

A shuttle-bus service for Gabriola Island

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Introduction

Our goal is the establishment of a shuttle-bus service on Gabriola Island. The proposed service will follow a regular schedule that will be integrated with the ferry schedule and will also provide convenient transportation for those not using the ferry. This proposal also includes the establishment of a car-stop program for areas of the island that are not served by the shuttle bus. The primary objectives of this initiative are to reduce private vehicle use on Gabriola and to enhance transportation options for Gabriola Island residents and visitors. We believe that an efficient bus service is the single most effective way to reduce greenhouse gas (GHG) emissions on Gabriola because it has the greatest potential to get car-owners to leave their car at home, or to leave it uninsured for part of the year or to take it off the road altogether, and for others to avoid calling for a ride home from the village or the ferry¹. This proposal is for a 3-year trial period. During, and at the end of that time, the feasibility of continuing or expanding the shuttle-bus service will be considered based on ridership and on feedback from users and others.

A great deal of work has been done in the past regarding transit on Gabriola Island, including the 2008 transit survey and a number of well attended and supportive public forums before and after that time. Budgets have been created and routes have been planned. Detailed feasibility studies by BC Transit in 2000, 2009 and 2011 have all recommended a public transit system for Gabriola Island. This proposal acknowledges the research undertaken by BC Transit and seeks to establish a pilot project that will serve Gabriola and demonstrate that the demand exists to support a conventional transit service in the future.

Proposal

We are proposing a shuttle-bus system that, to begin with, will only serve the most densely populated parts of Gabriola Island (the northwestern region), and will be targeted primarily to commuters. The proposed route is shown on the map to the right. It includes service from the Barrett Road area, through the village core to the Harrison Way area, past the ferry terminal and to the Berry Point Road area. Each round-trip, serving all of these areas, will take approximately one hour, and will be timed to meet the arrival and departure of the



¹ An overview of Gabriola GHG emissions and the projected impact of a shuttle-bus service is provided in Appendix 4.

ferry. This proposal does not include a circuit around the less-populated parts of Gabriola Island (along South and North Roads) because, at the present time, and with only limited funding available, we do not believe that such a route will be as economically viable as the proposed routes. As outlined in Appendix 5, a Car Stop program may be effective as a supplement to the bus for parts of the island that are not served by this proposal.

We have considered two schedule options for the initial service. Option 1 would include two week-day round-trips each morning, timed to meet the 6:30, 7:40 and 8:50 ferry departures from Gabriola and two week-day round trips in the afternoon/evening, timed to meet the 4:05, 5:20 and 6:30 ferry arrivals from Nanaimo. There would be no week-end or holiday service. Option 2 would include these same two week-day trips: morning and afternoon, plus a third round-trip later in the morning and another at mid-day. This option would also include a Saturday service with a total of three round trips, morning, noon and afternoon. Indicative schedules for options 1 and 2 are included in Appendix 1.

Depending on ridership and the suggestions of users, it is possible that the schedule could be changed after a few months of operation: increased if ridership is strong, decreased if ridership is weak at certain times, or adjusted to meet the needs of users.

Our proposal involves the use of an 11 to 15 passenger Mercedes Sprinter (figure below).



A standard cash fare of \$2.50 is proposed. The options for discount fares when purchased as a book of tickets (e.g., \$2.00 to 2.25/ticket), or monthly pass fares (e.g., \$60/month) and for discounts for students, children and seniors will also be considered.

Budget

As summarised in Appendix 2, cost items include the vehicle and its insurance and maintenance package, the driver's salary and benefits, the cost of an administration and monitoring contract, administration expenses, communication costs, fuel and insurance costs. Revenue items include fares

and on-vehicle advertising. The least predictable of these estimates will be the fares per operating hour. We have assumed that there will be 10 one-way fares per hour. We anticipate that, to begin with, the number of fares may be less than this projection, but will increase over time as the existence and reliability of the shuttle-bus service become better known. We also anticipate that there may be more fares in summer than at other times because of the number of summertime visitors to Gabriola Island.

Our financial forecast (Appendix 3) is based on the assumption that the capital cost of a purchased vehicle can be funded through the RDN's Community Works Fund, and that the Fund can also be used to cover Capacity Building items such as a planning, research and evaluation contract, insurance and a vehicle maintenance contract. We assume that operating costs, such as the driver's salary and benefits and fuel will have to be met from the revenues from fares and advertising.

Operating costs and projected revenues are summarized in Table 1. Operating deficits are predicted for both options, but the deficits are not large, amounting to between \$2.09 and \$3.65 per Gabriola resident per year. We feel that we can offset deficits of this magnitude with additional revenue from special trips (on and off island), charters, corporate sponsorships and charitable grants. A summary of potential supplemental income opportunities is provided in Appendix 5.

