways from their review.

Fares are critical in offsetting operational costs and can make up a significant portion of revenues to keep service on the road. Mayne Island, Saturna Island, Hornby Island, and Pender Island buses are, and have always been, donation-based. Some also do not run on a fixed schedule or route and are instead on demand services or run only a few days per week depending on the season. Hornby Island Bus does maintain a fixed schedule and route, but only operates throughout the summer months of July and August. The literature in Chapter 2 suggests fixed routes are often more effective as they allow current and potential passengers to become accustomed to the service and change their habits to incorporate the service into their daily lives. This is supported by reports by Pender Island Bus volunteers about the effect of their abbreviated schedule. They cited this as a potential reason for low ridership, as riders found it difficult to predict and schedule their appointments accordingly around only two days of service per week (Moving Around Pender, 2019).

The community buses reviewed here find an increase in ridership in the summer so most adjust their schedule accordingly and offer longer service span and/or service on more days of the week, including weekends. Increasing service to accommodate visitors is appropriate, but should not be done at the expense of service that serves the needs of residents. Furthermore, both GERTIE and Pender Island Bus have cited volunteer burnout as a barrier to success for their respective buses. Accordingly, adequate and reliable funding in order to pay drivers and administration is key to maintaining sustainable service.

Gabriola’s GERTIE Success Indicators

In contrast, to the other systems, Gabriola’s GERTIE has charged a fare since the inception of service while running service regularly and maintaining their schedule throughout the year to serve both residents and summer visitors. GERTIE’s board has been successful in securing funding through the Regional District of Nanaimo and pays
Its drivers and coordinator. This means they need not rely on grants and donations, or worry about volunteer burnout. The system therefore does well for System Preservation, paramount for a community bus which operates outside of a more conventional, partially-provincially funded transit system.

GER'TIE also performs well for productivity and environmental quality. Ridership is about 7 passengers per hour, relatively high for a system of its size and buses run on recycled vegetable oil from local restaurants and are widely recognized for being an asset to the community (Gabriola Community Bus, 2019). Besides operating with a dedicated volunteer board, the system relies on strong partnerships within the community for ticket sales, advertisement, and grant opportunities (GER'TIE Administrator Interview, personal communication, 2019). The service also likely reduces social isolation and traffic congestion as many commuters and students rely on the service to transport them to and from the ferry to Nanaimo and some residents use the service to meet up with friends and ride to social outings (personal communication, 2019). GERTIE also employs several drivers and a coordinator, contributing to the local economy. Remarkably, it is also equipped with a GPS tracking system so users are able to locate vehicles on their website in real-time for better predictability and reliability. GERTIE’s success indicators are highlighted in the table below.

For comparison purposes, success indicators for Pender Island Community Bus are included in the table. Pender Island Bus was chosen for the comparison since they have ceased regular operation of their system, unable to attain system preservation as a result of inability to secure funding. It operated solely with volunteer drivers and a part-time paid coordinator before they ceased operations (Watt Consulting Group, 2018). Though the buses are equipped with Automatic Passenger Counting technology which makes it simple to track ridership and travel patterns, uncertainty about governance and administration along with volunteer burnout have rendered the future of the service unclear (Moving Around Pender, 2018).
Table 8. Gabriola Island and Pender Island Community Bus Success Indicators

<table>
<thead>
<tr>
<th>Success Indicator</th>
<th>Gabriola</th>
<th>Pender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>System Preservation (includes secure funding and admin)</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Reliability</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Accessibility</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mobility</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ridership</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Equity</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Productivity</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Environmental Quality</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Reduction of Ferry Vehicle Traffic Loads</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Relief of Parking/Traffic Congestion (roads/ferry terminal)</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Return on Investment</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Schedule Legibility</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Partnerships</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Social Isolation Reduction</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Attractive Facilities and Vehicles</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Economic Development</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Public Awareness of Service</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Health Services</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Provision of State-of-the-Art Technology</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Coordinated Transportation and Land Use</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Best practices for successful community buses include a high-level of bus cleanliness, consistent and legible schedule, mapping, and signage, adherence to a published schedule by drivers, and accurate monitoring and reporting (Watt Consulting Group, 2018). The above review of Gulf Island community bus systems also highlights how relationships with local businesses, early and ongoing public engagement, and meeting each ferry regardless of their timeliness are also paramount (most community buses wait for passengers disembarking the ferry even when the ferry is running late, ensuring those who walk on can depend on transit to get them home).

The Southern Gulf Islands Community Bus Assessment, 2016 supports this conclusion that Gabriola Island’s GERTIE is an example of a successful community bus (Drdul, 2016). According to that report, GERTIE’s success factors include community engagement and involvement, service that is oriented to residents rather than only visitors.
and tailored to meet demand, reliable vehicles, and readily available customer information (Drdul, 2016). This is not to say that other community buses cannot be considered successful to varying degrees, as each plays a certain role depending on the community’s needs. However, designing and operating service on Quadra Island that most closely resembles that of Gabriola Island may have the best chance at success given the certainty of service into the future. Beginning with a strong volunteer base in the start-up phase would demonstrate the ability to achieve this type of success on Quadra Island.
Chapter 5. Discussion

According to the above review of Southern Gulf Island community buses, the success indicators that seem to have the most influence are those related to system preservation and service aspects like reliability, accessibility, and productivity. Gabriola’s GERTIE exhibits most of the success indicators found in the literature and Southern Gulf Island system reviews. The defining features of this service are many, but those most directly contributing to its success are:

1. Funding- secure, consistent funding that allows for long-term planning, payment of employees (drivers and coordinator), and reliance on service by passengers.
2. Organizational Capacity- dedicated team of volunteer board members who began the service and operated it through its pilot period.

The above are both subsets of System Preservation, the most likely indicator of a community bus’s success (Drdul, 2016). Without secure funding and an organized, dedicated organization of administrators, a community bus cannot operate successfully. That is, even if a community has a bus available for its use, no progress can be made toward reduction of traffic congestion, improvement of the environment, access to healthcare, or reduction of social isolation without the organizational capacity and the operational funding needed to operate a transit system effectively.

Community buses on the Southern Gulf and Discovery Islands exist outside of the conventional BC Transit funding and operating model. Therefore, they cannot rely on BC Transit structures and supports in terms of planning, operations, and funding that other smaller systems can (see Figure 39). For this reason, in each of the following scenarios, an existing or new organization comprised of volunteers or paid staff would have to purchase and insure the vehicle, take on administration and operation of the route or routes, and be responsible for storage and maintenance. Each of the scenarios assumes funding and operational capacity and accounts for serving the needs of residents and visitors to varying degrees. They are based on the data collected by the survey, interviews, and community profile above and described in terms of their transport category as defined in section 5.1.
5.1. Community Transport Types

5.1.1. Scheduled

In this scenario, transit on Quadra Island would be regularly scheduled and routed with fixed stops for each day of the week during certain hours. With this model, passengers could expect the bus at certain locations at certain times and have confidence that the bus would keep to its regular schedule barring any unforeseen issues or incidents. Survey respondents indicated strong interest in a bus to the ferry so a bus that maintained a schedule and route to meet ferries could work well on Quadra Island.

5.1.2. On Demand

On demand transit acts much like a taxi in that the service does not run unless there are trip reservations. In this scenario, the group operating the service would establish a phone number, website, app, or a combination of all three and accept reservations from the general public in advance of transit trips. The service could group passengers by pick up and drop off locations to maximize efficiency and schedule their routes most effectively. Another method for delivering on demand service is to provide trip windows to would-be passengers during which the bus would be available for service.

On Quadra, trip windows would make the transit vehicle available on certain days between certain hours. For example, the trip windows may be open between 11 am and 2 pm on weekdays and passengers may call at least 24 hours in advance to schedule a pick up between those times. However, survey respondents indicated they were least likely to use a service that required a reservation prior to their ride so this option may not be suitable as the only option for Quadra Island. It could work well to service the midday during the week or certain times of day during weekends when demand is lower if marketed and administered properly. Bella Coola Transit system operates by this model and is essentially a conventional/custom transit system, giving priority to hospital trips and offering door-to-door service to those with a disability and curb service to others (BC Transit, 2020).
5.1.3. Flexible

Flexible transit service is a hybrid of the two service types above. This service type could work on Quadra Island by scheduling routes to the ferries and building in extra time and flexibility to pick up or drop off disabled or elderly passengers closer to their homes or destinations as needed. Gabriola Island’s GERTIE operates by this model. Though it has a fixed schedule and route, if the driver considers a slight route deviation to pick up or drop off a passenger convenient, they may accommodate passenger requests (Gabriola Community Bus, 2014).

