

FALKLAND – VERNON Transit Feasibility Study



July 2013



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EXECUTIVE SUMMARY

INTRODUCTION

At the request of the Columbia Shuswap Regional District (CSRD), this study was conducted by BC Transit staff, with the assistance of Boulevard Transportation Group, to examine the demand for transit service between Falkland and Vernon and the feasibility of providing this service. The study is focused on the unincorporated community of Falkland, part of the Columbia-Shuswap Regional District Electoral Area "D".

COMMUNITY PROFILE

Falkland is a small, low density, rural community with limited population size of 805 that has seen no growth in recent years. The study area has a high proportion of younger seniors and a low proportion of young adults. It is common in the area to have an unfixed workplace, and of those that have a fixed workplace many work outside of the CSRD or from home. Most drive to work and private vehicles ownership is high. Amenities in Falkland are basic, with a small store, post office, gas station, motel, community hall and an elementary school. For most shopping needs, high school and post-secondary education, community services, services for seniors, medical services and recreation, Falkland residents travel into Vernon, Armstrong and other locations.

EXISTING TRANSPORTATION OPTIONS

Existing transportation options include: roadways, walking and cycling, school bus service into Armstrong and limited Greyhound services into Vernon. The closest public transit system is in Vernon. There is no taxi service in Falkland. The closest airport to the study area is the Kelowna International Airport.

COMMUNITY ENGAGEMENT

A public engagement exercise was conducted in February and March 2013. This consisted of an open house and a travel survey. The open house took place at the Falkland Community Hall with 37 attendees where the project team presented information and facilitated a question and answer session. The survey was distributed in paper format and online and resulted in 51 responses. Community outreach revealed that 98% (50 people) of those surveyed would possibly take transit on a weekly basis and between 89%-100% of the public (45-51 people) would support using public funds to fund transit. General travel patterns revealed that Vernon is the most popular destination for errands and appointments followed by Salmon Arm, Kamloops, Armstrong and Kelowna.

ASSESSING POTENTIAL MARKETS FOR TRANSIT

Seniors, people with a disability, and non-commuter adults represent the best potential markets for transit, albeit this transit market is still low-medium. Mid-day and afternoon service, with a relatively short turn-around time (2-3 hours) should be the priority for this group. The primary focus should be on connecting to Vernon, as the majority of employment, shopping, errand, and medical trips are to/from Vernon. All other transit markets were considered low.

GENERAL SERVICE DESIGN CONCEPTS

The study outlines a number of transit service concepts generally used to form service options. These include: conventional transit, custom transit, paratransit and supplementary service concepts (organized and implemented without Columbia Shuswap Regional District or BC Transit involvement). In addition to high costs associated with low ridership, GHG emissions from transit serving less than 5-6 rides per hour will be higher than if those passengers travelled

by private automobile. Conventional and, therefore, custom service are inappropriate for the Falkland community profile given the population size and potential markets. Paratransit options and alternative service concepts were explored.

SERVICE OPTIONS

Option 1: Contracted Service and Vehicle.

This option proposes that service delivery is contracted out to a third party carrier with a vehicle. This carrier would be contracted to provide one mid-day round trip each week between Falkland and downtown Vernon. Door-to-door pick-ups would be provided, requiring that passengers book their trip at minimum the day before. If no one requests a ride, the service will not operate on that day. The trip time is approximately 45 minutes to the downtown Vernon exchange, where passengers could transfer to other routes in the Vernon system. A "bulk" rate would be negotiated with the third party carrier to provide the service. Similar to service in a regular transit vehicle, residents using the service would pay a fare on each trip.

For the purposes of this feasibility study, it has been assumed that service for Options 2, 3 and 4 would be operated as part of the Vernon Regional transit system and may make use of a vehicle within the Vernon system for the spare capacity requirement. However, this would still require a minimum of one vehicle to be purchased for the provision of transit service to Falkland.