Table 1 Financial forecast summary for the Gabriola Shuttle-bus Project

	Option 1	Option 2
	4 trips/day, weekdays only	6 trips/weekday, 3 on Saturday
Operating costs	\$45,723	\$72,454
Projected revenue	\$36,250	\$56,013
Fundraising target	(\$9,473)	(\$16,441)

We are requesting a grant from the Regional District of Nanaimo's Community Works Fund. The funding will be used to purchase a Mercedes Sprinter 11-passenger bus for the proposed transit service. The vehicle would remain the property of the Regional District. We are also requesting annual capacity-building funding for a period of 3 years to pay for planning, research and evaluation of the shuttle-bus service and for administration and communication costs. The projected funding requirements are summarized in Table 2.

Table 2 Summary of potential grant funding from the RDN's Community Works Fund

Purchase price (Mercedes Sprinter)	Annual capacity building cost*	Total draw over 3 years
\$100,000	\$21,500	\$164,500

*Does not include amounts for vehicle insurance and maintenance.

Discussion

The proposed Gabriola shuttle-bus service provides some interesting opportunities for innovation in public transit in the RDN in terms of the type of vehicle that could be used (e.g., the Mercedes Sprinter) and the type of relationship that could exist between RDN and a community organization. If successful, this would provide a unique and valuable model that could be applied to small-market transit services elsewhere in the Regional District and in other parts of BC.

In our initial vision for this project we assumed that the Gabriola shuttle-bus system would be operated by a Gabriola-based non-profit society incorporated under the Society Act. We recognize that this model may not be suitable to the RDN, and we are open to discussion of other options. Our primary objectives are the establishment and evaluation of a public transit service on Gabriola; the type of operatorship may not be germane to those objectives.

One of the premises of our proposal is that the RDN would own the vehicle purchased using Community Works funding allocated to Area B. We are willing to consider other vehicle financing arrangements, providing that the cost of the vehicle does not have to be covered by revenue from shuttle-bus fares.

Conclusions

In conclusion, we believe that a shuttle-bus service for Gabriola Island is feasible providing that capital-cost and capacity-building funding can be secured from the RDN's Community Works Fund. Although both of the scenarios that we have studied do result in small annual deficits, we are confident that these amounts can be offset from charters and fuel subsidies, and from corporate sponsorships and charitable donations.

The service that is proposed here is quite limited in scope because we feel that it is important to start with routes and a schedule that can be successful. Our expectation—based on the experience on Salt Spring and Bowen Islands—is that ridership will exceed our forecasts before the end of the 3-year trial period, and that, once the service has proven to be effective, Gabriolans will actively seek expansions to the routes and the schedule.

We recommend that the shuttle-bus service be supplemented with a car-stop project that is initially set up to serve parts of the island that are not served by the proposed shuttle-bus service.

Appendix 1 Gabriola Shuttle-bus Project proposed schedules

Indicative schedule for Option 1

Monday to Friday service	1	2		3	4	
Gabriola Village	6:10	7:20		4:00	5:10	
Harrison Way circuit	6:15	7:25		4:05	5:15	
Ferry Terminal	6:20	7:30	Ferry leaves at 6:30 & 7:40	4:10	5:20	Ferry arrives at 4:05 & 5:20
Berry Pt. Rd. circuit	6:30	7:40		4:20	5:30	
Ferry Terminal	6:40	7:50		4:30	5:40	
Harrison Way circuit	6:50	8:00		4:40	5:50	
Gabriola Village	7:00	8:05		4:45	6:00	
Barett Rd. circuit	7:10	8:15		4:55	6:10	
Gabriola Village	7:20	8:25		5:10	6:20	
Ferry Terminal		8:30*	Ferry leaves at 8:50		6:35*	Ferry arrives at 6:30
Gabriola Village		8:35*			6:40	

*The last morning and afternoon circuits (Gabriola Village-Ferry Terminal-Gabriola Village) will only be made if there are passengers in the bus at Gabriola Village wanting to go to the ferry terminal.

Indicative schedule for Option 2

Monday to Friday service

Times in **bold** are PM

	1	2	3		4	5	6		
Gabriola Village	6:10	7:20	8:30		12:15	4:00	5:15		
Harrison Way circuit	6:15	7:25	8:35		12:20	4:05	5:20		
Ferry Terminal	6:20	7:30	8:40	Ferry leaves at 6:30, 7:40 & 8:50	12:25	Ferry leaves at 12:35	4:10	5:25	Ferry arrives at 5:20
Berry Pt. Rd. circuit	6:30	7:40	8:50		12:35	4:20	5:35		
Ferry Terminal	6:40	7:50	9:00		12:45	4:30	5:45		
Harrison Way circuit	6:50	8:00	9:10		1:00	4:40	5:55		
Gabriola Village	7:00	8:05	9:15		1:05	4:45	6:05		
Barett Rd. circuit	7:10	8:15	9:25		1:15	4:55	6:15		
Gabriola Village	7:20	8:30	9:35		1:25	5:10	6:25		
Ferry Terminal			9:45*	Ferry leaves at 10:10	1:35*	Ferry leaves at 1:50	6:40*	Ferry arrives at 6:30	
Gabriola Village			9:50*		1:40*		6:45*		

*The last morning, mid-day and afternoon circuits (Gabriola Village-Ferry Terminal-Gabriola Village) will only be made if there are passengers in the bus at Gabriola Village wanting to go to the ferry terminal.