5.2. Service Assumptions

According to the BC Transit and CRD Southern Gulf Islands Service Discussion Document of 2014, “five rides per hour is on the low side for traditional paratransit that isn’t covering long distances and it is typically considered the break-even point for Greenhouse Gas Emissions (i.e. the number of passengers required to be carried on a light duty bus in order for it to have comparable emissions to a single occupant automobile.).” Similar systems in BC providing approximately five rides per hour include Bella Coola and Okanagan-Similkameen. Bella Coola Transit offers two more scheduled trips per day Monday through Friday as well as Dial-a-ride service compared to Okanagan-Similkameen’s four trips per day between Okanagan Falls and Penticton. Their cost per ride is $13.61 and $16.57 respectively. The population of Quadra Island of 2,431 falls between that of Bella Coola (3,300) and Okanagan-Similkameen (1,647). Finally, while Bella Coola has a self-contained system, Okanagan-Similkameen Transit provides daily connections to larger nearby urban centers along with local service within the community.
On Quadra Island, service to local destinations is desired as well as service to the ferries and their corresponding commercial centers. Therefore, transit service would likely fall somewhere between the services offered in each of these communities in terms of number of trips per day, ridership, span, and frequency. The following service options are based on estimates from a combination of the above BC Transit systems and the community buses reviewed for this study.

Ridership for the options below was estimated by using five rides per hour based on similar systems (BC Transit, 2014). A calculation of 2.6% mode share (according to the 2016 Census Journey to Work for Quadra Island) for those commuting to a usual place of work on Quadra island (860 people according to the 2016 Census Journey to Work for Quadra Island) amounts to 7.45 rides per hour (assuming three hours per peak period, AM and PM) (Statistics Canada, 2016). However, for the purposes of budgeting, a

<table>
<thead>
<tr>
<th>Transit system</th>
<th>Population</th>
<th>Vehicles</th>
<th>Service Hours</th>
<th>Rides per Hour</th>
<th>Cost per Ride</th>
<th>Trips per Day (Mon-Fri)</th>
<th>Service Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Mile House</td>
<td>3,385</td>
<td>3</td>
<td>1,988</td>
<td>4.0</td>
<td>$18.94</td>
<td>7 scheduled, Dial-a-ride</td>
<td>These systems are mostly self-contained, with little or no service in surrounding rural areas; may have limited connection to urban centre via Health Connections route.</td>
</tr>
<tr>
<td>Ashcroft-Clinton</td>
<td>2,264</td>
<td>2</td>
<td>1,976</td>
<td>1.5</td>
<td>$46.13</td>
<td>3 scheduled, Dial-a-ride</td>
<td></td>
</tr>
<tr>
<td>Bella Coola</td>
<td>3,300</td>
<td>2</td>
<td>3,521</td>
<td>5.2</td>
<td>$13.61</td>
<td>6 scheduled, Dial-a-ride</td>
<td></td>
</tr>
<tr>
<td>Boundary (Grand Forks)</td>
<td>3,985</td>
<td>2</td>
<td>1,606</td>
<td>4.4</td>
<td>$15.89</td>
<td>Dial-a-ride</td>
<td></td>
</tr>
<tr>
<td>Kaslo</td>
<td>2,700</td>
<td>1</td>
<td>586</td>
<td>2.9</td>
<td>$36.95</td>
<td>2 scheduled, Dial-a-ride</td>
<td></td>
</tr>
<tr>
<td>Princeton</td>
<td>2,724</td>
<td>2</td>
<td>1,976</td>
<td>3.4</td>
<td>$19.92</td>
<td>Dial-a-ride</td>
<td></td>
</tr>
<tr>
<td>Agassiz - Harrison</td>
<td>5,664</td>
<td>4</td>
<td>5,379</td>
<td>7.3</td>
<td>$9.55</td>
<td>10 connections, deviations</td>
<td>These systems provide daily connections to neighbouring urban centres as well as some level of local service within the community.</td>
</tr>
<tr>
<td>Okanagan - Similkameen</td>
<td>1,647</td>
<td>1</td>
<td>1,690</td>
<td>5.0</td>
<td>$16.57</td>
<td>4 connections</td>
<td></td>
</tr>
<tr>
<td>Osoyoos</td>
<td>4,845</td>
<td>1</td>
<td>1,454</td>
<td>3.3</td>
<td>$17.68</td>
<td>2 local connections, Dial-a-ride</td>
<td></td>
</tr>
<tr>
<td>Nelson - Slocan Valley</td>
<td>2,800</td>
<td>4</td>
<td>5,792</td>
<td>7.2</td>
<td>$12.59</td>
<td>4 connections</td>
<td></td>
</tr>
<tr>
<td>Pemberton Valley</td>
<td>3,675</td>
<td>2</td>
<td>1,953</td>
<td>13.3</td>
<td>$8.51</td>
<td>7 local, 4 commuter</td>
<td></td>
</tr>
<tr>
<td>Port Edward</td>
<td>544</td>
<td>1</td>
<td>2,063</td>
<td>16.9</td>
<td>$6.84</td>
<td>7 connections</td>
<td></td>
</tr>
</tbody>
</table>

Figure 39. BC Transit/CRD Southern Islands Service Discussion Document table of BC Transit systems serving populations of 5,000 or less (BC Transit, 2014).
A conservative figure of five rides per hour is used for the development of the options below. Each option is based on the requirement of only one vehicle (roughly estimated to cost $40,000 based on cost of new and used paratransit buses) to keep costs low and with the assumption that the community might wish to purchase one bus in the beginning with the option to expand service in the future with added vehicles as ridership increases. The only variable in the below options, therefore, is the number of service hours.

The following options assume a $2.00 fare and discounts for the purchase of 10 fares of 10 cents per fare. It should be noted that these options are high level estimates for budgeting purposes and include the following assumptions:

- Operating costs of about $68 per hour based on estimates from other paratransit, custom, and community bus systems
- Travel time for Route A of 30 minutes (run time), includes 5 minutes of recovery per trip.

Route A is the main route in all scenarios and routes portions B, C, and D serve other areas. Route portions B, C, and D are not costed in the service option estimates, though there is the potential for deviations by the bus to portions B, C, and D (see Figure 40 below). Depending on demand and community input, these portions may be added as part of the fixed route and schedule. Route portion B could be considered first, since it adds the least amount of time to trips and may be accommodated prior to beginning the loop between Quathiaski Cove and Heriot Bay (Route A). Portions C and D could be considered next. Another option is to allocate enough time in the schedule to allow for flexible routing if a passenger requests a drop off on one of these routes or a request for pick up on one of these routes is made in advance. If regular monitoring of system performance finds that there is sufficient demand on any of these routes, service may be adjusted to include them in the fixed route and schedule. Route B adds about eight minutes, route C adds about ten minutes, and route D adds about nine minutes to each trip. The community bus operator should seek robust public comment before deviating as adding time to trips can make journeys for passengers lengthy and may dissuade them from using transit.
Figure 40. Potential transit routes for Quadra Island
5.3. Service Options for Quadra Island

This section describes potential service options and types to meet the needs and desires of the community as revealed by the document review, survey, and interviews.

5.3.1. Service Options

An analysis of ferry data revealed the most popular travel days from Campbell River to Quadra Island are Tuesday, Thursday, and Friday. The most popular travel times are in the afternoon with the 3:30 pm sailing being the most frequently travelled. From Quadra Island to Campbell River, the most popular travel days are Wednesday, Tuesday, and Thursday with the most popular sailing at 8:00 am. Trends show people are most often travelling on weekdays from Quadra Island to Campbell River in the morning and from Campbell River to Quadra Island in the afternoon.

Since the most popular type of service indicated by survey respondents was a shuttle to the ferry terminals, a schedule based on ferry arrivals and departures from Quathiaski Cove was the starting point for the options below.

Option 1. Weekday Commuter Service and Service on Quadra

Option 1 provides weekday service beginning at 7:10 to pick up Quadra residents bound for the 8 am ferry at Quathiaski Cove before servicing the inbound ferry at Heriot Bay at 8:35 am (departing Cortes Island at 7:50 am). It then drops passengers off at Quathiaski Cove for the 9 am ferry to Campbell River. In the afternoon, service is provided to inbound ferries at Quathiaski Cove from Campbell River at 2:40 pm, 4:40 pm, 6:25 pm and drops passengers off at Heriot Bay for evening ferries to Cortes Island. This option allows for service to the main loop (Route A in Figure 40 above) in between ferry pickups (after drop off to the connecting ferry) for five trips per day and runs on weekdays only. This route runs counter-clockwise for the two morning trips and clockwise for the three afternoon trips.
Table 9. Approximate schedule for Option 1

<table>
<thead>
<tr>
<th>Departure Time</th>
<th>Departure Location</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quathiaski Cove</td>
<td>Heriot Bay</td>
</tr>
<tr>
<td>7:10 am</td>
<td>7:10 am</td>
<td>7:30 am</td>
</tr>
<tr>
<td>7:50 am</td>
<td>7:50 am</td>
<td>8:37 am</td>
</tr>
<tr>
<td>2:42 pm</td>
<td>2:42 pm</td>
<td>2:57 pm</td>
</tr>
<tr>
<td>4:42 pm</td>
<td>4:42 pm</td>
<td>4:57 pm</td>
</tr>
<tr>
<td>6:27 pm</td>
<td>6:27 pm</td>
<td>6:42 pm</td>
</tr>
</tbody>
</table>

Figure 41. Option 1 map and route AM
AM route direction is counter-clockwise beginning in Quathiaski Cove at 7:10 am for the first trip.
Figure 42. Option 1 map and route PM
PM route direction is clockwise beginning in Quathiaski Cove at 2:42 pm.