Option 2: Introductory Mid-day Paratransit. This option is almost identical to Option 1, with the exception that the service would be run by BC Transit rather than contracted out. An introductory paratransit service includes one mid-day round-trip each week between Falkland and downtown Vernon. The service would operate using a "trip window" that identifies a one-hour window of time when residents seeking a ride could request a pick-up. If no one requests a ride, the service will not operate on that day. This will save fuel but will still require the driver to be paid. Door-to-door pick-ups will be provided, requiring that passengers book their trip at minimum the day before to allow the driver to select an appropriate route.

Option 3: Weekday Mid-day Paratransit. This is the same as Option 2, but it operates Monday to Friday. As with the introductory option, this service would operate using trip windows and would only operate when passengers have booked trips.

Option 4: Weekday Commuter Service. A weekday commuter service would serve Falkland residents regularly commuting to Vernon. It would include two one-way trips each weekday: a trip from Falkland to downtown Vernon in the morning and a trip from downtown Vernon to Falkland in the late afternoon. The service would follow a regular route (i.e. no door-to-door or flex routing) to maintain regularity and minimize trip time. It would include a small loop through Falkland, including a stop at any future park-and-ride facility.

Option Summary

Service options, with the exception of option 1 which would be contracted out, were compared based on: number of buses required, total kilometres travelled, service hours, estimated ridership, total revenue, total cost, local share of costs and BC Transit share of costs.

Preliminary Estimated Additional Annual Impacts for Service Options*

Service Option	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs	BC Transit Share of Costs	Rides per hour
Option 1, Contracted Service & Vehicle	Costs would be identified and negotiated with the third party appointed via a Request for Proposals process.								
Option 2, Introductory Mid-day Paratransit	1	5,800	210	520	\$1,300	\$67,700	\$31,400	\$35,000	4
Option 3, Weekday Mid-day Paratransit	1	27,600	1,010	2,520	\$6,300	\$124,700	\$53,900	\$64,500	4
Option 4, Weekday Commuter Service	1	20,700	760	2,268	\$5,700	\$106,900	\$45,900	\$55,300	6

* Based on 2012/13 budgets. Final costs may change based on final budgets and operational details.

** Vehicle requirements would be confirmed by BC Transit Fleet Standards Department as part of the implementation plan should service be pursued.

RECOMMENDATIONS

Service Option 1, Contracted Service and Vehicle is considered the most feasible service option for Falkland based on the findings of this study. This one day per week (weekly) mid-day service would provide mobility between Falkland and Vernon primarily for seniors and young adults without access to other transportation options. This service would receive funding from CSRD and BC Transit dependent upon the private contracted service options available, which would be identified through a Request for Proposals Process.

This option is recommended based on the potential transit markets, community profile, key trip generators, frequency of travel¹, ridership, costs and level of service:

- The highest number of people surveyed travel to Vernon on a weekly basis;
- The potential transit market is primarily seniors and low-income individuals², both groups are transit dependent and are anticipated to make use of mid-day service;
- The costs of providing a commuter service or other daily service would outweigh expected limited ridership; and
- GHG emissions would be higher for a service of 5-6 rides per hour than if potential riders were to use a private vehicle.

This indicates that transit service (provided by BC Transit as outlined in Options 2, 3 and 4) is not feasible for Falkland. In comparison, a private contracted service would potentially offer a

¹ identified through the travel survey

² Based on Census Canada demographic data, combined with survey data.

low risk option with cost savings produced by eliminating the need for a spare vehicle, ensuring vehicle-related responsibilities (leases, insurance, or maintenance) are assumed by a third party and allowing "down time" between trips or poor utilization does not impact CSRD/BC Transit financial viability.

Should Option 1 be pursued, it is recommended that a 1-year follow-up study is conducted to evaluate the service, assess ridership and determine if service should continue and if any changes are required. It is also recommended that CSRD staff work with community partners to promote and encourage use of rideshare and formal vanpool options to enhance resident travel options.

