

A Report To:



Ministry of
Transportation
and Infrastructure

For:

SAVARY ISLAND TRANSPORTATION STUDY

Prepared By:



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SW1134SWA

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EXECUTIVE SUMMARY

In response to concerns regarding road network condition, lack of regulation, over-subdivision and future growth impacts, a transportation study has been completed for the portion of Savary Island east of District Lot 1375. The study has been completed over the month of March, 2009 and has included a site visit, collection of off-season parking and traffic observations, consultation with key transportation stakeholders and a review of the results of a property owner's survey regarding transportation issues.

Key transportation issues have been confirmed to include the following:

- Lack of practical speed and vehicle regulation on the Island;
- Inconsistency in road standards;
- Potential development impacts;
- Emergency response requirements;
- Winter road deterioration;
- Parking demand and management near the Savary Island dock;
- Factors influencing mode choice on the Island.

Land Use and Development

Although few formal land use controls currently exist on the Island, previous planning work conducted for the Official Community Plan (OCP) has identified transportation related objectives and policies for Savary Island. These include reducing the impact of vehicular traffic on the Island road network, and providing a basic level of safe road design which respects the unique context. Traffic and parking issues are highly seasonal and subsequent planning should allow for data collection and validation during the peak summer months.

Future development could occur via subdivision of existing large lots or by creating dwelling units on existing legal parcels. Using adjusted estimates of daily traffic generated by recreational properties, there is the potential for an increase in daily traffic activity of up to 57%, assuming no additional land use regulations or changes in current average levels of vehicular use.

Road Network Requirements

The existing road network, as currently constituted, does not meet traditional Ministry of Transportation and Infrastructure roadway standards and would have difficulty accommodating potential future growth. Actual constructed widths vary along individual facilities and the road network in the eastern (Mace Point) neighbourhood is difficult to rationalize with the formal legal boundaries. Following completion of ongoing land survey tasks and as an input to the next OCP, a significant rationalization and potential reorganization of the road network will be required.

As there is little functional differentiation between the lower two of the three levels of roadway classified within the OCP, it is suggested that the OCP be updated to include only two levels of roadway. The Level 1 facility (Island Collector Road) should target a consistent short term width of 7.0 m and a longer term width of 9.0 m (including shoulder cycling and pedestrian accommodation) in the event that paving or chip sealing is completed. A maximum 50 km/h design speed should be planned in the long term. Level 2 and 3 facilities (Minor Local Roads) should be distinguished by whether they serve development on both sides. For double sided facilities, a target 5.5 m width should be attained, while single sided, single lane facilities should target a 3.0 m width. Design speeds should be established as 20 km/h (similar to laneways in many urban areas). These are generally consistent with preferences expressed in the property owner's survey, as well as a review of what has been implemented on analogous Island-based communities elsewhere in BC.

Additional road network requirements identified for protection in subsequent OCP's include an alternative east-west route to Vancouver Boulevard. This could take the form of an emergency vehicle / pedestrian / cyclist only connection via a parallel extension of Savary Island Road. An alternative to the constrained Wharf Road Hill alignment should also be reviewed in the event of long term traffic volume increases and no alternative wharf or dock locations.

Regulatory Requirements

A 20 km/h Island-wide speed limit is recommended in order to replace the default 80 km/h limit, provide an interim control on speed through geometrically constrained sections of roadway, facilitate the use of Low Speed / low impact vehicles, and to provide compatibility with a shared pedestrian and cycling road space. As design parameters are confirmed, the speed limit on Vancouver Boulevard may be adjusted upward as appropriate.

Support for Alternative Modes and Facilities

A review of alternative barge and water taxi landings (particularly in the west end of the Island) should be undertaken in order to reduce traffic impacts on Malaspina Promenade, to provide emergency and disaster response flexibility and to drop off water passengers closer to their destination, an important component of long term traffic mitigation.

Parking Management

For short term wharf area parking management, it is recommended that short term and long term parking areas be identified and that on-street parking in other proximate locations should be restricted to prevent road blockage, erosion and driveway encroachment. Until such time as an alternative wharf location can be established, priority parking access should be provided to those modes of travel with the least overall impact on the road network such as bicycles, Low Speed / Low Impact vehicles and community car shares.

1.0 INTRODUCTION

Savary Island, located approximately 14 km (by water) northwest of the City of Powell River, is characterized as an Island-based community dependent on water transport to connect it with the mainland. The Island has small residential lots served by narrow gravel roads, which are heavily utilized by a variety of vehicle types during the summer months with the influx of visitors and seasonal residents.

As a result of the current seasonal strain on the Island's road network, the lack of well defined right-of-way and road use regulations coupled with the potential for substantial unregulated development on the Island, a Transportation Study is required.

1.1 Objectives

The following Transportation Study has been prepared for the Ministry of Transportation and Infrastructure (BC MoT) as the road network on Savary Island falls under their jurisdiction. Following discussion with Sunshine Coast Ministry staff, and identification of longstanding issues, the objectives of the study are to:

- Estimate the seasonal demands on, and operation of, the existing transportation network;
- Assess the existing parking provision, demands and regulation;
- Review the appropriateness of the road network plan including classifications and hierarchy, speed limits, cross sectional requirements, pedestrian / cyclist provisions, emergency access and disaster response, and signage requirements to mitigate foreseeable issues;
- Forecast transportation network demands based on potential development capabilities;
- Determine changes to road classification, road geometry and traffic regulation that would assist in addressing existing and forecast transportation issues while respecting the Island's unique rural character; and
- Determine whether alternative transportation services or facilities may be developed to respond to growth challenges.

In response to these objectives, the ensuing report has been prepared which summarizes the results of the following work tasks.

DATA COLLECTION AND REVIEW

- Obtain and review available aerial photography, property information, planning reports, traffic data and other background information.

SITE VISIT AND STAKEHOLDER INTERVIEWS

- Conduct a site visit to verify road geometry, land use context and general off-season operations; and
- Contact key transportation service providers / stakeholders to obtain an understanding of prevailing issues. These include, but are not limited to:
 - Lund Water Taxi
 - Hurford Marine
 - Island Air
 - Dave's Parking
 - Powell River Regional District
 - RCMP
 - Savary Island Volunteer Fire Department
 - Capilano Highway Services
 - ICBC

EXISTING CONDITIONS SUMMARY

- Based on available information (much of it likely anecdotal), prepare a “snapshot” of existing peak and off-peak transportation conditions.

FORECAST DEVELOPMENT IMPACT

- Using legal property information and subdivision regulations, assess potential development impacts on the transportation network.

NETWORK REQUIREMENTS

- In light of existing and potential future transportation demands, determine any physical changes required to the Island transportation network.

REGULATORY REQUIREMENTS

- In light of existing and potential future transportation demands, determine any regulatory changes required to manage traffic on the Island.

EMERGENCY AND DISASTER RESPONSE REQUIREMENTS

- In conjunction with the network requirements, comment on the most critical transportation network elements from an emergency and disaster response perspective.

PREPARE REPORT

- Prepare a report documenting the findings and recommendations stemming from the above work tasks.

1.2 Study Area

A Transportation Study is ultimately required for all of Savary Island. However, to assist in prioritizing the study of the portion of the Island which sees the most traffic on a day-to-day basis, the study will be completed in multiple phases for different areas of the Island. The first phase, the subject study, will focus on approximately the eastern third of the Island including all land east of District Lot 1375 as shown in *Figure 1* below.

Figure 1: Study Area



2.0 BACKGROUND AND EXISTING CONDITIONS

Savary Island is approximately 0.8 km wide and 8 km long and is currently composed of over 1,700 legal parcels, with the potential for some further lot subdivision. Note that many of these lots are relatively small, comprising less than 0.5 acres in area. This reflects a legal plan that was drawn up in the early 1900's with little regard for practical limitations of the Island's terrain. Recent estimates suggest only 647 of these existing parcels contain dwellings on them, but in theory the remainder could be developed at any time (subject only to septic constraints)¹. There are technically no zoning bylaws or building permits to constrain development, although any new subdivided parcels are subject to a minimum 10 acre parcel size as per Gulf Islands Community Planning Area regulations. BC Hydro service is not available on the Island and most lots are serviced by individual wells and septic systems (with the exception of the Savary Shores neighbourhood). As of 2006, the Island is home to up to 30 residents year round and considerably more on a seasonal basis. During the summer months, there is a further increase in Island population as a result of an influx of temporary residents, visitors and tourists. Estimates of between 800 and 3,000 people have been provided of peak seasonal population (roughly defined as the May long weekend to September long weekend).

The limited accessibility of the Island is one of the reasons it has maintained its rustic character and continues to be a popular recreational destination. There is a single public dock on the Island, owned and operated by the Powell River Regional District (PRRD) that is frequently used by a mainland water taxi service and privately owned boats. Vehicle barges from the mainland dock at a designated area on the northeastern shoreline to load / offload a combination of private vehicles and construction / delivery / maintenance vehicles. Air transport via float plane is also available on a reserved basis from Courtenay / Comox (on Vancouver Island).

Because of the combination of an increasing influx of seasonal visitors, as well as the potential for further infill and subdivision, concerns have been raised as to the ability of the transportation network to handle existing and future travel demands.

¹ Savary Island Official Community Plan, 2006

2.1 Existing Island Transportation Network and Planning Context

Partly in response to development and land use concerns, an Official Community Plan (OCP) was put together for Savary Island in 2006 to set out objectives, goals and policies regarding the future direction of the community. Of particular interest in the subject study is Section 6.0, the Transportation Planning component of the OCP. A summary of the adopted transportation objectives for the Island are summarized as follows:

1. Promote the use of cooperative vehicle use programs, land taxis and / or regularly scheduled public transportation to / from the wharf area;
2. To support modes of water, land and air transport to and on Savary Island which ensure public safety, minimize environmental impact and do not detract from the peaceful enjoyment of the Island while taking into account the significant seasonal volume increases;
3. To manage new development and continue road maintenance which ensures aesthetic and environmental impacts are minimized;
4. To maintain the Island's network of main roads in reasonable repair to adequately meet the transportation needs of Island residents and allow access for emergency vehicles, while encouraging low impact transportation alternatives;
5. Develop good channels of communication between all government bodies and Island residents / property owners to keep informed of transportation priorities and concerns;
6. Accommodate goods and materials shipment to the Island by barge while limiting the number and types of vehicles permitted on the Island;
7. Limit new road construction or major road upgrades using public funds to those that significantly improve fire control access and public safety; and
8. To support a water taxi connection between Lund and Savary Island of adequate frequency throughout the year.