The table below summarizes costs and revenue for this option.

Table 10. Option 1 total high level estimated annual impacts

<table>
<thead>
<tr>
<th>OPTION 1: Weekday Commuter Service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total High Level Estimated Annual Impacts:</strong></td>
</tr>
<tr>
<td>Total Service Hours</td>
</tr>
<tr>
<td>Total Ridership</td>
</tr>
<tr>
<td>One-way Fare</td>
</tr>
<tr>
<td>Total Operating Costs</td>
</tr>
<tr>
<td>Vehicles</td>
</tr>
<tr>
<td>Total Revenue</td>
</tr>
<tr>
<td>Total One Time Capital Cost (Vehicle Purchase)</td>
</tr>
<tr>
<td>Net Operating Costs (Cost Less Anticipated Revenue)</td>
</tr>
</tbody>
</table>

*This option assumes 100% of bus ticket sales are sold with $0.10 discount

Annual service hours for Option 1 are estimated to be 900 based on the time it takes to complete each of the five daily trips and recovery time for the bus between those trips. Ridership is estimated at 4,500 per year based on five passengers per hour as experienced by other similar systems. Passenger revenue based on estimated annual ridership and passenger fares are estimated at $8,600 for net operating costs of $53,600.
Pros and Cons

The benefits of this option are that it provides service to commuter traffic leaving Quadra Island for Campbell River in the morning and arriving in the afternoon as well as cross-island passengers bound for Cortes Island in the afternoon. This option also serves Quadra Island destinations between ferry pickups. Some considerations for this option are that it does not provide service during weekends, weekdays during midday, or to passengers travelling in opposite directions during the peak commuting hours. The route also only runs in one direction (counter-clockwise in the morning and clockwise in the afternoon) so passengers wishing to access certain parts of the island will have longer travel times. However, because this option provides 5 trips, the community retains the option to reschedule one or more of them to accommodate midday service or leave the midday hours open as a trip window for on-demand service.

Option 2. Essential weekday commuter service plus one midday trip

Option 2 includes three trips daily. It meets the ferry from Quadra Island to Campbell River in the morning with one trip and the ferry from Campbell River to Quadra Island in the afternoon with another trip on weekdays only. Before the morning drop off at the Quathiasi Cove ferry terminal, the bus loops around West Road and Heriot Bay Road counter-clockwise to pick up Quadra locals. In the afternoon, the bus picks up at Quathiasi Cove ferry terminal and again loops around, this time clockwise, to drop off passengers, including a stop at Heriot Bay to drop off those wishing to travel to Cortes Island. During the midday hours, the bus runs a loop around Quadra Island to serve local destinations and can be routed to meet one or more ferries or used to service on-demand trips. This midday trip may travel in either the clockwise or counterclockwise direction depending on public input.
### Table 11. Approximate schedule for Option 2

<table>
<thead>
<tr>
<th>Departure Time</th>
<th>Quathiaski Cove</th>
<th>Heriot Bay</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:10 am</td>
<td></td>
<td>7:30 am</td>
</tr>
<tr>
<td>12:10 pm (counter-clockwise)</td>
<td>Or 12:25 pm</td>
<td>12:37 pm</td>
</tr>
<tr>
<td>4:42 pm</td>
<td></td>
<td>4:57 pm</td>
</tr>
</tbody>
</table>

**Figure 43. Option 2 map and route AM**  
AM route direction is counter-clockwise beginning in Quathiaski Cove
Figure 44. Option 2 map and route midday
Midday direction can be clockwise or counter-clockwise

Figure 45. Option 2 map and route PM
PM route direction is clockwise beginning in Quathiaski Cove.
The table below summarizes costs and revenue for this option.

**Table 12. Option 2 total high level estimated annual impacts**

<table>
<thead>
<tr>
<th><strong>Total High Level Estimated Annual Impacts:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Service Hours</td>
<td>600</td>
</tr>
<tr>
<td>Total Ridership</td>
<td>3,000</td>
</tr>
<tr>
<td>One-way Fare</td>
<td>$2.00*</td>
</tr>
<tr>
<td>Vehicles</td>
<td>1</td>
</tr>
<tr>
<td>Total Operating Costs</td>
<td>$42,400</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>$5,700</td>
</tr>
<tr>
<td>Total One Time Capital Cost (Vehicle Purchase)</td>
<td>$40,000</td>
</tr>
<tr>
<td>Net Operating Costs (Cost Less Anticipated Revenue)</td>
<td>$36,700</td>
</tr>
</tbody>
</table>

*This option assumes 100% of bus ticket sales are sold with $0.10 discount

Annual service hours for Option 2 are estimated to be 600 based on the time it takes to complete each of the three daily trips and recovery time for the bus within those trips. Ridership is estimated at 3,000 per year based on five passengers per hour as experienced by other similar systems. Passenger revenue based on estimated annual ridership and passenger fares are estimated at $5,700 for net operating costs of $36,700.

**Pros and Cons**

The benefits of this option are that it provides service to commuters leaving Quadra Island for Campbell River in the morning and arriving in the afternoon during the busiest sailings. This option also serves Quadra Island destinations between ferry pickups and during the midday hours. It is also the least costly as it runs for the smallest number of hours per day.

A consideration for this option is that it provides a limited number of trips during each time of day so passengers must make the only trip (morning, midday, afternoon) or they risk being left behind. Additionally, it does not serve passengers from Cortes Island during the morning commute hours.

**Option 3. Meets Cortes Island Sailings All Week**

Option 3 meets all sailings to and from Cortes Island at Heriot Bay during the day and makes one final trip to pick up passengers at Quathiaski Cove at 6:25 pm and transport them to the 6:45 pm sailing to Cortes Island at Heriot Bay. This option mainly
serves as a shuttle between Quathiaski Cove and Heriot Bay each of the seven days of the week.

Table 13. Approximate schedule for Option 3

<table>
<thead>
<tr>
<th>Departure Time</th>
<th>Heriot Bay</th>
<th>Quathiaski Cove</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:36 am</td>
<td>8:47 am</td>
<td></td>
</tr>
<tr>
<td>10:36 am</td>
<td>10:47 am</td>
<td></td>
</tr>
<tr>
<td>12:36 pm</td>
<td>12:47 pm</td>
<td></td>
</tr>
<tr>
<td>2:36 pm</td>
<td>2:47 pm</td>
<td></td>
</tr>
<tr>
<td>4:36 pm</td>
<td>4:47 pm</td>
<td></td>
</tr>
<tr>
<td>6:25 pm</td>
<td>6:25 pm</td>
<td></td>
</tr>
</tbody>
</table>

Figure 46. Option 3 route between Heriot Bay and Quathiaski Cove.

The table below summarizes costs and revenue for this option.
### Table 14. Option 3 total high level estimated annual impacts

<table>
<thead>
<tr>
<th>OPTION 3: Meet Cortes Sailings</th>
<th>Total High Level Estimated Annual Impacts:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Service Hours</td>
<td>1,200</td>
</tr>
<tr>
<td>Total Ridership</td>
<td>6,000</td>
</tr>
<tr>
<td>One-Way Fare $2.00*</td>
<td>Total Operating Costs $ 81,900</td>
</tr>
<tr>
<td>Vehicles</td>
<td>Total Revenue $ 11,400</td>
</tr>
<tr>
<td>Total One Time Capital Cost (Vehicle Purchase) $40,000</td>
<td>Net Operating Costs (Cost Less Anticipated Revenue) $ 70,500</td>
</tr>
</tbody>
</table>

*This option assumes 100% of bus ticket sales are sold with $0.10 discount

Annual service hours for Option 3 are estimated to be 1,200 based on the time it takes to complete each of the six daily trips and recovery time for the bus between those trips. Ridership is estimated at 6,000 per year based on five passengers per hour as experienced by other similar systems. Passenger revenue based on estimated annual ridership and passenger fares are estimated at $11,400 for net operating costs of $70,500.

### Pros and Cons

The benefits of this option are that it provides service between two of the most densely populated centers on Quadra Island and their associated commercial centers as well as provides an option to travel between ferry terminals for non-drivers and those who walk onto the ferry each day of the week.