IMPLEMENTATION CONSIDERATIONS

The Columbia Shuswap Regional District must formally receive this report and give their approval and direction on the recommendation. Following this, resident support and feedback should be sought to refine service design and confirm support for public spending on transit. Any expansion will be dependent upon the 2014/15 approved provincial budget, which will include all BC Transit system service expansion requests and prioritization of these requests, if required. Following funding confirmation a detailed implementation plan would be created by BC Transit in collaboration with the CSRD.

It is recommended that the Columbia Shuswap Regional District receive this report for information and provide comment on the recommended Option 1: Contracted Service and Vehicle.

1.0 INTRODUCTION

At the request of the Columbia-Shuswap Regional District (CSRD), this study was conducted by BC Transit staff, with the assistance of Boulevard Transportation Group, to examine the demand for transit service between Falkland and Vernon and the feasibility of providing this service.

This report presents the findings of the study and outlines service options for consideration. The service option proposals are based on background statistics provided by Statistics Canada, CSRD staff, a community workshop in March 2013, a resident transportation survey, informal discussions with stakeholders, site visits by the consulting team, and comparison to communities of similar size and density.

Study Objectives

The primary objectives for the feasibility study are outlined below:

1. Examine the demand for transit service between Falkland and the Vernon Regional Transit System and outline options for its provision;
2. Review existing transportation options within the communities;
3. Review demographic data to identify potential transit markets within the service areas;
4. Identify the transportation needs of the communities;
5. Develop service concepts and outlined associated costs. Service concepts will be consistent with the area's population and geographic area, based on experience in similar B.C. communities; and
6. Consider all forms of transit including vanpools, taxis, buses, and subsidies for the service concepts outlined.

Study Area

The study is focused on the unincorporated community of Falkland, part of the Columbia-Shuswap Regional District Electoral Area "D". See *Figure 1*. Falkland is located approximately 35km west of Armstrong and 45km northwest of Vernon, both via Highway 97 / 97a. Armstrong and Vernon are located in the Regional District of North Okanagan.

Figure 1: Study Area



* Travel times are approximate

Image Source: Google Earth

2.0 COMMUNITY PROFILE

The community profile of Falkland is useful in determining the size and characteristics of potential transit markets. This section briefly describes population and demographics, land use and development patterns as they relate to transportation, key locations where people work, attend school and run errands, and existing transportation options in the area.

Population & Demographics

This section briefly describes demographic information from the 2011 Canadian Census, including population size and notable population statistics.

- Falkland has a total population of 805 and experienced no change in population from the 2006 to 2011 Census.
- Falkland has a high median age of 49.4 years, which is higher than the regional median age (48.1) and considerably higher than the provincial median age (41.9).
- Falkland has a high proportion of young seniors. 37% of the Falkland population (300 individuals) is between 50 and 69 years of age, which is 10% higher than the provincial average. 170 individuals or 21% of the population are over 65.
- Only 60 individuals or 7% of Falkland's population are between the ages of 15 and 19.
- Falkland has a low proportion of young adults. 9% of the Falkland population is 20 to 34 years of age, which is 10% lower than the provincial average.

Community Land Use & Form

The density and land use planning objectives of a community are both significant factors in transit feasibility. Generally, transit service is more feasible in higher density, more compact communities.

- Falkland is comprised of predominantly single-family dwellings, which represent 91% of the total 345 dwellings. Falkland has an average of 2.3 residents per home, less than the provincial average of 2.5 residents per home.
- Population density is 29 persons per square kilometre, compared to 1.7 persons per square kilometre for the CSRD as a whole and 112.5 persons per square kilometre for Salmon Arm.
- Land use planning is overseen by the CSRD. The only Official Community Plan (OCP) in Area "D" is for Rancho / Deep Creek and does not address Falkland.
- The Area "D" Land Use Bylaw identifies primarily single-family residential and rural land uses for Falkland. General commercial zoning is applied along the Highway 97 in the centre of Falkland and a small amount of institutional and industrial land use is identified.
- The Area "D" Land Use Bylaw suggests land use patterns should be "small-lot residential, commercial, and institutional uses concentrated in the rural communities."
- The nearest major developments to Falkland are Armstrong and Vernon, approximately 35km and 45km to the south east respectively. There is very limited development between Falkland and Armstrong or Vernon, excluding some residential development near the Hwy 97/97A junction.
- Cold winters and heavy snowfall make transit, paratransit and affordable taxi service especially important in winter months when other forms of transportation (walking,

cycling) are extremely challenging and particularly for seniors who are not comfortable or able to drive in hazardous conditions.