In terms of specific policies to be pursued as a result of these objectives, the following transportation policies have been adopted as part of the OCP:

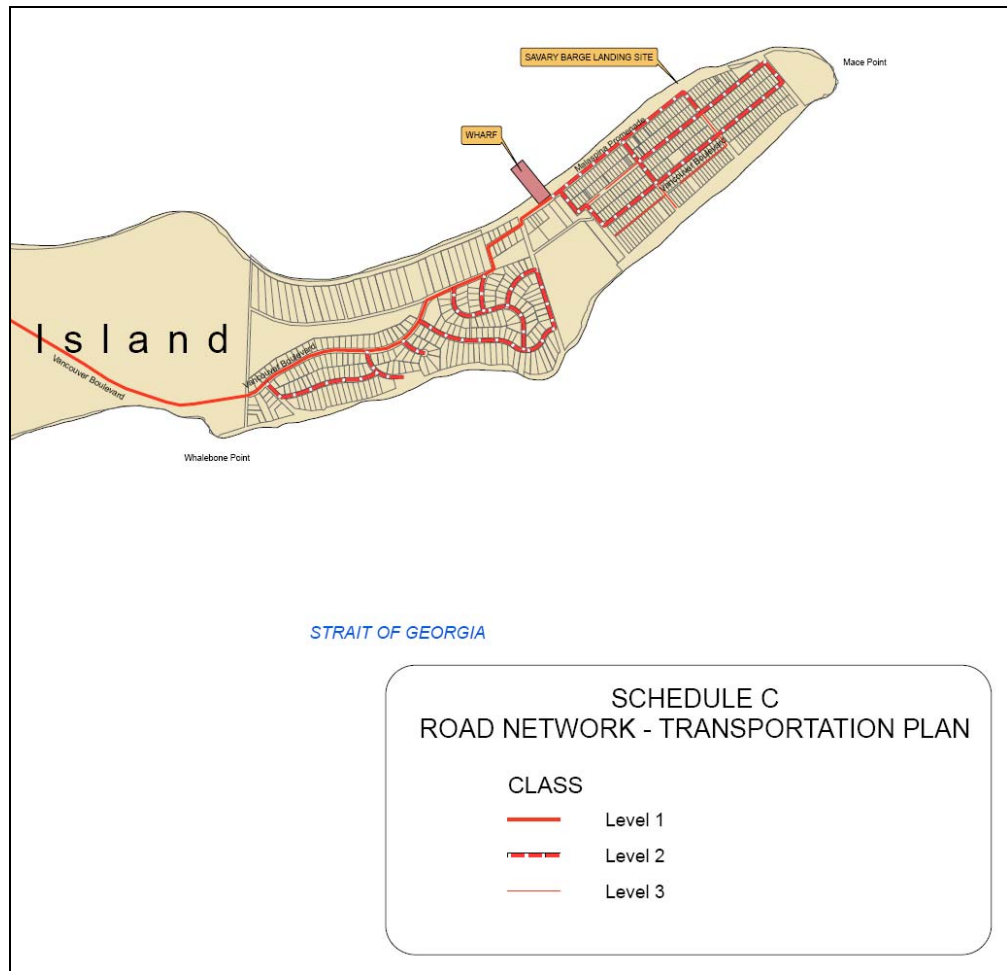
1. The highest priority for new or upgraded road construction shall be those routes which improve fire control access and general safety;

2. Consider an alternative route between the wharf and the main road to relieve traffic pressures on Savary Island Road Hill and to address safety concerns;
3. Support low impact transportation options such as a dedicated pedestrian / cyclist trail running the length of the Island using undeveloped road rights of way;
4. Set road network standards on the Island such that they just meet the minimum standard to permit safe traffic movement. Similarly, roadside brushing (hand or mechanical only) should be limited to that necessary for improving road safety and fire safety;
5. Adopt a road classification system for the Island based on use and maintenance requirements;
6. Set speed limits that encourage the use of licensed utility vehicles;
7. Preserve public shoreline access in the event of subdivision;
8. Properly maintain the Savary Island Wharf given its importance;
9. Through the Savary Island Dock Advisory Committee (SIDAC) assign priority usage of the wharf to water taxi's as opposed to private vessels;
10. To limit the impact of barge landings on properties adjacent to the landing site and to restrict excessive vehicle traffic on the Island, the PRRD is encouraged to regulate barge landings and impose a landing fee on all barge landings;
11. Consider alternative barge landing sites;
12. Ensure boat owners take all necessary steps to protect the water and marine life; and
13. Medi-Vac landing sites for helicopters and seaplanes should be identified for the Island.

It is important to note that objectives 3, 4, 5 and 7 and policies 1, 2, 4, 5, 6, and 7 primarily fall within the jurisdiction of the Ministry of Transportation, while other items are primarily the responsibility of the PRRD, private operators or other approval / regulatory agencies.

The basic reference guide as to the intended / desired function of the Island's road network is provided within Schedule C of the Official Community Plan. **Figure 2** shows an excerpt from this schedule containing the area of immediate interest.

Figure 2: Excerpt of Schedule C – Road Transportation Network



As shown in **Figure 2**, there are three classes of roadways present within the study area. It has been noted in the OCP that these roadway classes do not necessarily correspond to Ministry of Transportation maintenance or geometric standards. The roadway classes are summarized as follows:

LEVEL 1

These are main rural roads which should be maintained at a standard suitable for reasonable all-weather licensed vehicle access to all parts of the Island, taking into account the relatively low levels of Island traffic.

LEVEL 2

These are secondary rural roads which experience only a limited volume of licensed vehicular traffic and which are intended to primarily be used by pedestrians, bicycles, licensed utility vehicles and public transit vehicles.

LEVEL 3

These include local roads which experience only a very limited volume of vehicular traffic and which are intended to be used primarily by pedestrians, bicycles, licensed utility vehicles, licensed service vehicles and public transit vehicles.

It is noted that the only practical differentiation between Level 2 and Level 3 facilities is the distinction between “limited” and “very limited” traffic volume.

Additional Smart Growth Best Practices have been reviewed for analogous Island communities. Key findings from a 2008 Smart Growth BC presentation include:

- Transportation planning must be based on a community vision. Dialogue is necessary and some compromise on all sides is helpful. The plan must come from the community in order to be successful.
- OCP bylaws and policies must be in place that encourage alternatives to driving (golf carts and small utility vehicles).
- Affordable and convenient parking must be made available on mainland.
- It is ideal if a water taxi can drop people/goods off at many spots on the island.
- Efficient land taxi and/or transit shuttle is required for those who are unable to walk/bike.
- Stakeholders must work together to remove derelict cars.
- Examine land use and transportation relationships when making any development decisions.

2.2 Assessment of Existing Conditions

Although appearing well defined on a two dimensional map, based on a March, 2009 site visit, the precise location and limits of many of the Level 2 and 3 roads were difficult to identify and rationalize, particularly in the easternmost (Mace Point) area due to the varying terrain and lack of well defined right-of-way / property boundaries. It is further noted there is little practical distinction between Level 2 and 3 in terms on functionality or design. The Level 1 facility (Vancouver Boulevard) is the most clearly

distinguishable in terms of its higher connectivity and continuity. **Table 1** summarizes typical sample cross-sections for reference. Rights-of-way were estimated from the most recent Savary Island cadastral plan, while travel widths were taken at random locations along the roadway and should not be indicative of consistency along a given segment.

Table 1: Existing Study Area Road Classes and Approximate Dimensions

Class	Name	Estimated Right-of-Way	Sample Width (edge to edge)
Level 1	Vancouver Boulevard	20 m	4.0 m uphill, west of Wharf 7.0 m at Brians Way 6.0 m at Patricia Crescent East 6.5 m between S curve and Patricia Crescent West 3.8 m west of S curve
Level 2	Anderson Road	20 m	4.0 m south of Vancouver Blvd.
	Malaspina Promenade	60 m+ (to waterfront)	3.5 m at Tennis Court
	Ashworth Walk	20 m	2.9 m south of Malaspina Promenade
Level 3	Sherman Walk	20 m	n/a

As shown in **Table 1**, if a standard vehicle width is assumed to be 2.4 m (similar to a small car parking stall width); most of the study area roadways do not have sufficient width to permit two vehicles to pass simultaneously. Sample widths are inconsistent along similarly classified roadways and there are instances where lower level roadways have a wider structure than higher level roadways. Right-of-way is technically available to provide for wider roadways; however, environmental and other constraints such as the location of large trees may preclude consistent modification along the length of any given segment.

Figures 3 and 4 include a sample of photos taken in early March of 2009, which depict the current cross-sectional characteristics.

Figure 3: Vancouver Boulevard Existing Road Conditions



Looking westbound, west of Wharf



Looking westbound, nearing top of Wharf Hill

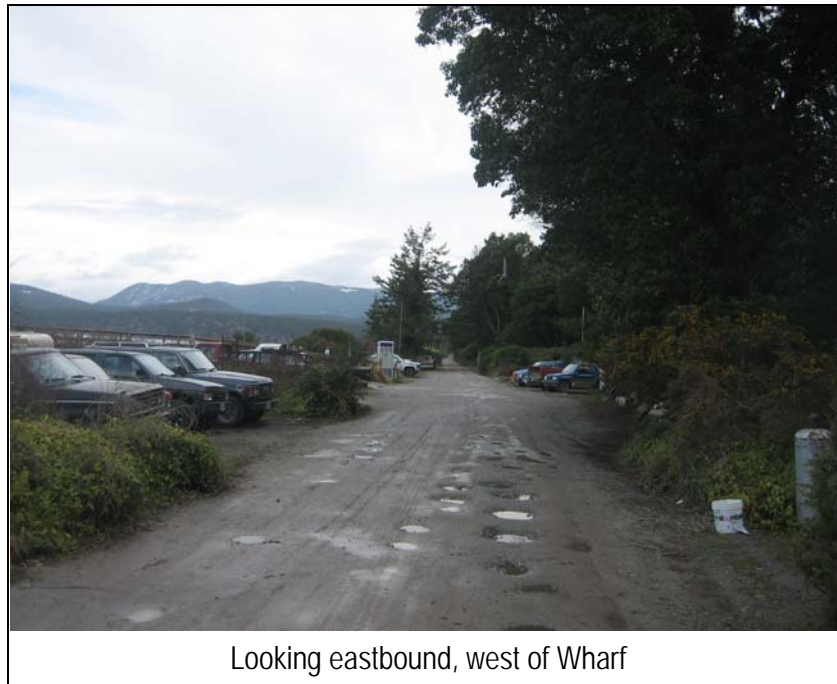


Looking westbound, at Campbell Road east of Anderson Road



Looking westbound, between Patricia Crescent and S Curve

Figure 4: Malaspina Promenade Existing Road Conditions



As the study was conducted in March, a year-round data collection effort could not be undertaken. Detailed survey information is also being collected which will help to better identify road widths and rights-of-way. In lieu of peak seasonal traffic volumes and trip origins and destinations, results from a property owner survey distributed by the PRRD and input gathered from key stakeholders have been compiled to develop a “snap-shot” of existing traffic conditions and issues. A summary of the questions asked and the responses/results are summarized in the following sections.

2.3 Savary Island Property Owners Survey

A survey was distributed by the PRRD to all property owners on Savary Island during the first week of January 2009 for input to the Savary Island Transportation Plan.

There were 18 questions in the survey that requested property owners’ opinions and preferences on issues such as vehicle and parking restrictions, non-motorized transportation and road surface type, speed limits and widths.

There was a 40% response rate from the 1,069 surveys that were distributed (431 responses). Specific questions pertaining to road components, permitted users and speed limits allowed for different responses for different road classes. The three road classifications in the survey were Arterial/Main roads, Collector/Minor roads and Local

roads. Detailed responses are provided in **Appendix A**. Key findings from the survey have been consolidated and summarized as follows:

ROAD COMPONENTS

- A majority of respondents indicated they prefer a Gravel Surface with 88% preferring gravel for Collector/Minor and Local roads and 69% preferring a hard surface for Arterial/Main roads.
- Responses varied by road classes. A majority indicated they prefer a road width of 7 m for Arterial/Main roads (46%), 5.5 m for Collector/Minor roads (48%) and 3.5 m for Local roads (61%). The second most preferable road width was 5.5 m for Arterial/Main and 3.5 m for Collector/Minor.

PEDESTRIAN AND CYCLIST ACCOMMODATIONS

- A majority of residents indicated that they do not want any separate facilities for pedestrians/cyclists and that these users should share the road with motorized traffic. The percentage of respondents that indicated they believe pedestrians/cyclists should use the regular traffic lane by road class are as follows: 44% on Arterial/Main roads, 70% on Collector/Minor roads and 79% on Local roads.

SPEED LIMITS

- A majority of residents believe that no matter what road class, the speed limit should be 20 km/hr. Over 2/3rds of respondents believe the speed limit should fall between 20 km/h and 49 km/h for most facilities.

VEHICLE RESTRICTIONS

- A slight majority of residents believe that there should be restrictions to number of vehicles and vehicle types on the Island (57% in favor of restrictions versus 39% that are not – remainder did not respond).
- In terms of what types of vehicles should be restricted and periods of restrictions (if the respondent agreed restrictions were needed) the results were as follows (multiple responses permitted):
 - 94% believe service vehicles should always be permitted;
 - 58% believe building contractor/trade vehicles should be permitted year round while 38% believe they should be restricted to off season periods only;

- 57% believe that summer residents/visitor vehicles should never be permitted while 39% believe they should be permitted in the summer; and
 - 80% believe that permanent resident private vehicles should always be permitted.
- When asked about ideas to limit the number of vehicles on the Island the most common responses are as follows:
 - Introduce permits and bonds (30%);
 - Raise barge fees (21%);
 - Limit vehicles to certain users only such as permanent residents, the disabled and contractor vehicles (26%);
 - Introduce a lottery system for access to the Island (12%); and
 - Restrict the number of vehicles per lot (9%).
- In terms of specific areas where traffic should be restricted to utility vehicles / golf carts, etc., almost half responded that Collector/Minor and Local roads should feature this restriction.
- When asked what other types of vehicles should be accommodated on the Island on an occasional basis a majority believed that emergency vehicles, service vehicles, land taxis, contractor vehicles, permanent resident vehicles and vehicles for those with permanent disabilities should be accommodated.
- For those opposed to vehicle restrictions, the most common objection was on the grounds of rights, followed by necessity and enforcement issues.