Some considerations for this option are that it does not service Quadra Island destinations between ferry pickups or have time to stop between the ferry terminals for pick-ups and drop-offs. This option also does not serve morning commuters who wish to arrive in Campbell River before 8:30 am.
5.3.2. Service Options Summary

Table 15. Service Options Table

<table>
<thead>
<tr>
<th>Service Option Summary</th>
<th>Option 1: Commuter Service</th>
<th>Option 2: 3 daily trips</th>
<th>Option 3: Ferry Shuttle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles Required</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Service Hours</td>
<td>900</td>
<td>600</td>
<td>1,200</td>
</tr>
<tr>
<td>Ridership per year</td>
<td>4,500</td>
<td>3,000</td>
<td>6,000</td>
</tr>
<tr>
<td>One-Way Passenger Fare*</td>
<td>$2.00</td>
<td>$2.00</td>
<td>$2.00</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>$8,600.00</td>
<td>$5,700.00</td>
<td>$11,400.00</td>
</tr>
<tr>
<td>Total One Time Capital Cost (Vehicle Purchase)</td>
<td>$40,000.00</td>
<td>$40,000.00</td>
<td>$40,000.00</td>
</tr>
<tr>
<td>Total Operating Costs</td>
<td>$62,200.00</td>
<td>$42,400.00</td>
<td>$81,900.00</td>
</tr>
<tr>
<td>Net Operating Costs</td>
<td>$53,600.00</td>
<td>$36,700.00</td>
<td>$70,500.00</td>
</tr>
<tr>
<td>Rides per hour</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Operating Cost per Ride</td>
<td>$13.60</td>
<td>$13.60</td>
<td>$13.60</td>
</tr>
</tbody>
</table>

*All options assume 100% of bus ticket sales are sold with $0.10 discount

5.4. Recommendations

If the community wishes to pursue transit service, it is recommended that Option 1 be used for budgeting and planning purposes. Analysis of the community as well as travel patterns, and survey results revealed the desire for service to Quathiaski Cove and Heriot Bay as well as service to for Quadra Residents to local destinations for shopping, errands, and medical appointments. Option 1 provides the most service to meet those needs and provides a window between the morning and afternoon trips for those who wish to take several hours at their destination to run multiple errands or attend appointments during midday on either Quadra Island or Campbell River.

It is also recommended that any community organization that moves forward with this recommendation engage in robust public consultation prior to implementation to
“ground truth” the options. This will help determine whether service which does not allow for pick-ups and drop-offs between ferry terminals at peak times has community support. Additionally, it can reveal whether there might be support to include route portions B, C, or D as noted in Figure 40 above.

Successful service in other communities has been attributed to reliable, predictable service that allows for passengers to plan their schedules consistently day after day, week after week. For this reason, it is recommended that bus service begin on a consistent schedule that is easy to learn and navigate, especially for retirees and seniors who may not rely on smartphones and other technologies that can provide updates and reminders. Option 1 allows for this type of predictability which has the potential to drive ridership and therefore productivity of the system. Due to the two morning peak and three afternoon peak trips, this option has the potential to reduce ferry and general traffic congestion. It also provides service to local destinations for a span of about 12 hours between 7 am and 7 pm. With adequate marketing of the system, this level of service should provide a good starting point to improve mobility and accessibility on Quadra Island.

It is also recommended that the community move forward with this option on a pilot basis to allow for testing of operational practices, schedules, and routes that might better respond to passengers’ needs. After a pilot period of one to three years, the community may evaluate the service to determine its effectiveness. At that time, an operational audit may also reveal opportunities for optimization. However, ongoing monitoring and seasonal changes may be required throughout the pilot period to respond to passenger feedback and demand. Additionally, depending on the popularity of the service at this point, the community may choose to move forward with a process to establish a Regional District service and formalize funding through referendum like residents of Gabriola did in 2016 or incorporate the system into the Campbell River Transit System.

5.5. Vehicle Requirements

Many similar systems, such as GERTIE, operate a 24-passenger bus, but began their service with smaller vehicles at their inception. Analysis of Southern Gulf Island bus systems revealed that operating more often than one or two days per week allows
passengers to adapt to the system and come to rely on it. This can ultimately increase ridership which may require a larger vehicle to reduce the chance of pass-ups (not picking up a passenger because bus is full).

Gabriola’s GERTIE staff specifically recommend starting with a medium-sized bus as larger buses may be too large to manoeuvre especially in certain areas on Quadra Island (personal communication, 2019). Very small buses, such as minivans can be less expensive to purchase and maintain, but are not built for the quick loading and unloading of passengers. Additionally, door handles and other equipment is more prone to wear and tear as they are designed for lighter use. For these reasons, beginning with a medium-sized bus (~20 passenger capacity) that can accommodate walkers, strollers and parcels as well as passengers and their bicycles is recommended. It should be noted that such vehicles require drivers to hold a valid Class 4 (unrestricted). A vehicle equipped with a wheelchair ramp may also be considered based on further public input about the needs of those who will be using the bus.

Further analysis is needed in order to weigh whether the costs of purchasing and operating a bus outweigh the need to upgrade in the future if ridership outgrows the initial, smaller bus. It is also worth conducting a benefit-cost analysis of purchasing a used vehicle in good condition, as many of the island community bus systems have done, or purchasing a new vehicle which may require less maintenance.

5.6. Next Steps

Further detailed planning and collaboration with the community to identify potential implementation organizational structure and service details is needed to move forward with a community on Quadra Island. This process should engage the community for feedback and optimization of service options. Once a service option is selected, confirmation and specification of routes, schedules, maintenance, vehicles, costs and associated timelines should be undertaken by the operating community group.
5.7. Considerations for Implementation

This feasibility study was conducted with one phase of community engagement in the form of a survey and interviews with residents. While it gathered a relatively high number of responses, the survey may not represent the viewpoints of all residents. A full public consultation process is recommended in order to gauge whether the conclusions reached here are supported by the wider community. This second phase of community engagement could solicit feedback on routing and potential schedules.

The information gathered in this study also does not investigate potential funding sources for the recommended transit service. In other community bus systems, grants and donations make up a large portion if not all of the operating revenue. Today, GERTIE’s fare revenue makes up about 15 to 20% of their total revenue, a proportion that has mostly remained constant since the service’s inception in 2013 (Gabriola Community Bus, 2019). The recommended option in this study estimates net operating costs of about $62,200 on the high end. This means that organizers of the community bus will be responsible for raising this amount through partnerships, grants, and donations. Considerations should be made for the potential administrative burden this may pose.

5.7.1. Governance and administration

Reference has been made above to the operating organization of the community bus. This feasibility study was conducted by the researcher and supported by many who graciously provided data, comments, suggestions, and other information. Interviewees suggested several potential organizations who might be willing or have the capacity to take on the administration and operation of a community bus. However, at the time of writing, no group or existing organization has been designated or expressed interest in this role. This is a crucial first step to establishing a community bus on Quadra Island.
Chapter 6. Conclusion

Community buses can often be difficult to rely on, or be perceived as such, since they do not always have consistent funding and leadership. More formalized systems, such as those in partnership with BC Transit or those publicly funded like Gabriola’s GERTIE, can provide stability and reliability. This allows for residents to rely on the system and potentially sell their second vehicle, move to the island, set appointments in advance, and make plans for retirement and aging in place. These are long-term goals, which do not necessarily need to be considered at the onset of a pilot project, but should be given thoughtful consideration if the service is to continue long-term. If becoming a pillar of the community that people can rely on and plan their lives around is a goal of the community bus, its successful operation should be paramount. This requires careful planning and administration as well as meaningful partnerships that can provide opportunities for funding and cost-sharing.

In the end, it will be up to the community whether the system’s success is judged by coverage or ridership. That is, whether it is successful because it is made available to the largest number of people by covering the most ground or because it transports the greatest number of people per hour. Typically, rural systems focus on the former, though good ridership can be achieved with a reliable, convenient system that picks people up where they are and takes them where they want to go. Depending on the goals for the system on Quadra Island, a community bus may be feasible. These goals should determine the indicators by which the community measures success and should be defined collaboratively and through meaningful, inclusive consultation. Though largely dependent on the vehicle used, as long as a bus transports five or more people per hour, it can reduce greenhouse gas emissions by taking five private vehicles off the road. Further, as long as it transports those who would otherwise have no transportation to access medical, social, and other appointments that are so important for health and wellness, then a community bus can be deemed successful and worth the financial cost.

A publicly available, reliable transit system may help alleviate symptoms of social isolation and the burden of chauffeuring to medical and social appointments. As Quadra
island is home to a large proportion of children living under the low-income cut-off and seniors and retirees wishing to age in place, a community bus might prove effective.