Saturday service

	1	2	3			
Gabriola Village	8:30	12:20	5:10			
Harrison Way circuit	8:35	12:25	5:20			
Ferry Terminal	8:40	Ferry leaves at 8:50	12:30	Ferry leaves at 12:35	5:25	Ferry arrives at 5:20
Berry Pt. Rd. circuit	8:50	12:40	5:35			
Ferry Terminal	9:00	12:50	5:45			
Harrison Way circuit	9:10	1:00	5:55			
Gabriola Village	9:15	1:05	6:00			
Barett Rd. circuit	9:25	1:15	6:10			
Gabriola Village	9:35	1:25	6:20			
Ferry Terminal	9:45*	Ferry leaves at 10:10	1:35*	Ferry leaves at 1:50	6:35*	Ferry arrives at 6:30
Gabriola Village	9:50*		1:40*		6:40*	

*The last morning, mid-day and afternoon circuits (Gabriola Village-Ferry Terminal-Gabriola Village) will only be made if there are passengers in the bus at Gabriola Village wanting to go to the ferry terminal.

Appendix 2 Gabriola Shuttle-bus Project – Cost assumptions

Cost & Revenue Assumptions				Option 1	Option 2
Operations	Trips per bus (Mon-Fri)			4	6
	Trips per bus (Saturday)			0	3
	Operating hours (Mon-Fri)			5.00	7.33
	Non-operating hours (Mon-Fri)			0.84	1.00
	Total Paid hours (Mon-Fri)			5.84	8.33
	Operating hours (Saturday)				4.00
	Non-operating hours (Saturday)				1.00
	Total paid hours (Saturday)			0.00	5.00
		Operating days per annum	250	Mon-Fri	250
		52	Saturday	0	52
Driver costs	Driver Costs per hour	\$17.00			
	Wage costs / benefits	37%			
	Driver Costs per day (incl. Benefits)		Mon-Fri	\$136	\$194
			Saturday	\$0	\$116
Administration (capacity building)	Planning, research & evaluation contract	\$20,000	annual	\$20,000	\$20,000
	Administration expenses	\$1,000	annual	\$1,000	\$1,000
	Communication costs	\$500	per veh.	\$500	\$500
Fuel costs	Assumed mpg			20	20
	Fuel cost / litre			\$1.40	\$1.40
	Litres per hour			5	5
	Fuel costs per day		Mon-Fri	\$41	\$58
			Saturday	\$0	\$35
Passengers	Passengers per operating hour			10	10
	Fare per passenger			\$2.50	\$2.50
Revenue	Revenue per operating hour	\$25.00		\$25	\$25
	Revenue per day		Mon-Fri	\$125	\$183
			Saturday	\$0	\$100
Other income	Other income				
	Vehicle advertising	\$5,000	annual	\$5,000	\$5,000

Appendix 3 Gabriola Shuttle-bus Project - Financial Forecast

Financial forecast			Option 1	Option 2
			4 trips/day	6 trips/day
<u>Grant Funded - Infrastructure</u>				
	New Vehicles : capital cost (assumed)		\$100,000	\$100,000
Grant funding applied for - Capital			\$100,000	\$100,000
<u>Grant Funded - Capacity Building</u>				
	Vehicle Insurance	annual	tbd*	tbd
	3-year vehicle maintenance contract	annual	tbd	tbd
	3-year planning, research & evaluation contract	annual	\$20,000	\$20,000
	Administration expenses	annual	\$1,000	\$1,000
	Communication costs	annual	\$500	\$500
	Total : Capacity Building	annual	\$21,500	\$21,500
Grant Funding applied for : 3 years Capacity Building			\$64,500	\$64,500
<u>Operating Costs - to be met by the project</u>				
	Driver Costs - Salary & Benefits	annual	\$34,003	\$54,557
	Fuel	annual	\$10,220	\$16,398
	Vehicle cleaning	annual	\$1,500	\$1,500
	Total Operating Costs	annual	\$45,723	\$72,454
<u>Income</u>				
	Passenger fares	annual	\$31,250	\$51,013
	Vehicle advertising	annual	\$5,000	\$5,000
	Off-island trips (volunteer driver)	annual	tbd	tbd
	Charter (volunteer driver)	annual	tbd	tbd
	Corporate Sponsorship	annual	tbd	tbd
	Charitable grants	annual	tbd	tbd
	Total Income	annual	\$36,250	\$56,013
<u>Balance</u>	Operating shortfall to be met from sponsorship, charitable grants, charters and voluntary support	annual	(\$9,473)	(\$16,441)