Employment

2006 Census data related to employment was collected for CSRD Area "D" but not specifically for Falkland. Falkland residents comprise 21% of the CSRD Area "D" population, suggesting that the following employment trends for Area "D" may be representative of Falkland.

- Area "D" residents are primarily employed in agricultural and resource-based industries, as well as manufacturing, other services, construction and business services.
- Of those that have a fixed workplace, only 12% work within CSRD Area "D". 43% of those with a fixed workplace are employed within the CSRD and an additional 43% work in another regional district. 23% of employed individuals work from home.
- 86% of residents that work outside the home typically drive themselves, 8% travel as passengers, and 5% walk or cycle. The rate of drivers is higher than the provincial average, the rate of passengers is very similar and the number of pedestrians and cyclists is lower than the provincial average.

Community Amenities & Trip Generators

Amenities in Falkland are basic, with a small store, post office, gas station, motel, community hall and an elementary school. For most shopping needs, high school and post-secondary education, community services, services for seniors, medical services and recreation, Falkland residents travel into Armstrong, Vernon and other locations.

Shopping & Service Destinations

Falkland's shopping and services include a store, motel, gas station and a few other small shops. Important locations include:

- The Falkland Store (5744 Kamloops Vernon Hwy); and
- Post Office (5756 Highway 97).

Beyond local shopping and services, Falkland residents rely primarily on Vernon (45km away) and Armstrong (35km away).

Health Care

There is no dentist, health clinic, or pharmacy in Falkland. The nearest medical clinic is in Armstrong, with others available in Vernon, Salmon Arm, and Kamloops. Falkland residents travel to Vernon, Salmon Arm, Kamloops or Kelowna to access medical services. Falkland residents rely primarily on three hospitals:

- Vernon Jubilee Hospital (2101-32nd Street) in Vernon, approximately 45km southeast of Falkland;
- Shuswap Lake General Hospital (601 10th St NE) in Salmon Arm, approximately 54km northeast of Falkland; and
- Royal Inland Hospital (311 Columbia St) in Kamloops, approximately 74km northwest of Falkland.

Education

Public education is provided to Falkland residents through School District 83 (North Okanagan Shuswap). Students attend the following schools:

- Kindergarten to Grade 7 is at Falkland Elementary School, 5732 Tuktakamin Rd
- Grade 8 is at Len Wood Middle School, in Armstrong
- Grades 9 to 12 is at Pleasant Valley Secondary School, in Armstrong

Post-secondary education is not available in Falkland. Falkland residents generally attend the following post-secondary institutions:

- Okanagan College, with campuses in Vernon and Salmon Arm;
- University of British Columbia-Okanagan in Kelowna; and
- Thompson Rivers University in Kamloops.

Community Facilities / Events

The Falkland Community Hall is the primary civic facility and hosts a variety of community meeting, social events, and recreational programs. Falkland Community Learning Centre is a branch of the Okanagan Regional Library system and Falkland hosts the annual Falkland Rodeo on the May long weekend, which is one of the oldest running stampedes in Canada

Summary

Falkland is a small, low density, rural community with limited population size that has seen no growth in recent years. Amenities in Falkland are basic, with a small store, post office, gas station, motel, community hall and an elementary school. The nearest key health and shopping amenities are located in Vernon with primarily agricultural land and, therefore, no transit drivers between the two locations.

3.0 EXISTING TRANSPORTATION OPTIONS

This section provides a summary of the existing transportation options available to residents in Falkland.