In an ideal situation, robust data would be collected about riders or would-be riders to understand why they ride transit, or wish to, as well as where exactly they come from and where they go. Some larger systems do this and though transit may never be able to serve every individual desire, need, origin, and destination on Quadra Island, this type of data can help decision-makers prioritize service for certain areas, times, or demographics. Because private vehicles can do this in rural areas, transit is often overlooked as a solution for places like Quadra Island. However, the looming threat of climate change along with the needs and desires of some for alternatives to the private automobile, makes careful consideration of all transportation options necessary. This feasibility study provides a step in deciding the future options on Quadra Island.
References


https://doi.org/10.5038/2375-0901.17.4.1


https://www.bcferries.com/schedules/northern/Courtesylane.html


https://www.bctransit.com/bella-coola-valley/home


Drdul, R. (2016). *Southern Gulf Islands Community Bus Assessment*. 44.


*GERTIE Administrator Interview*. (2019). [Personal communication].


Quadra Island. (2019, December 15). *Travel to Quadra Island, Discovery Islands, British Columbia, Quadra Island visitor information, accommodation, parks, beaches, hiking, kayaking and wildlife tours*. http://www.quadraisland.ca/about_quadra_island/travel.html#.XfbD35OQEUt


Strathcona Regional District. (2018). *Bylaw-No. 305 Amendment No. 12 to Bylaw No. 3050 Quadra Island OCP 2007*.


Appendix A.

Quadra Island Topographic Map

Figure A1. Quadra Island Topographic Map (openstreetmap.com)
Appendix B.

BC Ferries Traffic Data

<table>
<thead>
<tr>
<th>Route</th>
<th>Terminal</th>
<th>Vehicles</th>
<th>% To Prev Year</th>
<th>YTD Curr Year</th>
<th>% To Prev Year</th>
<th>YTD Prev Year</th>
<th>% To Prev Year</th>
<th>Total Prev Year</th>
<th>Passengers</th>
<th>% To Prev Year</th>
<th>YTD Curr Year</th>
<th>% To Prev Year</th>
<th>YTD Prev Year</th>
<th>% To Prev Year</th>
<th>Total Prev Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>CR</td>
<td>12,191</td>
<td>0.82</td>
<td>182,291</td>
<td>178,457</td>
<td>2.13</td>
<td>194,308</td>
<td>25,759</td>
<td>26,075</td>
<td>-1.21</td>
<td>403,369</td>
<td>395,719</td>
<td>1.93</td>
<td>426,459</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QOVO</td>
<td>12,551</td>
<td>0.94</td>
<td>187,198</td>
<td>183,831</td>
<td>1.83</td>
<td>195,800</td>
<td>25,140</td>
<td>25,582</td>
<td>-1.73</td>
<td>397,255</td>
<td>385,661</td>
<td>3.03</td>
<td>417,656</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24,782</td>
<td>-0.38</td>
<td>369,480</td>
<td>362,288</td>
<td>1.99</td>
<td>394,108</td>
<td>50,899</td>
<td>51,617</td>
<td>-1.47</td>
<td>580,724</td>
<td>781,380</td>
<td>2.48</td>
<td>847,115</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>HERB</td>
<td>1,690</td>
<td>-1.86</td>
<td>29,141</td>
<td>29,333</td>
<td>2.81</td>
<td>30,600</td>
<td>2,882</td>
<td>2,978</td>
<td>-3.22</td>
<td>53,519</td>
<td>50,805</td>
<td>5.54</td>
<td>54,940</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,382</td>
<td>-2.08</td>
<td>58,196</td>
<td>56,618</td>
<td>2.79</td>
<td>61,125</td>
<td>5,776</td>
<td>5,779</td>
<td>-0.05</td>
<td>106,828</td>
<td>100,818</td>
<td>5.96</td>
<td>108,767</td>
<td></td>
</tr>
</tbody>
</table>

Figure A2. BC Ferries Traffic Statistics-February 2019

<table>
<thead>
<tr>
<th>Route</th>
<th>Terminal</th>
<th>Vehicles</th>
<th>% To Prev Year</th>
<th>YTD Curr Year</th>
<th>% To Prev Year</th>
<th>YTD Prev Year</th>
<th>% To Prev Year</th>
<th>Total Prev Year</th>
<th>Passengers</th>
<th>% To Prev Year</th>
<th>YTD Curr Year</th>
<th>% To Prev Year</th>
<th>YTD Prev Year</th>
<th>% To Prev Year</th>
<th>Total Prev Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>CR</td>
<td>21,341</td>
<td>2.75</td>
<td>96,275</td>
<td>94,447</td>
<td>4.95</td>
<td>100,230</td>
<td>52,227</td>
<td>51,707</td>
<td>1.77</td>
<td>223,485</td>
<td>216,096</td>
<td>3.22</td>
<td>407,029</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QOVO</td>
<td>23,187</td>
<td>3.32</td>
<td>99,595</td>
<td>98,212</td>
<td>3.41</td>
<td>102,457</td>
<td>49,981</td>
<td>49,636</td>
<td>0.55</td>
<td>213,788</td>
<td>209,677</td>
<td>1.88</td>
<td>436,377</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>43,528</td>
<td>2.33</td>
<td>197,766</td>
<td>196,664</td>
<td>3.78</td>
<td>209,787</td>
<td>102,614</td>
<td>101,423</td>
<td>1.17</td>
<td>426,403</td>
<td>425,373</td>
<td>2.34</td>
<td>851,776</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>HERB</td>
<td>4,755</td>
<td>-2.95</td>
<td>16,633</td>
<td>16,191</td>
<td>2.72</td>
<td>31,306</td>
<td>8,198</td>
<td>8,293</td>
<td>-1.15</td>
<td>39,541</td>
<td>30,922</td>
<td>4.88</td>
<td>37,794</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WHAL</td>
<td>4,022</td>
<td>-0.35</td>
<td>16,721</td>
<td>15,810</td>
<td>2.64</td>
<td>31,412</td>
<td>8,464</td>
<td>8,630</td>
<td>-1.62</td>
<td>31,412</td>
<td>30,013</td>
<td>5.02</td>
<td>37,240</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7,777</td>
<td>-1.47</td>
<td>32,384</td>
<td>32,004</td>
<td>2.69</td>
<td>62,945</td>
<td>16,662</td>
<td>16,896</td>
<td>-1.69</td>
<td>57,055</td>
<td>61,893</td>
<td>4.81</td>
<td>113,934</td>
<td></td>
</tr>
</tbody>
</table>

Figure A3. BC Ferries Traffic Statistics- August 2019
Appendix C.