SHUTTLE SERVICE FINANCING

- Regarding shuttle service financing, 41% of property owners would not pay any tax for a shuttle service, while 30% would pay \$50 and 29% would pay between \$10 and \$25.

PARKING ISSUES

- Property owners indicated that the three main areas where parking problems exist are:
 - Near the dock/wharf (a large majority of 73% agreed);
 - Near the barge pickup/drop off; and
 - Indian Point.

- The four most common parking problems that property owners have noted include:
 - Parking too long;
 - Too many vehicles;
 - Too many old, uninsured, non drivable vehicles on the Island; and
 - Lack of parking availability.
- Asked for their support of specific parking regulations, property owners answered as follows:
 - Prohibiting parking on Malaspina Promenade (52% support);
 - Permitting short term / day parking only on Ashworth & Townley (65% support);
 - Encourage long term parking at the auxiliary fire hall at the top of Wharf Hill (91% support); and
 - Develop public parking in the vicinity of the wharf (68% support).

The typical survey respondent lived in the mid or northwest end of the island, spent mainly summer and holidays there had presently developed their property.

STAKEHOLDER CONSULTATION

Key transportation service providers / stakeholders were approached to get an understanding of prevailing issues from their point of view. **Table 2** presents the results from the stakeholder interviews, which were primarily conducted by phone.

Table 2: Results from Stakeholder Interviews

Stakeholder	Question	Response
Lund Water Taxi	What are your peak seasons and times?	<ul style="list-style-type: none"> – July and August, as well as long weekends in May and September.
	What is your peak vessel capacity?	<ul style="list-style-type: none"> – Maximum of 12 passengers, as well as some cargo.
	What sort of cargo do you transport?	<ul style="list-style-type: none"> – Baggage allowance is two 24 x 16in. or 32 litre totes and one medium size duffle per person. Anything above will incur a freight charge, determined at time of arrival. – Cargo is limited to standard sized large plastic containers and coolers. – Pets, kayaks and bicycles can also be transported. – Larger items must be transported by way of the barge service.
	Are there any sailing waits or periods of peak congestion?	<ul style="list-style-type: none"> – On peak weekends there are between 2 and 3 sailings per hour with multiple vessels in operation. There are no waits/oversails as demand is on a reservation basis and capacity is scheduled to match.
Hurford Marine (barge operator)	What are your peak seasons and times?	<ul style="list-style-type: none"> – Makes average propane runs once a month in the off season, which is generally September to end of May, and up to once a week in the peak season (June to September). – In the off season usually makes a run once a week, but there have been cases where there are no runs for multiple weeks at a time. – July through August are the busiest months with residents and tourist traffic. It has been common to make a sailing once a day during the peak season, however not last year.
	What is your peak vessel capacity?	<ul style="list-style-type: none"> – 100 tonnes. Rarely take that much over though. – Can take 5 pick-up trucks max at once or around 6 to 7 passenger vehicles. – Carries a maximum of 12 people on the barge based on Transport Canada rules and regulations. – When scheduling a sailing, the number of passengers must be indicated. No additional charge is applied for extra people in a car (crossing cost is per vehicle not per person). Generally vehicles have an occupancy of two, but if it is a family of three there is generally no issue. – Full cars are becoming more frequent so changes may be necessary with regard to passenger fees.
	What sort of cargo do you transport?	<ul style="list-style-type: none"> – As they are the only barge able to carry the heavy trucks, lots of construction related vehicles like cement trucks and other pick up type trucks. Resource-type trucks during construction season, which is typically off season. – Propane trucks.

Stakeholder	Question	Response
	Do you operate on a fixed schedule or an as needed basis?	<ul style="list-style-type: none"> – Run based on demand only. – To schedule a sailing, people call between two days and two weeks ahead of their planned sailing date. The time of sailing can be requested, but it depends on other factors such as other scheduled sailings during the busy season and tides.
	Are there any sailing waits or peak periods of congestion?	<ul style="list-style-type: none"> – No since people call ahead of time to arrange the transport. With delivery vehicles the barge generally waits while deliveries are made.
	Are there any issues with beach access / landing fees etc.?	<ul style="list-style-type: none"> – No physical facilities and therefore no major issues. Has own ramp in Lund and both barge operations use the platform on Savary Island to load and unload, which is the only place to load/unload cargo or passengers. – Attends regular committee meetings at the District's offices where they have developed a set of rules to make things run more smoothly. For example, no parking for longer than 15 minutes on the Island, and a general no parking zone for ferries, barges at the platform. If a ferry/barge is arriving when another barge is at the platform waiting to load there is an understanding between operators to vacate the platform as quickly as possible. In the summer, the two operations pass one another frequently and sometimes arrive at the platform at the same time, but no issues were reported as a result.
	How many vehicles do you transport each year, on average?	<ul style="list-style-type: none"> – Don't know, however last summer the number of trips made was approximately half of compared to two or three years ago. Noticed a decline in vehicle demands both passenger and construction / service vehicles.
	What types of vehicles do you generally transport?	<ul style="list-style-type: none"> – Not really a particular trend in vehicle types. He carries all types, but noted that there may be more pick-up trucks in general. In summer there are some RV's, but more standard passenger vehicles.
	Have you noticed trends over the past few years such as growth etc.?	<ul style="list-style-type: none"> – General growth before but now with a competitor and the state of the economy there has been a sharp decline over the past year. – He has noticed that there is a stronger Coast Guard and RCMP presence in the area monitoring the public transport services. He noted he has never been stopped before except for the first time last summer.
Island Air Float Plane	What are your peak seasons / times?	<ul style="list-style-type: none"> – May to October are peak times. August is busiest month with 3-4 trips per week and at times could make up to 3-4 trips in one day (mostly over long weekends).
	What is your peak vessel capacity?	<ul style="list-style-type: none"> – Up to three passengers or 800 to 950 lbs of cargo.
	What sort of cargo do you transport?	<ul style="list-style-type: none"> – Some residents, but mostly tourists renting cabins during the summer months. – Can transport cargo, but mostly just make passenger runs.
	Where is your landing/departure area?	<ul style="list-style-type: none"> – Take off out of Courtney and generally pull up on beach beside the Government Wharf. If possible and depending on the situation they could take passengers to other beaches if they know where they want to go and it is safe to do so.

Stakeholder	Question	Response
	Other issues and/or comments?	<ul style="list-style-type: none"> – The dock at the Government Wharf is too small to dock their plane. It is around 12 feet long with pilings. To dock their plane they require at least 30 feet plus space for their wing span. They operate just fine as it is, however if there was a larger dock it would certainly make things run more smoothly for their operation. – Price across is \$285.
Dave's Parking in Lund	What are your peak seasons / times?	<ul style="list-style-type: none"> – Start of July through to Labour Day, particularly long weekends.
	What is your peak facility capacity?	<ul style="list-style-type: none"> – Over 520 vehicles on multiple lots within close proximity to the Lund Dock. – The main lot has a capacity of less than 100 vehicles and is in operation year round for mostly full-time Savary residents. – Once into July and through to Labour Day over 300 spaces are occupied, with the peak of over 500 reached on the August long weekend.
	Are there any general operational issues during the peak season?	<ul style="list-style-type: none"> – On-street parking was an issue before the installation of signage on Highway 101. There are still some operational issues with larger vehicles such as RV's attempting to turn around at the end of the highway though.
Powell River Regional District Planning	What is the most recent dwelling count on Savary Island?	<ul style="list-style-type: none"> – Difficult to estimate as no building permits, inspections or zoning regulations are in place. Recent planning work as part of the Savary Island OCP estimated 647 of 1,700 existing legal parcels had some development on them.
	What is the most recent development potential on Savary?	<ul style="list-style-type: none"> – District Lot 1375 is equal parts owned by a private developer and a nature trust. – Up to 35 additional parcels could be developed in non-subdivided areas based on the 10 acres minimum parcel size (superseding the prevailing 0.5 acre development pattern on the island established in the early 1900's). – In theory, the existing undeveloped legal parcels (1,053 parcels) could develop a wide range of land uses and densities, practically limited only by water, sewer and utility capacity. Thurber's geological survey also identified development constraints.
	What would be the earliest timeframe for this development potential?	<ul style="list-style-type: none"> – DL 1375 would require subdivision approval, but other existing lots could theoretically be developed at any time.
	What sort of zoning controls on subdivision and property development are in place?	<ul style="list-style-type: none"> – The Local Government Act of BC, regulation 274/69 and 268/94 sets a 4.047 ha parcel size for any subdivision within the Gulf Islands (Community Planning Area number 24). This is consistent with the minimum 10 acre parcel size for any new development on Savary. – Otherwise, the only real proxies for regulation are rules governing water and sewer influence areas. Vancouver Coastal Health operates a septic permit registry which may serve as an indicator for recent development activity.

Stakeholder	Question	Response
	How successful have lot consolidation efforts been?	<ul style="list-style-type: none"> Although new homes / cottage have been growing bigger in recent years, there has been no major economic incentive to consolidate parcels (with regards to incremental tax savings). Families often prefer to leave parcels separate for bequeathment purposes. Having said this, the aforementioned well and sewage spacing considerations serve to limit development of smaller adjacent parcels.
Powell River Regional District Wharf/Barge Landing Operation	What are your peak seasons / times?	<ul style="list-style-type: none"> Summer months can create significant operational issues on the dock due to conflicting pedestrian / vehicle flows. Discussion has come out regarding restricting the dock to pedestrians only. However, this is perceived as causing hardship for those moving heavy loads between the shore and the dock. Note that there is a perception that parking occupancy along Malaspina Blvd actually peaks in late winter as residents leave their vehicles in close proximity to the dock. Summer traffic is higher, but there is also more regular turnover along Malaspina.
	What sort of incentives are there to use various modes of travel to access the island?	<ul style="list-style-type: none"> Taking a Land / Water Taxi might incur a \$100 fee along with parking at the Lund end and transferring of cargo from car to boat to car and back again. A \$500 barge fee, however, allows all cargo to remain in the vehicle from door to door.
	What sort of restrictions on wharf access are there?	<ul style="list-style-type: none"> Nothing major as of yet, however, time of day restrictions have been discussed for the barge pickup and offloads.
	What is the landing fees schedule? How are users charged for the facility?	<ul style="list-style-type: none"> No fees as of yet, but it has been discussed in the context of upgrades to the facility. Additional surcharges for vehicle delivery have also been discussed in the context of managing private vehicles on the island. There is some hesitation on the part of the barge operator to institute these fees unless it is clearly identified as a fee to the Powell River Regional District.
Vancouver Coastal Health	What is the most recent septic permit count on Savary Island?	<ul style="list-style-type: none"> 51 total since registry started (2005).
	What sort of growth trends have been observed in recent years?	<ul style="list-style-type: none"> About 13 to 14 per year.
Insurance / Road Safety (ICBC)	How many vehicles are registered to Island addresses?	<ul style="list-style-type: none"> One vehicle
	Are there any records of claims incurred while on the Island?	<ul style="list-style-type: none"> No claims reported