Roadways

- Roadways are under the BC Ministry of Transportation and Infrastructure's (MoTI) jurisdiction. No major roadway changes are planned for the foreseeable future.

Walking and Cycling

- Roads in Falkland are rural in nature with varying paved shoulder widths for walking or cycling. MoTI design standards traditionally include limited bicycle and pedestrian facilities on roadways.
- There are paved shoulders on Highway 97 providing some space for cyclists and pedestrians.

Bus Service

School Buses

School busing is provided by School District no.83 - North Okanagan Shuswap for Falkland area students attending Len Wood Middle School and Pleasant Valley Secondary School (PVSS), both in Armstrong. Two different bus routes leave Falkland bringing students to these two schools.

School buses provide travel at the beginning and end of the school day and also accommodate extracurricular activities throughout the day using other buses from their fleet and after school using a bus from their fleet of 10 spare District buses.

There is no fee to ride the bus to attend public school. Students from outlying areas who attend private schools and use the bus service pay a fee. Okanagan college students living near a SD 83 bus route may ride the bus to PVSS at no charge, provided that they complete a criminal record check.

Greyhound

Greyhound provides daily scheduled trips between Falkland and Vernon. There are two trips daily from Falkland to Vernon departing at 8:30am and 6:25pm. There is one daily trip from Vernon to Falkland departing at 10:05am. Each trip is approximately 40 minutes (one-way). The current weekday adult fare is \$12.00 one-way. Fares vary by day of the week and a discount is offered for seniors.

The Greyhound schedule is not conducive to day trips from Falkland to Vernon given the return time of 10:05am, which would leave less than one hour for passengers to spend time in Vernon.

Feedback from Falkland residents suggested that the Greyhound no longer stops in Falkland although tickets are available for purchase online and contact with Greyhound confirms that the service is still running. It is suggested that this reflects unfamiliarity with the system.

Public Transit

Public transit is not currently available in Falkland. The nearest public transit system is the Vernon Regional Transit System, which provides conventional and custom transit service to Vernon and the North Okanagan area. Information on transit routes and schedule are available online at: <http://www.bctransit.com/regions/ver/>. A summary of the system is provided below:

- The conventional system centres on Vernon and includes eight routes in the Vernon area. Routes also extend east to Lumby, north to Enderby, and the "north Okanagan connector" was added more recently with service south to UBC-Okanagan in Kelowna.
- The nearest point to Falkland is the Route 60: Enderby, travelling north-south along Highway 97a between Vernon and Enderby.
- One-way one zone cash fare is \$2.00 per trip for adults, \$1.75 for students and seniors. A multiple zone (Vernon to Kelowna or Vernon to Armstrong) one-way cash fare is \$2.50 for adults and \$2.25 for seniors. Fare options also include a monthly pass, daily pass, 10-ticket package, and a semester pass option.
- Demand-responsive HandyDART service is offered for people with a disability unable to use the conventional system.
- The fleet ranges in the type and size of vehicles used. All are accessible to people using wheelchairs or scooters.
- The system is cost shared among the City of Vernon, the District of Coldstream and the Regional District of North Okanagan.
- The North Okanagan Transit Future Plan is currently being undertaken which will create a vision for transit in the North Okanagan region³. This process is still in early stages and it is unclear how outcomes may impact a potential Falkland service.

Other Transportation

There are no **taxi services** in Falkland, the nearest providers are in Vernon, Enderby, Salmon Arm, and Sorrento. **Kelowna Airport** is approximately 83km (1 hour) south of Falkland and the **Kamloops Airport** is approximately 84km (1 hour, 5 minutes) northwest. Both offer regular flights to Vancouver, Calgary and other destinations.

³ Refer to BC Transit website for information: www.bctransit.com/transitfuture/nok_latestupdates.cfm

4.0 COMMUNITY ENGAGEMENT

A public engagement exercise was conducted in February and March 2013. This consisted of an open house and a travel survey. The open house took place at the Falkland Community Hall with 37 attendees where the project team presented information and facilitated a question and answer session. The survey was distributed in paper format and online and resulted in 51 responses.