List of destinations (possible trip generators) on Quadra Island

Accommodation/resorts etc.
Harbour House- 3 rooms,
1462 Schooner Rd, Quathiaski Cove
Heriot Bay Inn- 10 rooms, 3 cabins
673 Hotel Rd, Heriot Bay
Gowlland Harbour Resort- 9 rooms, 1 honeymoon suite, 4 houses
823 Gowlland Harbour, Quadra Island
Whiskey Point Resort- 22 rooms,
725 Quathiaski Cove Rd Box 309, Quathiaski Cove
We Wai Kai Campground- 147 sites
Drew Harbour
Seascape Resort and Marina- 11 rooms
744 Cliffe Road, Quathiaski Cove
Tsa Kwa Luten Lodge- 35 rooms
1, Lighthouse Rd, Quathiaski Cove
Taku Resort
Drew Harbour
GPS coordinates – Latitude: 50.101040 Longitude: -125.204375 or N50°6.0624 and W125°12.2625
616 Taku Rd.
2 cabins, 7 suites, 13 RV and campsites
Discovery Islands Lodge- 8 rooms, 1 cabana,
Surge Narrows Rd
Marinas
Quadra Island Harbour Authority
Quathiaski Cove Harbour
730 Quathiaski Cove Rd, Quathiaski Cove
Priority to commercial fishing vessels
Ferry to Campbell River
Parking
~30 vessels
Heriot Bay
~50 vessels
Heriot Bay Inn
~25 vessels
Taku Resort-
Marina for ~30 vessels
Tourism
Sea tours
Discovery Islands Lodge/Coast Mountain Expeditions- Surge Narrows
Wildcoast Adventures- Quathiaski Cove
Spirit of the West Adventures- Heriot Bay
Quadra Island Kayaks- Heriot Bay
Scenic and Wildlife
Protected Water Charters- Heriot Bay
Boonie Charters- April Point Marina (northwest of Quathiaski Cove)
AG- Fish Enterprises- Quathiaski Cove
Sutil Charters- Heriot Bay
Scuba Diving and Snorkling-
Cultural Tours and Attractions
Nuyumbalees Cultural Centre- Cape Mudge
Mountain Biking
See map http://quadraisland.ca/adventure-recreation-tours/mountain-biking/trails-map.html#.XZZwp-epEU5
Denotes paved, gravel roads and trails
Island Cycle – rents and sells bikes- 615 Taku Road (Heriot Bay)
Art Galleries and Studios
Works of H’art- Herot Bay 1536C West Road.
Food production and dining
SouthEnd Farm and Vineyard- 319 Sutil Road
Restaurants
Tsa-Kwa-Luten Lodge
Cape Mudge
Gowlland Harbour Resort
832 Gowlland Harbour Rd.
Heron at the Heriot Bay Inn- Heriot Bay
Heriot Bay Inn Pub- Heriot Bay (Inn)
Café Aroma Espresso Bar- 685 Heriot Bay Rd, Quathiaski Cove
Kameleon Food and Drink- 654 Harper Rd
The Clove- Quathiaski Cove
Terry’s Take out- Heriot Bay
April Point Dining Room- April Point
Restaurant at April Point Resort
Java Bay Café- Heriot Bay
Trout and Trivet- Rebecca Spit
Landing Neighborhood Pub
Industry?
Seafood and Fisheries
Forestry
Manufacturing and Fabrication
Services
Auto
Isle Tech Auto Service: licensed mechanics-
MELARY TOWING: Wheel lift equipped
Schools
Quadra Children’s Centre- for children aged 2.5-11
West Road, Quathiaski Cove
CAMPBELL RIVER: School District 72
425 Pinecrest Road, Campbell River
Quadra Elementary School
Heriot Bay
No middle or secondary school...?
Construction Trades and Supplies
Bold Point Plumbing
J. Seffzig Construction
J. Toelle Construction
Landtec Industries
Quadra Island Building Supply
Quadrate Ventures
Voodoo Painting
Blaine Smith
G Roy Dahlnas Excavating Ltd.
Hedefine Contracting Roofing
Sorensen-MacDonald Enterprises
Others
Quadra Island Forest Products- Quathiaski Cove
Naked Bicycles and Design- Heriot Bay
Quadra Island Dental Clinic- Quathiaski Cove
Quadra Island Builders- Quathiaski Cove
Inspirations on Quadra- Quathiaski Cove
Quadra Library- Quathiaski Cove
Lighthouse Law Offices- Quathiaski Cove
Q Cove Auto Repairs - Quathiaski Cove
Cove Pharmacy- Quathiaski Cove
Polluted Pixie- Quathiaski Cove
Tru Value Foods- Quathiaski Cove
Quadra Island General Store Gas N Go- Quathiaski Cove
Heriot Bay Tru Value Foods- Heriot Bay
All Clear Septic Services Ltd.
Quadra Island Seniors Housing Society
Camp Homewood- Heriot Bay
Cape Mudge Boatworks- Quathiaski Cove
Cliff Mooney Electrical
Coastal Community Quadra Island Branch – Quathiaski Cove
Fermentations Craftory Quadra Island- Quathiaski Cove
The Flow Wilderness Retreat- Quathiaski Cove
James Pottery- south end
Quadra Chiropractic
Quadra Island Bible Church
Quadra Circle Community Connections Society
Kenwood Designs – Quathiaski Cove
Quadra Island Golf Course
Quadra Island Physiotherapy
Rainforest Designs Ltd.
Quadra Islands Studio Tour- approximately 35 artists
Rockview Resources Ltd. Woodlot Licence W1611 on Quadra Island
Sacred Pulse Gifts – Quathiaski Cove
Royal Canadian Legion Branch 154 Quathiaski Cove
Ross McPhee Contracting
Stepping Stones Holistic Retreat
The Bird’s Eye
Walcan Seafood Ltd.
Waypoint Signs - Quathiaski Cove
Silver Phoenix Medicine - Heriot Bay
Study-Build
Works of H'Art
Appendix D

BC Ferries Vehicle and Passenger Traffic Data

Table A1. BC Ferries Vehicle and Passenger Traffic Data for Route 23 between Campbell River and Quadra Island and Route 24 between Quadra Island and Cortes Island.
### 23 CR/ QCOVE

<table>
<thead>
<tr>
<th>Month</th>
<th>Vehicles Campbell River</th>
<th>Vehicles Q COVE</th>
<th>Passengers Campbell River</th>
<th>Passengers Q COVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>13639</td>
<td>14093</td>
<td>28453</td>
<td>28973</td>
</tr>
<tr>
<td>February</td>
<td>12191</td>
<td>12541</td>
<td>25759</td>
<td>25140</td>
</tr>
<tr>
<td>March</td>
<td>16047</td>
<td>16288</td>
<td>33660</td>
<td>33022</td>
</tr>
<tr>
<td>April</td>
<td>16588</td>
<td>16820</td>
<td>34490</td>
<td>34394</td>
</tr>
<tr>
<td>May</td>
<td>19480</td>
<td>19557</td>
<td>42690</td>
<td>40536</td>
</tr>
<tr>
<td>June</td>
<td>19194</td>
<td>19064</td>
<td>43253</td>
<td>41452</td>
</tr>
<tr>
<td>July</td>
<td>21266</td>
<td>21887</td>
<td>49909</td>
<td>47465</td>
</tr>
<tr>
<td>August</td>
<td>21747</td>
<td>22187</td>
<td>52723</td>
<td>49891</td>
</tr>
<tr>
<td>September</td>
<td>17102</td>
<td>18916</td>
<td>37214</td>
<td>39899</td>
</tr>
<tr>
<td>October</td>
<td>17022</td>
<td>17571</td>
<td>36189</td>
<td>35827</td>
</tr>
<tr>
<td>November</td>
<td>14945</td>
<td>15396</td>
<td>31368</td>
<td>31309</td>
</tr>
<tr>
<td>December**</td>
<td>14157</td>
<td>14070</td>
<td>29589</td>
<td>27808</td>
</tr>
</tbody>
</table>

### 24 HERB/ WHALETOWN

<table>
<thead>
<tr>
<th>Month</th>
<th>Vehicles Heriot Bay</th>
<th>Vehicles Whaletown</th>
<th>Passengers Heriot Bay</th>
<th>Passengers Whaletown</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>2019</td>
<td>2074</td>
<td>3521</td>
<td>3510</td>
</tr>
<tr>
<td>February</td>
<td>1690</td>
<td>1692</td>
<td>2882</td>
<td>2894</td>
</tr>
<tr>
<td>March</td>
<td>2395</td>
<td>2357</td>
<td>4175</td>
<td>4031</td>
</tr>
<tr>
<td>April</td>
<td>2523</td>
<td>2437</td>
<td>4373</td>
<td>4096</td>
</tr>
<tr>
<td>May</td>
<td>3005</td>
<td>2947</td>
<td>5601</td>
<td>5510</td>
</tr>
<tr>
<td>June</td>
<td>3218</td>
<td>3014</td>
<td>5934</td>
<td>5442</td>
</tr>
<tr>
<td>July</td>
<td>3932</td>
<td>3831</td>
<td>8355</td>
<td>8122</td>
</tr>
<tr>
<td>August</td>
<td>3955</td>
<td>4002</td>
<td>8189</td>
<td>8464</td>
</tr>
<tr>
<td>September</td>
<td>2753</td>
<td>3045</td>
<td>5194</td>
<td>5540</td>
</tr>
<tr>
<td>October</td>
<td>2601</td>
<td>2624</td>
<td>4764</td>
<td>4641</td>
</tr>
<tr>
<td>November</td>
<td>2310</td>
<td>2268</td>
<td>4139</td>
<td>3851</td>
</tr>
<tr>
<td>December**</td>
<td>2019</td>
<td>1936</td>
<td>3588</td>
<td>3257</td>
</tr>
</tbody>
</table>

** 2018 Data, 2019 Data not available as of January 19, 2020
Appendix E

Hornby Island Community Bus

Figure A4. Hornby Island Community Bus route with sponsorship mention (hornbybus.com).
# BUS STOP LOCATION – MORNING

<table>
<thead>
<tr>
<th>Stop</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>10:35 AM</td>
<td>11:35 AM</td>
<td>4:30 PM</td>
</tr>
<tr>
<td>Sandpiper</td>
<td>10:34 AM</td>
<td>11:38 AM</td>
<td>4:30 PM</td>
</tr>
<tr>
<td>Hornby</td>
<td>10:26 AM</td>
<td>11:26 AM</td>
<td>4:21 PM</td>
</tr>
<tr>
<td>Ford</td>
<td>10:43 AM</td>
<td>11:43 AM</td>
<td>4:21 PM</td>
</tr>
<tr>
<td>Central at Seaview</td>
<td>10:47 AM</td>
<td>11:47 AM</td>
<td>4:27 PM</td>
</tr>
<tr>
<td>Hornby</td>
<td>10:46 AM</td>
<td>11:46 AM</td>
<td>4:27 PM</td>
</tr>
<tr>
<td>Hornby</td>
<td>10:52 AM</td>
<td>11:52 AM</td>
<td>4:32 PM</td>
</tr>
<tr>
<td>Sandpiper Beach</td>
<td>11:03 AM</td>
<td>12:03 AM</td>
<td>4:38 PM</td>
</tr>
<tr>
<td>Top of Seaview</td>
<td>12:03 AM</td>
<td>12:03 AM</td>
<td>4:38 PM</td>
</tr>
</tbody>
</table>