Stakeholder	Question	Response
Powell River RCMP	Are there any transportation related issues to address?	<ul style="list-style-type: none"> - Almost entirely seasonally driven. Occasional speeding complaints. Because of the size of the roads, the dust and the generally low volumes, traffic speeds are often perceived to be much higher than they actually are. Legally, 80 km/h is the default limit, but do not want to advertise. The issue of appropriate speed limits has come up in the past. There was a concern that establishing any kind of speed limit might actually encourage higher speeds. There is a sense that upgrading roads to proper standards might also increase speeds. - Vehicular enforcement is difficult because there is nowhere on the island to impound vehicles. At most, the offender can be told to park the vehicle, but as soon as police are off the island there is no effective enforcement. - The RCMP initially did not want to permit Low Speed Vehicles on the roadway unless the speed limit was adjusted to be consistent with their operation. In the past two years, however, special road user permits have been issued for Truckster and Gator-type utility vehicles (but not ATV's). The program is in its initial phases, but there has been an increase in interest. - Vehicle restriction has come up in the past (limiting all personal vehicles to smaller utility vehicles), but there is a noticeable split between island residents.
	What sort of transportation network requirements are needed to facilitate response?	<ul style="list-style-type: none"> - They have a Suburban on the island that they use for road patrols. Quads are available for beach patrols (with restricted plates for road use) and a small vessel is used for patrolling the water. Most of the attention is on beach parties, etc. rather than traffic enforcement and water patrol is split with Nanaimo detachment and Coast Guard. - In terms of areas they have difficulty accessing, the south beach can be hard to reach quickly, particularly the east end where it gets rocky. There are limited pathways to get to the area in question.
Capilano Highway Services, Maintenance	What is the typical maintenance schedule for the Island?	<ul style="list-style-type: none"> - Monthly inspections are done to see if any clearing or urgent maintenance is required. - Grading scheduled in April/May and August/Sept. - Magnesium chloride application for dust control in April/May.
	Are there any common transportation related complaints (from residents) to address?	<ul style="list-style-type: none"> - The most common complaint received is the desire to have the road paved.
	Are there any constraints on operation due to the road structure?	<ul style="list-style-type: none"> - None in particular to note

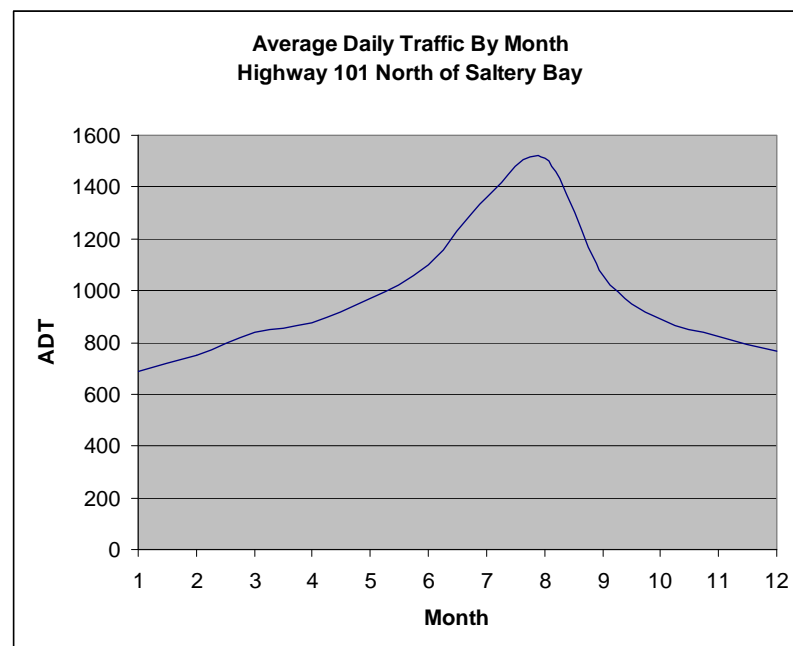
Stakeholder	Question	Response
Savary Island Volunteer Fire Department	What sort of road requirements would be required to facilitate response (size of vehicles to be accommodated, etc.)?	<ul style="list-style-type: none"> – Some areas are extremely difficult to access, particularly in the Mace Point area due to the topography. The department has recently acquired custom-built 4x4 vehicles to adapt to the terrain, however. – In denser areas, the combination of on-road parking and / or residents placing buffer items along the roadway (to deter parking) can create maneuvering and turnaround problems for larger emergency vehicles. – Would like main trunk roads (east-west) to be a maintenance priority. Alternative taxi / shuttle landing sites would give them additional flexibility in transporting patients. The Wharf Hill Road is a lifeline, if it were ever impassable there would be extreme difficulty in transferring people to the dock. – Understands the trade-off between having “rustic” roads versus smooth roads of a high standard, but they are looking for a basic level of maintenance on key response roads that would reduce or eliminate potholes. Also commented on the advantage of tree canopy along roadways, which helps to keep dust down in summertime (reduces drying out in the sun). An alternative east-west route to Vancouver Boulevard would be desirable, even if it were a local access only that permitted emergency vehicles. Savary Island Road could be a feasible candidate if the washout were repaired. – Candidate medivac locations such as near the tennis courts on Malaspina Promenade should be considered areas where they would like to protect easy access.
	Are there any transportation issues to address?	<ul style="list-style-type: none"> – In late winter / early spring (end of March) just prior to the scheduled maintenance passes, many of the Islands roads are in poor condition with multiple ruts and pot holes. This can be frustrating for responders when emergency patient transport is required and speeds are limited to a minimum comfort level in the vehicle. Wear and tear on vehicles is also a concern. – A 911 landmarking system has been developed by the department to supplement conventional street addresses.

2.4 Parking Demands

As noted, peak season parking demands could not be verified as the study was conducted in March. However, it is suspected that late winter may actually represent peak long term parking demand, as seasonal residents leave their vehicles in close proximity to the dock over the winter months. This parking demand accumulates until spring and summer, where demand is still high, but there is more daily turnover of vehicles. Of the total parked vehicles observed during the March 2009 site visit, a total of 8 were parked in the auxiliary fire hall parking lot (at the top of Wharf Hill), 25 were parked at 90 degree angles along Malaspina Promenade in the immediate vicinity of the Wharf and 17 were parked along Ashworth Walk. This is a total of 50 vehicles which is slightly higher than the estimated permanent resident population. Most vehicles appeared to have plates and significant dust accumulation, but it was unclear exactly how recently they had been moved.

On the mainland side in Lund, there were a relatively small number of vehicles parked in the Dave's Parking facility (less than 20 vehicles), which represented the low season. Growth in parking demand is heavily seasonal and most likely follows similar trends observed along Highway 101 near Powell River. **Figure 5** shows an average daily profile of traffic by month. While these volumes are collected south of Powell River where volumes are much higher than in Lund, the general seasonal trends would be consistent.

Figure 5: Daily Traffic Profile – Highway 101



As shown in **Figure 5**, the average daily traffic for the peak month (August) along this section of the Sunshine Coast is almost twice the average daily traffic for the low season (November through March). Such a trend is likely even more pronounced further north along the highway near Lund.

2.5 Validation and Summary of Existing Issues

Combining the results from the property owners' survey, stakeholder interviews and a site visit, a number of common transportation related issues can be identified. The following list is a summary of the common current transportation related concerns and issues on Savary Island:

- Unregulated traffic speeds are a concern related to safety, noise and dust;
- There is a need for more width and operational consistency within various road classes, as well as identification of standards for priority roads used by emergency vehicles;
- The road network as defined by property information appears inconsistent with how it is actually laid out in the field. Significant rationalizing and potential reorganization of the road network may be required following collection of survey data;
- Savary Island OCP policy supports a separate Island-wide pathway network for low impact travel modes, however residents appear to be comfortable with pedestrians and vehicles sharing road right-of-ways provided vehicle speeds are appropriate;
- Alternative barge/water taxi landing sites may be desirable to reduce parking and congestion along Malaspina Promenade. From an emergency response perspective, alternative barge/water taxi sites may also be desirable for quicker emergency patient transport;
- There are no reported capacity or delay issues in terms getting to/from the Island as private operators are able to tailor supply to demand;
- Peak parking demands can be accommodated on the Lund side as the private operator has the ability to open and close auxiliary facilities as needed. Parking on the Island side is an issue, however, as there are few well-defined areas for short and long term parking in the vicinity of the wharf. Parked vehicles along the narrow road facilities restrict maneuverability and visibility, particularly for emergency and service vehicles;

- Road conditions in early spring (prior to the annual maintenance run) are observed to be poor with relatively large potholes; and
- Road provision in terms of accessibility is generally acceptable and the fire department has adapted to local challenges with their vehicle fleet, however, with only one east/west route (since the washout of Savary Island Road) there is a lack of redundancy in the Island-wide network. If Vancouver Boulevard were cut off due to a fire or a fallen tree, there would be no way to travel between the east and west portions of the Island.

3.0 FORECAST TRAVEL DEMAND & CONDITIONS

In the absence of zoning bylaws or other permitting mechanisms to track and monitor growth, alternative means of estimating development activity have been applied. The Vancouver Coastal Health Authority operates a septic permit registry and if an assumption can be made that these registries are a reasonable indicator of growth trends, the Island has been growing by as much as 13 to 14 dwelling units per year since the registry was established in 2005. Some of these may be new applications on existing properties, but even if it is an overestimate of growth, it may account for dwellings with unregistered systems. As per recent planning work for the Savary Island Official Community Plan, up to 647 of 1,700 legal parcels had some development on them. Therefore, up to 1,053 could theoretically be developed at any time without further subdivision or planning approvals.

As per regulations 274/69 and 268/94 of the Local Government Act of BC, a minimum 4.047 hectare (10 acre) parcel size is required for any new subdivisions within the Gulf Islands (Community Planning Area number 24, which includes Savary Island). Applying this regulation to the remaining non-subdivided parcels on Savary (such as District Lot 1375) could result in an additional 35 developable parcels.

3.1 Traffic Generation

With regard to traffic generation rates, the subject study area is very unique in terms of its trip making characteristics. A considerable amount of caution is therefore warranted in applying standard Institute of Transportation Engineers (ITE) trip generation rates to any new or existing developments on Savary Island. According to the 7th Edition of the ITE Trip Generation Manual, the most analogous land use type available for Savary Island is #260: Recreational Homes. This land use is defined as follows:

“...usually located in a resort containing local services and complete recreational facilities. These dwellings are often second homes used by the owner periodically on a seasonal basis”

The trip generation rates as a function of dwelling units are derived from traffic counts conducted at analogous locations across North America. The most obvious difference between the land use on Savary Island and the ITE land use is the availability of vehicles. Mainland-based sites have greater accessibility and thus more available vehicles compared to an Island based site like Savary Island where no continuous roadway facilities connect it to the mainland. In addition, multiple trips can be made to/from mainland sites where shopping, recreational and other types of non-work trips

can be more easily reached by car. On Savary Island, there are minimal non-residential destinations which would justify multiple daily trips.

Observed ITE daily vehicle trip rates were reported as 3.16 trips per dwelling unit on a weekday, 3.07 trips per dwelling unit on a Saturday and 2.93 trips per dwelling unit on a Sunday for an average of 3.05 trips per dwelling unit per day. These trips are split on average 50% inbound and 50% outbound. It is suggested that the basic trip rates could be discounted by as much as 50% to reflect the practical constraints on barging vehicles to the Island, as well as, the fact that many vehicle trips on Savary Island are one-way only. In many cases a vehicle arrives at a cottage but does not leave in the same day and vice-versa (a vehicle leaves the cottage at the end of the stay and does not return within the same day, perhaps not for many months).

Acknowledging the conservative (read: upper limit) estimate of forecast trip making trends, **Table 3** below summarizes the 15 and 25 horizon year potential dwelling unit counts and daily trip generation counts on the Island using recent trends and development indicators for existing vacant legal parcels. The incremental addition of 35 dwelling units as a result of a new subdivision is also provided.

Table 3: Potential Forecast Trip Generation

Year	Component	Base Daily Trip Rate	Trip Rate Discount	Total Trip Potential
2024 (15 yr horizon)	+200 new units (+13 per year)	3.05 Trips / Dwelling Unit	50% (to reflect one-way trip ends and use of alternative modes)	+305
2034 (25 yr horizon)	+135 new units (+13 per year)			+206
New Subdivision (undefined horizon)	+35 new units			+53
Total	+370 new units			+564

As shown in **Table 3**, there is a theoretical potential for up to 370 new dwelling units and 564 new daily trips on the Island over a 25 year planning period. To put this into context, it is estimated that the current Island dwelling unit count of 647 could generate as many as 987 trips over a peak day (in the peak season) based on the above trip rates. Even the above discounted trip rates likely overstate current vehicular activity on the Island, which is limited by the road transportation network and lack of automotive-oriented services on the island. Regardless of the baseline trip rates, an increase in dwelling units could result in a corresponding proportional

increase in the current level of vehicular trip making assuming no major changes in mode choice.