Survey

A travel survey was distributed to learn more about current resident travel patterns and methods and gauge potential support for transit. A web-based version of the survey was available on BC Transit's website and a hardcopy version of the same survey was available at the Falkland Library, distributed by CSR staff, and available at the open house. The survey was available February 18 to March 15, 2013.

The survey was comprised of twenty questions designed to learn more about how residents currently travel, where and when they are travelling, and gauge their level of support for public transit service. The full survey is included in *Appendix A*.

A total of 51 survey responses were submitted. Responses were tabulated and have been used in the following sections to assess potential transit markets and to test future transit service options. It is important to note that while this survey provides helpful information to assist with developing transit options, the survey does not result in statistically valid outcomes and likely over represents the "pro-transit" segment of the population. A summary of responses is included in *Appendix A*.

The utility of the survey was also partly limited by survey design. The survey was designed with an online format in mind, but was also distributed in a paper version. 40 paper surveys were completed and 11 surveys were completed online. The majority of paper surveys were improperly answered on questions 9, 11 and 12 pertaining to transportation mode and questions 16 through 19 pertaining to potential transit usage and desired transit frequency. Therefore, for our analysis we have supplemented these results with census data, qualitative survey comments, and open house feedback.

General Travel Patterns

Residents were asked where members of their household most commonly did their shopping, recreation, appointments and other errands. For each destination, the purposes of most frequent trips were consistently for groceries, other shopping and general errands. Slightly less frequent trips were made for the aforementioned purposes as well as recreation. The least frequent trips were generally for medical appointments (doctor and dentist), medical specialists, recreation and visits to family and friends. Less frequent trips are also identified as shopping trips; it is assumed this is shopping of a different nature (i.e. big box stores, or specialty shopping) than the more frequent shopping trips. For travel outside of Falkland, Vernon is the most popular destination (70%). The frequency of trips to Vernon vary between daily trips and trips once every 6 months, with the highest number of people travelling to Vernon on a weekly basis. Following Vernon, most popular travel destinations are as follows: Salmon Arm (10%), Kamloops (9%), Armstrong (9%) and Kelowna (2%).