# BUS STOP LOCATION – AFTERNOON

<table>
<thead>
<tr>
<th>Stop</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>4:35 PM</td>
<td>5:35 PM</td>
<td>6:35 PM</td>
</tr>
<tr>
<td>Sandpiper</td>
<td>4:34 PM</td>
<td>5:38 PM</td>
<td>6:35 PM</td>
</tr>
<tr>
<td>Hornby</td>
<td>4:33 PM</td>
<td>5:33 PM</td>
<td>6:35 PM</td>
</tr>
<tr>
<td>Ford</td>
<td>4:40 PM</td>
<td>5:40 PM</td>
<td>6:40 PM</td>
</tr>
<tr>
<td>Central at Seaview</td>
<td>4:47 PM</td>
<td>5:47 PM</td>
<td>6:47 PM</td>
</tr>
<tr>
<td>Top of Sandpiper</td>
<td>4:49 PM</td>
<td>5:49 PM</td>
<td>6:49 PM</td>
</tr>
<tr>
<td>Sandpiper Beach</td>
<td>4:58 PM</td>
<td>5:58 PM</td>
<td>6:59 PM</td>
</tr>
<tr>
<td>Top of Seaview</td>
<td>5:57 PM</td>
<td>6:57 PM</td>
<td>6:59 PM</td>
</tr>
<tr>
<td>Central at School</td>
<td>6:59 PM</td>
<td>6:59 PM</td>
<td>6:59 PM</td>
</tr>
<tr>
<td>Seaview</td>
<td>6:58 PM</td>
<td>6:58 PM</td>
<td>6:58 PM</td>
</tr>
</tbody>
</table>

# BUS STOP LOCATION – FRIDAYS NIGHTS ONLY

<table>
<thead>
<tr>
<th>Stop</th>
<th>Time</th>
<th>Time</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>8:15 PM</td>
<td>9:15 PM</td>
<td>10:15 PM</td>
</tr>
<tr>
<td>Sandpiper</td>
<td>8:13 PM</td>
<td>9:17 PM</td>
<td>10:15 PM</td>
</tr>
<tr>
<td>Hornby</td>
<td>8:12 PM</td>
<td>9:12 PM</td>
<td>10:13 PM</td>
</tr>
<tr>
<td>Ford</td>
<td>8:19 PM</td>
<td>9:19 PM</td>
<td>10:19 PM</td>
</tr>
<tr>
<td>Central at Seaview</td>
<td>8:22 PM</td>
<td>9:22 PM</td>
<td>10:22 PM</td>
</tr>
<tr>
<td>Top of Sandpiper</td>
<td>8:24 PM</td>
<td>9:24 PM</td>
<td>10:24 PM</td>
</tr>
<tr>
<td>Sandpiper Beach</td>
<td>8:33 PM</td>
<td>9:33 PM</td>
<td>10:33 PM</td>
</tr>
<tr>
<td>Top of Seaview</td>
<td>9:33 PM</td>
<td>9:33 PM</td>
<td>10:33 PM</td>
</tr>
<tr>
<td>Central at School</td>
<td>9:35 PM</td>
<td>9:35 PM</td>
<td>10:35 PM</td>
</tr>
<tr>
<td>Seaview</td>
<td>9:34 PM</td>
<td>9:34 PM</td>
<td>10:34 PM</td>
</tr>
</tbody>
</table>

---

**July & August 2019**

**FREE**

Donations appreciated!


This service is generously supported by: Jeffrey Babineau Sculpture Park - The Thistle Pub - JICET - CURB - LePage Realty - Donna & Jennese Dule

Union Bay Credit Union - HRRR - Hornby Coop & Gift Bar - Fords Cave Store & Cabins - Tribube Bay Outbound Education Center

Figure A5. Hornby Island Community Bus schedule (hornbybus.com)
## Appendix F

### Gabriola GERTIE

**GABRIOLA COMMUNITY BUS FOUNDATION BUDGET COM**

<table>
<thead>
<tr>
<th>REVENUE</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fares</td>
<td>37,752</td>
</tr>
<tr>
<td>Charters</td>
<td>5,000</td>
</tr>
<tr>
<td>Advertising in Riders G</td>
<td>1,000</td>
</tr>
<tr>
<td>RDN grant</td>
<td>137,078</td>
</tr>
<tr>
<td>Grants</td>
<td>6,500</td>
</tr>
<tr>
<td>Donations &amp; fundraising</td>
<td>4,500</td>
</tr>
<tr>
<td><strong>TOTAL REVENUE</strong></td>
<td><strong>$ 191,830</strong></td>
</tr>
</tbody>
</table>

**EXPENSE**

Operating Expenses
- drivers wages**          74,654
- fuel                    17,274
- bus insurance            12,852
- repair & maint.          20,000

**Total Operating Expenses**  $ 124,780

General & Administrative Expenses
- Accounting & Legal       6,000
- Advertising, promotion & fundraising  1,500
- Coordination             27,400
- Training                 2,250
- office expenses          3,426
- Org insurance            1,224
- rent                     1,240
- Contingency & Capital for buses  24,000

**Total General Expenses**  $ 67,040

**TOTAL EXPENSE**  $ 191,820

**NET INCOME**  $ 10

*Increase allows for an increase from 3 middays to 5 midd
These runs are currently operating during the summer mo
**Drivers will get a $1/ hour increase in both options for 2

Figure A6. Gabriola Community Bus budget 2019
GCBF - Proposed 2020 budget

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drivers wages</td>
<td>$67,200</td>
</tr>
<tr>
<td>Coordination</td>
<td>$26,500</td>
</tr>
<tr>
<td>Bus cleaning</td>
<td>$1,000</td>
</tr>
<tr>
<td>WCB premium (@2.09%)</td>
<td>$1,958</td>
</tr>
<tr>
<td>EI + CPP (@7.3%)</td>
<td>$6,840</td>
</tr>
<tr>
<td>Holiday pay (4%)</td>
<td>$3,748</td>
</tr>
<tr>
<td>Repair &amp; maint.</td>
<td>$27,000</td>
</tr>
<tr>
<td>Fuel (regular and bio-diesel)</td>
<td>$24,000</td>
</tr>
<tr>
<td>Fleet insurance</td>
<td>$13,500</td>
</tr>
<tr>
<td>Advertising &amp; promotion</td>
<td>$500</td>
</tr>
<tr>
<td>Accounting &amp; legal</td>
<td>$6,000</td>
</tr>
<tr>
<td>Organization costs</td>
<td>$5,354</td>
</tr>
<tr>
<td>Contingency &amp; Capital for buses</td>
<td>$24,000</td>
</tr>
<tr>
<td>Rent to Commons</td>
<td>$1,375</td>
</tr>
<tr>
<td>Training</td>
<td>$1,000</td>
</tr>
<tr>
<td><strong>Total expenses</strong></td>
<td><strong>$209,975</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fares</td>
<td>$33,000</td>
</tr>
<tr>
<td>SUSO</td>
<td>$24,300</td>
</tr>
<tr>
<td>RDN grant*</td>
<td>$112,118</td>
</tr>
<tr>
<td>RDN grant contingency</td>
<td>$24,000</td>
</tr>
<tr>
<td>Charters</td>
<td>$6,000</td>
</tr>
<tr>
<td>Advertising (riders guide)</td>
<td>$1,400</td>
</tr>
<tr>
<td>Grants</td>
<td>$8,000</td>
</tr>
<tr>
<td>Donations &amp; fundraising</td>
<td>$2,500</td>
</tr>
<tr>
<td><strong>Total income</strong></td>
<td><strong>$211,318</strong></td>
</tr>
</tbody>
</table>

| Net                                   | $1,342   |

**Assumptions**
- Drivers hourly wage: $19.58
- Fuel price: $1.35/L
- Average fuel use: 16 L/100km
- Average fuel use: 4.2 L/hour

<table>
<thead>
<tr>
<th>Organization costs</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>employee expenses</td>
<td>$250</td>
</tr>
<tr>
<td>office supplies</td>
<td>$550</td>
</tr>
<tr>
<td>Printing</td>
<td>$400</td>
</tr>
<tr>
<td>Insurance</td>
<td>$1,300</td>
</tr>
<tr>
<td>Courier &amp; postage</td>
<td>$250</td>
</tr>
<tr>
<td>telephone &amp; internet</td>
<td>$2,604</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$5,354</strong></td>
</tr>
</tbody>
</table>

*The RDN Grant amount reflects a 1.5% cost-of-living increase over the amount received in 2019*
Appendix G

Survey
Quadra Island Transportation Survey

This survey should take 5-15 minutes to complete.