To validate baseline trip rates for Savary Island it is recommended that traffic data collection be undertaken during the summer peak season. Road counts at selected screenlines or other areas where traffic from major neighbourhoods must pass through would assist in determining basic trip rates for different parts of the Island.

3.2 Projected Traffic Conditions

Based on the above traffic generation forecast and assuming no further growth or building controls are put in place, there is potential for an additional 564 daily trips on the Island in 2034. With the absence of accurate current seasonal traffic volumes on the Island, a detailed assessment of future road conditions cannot be completed. However, based on the potential dwelling growth of 57%, a proportional increase in traffic on the Island could result as well. Given the concerns of residents and stakeholders with the current traffic demands, in the event of a potential 57% increase in traffic, substantial traffic mitigation measures would be required.

The following section presents some of the mitigation measures that could be implemented to ensure that the Island will be able to cope with, or preferably minimize future forecast traffic demands.

4.0 MITIGATION AND FUTURE PLANNING

The following sections present mitigation measures such as physical changes to the network, road classification standards, regulatory changes, emergency vehicle requirements and alternative transportation options to address the current and forecast transportation related concerns and issues.

4.1 Network Requirements

In terms of basic network structure (connectivity and access), there were few specific needs identified for providing a basic level of mobility around the Island. The most beneficial network changes that would accommodate the existing level of travel demand would include a review of the Wharf Road Hill alignment which connects Malaspina Promenade and the wharf to Vancouver Boulevard. The existing right-of-way is estimated at only 13.2 m and the road width is as narrow as 4.0 m. As the roadway features a curved, uphill westbound slope and functions as the main connector to the commercial area and through to the western portion of the Island, the potential for peak season pedestrian / cyclist / vehicle conflicts remains high. If the vehicular travel demand continues to grow (i.e. in the absence of targeted measures to reduce auto use) there will be a need to address the issue of alignment and safe operation of this facility.

From an emergency / disaster response perspective, the most crucial deficiency in the current road network is the lack of redundancy in east-west road links. There is currently a single Island-wide connection via Vancouver Boulevard, with the recent washout of a section of Savary Island Road removing an alternate for the western section of the island. If the Vancouver Boulevard connection were severed as a result of a fire or fallen tree, access between the east and west portion of the Island would not be possible. In the event of an emergency or major disaster, an alternative could prove to be very useful. It is suggested that restoring the Savary Island Road washout would serve this purpose. In order to restrict the use of the road to local traffic only, signage and / or removable bollards or barricades could be installed which would be opened only by emergency responders. In the event of development on District Lot 1375, a continuous recreational or emergency access path parallel to Vancouver Boulevard should be protected.

4.2 Road Classifications

To determine a context-appropriate set of road standards for Savary Island, the following **Table 4** has been developed to compare the features of the existing road network with other roadways under the Ministry's jurisdiction. The table includes the standards adopted for the Islands Trust (IT) under a letter of understanding. These locations share many characteristics with Savary Island. Other municipalities where alternative cross-sections are permitted have also been referenced. On Bowen Island Municipality (BIM), road widths as low as 3.0 m are considered acceptable for single lane "byways".

As shown in **Table 4** and noted previously, there is a lack of consistency within and between various road classes. Right-of-way widths vary, as do built widths, along the same facility (Vancouver Boulevard's width ranges from 3.8 to 7.0 m). In some cases, the available width and right-of-way for a road given a certain class designation is less than the road class below it (on Wharf Road Hill, a Level 1 facility, the right-of-way is 13.2 m, which is less than the 20 m provided for lower level roads in the area). There is very little practical difference between Levels 2 and 3 in terms of their function or design.

Based on the available references for alternative design standards, it is recommended that the following road classifications and standards be considered for Savary Island:

LEVEL 1 (ISLAND COLLECTOR ROAD)

Right-of-way: 20 m

Travel width: 7 m

Design speed: 50 km/h

As there is only one Level 1 facility on the Island (Vancouver Boulevard), it is considered appropriate to provide it with the highest design standards. Providing a consistent 7.0 m of road width in the short term will fit within much of the available right-of-way, be consistent with existing width through the central section of the island and allow two vehicles to safely pass. In the event that funding is made available for paving or chip sealing, this facility would be the most ideal candidate for these funds given its Island-wide significance and emergency service function. In the very long term, if paving or chip sealing is completed, the target road width should be 9 m, consisting of two 3.3 m travel lanes and two 1.2 m pedestrian / cyclist lanes. There are currently locations where road width, right-of-way and sight distance are insufficient to meet short term standards, and these should be given priority in obtaining additional right-of-way. In the interim, a temporary speed limit of less than 50 km/h may be necessary to control speeds until upgrades are completed.

LEVEL 2 + 3 (MINOR LOCAL ROAD)

Right-of-way: 18 m

Top width: 3.0 to 5.5 m

Design speed: 20 km/h

The main distinguishing feature between Level 2 and Level 3 facilities as defined in the OCP is that Level 2 facilities serve land parcels on both sides and are good candidates for the minimum amount of width required to allow two vehicles to pass simultaneously. The Level 3 facilities serve more isolated areas of the Island, typically (but not always) accessing land parcels on only one side of the roadway. Functionality-wise, both of these types of roads operate as local roads or laneways with minimal “through” traffic required to be accommodated. For this reason, the Level 2 + 3 classes should only be distinguished by whether they should accommodate one lane or two lanes of traffic.

With regards to details of minimal Radius, Stopping Sight Distance (SSD), K Values (sharpness of vertical curvature), and % Grade, additional information will be required from survey information to determine the existing roadway locations and the resulting constraints on these design parameters. Based on a rough estimate of controlling curves obtained from aerial mapping, minimum radii along the Level 1 facilities would be lower than minimum standards for most roadways.

Maintenance requirements for brushing and canopy trim should be kept to the minimum required to provide basic sight distance for the roadway design speed. Bowen Island Municipality currently specifies a minimum 4.5 m height envelope to be kept clear over the travelled way. For lower level roadways brush cut back of at least 0.6 m on straight sections / outside of curves and 1.0 m on the inside of curves is required.

Table 4: Existing Savary Island and Alternative Ministry Road Standards

Design Component	Facility Type													
	Local 30 km/h	Local 40 km/h	Local 50 km/h	Collector 50 km/h	Collector 60 km/h	Collector 70 km/h	Collector 80 km/h	BIM Byways 20 km/h	Savary Level 3	Savary Level 2	Savary Level 1	IT Residential Rural/Local 30 to 50 km/h	IT Minor Rural 50 km/h	IT Main Rural 60 km/h
Right-of-Way (m)	18	18	18	20	20	20	20	n/a	21.4	19.4 to 20.1	13.2 to 22.6	n/a		
Basic Road Width (m)	6	6	6	7	7	7	7	3	2.4 to 3	2.4 to 4	3.8 to 7	5.5	6.1*	6.7 to 7.3*
Minimum Radius (m)	20	40	75	75	120	190	250	n/a	n/a		12 to 15	n/a		
Minimum SSD (m)	30	45	65	65	85	110	140	20	n/a					
Minimum DSD (m)	n/a				95	125	155	n/a						
K Value Crest (taillight)	2	4	7	7	13	23	36	1						
K Value Sag (headlight)	4	7	12	12	18	25	32	2						
K Value Sag (comfort)	2	4	6	6	9	12	16	n/a						
Maximum Grade (%)	10	10	10	8	8	8	8	n/a						

Sources: MoT Section 500 – Low Volume Roads, MoT Section 1400 – Subdivision Roads, MoT Section 1500 – Alpine Ski Village Roads, 1992 Islands Trust – MoT Letter of Agreement, Bowen Island Municipality Infrastructure Standards Bylaw

Notes: With regard to maximum road grades, short pitches of steeper grades (10% for collector roads and 12% for local roads) may be acceptable on tangent sections provided the overall grade is less than 8% for collector roads and 10% for local roads. Steeper grades are not acceptable on curved sections of roadway.

*bicycle / shoulder lanes add up to 1.2 m of total width

4.3 Regulatory Requirements

There is currently very little formal road signage on the Island, however, many residents have made their own signs requesting that drivers slow down for safety reasons and to limit dust. Issues identified that would entail new traffic regulations (and hence signage) include speed limits and parking regulations.

As noted in previous sections, the current default speed limit is 80 km/h, which is well in excess of the safe travel speeds afforded by the road design. Along even the highest level facility is a series of back-to-back horizontal curves which are estimated at 15 m radii. This would fail to meet even a 30 km/h design speed and would necessitate either a blanket 20 km/h speed limit or advisory warning signs in approach of the curve. On other roadways such as Malaspina Promenade, the mix of pedestrians, cyclists and vehicles sharing a narrow roadway tends to support a much lower speed limit than traditional urban / rural streets. It is also noted that the speed limit on Highway 101 drops to 30 km/h on entry to Lund, and a slightly lower limit of 20 km/h unless otherwise posted could be advertised on departure from the barge landing.

Such a measure would accomplish several planning related goals. It would provide an interim control on vehicle speeds until safe design speeds can be confirmed through survey information. It would permit the use of Low Speed Vehicles throughout the Island, which are lighter and slower than standard road vehicles and are only permitted on roadways with a posted speed of 50 km/h or less. In addition, a more practical basis for speed enforcement can be established (for example, there might not be definitive legal recourse for a vehicle travelling 79 km/h on Island roadways, even though based on the design standards available, such a speed would be quite reckless).

With the exception of peak season congestion and conflicts, no major issues have been identified with regard to pedestrian/cyclist accommodation on the Island road network. Results from property owners' surveys indicate that residents would like things to stay as they are with pedestrians/cyclists sharing the road with vehicles. The institution of a 20 km/h interim speed limit would be more compatible with the prevailing shared use of most roads on the Island.

Parking along Malaspina Promenade presents a unique challenge in terms of regulation. Parking issues in this area can be divided into those that stem from short-term, short-duration, peak season demands and those that stem from long-term, long-duration, off-peak season demands.

In the peak season case, when passenger activity at the dock is highest, there is likely a heavy demand for short term (less than 1 hour) pick-up and drop-off activity. The duration of this demand would occur through the late morning and into the early evening as passengers arrive and depart for the Mainland.

In the off-peak season, when part time residents have mostly left the Island, there is a supplemental demand for long-term parking (more than several hours duration) for those residents who wish to make day trips to nearby Lund or Powell River. There needs to be flexibility in any parking regulation to accommodate this practice as there are limited on-island shopping and service opportunities available during the peak season and particularly in the off-peak season.

As a result of these different types of parking profiles, consideration should be given to developing both a short term and a long term parking area to serve off-island trips. A short-term facility could be developed at the foot of the wharf, providing a short-term (15 minute to 30 minute) pick-up and drop-off with reserved curb space for land taxis and future shuttle services. For long-term parking (longer than the 3 hour standard) several locations should be reviewed and evaluated in consultation with the public. Candidate long-term locations include the auxiliary fire hall (which may necessitate a compatible shuttle service to reach the dock), adjacent the wharf off of Malaspina Promenade or at another location within short walking distance of the wharf. Regulations for the long term lot could range from 48 hours to 1 week and could even vary by season (shorter stays in the peak season, longer stays in the off-peak season). Parking on all other roadways in the vicinity of the wharf and the barge access should be restricted in order to prevent blocking and encroachment issues on the already narrow roadways.

Although pay parking coupled with on-street parking restrictions has been relatively successful in addressing issues on the Lund side, charging for what has traditionally been free parking on the Savary Island side would likely be politically unacceptable and could displace parking problems to other unregulated areas within the public right-of-way.

With the future development potential on the Island, there may be a number of new private access points provided to the existing road network. These accesses will require approval from the Ministry, and although an overly rigorous process is not envisioned, care will need to be taken during approval to ensure road right-of-way is protected, minimum sight lines are provided and access to Level 1 facilities is kept minimal.

4.4 Emergency and Disaster Response Requirements

As noted, from an emergency / disaster response perspective, the most crucial deficiency in the current road network is the lack of redundancy in east-west road links. To supplement the Vancouver Boulevard connection, restoration of Savary Island Road is ultimately recommended. In reviewing the dependence which is placed on the single access to/from the wharf via a narrow roadway, it is recommended that an alternative connection between the wharf and Vancouver Boulevard be considered and / or alternative barge and water taxi docking locations. These alternatives would provide flexibility to respond to emergencies and reduce reliance on a single roadway.