*tbd: to be determined

Appendix 4 Gabriola Shuttle-bus Project – Greenhouse gas considerations

This proposed shuttle-bus initiative would reduce greenhouse gas emissions through reduced use of personal vehicles and would provide information to the local community and the RDN regarding long term environmental and fiscal sustainable transportation options for Gabriola Island. Personal vehicle use is the largest source of greenhouse gas emission on Gabriola Island, according to the two GHG audits done for Gabriola. According to the 2008 audit carried out by Island Futures, personal vehicle use accounted for 5668 tons of CO₂e, or 39% of the total (the next highest contributor is the ferry at 19%). This initiative would directly reduce greenhouse gas emissions through replacing personal vehicle use with ride sharing and public transit.

The proposed trial shuttle/transit service would provide information about potential ridership for a longer term transit system. A transit system funded through the RDN cannot be initiated on the island without determining the extent to which islanders are willing to be taxed for that system. The level of taxation depends upon the cost of the system, based on service hours, and the revenue from ridership and provincial funding. BC Transit ridership projections are extremely low, as they are based on the behaviour of comparable demographics in urban areas. Experience on other gulf islands (Salt Spring Island and Bowen Island) indicate that those projections may be 25 to 50% the actual ridership. However, the only way to determine ridership, and thus the potential tax rate, would be to carry out the type of trial service proposed here.

The combination of the shuttle-bus service and Car Stops (Appendix 5) will allow islanders to dispense with a second vehicle, or even their only vehicle, or to leave a vehicle unlicensed for part of the year. The creation of alternatives to vehicle use gradually shifts behaviours from automatically hopping in the car whenever something is needed, to planning around a shuttle service or car stop trip. The behaviour change will be influenced by convenience, time and cost. Some the factors that will affect behaviour include:

- the time required for the use of car stop or shuttle-bus versus the time spent sitting in a ferry line-up for the busy commuter runs,
- the \$15.05 ferry fare (vehicle only with Experience Card reduction),
- the cost of fuel and future changes in that cost,
- the inconvenience and cost of parking near to the Gabriola ferry terminal,
- the length of the shuttle-bus ride, the wait at the car stop,
- the shuttle bus fare,
- the sense of community connecting on the shuttle or car stop ride, and
- the ease of getting to their destination.

Appendix 5 Gabriola Shuttle-bus Project – Car stop program

Car Stops are signs, placed at strategic places around the community, which provide recognized places for people to wait if they require a lift. There is a double-sided sign which proclaims CAR STOP accompanied by another sign which reads as follows:

*Drivers don't have to take the first in line;
You're not obliged to accept a ride, that's fine.
You accept a ride at your own risk,
But the ride is free, so consider it a gift.*

The concept of Car Stops is to promote community transportation that is simple, free and safe. The project provides an alternative to single occupancy cars, and results in less traffic congestion at commercial centres and ferry terminals, a reduction in the overall carbon footprint and a chance for people to make new friends.

The most important idea is that Car Stops are entirely voluntary: people take rides and give lifts as they see fit. There is no coercion on either side, very little cost, and no bureaucracy. www.barrymathias.com/car_stops.htm



Pender Island and Mayne Island have successfully implemented car stop programs. Bowen Island and Salt Spring Island are in the process of developing Car Stop programs to complement their transit systems.

The cost is minimal and includes the signs and, potentially, some benches at the most-used stops. For the purposes of this initiative it is proposed that car stops be established initially in the less populated southern end of the island.

Appendix 6 Gabriola Shuttle-bus Project – extra revenue, subsidy and fund-raising options

There are a number of options that could be used to offset the anticipated shortfall in revenue versus operating expenses for the Gabriola shuttle-bus project. These include, but are not limited to:

- Pursuit of bus chartering opportunities both on Gabriola, and from Gabriola to other locations.
- Negotiation of a fuel subsidy with the Mid-Island Co-op (This appears to be a strong possibility based on preliminary conversations with the Co-op.)
- Application for donations from some of the larger businesses on Gabriola, including:
 - Village foods
 - Coast Realty
 - Folklife, Madrona, Twin Beaches and Professional Centre malls
- Application for funding from off-island businesses and organizations, including:
 - Credit Union Spirit fund,
 - Vancouver Foundation ,
 - VanCity Savings,
 - BC Ferries
- An annual drive to raise funds from individuals and small businesses on Gabriola.