Principal Investigator
Ericka Amador, Student
Master of Community Planning
Vancouver Island University
ms.ericka.amador@gmail.com

I am a student in the Master of Community Planning program at Vancouver Island University (VIU). My research, entitled "Microtransit in Microcommunities: A Community Bus Feasibility Study for Quadra and Cortes Islands Using Success Indicators from the Gulf Islands," aims to identify indicators of success for community buses on the Gulf Islands and determine whether community buses would be feasible on Quadra and Cortes Islands. My hope is that my research will inform decision-makers and community members of the effectiveness of existing community buses on the Gulf Islands and of the feasibility of community buses on Quadra and Cortes Islands.

Google will be used to collect your survey responses. Survey data will be stored on Google servers located in outside of Canada, and thus is subject to the data privacy policies of Google and foreign legislation. For information on Google privacy policy, see https://policies.google.com/privacy.

I will download and delete all survey data from Google's servers not more than two weeks after completion of data collection, which I expect will be October 30, 2019. I will not collect any personally identifiable information, including Internet Protocol (IP) addresses.

Please note that because Google stores data on servers located outside of Canada, data you provide will not be protected by Canadian privacy legislation, may be accessed by foreign government/s in accordance with its/their laws.

If you choose to participate, all data collected will be anonymous. Electronic data gathered from this survey will be stored on a password-protected computer and deleted on or before May 31st, 2022.

The information collected in this survey is unlikely to be controversial, and thus the research poses only a very small risk of harm to participants. Depending on the identifying information you provide there is a possibility it might cause loss of reputation and/or embarrassment.

The results of this study will be published in my Master's Major Project, and may also be used for conference publications, presentations, and published in peer-reviewed journals.

Your participation is completely voluntary. You may withdraw from the study at any time during the survey by exiting. Your answers will not be saved unless you submit. If you have any concerns about your treatment as a research participant in this study, please contact the VIU Research Ethics Board by telephone at 250-740-6631 or by email at reb@viu.ca.

https://docs.google.com/forms/d/1oDv9Ia0/1HjJHqLxWzBqEZaUk2ZYTPYr-2-MDx8/edit

1/10
By clicking next, you confirm that you have read and understood the terms above and agree to participate.

* Required

The following questions are intended to get to know you and your transportation priorities.

1. Which age category best describes you? *

* Mark only one oval.

- Under 19
- 19-24
- 25-34
- 35-54
- 55-74
- 75+
- Prefer not to say
2. Which of the following best describes where you live?

*Mark only one oval.*

- Quadra - Heriot Bay
- Quadra - Quathiaski Cove
- Quadra - Granite Bay
- Quadra - Cape Mudge Village
- Quadra - Gowlland Harbor Road
- Quadra - East side of island (Near Milford Road)
- Quadra - Open Bay
- Quadra - South End
- Quadra - Hooleyville
- Quadra - Quadraloop
- Quadra - Bold Point
- Cortes - Whaletown
- Cortes - Squirrel Cove
- Cortes - Cortes Bay
- Cortes - Manson's Landing
- Campbell River

3. Does anyone in your household use a wheelchair or other mobility device to get around?

*Mark only one oval.*

- Yes
- No
- Maybe/Unsure
4. Which of the following best describes where you work?

Mark only one oval.

- Quadra Island- Heriot Bay
- Quadra- Quathiaski Cove
- Quadra - Granite Bay
- Quadra - Cape Mudge Village
- Quadra - Gowlland Harbor Road
- Quadra - Heriot Rd (East side of island)
- Quadra - Open Bay
- Quadra - The South End
- Quadra - Hooleyville
- Quadra - Quadraloop
- Quadra - Bold Point
- Cortes - Whaleton
- Cortes - Squirrel Cove
- Cortes - Cortes Bay
- Cortes - Manson's Landing
- Campbell River
- I work from home
- Not Applicable
5. What is your usual method of getting to work?

*Mark only one oval.*

- [ ] Vehicle (driver)
- [ ] Vehicle (passenger)
- [ ] Walk
- [ ] Bicycle
- [ ] Not Applicable
- [ ] Other: __________________________

6. Where do members of your household attend school?

*Mark only one oval.*

- [ ] Quadra Island
- [ ] Cortes Island
- [ ] Campbell River
- [ ] Not Applicable
- [ ] Other: __________________________

7. Of those in your household who attend school, what is their usual method of traveling to school?

*Mark only one oval.*

- [ ] Vehicle (driver)
- [ ] Vehicle (passenger)
- [ ] Walk
- [ ] Bicycle
- [ ] Not Applicable
- [ ] Other: __________________________
8. Generally, what time do you leave for the day?

Example: 8:30 AM

9. Generally, what time do you return home for the day?

Example: 8:30 AM

10. Outside of work or school, where do members of your household most often travel for errands and recreation?

Mark only one oval per row.

<table>
<thead>
<tr>
<th></th>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q-Cove</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cape Mudge Village</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heriot Bay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebecca Spit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campbell River</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cortes Island</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. If transit were provided on Quadra Island, would you or members of your household use it?

Mark only one oval.

☐ Yes
☐ No
☐ Maybe
☐ Other:
12. Please rank how likely you or someone else in your household is to use the following services.

Mark only one oval per row.

<table>
<thead>
<tr>
<th></th>
<th>Very Likely</th>
<th>Somewhat Likely</th>
<th>Unsure</th>
<th>Somewhat Unlikely</th>
<th>Very Unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>A bus that runs during morning and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>evening commute times</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A bus that requires you to make a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>reservation in advance of your trip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A shuttle to the ferry terminals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A bus that goes to Campbell River a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>few times per week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Please rate the following options in order of importance to you (1 being the most important and 3 being the least important):

Mark only one oval per row.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit service to the ferry to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campbell River</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit service to the ferry to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cortes island</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit service that serves local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>destinations on Quadra</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Travel to Campbell River

The following questions are about your travel to and from Campbell River.
14. In the past 6 months, how often have you travelled by ferry between Quadra Island and Campbell River?

Mark only one oval.

☐ 5+ days per week
☐ 3-4 days per week
☐ 1-2 days per week
☐ A few times per month
☐ Once every few months
☐ I have not travelled by ferry between Quadra Island and Campbell River in the past 6 months

15. Which of the following statements best describes how you usually travel to the ferry between Quadra Island (Quathiaski Cove) and Campbell River?

Mark only one oval.

☐ Walk
☐ Drive alone
☐ Carpool
☐ Bicycle
☐ Not Applicable
☐ Other: __________________________

Travel to Cortes Island

The following questions are about your travel to and from Cortes Island.
16. In the past 6 months, how often have you travelled by ferry between Quadra Island and Cortes Island?

*Mark only one oval.*

- [ ] 5+ days per week
- [ ] 3-4 days per week
- [ ] 1-2 days per week
- [ ] A few times per month
- [ ] Once every few months
- [ ] I have not travelled by ferry between Quadra Island and Cortes Island in the past 6 months

17. Which of the following statements best describes how you usually travel to the ferry between Quadra Island (Heriot Bay) and Cortes Island?

*Mark only one oval.*

- [ ] Walk
- [ ] Drive alone
- [ ] Carpool
- [ ] Bicycle
- [ ] Not Applicable
- [ ] Other: ____________________________

Additional Comments
18. What additional comments do you have about transportation on and around Quadra Island?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

This content is neither created nor endorsed by Google.

Google Forms
Appendix H

Interview Questions

Quadra Island and Cortes Island

Who might ride the bus?

Do many people travel at the same times each day or are there events/destinations at various times on various days?

Who would ideally ride the bus?

What are major destinations on the island?

Are there seniors’ centers, community resource centers, tourist destinations, resorts, event spaces (weddings, festivals) schools, commuters, etc. on the island?

What are some possible locations for vehicle storage?

Maintenance?

What organizations exist that might house community bus operations/administration?

What potential funding opportunities exist specific to this island?

What human resource capacity exists on the island? (who could run the bus?

Who could drive the bus?

Who might house financial operations?

Gabriola Island

Why was the community bus started?

How was the community bus started?

Who was the bus started by?

How was the idea of a community bus presented to the community for support? Funders? Governing bodies?

What kind of opposition did/do you face, if any? How have you dealt with it?

What surprises did you find along the process?

Did the organization have a goal or goals the community bus (as far as ridership/funding/operating time period/number of routes/operating hours etc.) when if first started?

Yes- what was/were the goal(s)?
No- why not?

Is it meeting that goal?

Yes- to what do you attribute this success?

No- what is keeping the bus from achieving that goal?

How well is it meeting the community’s needs? Whose needs was the bus initially intended to meet? Whose needs is it meeting?

How has that changed over time, if at all?

Do you consider the community bus successful?

Why or why not?

What is the vision for the bus? What is its future?

What are some Do’s and Don’t Do’s/Lessons Learned?

What have been your most productive partnerships?

What are your biggest challenges and how do you overcome them?