4.5 Alternative Transportation Services and Facilities

In the context of potentially significant increases in vehicular traffic using Island roadways, there is a need to examine the role for enhanced use and accommodation of alternatives to private motor vehicles. A challenge in promoting these alternatives is the relative costs of bringing a vehicle to the island versus the combined costs of making use of land and water taxi services. Research into modal choice has indicated that transfers within a trip act as a strong disincentive to select one mode over the other. These perceived transfer costs must be added to travel time costs, out-of-pocket costs and operating costs. An example of mode choice for a trip to and from the Island is illustrated in **Table 5**.

Table 5: Mode Choice Considerations

Trip Leg	Cost Components		
	By Private Vehicle + Barge	By Private Vehicle + Taxis	By Private Vehicle + Float Plane
To Savary Island	<ul style="list-style-type: none"> Barge fee Travel time Operating costs 	<ul style="list-style-type: none"> Lund Parking charge Transfer luggage to Water Taxi Water Taxi charge Transfer luggage to Land Taxi Land Taxi charge Travel time 	<ul style="list-style-type: none"> Transfer luggage to Float Plane Float Plane charge Transfer luggage to Land Taxi Land Taxi charge Travel time
From Savary Island	<ul style="list-style-type: none"> Barge Fee Travel time Operating costs 	<ul style="list-style-type: none"> Land Taxi charge Transfer luggage to Water Taxi Water Taxi charge Transfer luggage to private vehicle Travel time 	<ul style="list-style-type: none"> Land Taxi charge Transfer luggage to Float Plane Float Plane charge Transfer luggage to private vehicle Travel time

As shown in **Table 5**, there are a total of six components affecting a round trip using a private vehicle and barge, eleven affecting a round trip using a private vehicle and land / water taxis and ten affecting a round trip using a private vehicle and float plane. The perceived cost of non-monetary components such as transfers and travel time depends on the trip maker's time preference, ultimate origin and destination, as well as considerations such as physical fitness and convenience of bringing varying amounts of luggage on their trip. The barge option eliminates the effort and time penalties associated with transfers, but costs slightly more than the multiple transfer land / water taxi option. The float plane option entails a high monetary cost, but can provide significant travel time savings. Although each person's circumstances will vary, when individual trip components are combined, it is clear that a significant increase in the cost of vehicle barging would be required in order to compensate for disincentives associated with multiple transfers from vehicle to water taxi to land taxi and back.

In some instances, rather than utilize the land taxi service, residents will leave a vehicle parked in close proximity to the wharf which they then use to complete their trip to / from their home on the Island. As noted previously, this long term parking is an issue in both the peak and off-peak seasons and options include restricting long term parking to areas such as the auxiliary fire hall at the top of wharf hill. While this would reduce long term parking demand in the vicinity of the wharf, it would potentially introduce another walk or shuttle / taxi transfer between the wharf and the parking lot, possibly encouraging more use of the transfer-free barge service.

Low-impact alternative travel modes that should be encouraged in the unique Savary Island environment include rickshaws or pedicabs, neighbourhood car sharing programs and the aforementioned Low Speed Vehicles.

With regards to alternative barge and water taxi docking locations, it is recommended that the Powell River Regional District, in consultation with the Ministry, service operators and the public review the feasibility and acceptability of alternatives or complements to the existing Malaspina Promenade facilities. There are several good planning rationales for investigating alternatives including:

- Reduction in parking and traffic pressures along the narrow Malaspina Promenade (particularly in light of potential new development traffic);
- Enhancing the reliability and flexibility of emergency responses (patient and supply transport); and
- In light of the penalties associated with transfers between water and land taxi modes, bringing water taxi service in closer proximity to other Island

neighbourhoods could make the walking or cycling components of these trips more practical and potentially affect a greater shift to non-auto travel.

Until such time as an alternative docking location can be determined, it is recommended that priority parking and access accommodations at the existing Savary Wharf should be developed around cycling (bicycle racks or secure lockers) and Low Speed / Low Impact vehicle accommodation. This will target interim improvements to the modes with the lowest overall impact on the Island road network.

5.0 FINDINGS AND RECOMMENDATIONS

Based on the above transportation review and analysis, the following findings and recommendations are provided. A graphical summary of the options has also been included in this section for reference purposes.

General

- In response to concerns regarding over-subdivision and growth impacts, previous planning work has identified transportation related objectives for Savary Island. These include promoting and enhancing the use of alternative (non-vehicular) travel modes to and on the Island, maintaining and regulating the road network in such a way that provides basic safety while respecting the unique context, and reducing the impact of barge landings on existing residents.
- Traffic and parking impacts on the Island are highly seasonal, as confirmed through consultation with stakeholders and a review of traffic volumes on the nearby segment of Highway 101.
- Due to the limited timeframe and scheduling of the study, observations of the summer peak season were unable to be completed and detailing land surveying was in progress. It is strongly recommended that future planning work for the remainder of the Island accommodate data collection activity during the summer season in order to validate anecdotal information.
- Stakeholders ranging from transportation service providers to planning staff to emergency responders and road maintenance contractors were contacted to confirm areas of concern. In combination with the results of the resident's survey and the consultant's site visit, key issues have been confirmed as:
 - Lack of practical speed and vehicle regulation on the Island;
 - Inconsistency in road standards;
 - Potential development impacts;
 - Emergency response requirements;
 - Winter road deterioration;
 - Parking demand and management near the Savary Island dock;
 - Factors influencing mode choice on the Island.

Land Use and Development

- Baseline unit counts and trip generation have not been verified, but there is the potential for significant additional development on the Island. This could happen via subdivision or by creating dwelling units on existing legal parcels. Using adjusted estimates of daily traffic generated by recreational properties, there is the potential for an increase in daily traffic activity of up to 57%, assuming no additional land use regulations or changes in current average levels of vehicular use.

Road Network Requirements

- Although three levels of road facility have been identified at the planning level, actual road standards vary significantly both within and between specific facility types. Furthermore, there is little functional differentiation between the lower two levels of roadway. While right-of-way is available and reasonably consistent according to cadastral mapping, many roads of varying classes are practically only a single travel lane wide.
- Following completion of survey tasks, and as an input to the next OCP, a significant rationalization and potential reorganization of the road network (particularly in the eastern Mace Point area) is required;
- A property owner's survey on transportation indicated a strong support for gravel surface roads, road width preferences of between 3.5 m and 7.0 m depending on the facility classification, accommodation of pedestrians / cyclists within the shared road right-of-way and an appropriate speed limit in the order of 20 km/h.
- Basic road network requirements identified for inclusion in subsequent OCP's include an alternative east-west route to Vancouver Boulevard. This could take the form of an emergency vehicle / pedestrian / cyclist connection only via a parallel extension of Savary Island Road. An alternative to the constrained Wharf Road Hill alignment should also be reviewed in the event of long term traffic volume increases and no alternative wharf or dock locations.
- The existing study area road standards do not fall into any typical category currently maintained by the Ministry or analogous Island municipalities. Based on a review of the role and function of each type of facility on the Island, it is suggested that the OCP be updated to include only two levels of roadway. The Level 1 facility (Island Collector Road) should target a consistent short term width of 7.0 m and a longer term width of 9.0 m (including shoulder cycling and pedestrian accommodation) in the event that paving or chip

sealing is completed. A maximum 50 km/h design speed should be planned in the long term. Level 2 and 3 facilities (Minor Local Roads) should be distinguished by whether they serve development on both sides. For double sided facilities, a target 5.5 m width should be attained, while single sided, single lane facilities should target a 3.0 m width. Design speeds should be established as 20 km/h (similar to laneways in many urban areas).

- Gravel is preferred for all road classifications with the exception of Level 1 as long term budgets permit.

Regulatory Requirements

- Residents are split on where vehicles should be restricted on the Island, with 57% in favour of some form of restriction. Exemptions were strongly supported for service vehicles and permanent resident vehicles.
- A 20 km/h Island-wide speed limit is recommended in order to replace the default 80 km/h limit, provide an interim control on speed through geometrically constrained sections of roadway, facilitate the use of Low Speed / low impact vehicles, and to provide compatibility with a shared pedestrian and cycling road space. As design parameters are confirmed, the speed limit on Vancouver Boulevard may be adjusted upward as appropriate.

Parking Management

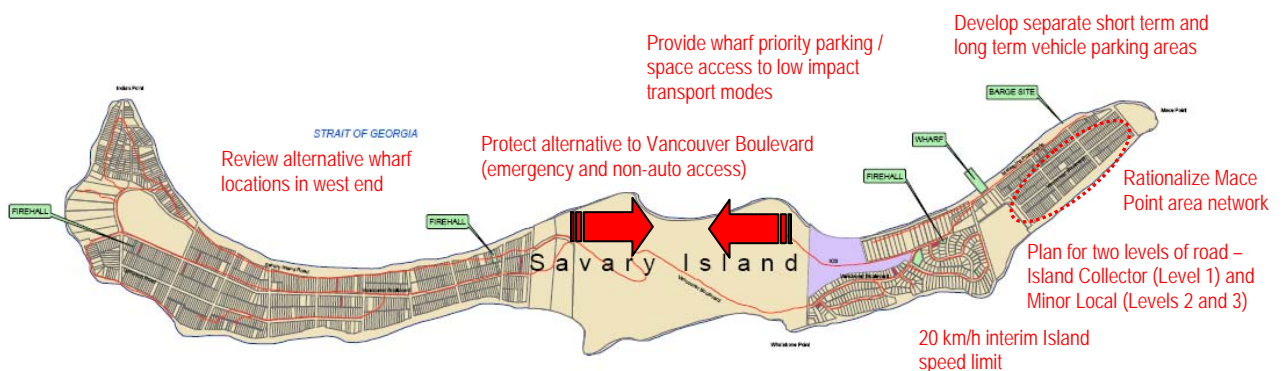
- The most common parking problems were identified in the vicinity of the wharf, with specific issues including excessively long stays, abandoned or uninsured vehicles and general parking availability. A total of 50 vehicles were observed to be parked in the general vicinity of the wharf (including the hill top) during a March 2009 site visit.
- Parking management in the vicinity of the wharf is a challenge due to the combination of short-term and long-term parking demands. It is recommended that the feasibility of a short term (15 to 30 minutes) pick-up and drop-off loop be investigated for the foot of the wharf, as well as a long term (multi-day) parking area within convenient walking or shuttle distance. In all other locations, on-street parking should be restricted to prevent road blockage, erosion and driveway encroachment. Peak demand and turnover should be validated during the next summer season.
- If enforcement of parking (and other traffic regulations) is to be effective, there will need to be an agreement on cost sharing and recovery for impounding vehicles. The Ministry, the Regional District, and the RCMP should work to develop a funding source for a limited number of yearly impounds, as well as

communicate the intention to implement and enforce any new parking / traffic regulations to Island residents.

Support for Alternative Travel Modes and Facilities

- Mode choice between barge, taxi and float plane is dependant on a number of factors including the effort and time needed to transfer from one mode to another. Because barge service eliminates the need to transfer luggage and is relatively affordable, significant increases in the cost of barging would be required to affect a shift to land / water taxis.
- A review of alternative barge and water taxi landings (particularly in the west end of the Island) should be undertaken in order to achieve the following:
 - Reduce traffic and parking demands on Malaspina Promenade (in light of potential forecast development);
 - Provide emergency and disaster response flexibility;
 - Provide an Island drop offs closer to the traveller's destination, which may encourage less reliance on private vehicles to travel across the Island.
- Until such time as an alternative wharf location can be established, priority parking access should be provided to those modes of travel with the least impact on the road network. Bicycle racks or storage lockers could be provided, along with priority parking space for Low Speed / Low Impact vehicles. Should a community car-share program be established, priority parking could be provided in close proximity to the wharf.

Transportation Study Recommendations



APPENDIX A

Background Information

RESULTS OF A SURVEY SENT TO ALL PROPERTY OWNERS ON SAVARY ISLAND FOR THE SAVARY ISLAND TRANSPORTATION PLAN

DISTRIBUTION & RESPONSE RATE

The survey was mailed out during the first week of January, 2009 to all property owners listed on the 2008 assessment roll.	
The mailing process was completed by January 9, 2009.	
Number of surveys mailed	1064
Number of surveys sent out by email	<u>5</u>
Total surveys sent out*	1069
Number coded	431
Response Rate	40%
* 21 surveys were returned unopened	

RESULTS BY QUESTION

Road Surface				
Question 1	What road surface do you favour?	Arterial/Main	Collector/Minor	Local
	Hard Surface	127	30	8
	Gravel	296	379	378
	No Response or Leave As Is or Other Material	8	<u>22</u>	<u>45</u>
	TOTAL	431	431	431
Road Width				
Question 2	What road widths do you favour?	Arterial/Main	Collector/Minor	Local
	7 metres / 22 ft.	200	23	15
	5.5 metres / 18 ft.	174	207	95
	3.5 metres / 12 ft.	36	165	263
	Other	3	19	29
	No Response	<u>18</u>	<u>17</u>	<u>29</u>
	TOTAL	431	431	431
Cyclist/Pedestrian Path Location				
Question 3	Where should bicycle and pedestrian traffic be accommodated?	Arterial/Main	Collector/Minor	Local
	Within regular traffic lane	191	302	342
	On shoulder adj. to vehicle lane	105	86	41
	Path separated from vehicle road	120	21	23
	No Response or Leave As Is	15	22	25
	TOTAL	431	431	431
Speed Limit				
Question 4	What speed limit do you consider appropriate?	Arterial/Main	Collector/Minor	Local
	50 km/h	119	10	4
	21-49 km/h	100	33	18
	20 km/hr	193	319	302
	<20 km/h	12	57	90
	Other/no response	<u>7</u>	<u>12</u>	<u>17</u>
	TOTAL	431	431	431

POWELL RIVER REGIONAL DISTRICT					Feb. 13, 2009	Page 2 of 4
RESULTS OF A SURVEY SENT TO ALL PROPERTY OWNERS ON SAVARY ISLAND						
FOR THE SAVARY ISLAND TRANSPORTATION PLAN						
	Vehicle Restriction					
Question 5	Should #/types of vehicles be restricted?					
	Yes	247				
	No	169				
	No Response	15				
	Total	431				
	Vehicle Restrictions - information reported under questions 6 - 10 only from those respondents who answered YES to question #5 (=247)					
Question 6	Should the number and/or types of vehicles be restricted year round, or in summer only (mid-June - mid-Sept.)?					
	Restrict year round	123				
	Restrict in summer only	117				
	No to either option	12				
	No response	4				
	Total	256				
Question 7	Which of the following types of vehicles should be permitted? (Check all that apply)	Year Round	Summer Only	Off-Season Only	Not Permitted	
	Service vehicles	231	2	9	1	
	Building contractors/trades	144	6	93	2	
	Summer residents/visitor vehicles	46	51	18	140	
	Permanent resident private vehicles	198	1	27	12	
Question 8	Suggestions on how to limit number of vehicles					
	First come, first serve	13				
	High barge fees	53				
	Lottery	30				
	Require a permit or bond	73				
	Limit vehicles to certain users only, e.g. Permanent Residents, Disabled, Contractors	65				
	Limit cars/materials barged in summer	15				
	Restrict Number of vehicles per lot	21				
	Improve public transport on island	7				
	During summer – golf carts, utility vehicles (electric)	10				
	Impose surtax or parking fee or toll fee	14				
Question 9	Where do you support restricting traffic to utility vehicles, golf carts, etc.?					
	Arterial/Main	59				
	Collector/Minor	105				
	Local	135				
	e.g. Sunset Trail	95				
	All Roads	73				
	No Roads	29				
Question 10	What other types of vehicles should be accommodated on an occasional basis?					
	Emergency vehicles	208				
	Service vehicles	188				
	Land taxis	203				
	Building trades & contractor vehicles	156				
	Permanent resident vehicles	128				
	Vehicles of those with limited mobility	136				

POWELL RIVER REGIONAL DISTRICT			Feb. 13, 2009	Page 3 of 4
RESULTS OF A SURVEY SENT TO ALL PROPERTY OWNERS ON SAVARY ISLAND				
FOR THE SAVARY ISLAND TRANSPORTATION PLAN				
Vehicle Restrictions Continued - Information is from all 431 respondents				
Question 11	Why is vehicle restriction not required?			
	Rights	80		
	Necessity	53		
	Don't see parking on Savary as a problem – Leave as is	25		
	Enforcement Issues	42		
Shuttle Service				
Question 12	Amount of tax you would pay for shuttle service			
	\$0	164		
	\$10	52		
	\$25	61		
	\$50	119		
Parking				
Question 13	Where do parking problems exist?			
	No areas	19		
	Near dock/wharf	315		
	Near barge	44		
	Indian Point	29		
	Beach Accesses	11		
	Entire Island	14		
	Other	21		
Question 14	Nature of parking problems you have noted?			
	Too many vehicles	192		
	Parking too long	200		
	Destruction of vegetation, foreshore and road shoulders	15		
	Too many old/non drivable, uninsured vehicles on the Island	68		
	Aesthetics	16		
	Lack of parking availability	46		
	Parking in bad areas, e.g. on private property, blocking beach access and roads	41		
Question 15	Do you support the following parking provisions?	Yes	No	
	Prohibit parking on Malaspina Promenade	179	164	
	Permit short term/day parking only on Ashworth & Townley	222	117	
	Encourage long term parking at auxiliary fire hall lot	337	34	
	Develop public parking in vicinity of wharf	258	120	

POWELL RIVER REGIONAL DISTRICT				Feb. 13, 2009	Page 4 of 4
RESULTS OF A SURVEY SENT TO ALL PROPERTY OWNERS ON SAVARY ISLAND					
FOR THE SAVARY ISLAND TRANSPORTATION PLAN					
	Respondent Profile				
Question 16	Where on the island do you own property?				
	Wharf / Mace Point	69			
	Southeast End of Island – Other	18			
	Mid Island	206			
	Northwest End of Island	117			
	Multiple areas	9			
	Other	7			
	No response	<u>5</u>			
	Total	431			
Question 17	How much time do you typically spend on Savary Island?				
	Year round	29			
	Mainly summer & holidays	299			
	Weekends or day trips	38			
	Seldom	32			
	Never	6			
	Other	1			
	Multiple responses	22			
	No response	<u>4</u>			
	Total	431			
Question 18	Is your property presently developed?				
	Yes	363			
	No	61			
	No Response	<u>7</u>			
	Total	431			

British Columbia Ministry of Transportation

Annual Day of Week Summary for 2007

Site Names: Powell River - P-15-10NS - N, P-15-10NS

Seasonal Factor Group: Seasonal

County: Posted Speed = 80 kph

Daily Factor Group: Seasonal

Funct.

Axle Factor Group:

Location: Route 101 9.5 Km North Of The Saltery Bay Ferry And : Growth Factor Group: Seasonal

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	MADT	MAWDT	MAWET	% POS
Jan	689	676	676	692	732	737	624	689	694	656	49
Feb	747	754	728	709	799	862	639	748	747	693	50
Mar	875	849	815	855	860	883	733	839	845	804	51
Apr	859	896	827	833	937	981	796	875	873	827	51
May	954	1,000	942	928	982	1,067	900	967	963	927	50
Jun	1,012	1,129	1,078	1,152	1,157	1,186	1,000	1,102	1,129	1,006	51
Jul	1,378	1,341	1,324	1,303	1,383	1,496	1,282	1,358	1,338	1,330	50
Aug	1,585	1,557	1,434	1,410	1,513	1,601	1,482	1,512	1,479	1,533	50
Sep	1,080	1,086	1,017	1,027	1,050	1,122	1,030	1,059	1,045	1,055	49
Oct	820	924	842	849	953	1,021	819	890	892	819	50
Nov	815	864	802	791	813	908	763	822	817	789	50
Dec	732	726	614	807	829	869	771	764	744	752	50

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	AADT	AAWDT	AAWET	% POS
2007	962	983	925	946	1,000	1,061	903	969	964	933	50
2006	988	962	925	910	987	1,057	910	963	946	949	50
2005	998	982	933	942	1,008	1,074	909	978	966	953	50
2004	978	956	887	913	963	1,023	881	943	930	930	50
2003								923	922	910	50
2002								946	942	940	50
2001								964	967	943	50
2000								933	931	926	51
1999											
1998											

FOLIO #	DL	PLAN #	LOT	BLOCK	SYSTEM TYPE (1,2 OR 3)	DATE ACCEPTED FOR FILING (MM/DD/YY)	DATE OF FILED LETTER OF CERTIFICATION (MM/DD/YY)
000-000-000	1376	2714	30	30	1	07/19/2005	07/21/2005
06-747.21918-002	1376	2714	18	27	1	07/22/2005	8/8/2005
06-7472198.020	1376	2714	22	27	1	08/29/2005	05/23/2006
1074721573-00014	1377	2714	25	15	1	10/27/2005	2/12/2005
74721765	1377	2714	38	20	1	2/12/2005	12/1/2006
Total 2005							5
5269491	1376	2714	16	25	1	7/2/2006	03/28/2006
74721321	1373	14149	148		1	04/13/2006	07/14/2006
74721309	1372	2732	35/36	10	1	04/13/2006	05/17/2006
747-22068000	1377	5891	4	6	1	05/17/2006	6/9/2006
74721804	1376	2714	20	22	1	9/6/2006	06/26/2006
74721321	1373	14149	142		1	06/15/2006	07/18/2006
7472132	1373	14148	82		1	07/18/2006	06/27/2007
74721913	1376	2714	30	27	1	06/18/2006	1/12/2006
not given	1376	2714	33 & 34	29	1	06/19/2006	08/24/2006
06.747.21947.000	1375	2714	20		1	08/30/2006	5/9/2006
13481398	1376	2714	33	25	1	8/9/2006	10/30/2006
74721190	1372	2732	1	7	1	09/26/2006	10/14/2006
74721190	1376	2714	30	22	1	11/14/2006	1/12/2006
Total 2006							13
74721504	1377	2714	36	13	1	04/27/2007	06/27/2007
000-000-000	1377	2714	30	14	1	6/3/2007	6/3/2007
000-000-000	1376	2714	1	26	1	06/14/2007	
74721532000	1377	2714	24	14	1	06/27/2007	10/9/2007
74721156	1372	2732	35	5	1	06/27/2007	12/17/2007
74721321242	1373	14149	121		1	07/18/2007	10/9/2007
1074721825.000 10	1376	2714	26	23	1	07/19/2007	7/8/2007
not given	1376	2714	19	27	1	07/23/2007	
not given	1376	2714	21	30	1	07/23/2007	
3690520	1373	14148	53		1	7/8/2007	10/9/2007
74721603000	1377	2714	15	16	1	10/8/2007	10/9/2007
74721681000	1377	2714	42	17	1	10/8/2007	12/17/2007
077-964-862	1373	14149	155		1	9/10/2007	9/10/2007
not given	1377	2714	14		1	9/11/2007	
Total 2007							14
06-74721914.00	1376	2714	13, 12, 28, 29	27	1	03/18/08	4/23/08
06-747-21321.410	1373	14149	205		1	04/29/2008	07/29/2008
not given	1376	2714	30	28	1	5/5/2008	
not given	1376	2714	28	28	1	5/5/2008	
74721626	1377	2714	38	16	0	06/26/08	11/25/2008
74721321	1372	14148	73		0	06/26/08	12/7/2008
747 21321.192	1373	14149	96		1	07/14/2008	9/10/2008
1074714995		7610	10	2	1	07/24/2008	08/20/2008
74721321356	1373	14149	178		1	07/30/2008	
74721886010	1376	BA50408	Parcel F of	26	1	8/8/2008	8/10/2008
not given	1377	122912BP,	A	15	1	09/22/2008	12/22/08
74721225	1372	2732	9	8	1	09/26/2008	8/10/2008
7472132138818	1373	14149	194		1	9/10/2008	
Total 2008							13
7472660.00018	1377	2714	21	17	1	11/26/2008	2/1/2009
74721811.000	1376	2714	9	23	1	11/26/2008	01/27/2009
7947658	1372	14148	70		1	01/27/2009	
74722114	1377	5891	4	8A	1	01/28/2009	2/18/2009
74722121	1377	5891	11	8A	1	01/28/2009	2/18/2009
74721395	1377	2714	1	9	1	11/3/2009	
Total 2009							6

LETTER OF AGREEMENT

between

THE MINISTRY OF TRANSPORTATION & HIGHWAYS (MOTH)

and

THE ISLANDS TRUST (IT)

**SUBJECT:
ROAD STANDARDS, CLASSIFICATION
AND MOTH/IT CONSULTATIVE
PROCESS IN THE ISLANDS TRUST AREA**

October 20, 1992

WHEREAS, pursuant to Section 8(2)(a) of the *Islands Trust Act*, for the purpose of carrying out the object of the trust, the Islands Trust Council may, subject to the approval by the Minister of Municipal Affairs, Recreation and Housing, enter into agreements -with -the Province and agents of the Province respecting the coordination ~of administrative activities within the trust-area;

WHEREAS, roads in the Trust Area form part of the unique amenities of the Trust Area and require -extraordinary measures to protect their unique character and to encourage safe use, both the Islands Trust Council and the Minister of Transportation and Highways are desirous of entering into an agreement for ongoing consultation respecting road standards, road classification, and posted speed limits;

THEREFORE, both parties commit to respect the attached Letter of Agreement, dated October 20th, 1992.

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A. PURPOSE

The purpose of this agreement is:

- 1 To establish an ongoing consultative process between the agencies.
2. To establish an agreement on road standards and road classification in the Trust Area and;
3. To establish a procedure for the designation of scenic/heritage roads and bicycle route plans in the Trust Area.

B. OBJECTIVES

1. To establish a functional classification of rural roadways which:
 - a) classifies rural Island roads recognizing the relative importance of their role in servicing traffic between ferry linkages and major destinations on an island, and relates the classification to the road's importance and role in serving through traffic or providing access to land;
 - b) ensures all rural settlement areas, resource areas, recreational areas, commercial areas and other activity areas are provided with safe rural road service based on the level of traffic generating activity and rural traffic volumes;
 - c) classifies routes to maintain a safe and efficient relationship between the needs of road users and the users of adjacent land;
 - d) ensures that appropriate planning and design standards are used as agreed upon.
2. To establish the road standards for new roads, including new subdivision roads, and for existing roads when upgrading is required.
3. To establish scenic/heritage road designations for unique and valued roadways which recognize the objectives of the Islands Trust, and the process to be followed when improvements are to be undertaken.
4. To establish cycle route plans and roadway standards to accommodate safe cycling.
5. To establish a regular consultative process between the agencies on issues of common interest such as rehabilitation and maintenance programs and new road site-specific consultation.

6. To develop and agree upon cycle route plans and scenic/heritage designations to be in place by **September 1993** to supplement this agreement.

C. CONSULTATIVE PROCESS

The Ministry of Transportation and Highways and the Islands Trust agree to the establishment of a consultative process to foster common understanding and hereby agree to facilitate the process by arranging meetings between respective staff and Local Trust Committees as required.

To facilitate ongoing dialogue the consultative process will be fostered through:

- An annual meeting of Ministry of Transportation and Highways staff and Islands Trust planning staff held in the fall at the call of the Manager of Local Planning of the Islands Trust to review with Ministry of Transportation and Highway staff any current issues such as proposed upgrading and maintenance programs and classification of proposed new subdivision roads.
- Routine exchange of information regarding specific concerns between the Islands Trust as represented by its local planning staff and Ministry of Transportation and Highways local staff as represented by the District's Highways Manager and/or their Area Managers.
- The establishment by the Trust of Local/island Advisory Transportation Committees appointed by each Local Trust Committee to make recommendations to the Trust Committee and MoTH as specific issues arise and to assist in the development of bicycle route and Heritage/Scenic route plans. Special meetings may be called by either the Islands Trust, or the Ministry of Transportation and Highways, as specific issues arise.
- Jointly reviewing the road classification networks and road standards every five years (effective in 1997.)
- Discussion in 1992 and 1993 of bicycle routes and Scenic/Heritage route designations.
- Ministry of Transportation ' on and Highways routinely consulting with the
- Islands Trust prior to upgrading of designated scenic/historic routes.

ROAD CLASSIFICATIONS AND BICYCLE AND SCENIC/HERITAGE ROUTE DESIGNATION

1. Road Classifications of Island Roads

A hierarchy of road classes for the designated islands is set out in the Island-specific maps attached to the document (Appendix A). The Islands Trust will facilitate a timely process for each local trust committee to review, negotiate, revise or approve the maps attached in Appendix A. Until such time as the local trust committee approves the road classification map for their island, the Appendix A map will be used within the context of the consultative process.

The designated islands for purposes of road classification and standards are:

- Salt Spring
- Gabriola
- North and South Pender
- Saturna
- Galiano
- Denman
- Hornby
- Mayne
- Lasqueti
- Thetis
- Keats
- Bowen
- Gambier
- Thormanby

The nomenclature used for road classes in this document is terminology suggested by the Islands Trust. The equivalent terminology normally used by the Ministry for functional classification is:

Islands Trust Nomenclature

Major Rural
Main Rural
Minor Rural
Residential

Ministry of Transportation and Highways Nomenclature

Secondary Highway
Major road
Minor Road
Rural/Local Local Road

The road standard for the applicable classifications as set out in Section E will be applied for new roads, including subdivisions, and to existing roads when being upgraded.

2. Cycle Route Plans

The Islands Trust will prepare proposals for cycle route plans on the islands. Consultation on these proposals will occur with the Ministry of Transportation and Highways.

A negotiated agreement on the cycle route plan for the Islands Trust area is to be achieved between the Islands Trust and Ministry of Transportation and Highways by September 1993 and will subsequently form a component of this letter of understanding (Proposed Appendix B).

The agreed-to cycle route plan, when adopted by resolution or bylaw by the Local Trust Committee, may be forwarded to the Ministry of Highways and Transportation for registration.

The approved plan, for the designated cycle routes, will trigger adjustment of the shoulder standards for new roads and for existing roads when they are to be upgraded as indicated in section E. The requirements for safely accommodating cyclists will be recognized when prioritizing roads for upgrading.

3. Scenic Heritage Designation

The Islands Trust will prepare proposals for scenic/heritage designation to recognize roadways having unique and significant scenic and/or heritage value. Only a limited portion of roadways on an island will qualify for such designation.

3. Scenic Heritage Designation Continued

Consultation will occur between the Ministry of Transportation and Highways and the Islands Trust on the criteria for evaluation of scenic and heritage values and the proposals for scenic/heritage road designations. The agreed upon criteria shall be incorporated as part of this agreement.

A negotiated agreement on scenic/heritage designation of roads in the Island Trust area is to be achieved between the Islands Trust and Ministry of Transportation and Highways by September 1993 and will subsequently form a component of this letter of understanding (Proposed Appendix C).

The Ministry of Transportation and Highways will be consulted, and its agreement obtained, on a proposed scenic/heritage road designation plan for an island prior to adoption of the plan, by resolution or bylaw, by the Local Trust Committee.

Planned work on roads designated, as Scenic/Heritage will trigger a consultative process between the Islands Trust and the Ministry of Transportation and Highways prior to the initiation of upgrading.

E. ROAD STANDARDS FOR ISLAND ROADS

It is recognized that road standards in the Islands Trust Areas have been lowered in response to the Trust objective to maintain the Rural character of the islands and in recognition of the size of Islands and their unique character and the need for a gentler approach in harmony with the land. With the exceptions of Denman, North Pender and Salt Spring in the Trust Area, island roads do not carry travellers to any points beyond.

However, the standards must recognize a requirement for safe transportation facilities.

The standards to be utilized for construction on each of the road classifications are outlined in the following paragraphs and table.

NOTE: Where the Islands Trust and the Ministry of Transportation and Highways identify a need for cycling facilities, as established by the agreed to cycle route plan, the standards for shoulders shall be adjusted as noted in the footnotes in the road standards table which follows. (See Figure 1, page 8).

1 a) Major Rural

This classification of road applies only to a limited section of road on Salt Spring Island.

The road in this class typically carries substantially higher volumes of traffic at higher speeds than a Main Rural road.

This classification will have a paved travel-way width of 6.7 m except on crest and horizontal curves where a 7.3 m width will apply.

A 1.2 m paved width on each side of the travel way will provide for cycling, pedestrian and emergency parking use.

The bicycle route plan will incorporate all sections classified as Major Rural road as an element in the cycle plan.

Posted speed shall not exceed 80 km/hr.

1 b) Main Rural

This classification of road applies to all designated islands within the Islands Trust except for South Pender, Gambier, Lasqueti, Keats, Thormanby and the undesignated Islands.

This classification of road will have a paved travel-way width of 6.7 m except on crest and horizontal curves where a 7.3 m top paved width will apply.

A 0.6m paved shoulder on each side will be provided.

The bicycle route plan will designate road sections requiring adjustment of the shoulder width to safely accommodate cycling demands. The constructed top width for each bicycle shoulder lane can range from 0.6 to 1.2 metres on both

sides in recognition of safety and travel demand requirements, as designated in Island specific cycle route plans.

The posted speed shall not exceed 60 km/hr.

1 c) Minor Rural

This classification of road applies to all designated islands within the Islands Trust, but does not include the undesignated islands.

This classification of road will have a paved top width of 6.1m.

Paved shoulders are not required unless identified in the cycle route plan. The bicycle route plan will designate road sections requiring adjustment of the shoulder width to safely accommodate cycling demands. Constructed top width for each bicycle shoulder lane can range from 0 to 1.2 metres on both sides in recognition of safety and travel demand requirements, as designated in Island specific cycle route plans.

The posted speed shall not exceed 50 km/hr.

1 d) Residential Rural/Local

This classification applies to all designated Islands and the undesignated Islands within the Islands Trust.

This classification applies to most new roads in small subdivisions.

This classification of road will have a paved top width of 5.5 m.

The posted speed may be in the range of 30 to 50 km/hr

2a) Illustrative Cross-Sections by Road Standard

The Island Road standards and illustrative cross-sections are shown on the following pages.

2b) Heights and Clearance Zone

Height of vegetation within the brushing and utility zone shall be controlled to maintain sight distance on curves and intersection sight triangles for traffic safety reasons.

Roadside vegetation will be retained where possible unless it becomes a hazard to public safety or interferes with utility or drainage requirements. Trees will be permitted to encroach within the road right of way if they do not interfere with Hydro and Telephone services, or where utility poles will not be within a right of way. The brushing zone will be a minimum of 2.0 m from the shoulder. The height clearance area for utilities will be 2.75 m beyond the utility pole to meet Worker's Compensation Board requirements. Low brush up to 2 m in height is allowed in the utility clearance area except at intersection sight triangles (including driveways).

The clearing width for construction will be only to the width required to contain the roadworks and utilities. Trees and brush can be retained beyond this width.

Maintenance programs for brush cutting will be discussed as part of the yearly consultative process.

2.0 Ditches

The ditch, one or both sides as required, would typically be designed for a depth of 0.6m with a back slope of 2:1 and side slope of 3:1. This, would require 2.1m of width to accommodate such a ditch configuration.

The side slopes of ditches may be steeper in order to minimize the clearance width up to a maximum back slope of 1.5:1 and maximum side slope of 2:1 where safety and geotechnical engineering concerns do not prevail.

Proposed and existing ditch systems entering fresh water lakes used for potable water supply are of special concern. The Ministry of Transportation and Highways will advise the Islands Trust of proposed drainage works in proximity to fresh water lakes or of plans for drainage of wetlands which may have groundwater recharge value.

UTILITY PERMITS

Ministry of Transportation and Highways will put a condition in a new utility permit requiring that the applicant must notify Islands Trust of his/her intentions (for information only).

Summary of Best Practices



- Transportation planning must be based on a community vision. Dialogue is necessary and some compromise on all sides is helpful. The plan must come from the community in order to be successful.
- OCP bylaws and policies must be in place that encourage alternatives to driving (golf carts and small utility vehicles).
- Affordable and convenient parking must be made available on mainland.
- It is ideal if a water taxi can drop people/goods off at many spots on the island.
- Efficient land taxi and/or transit shuttle is required for those who are unable to walk/bike.
- Stakeholders must work together to remove derelict cars.
- Examine land use and transportation relationships when making any development decisions.