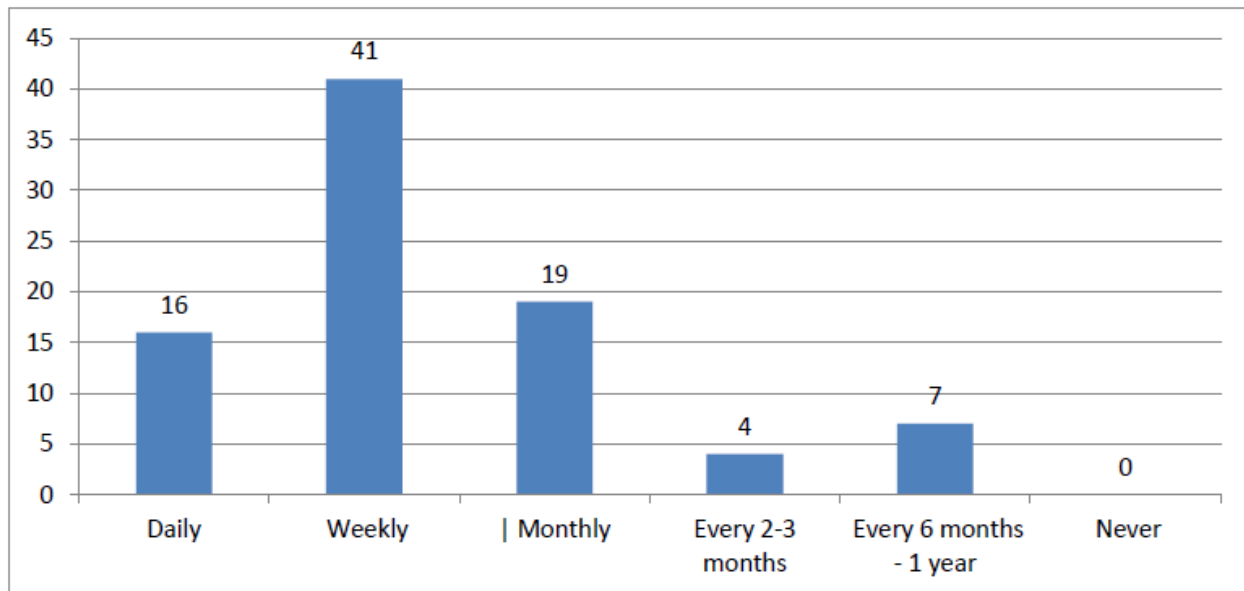
Potential Transit Usage

Residents were asked how often they would use transit if it were offered in Falkland through a series of questions. It was noted that frequency of use depends on cost of use, flexibility and reliability of transit. It is important to note that respondents generally gave a household level response to questions related to potential transit, rather than addressing the demand of **each**

member of the household. The survey questions related to potential transit usage did not provide an accurate measure of demand frequency and one must look at ridership in similar communities to determine potential transit usage (see section 7.1). However, some trends can be noted:

- 69% said they would use transit if it were provided. 29% selected Maybe, and only 2% selected No.
- The majority of respondents said they would use transit weekly.

Figure 2: Sample Survey Results: Potential Frequency of Transit Use



- Use is distributed relatively evenly throughout the week, with slightly less demand on Sundays.
- 51% of respondents said they would prefer transit during commute periods, 32% selected that they would prefer that transit be available throughout the day.

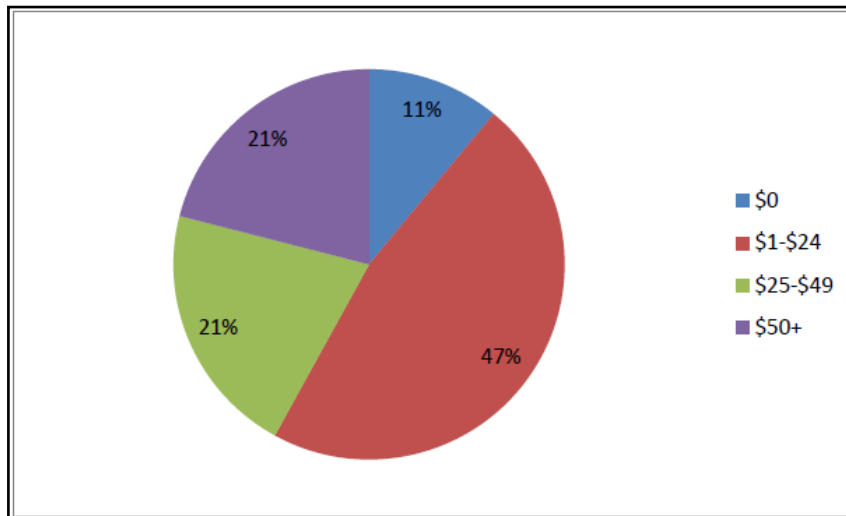
The 69% represents 35 respondents. However, it should be noted that, in general, survey responses tend to overestimate the willingness of respondents to take transit as the responses are often based upon an assumption that the service meets the individual’s specific requirements. In reality, ridership is influenced by frequency, flexibility and reliability of the service provided.

Willingness to Fund Transit

Residents were asked the level of property tax increase they would be prepared to support in order to implement transit service. This question usually acts as a more realistic measure of resident willingness to use transit, as it actually suggests a financial commitment is required.

In total, 89% of the responses indicate support for some level of property tax increase to support transit. 47% of responses indicate support for a small increase (\$1-\$24 per person, a total of \$20,400 annually at \$24) in annual property taxes in support of transit, 21% support a moderate increase (\$25-\$49 per person, a total of \$41,650 annually at \$49) in property taxes, and 21% support an increase of \$50 per person or more (\$51,000 annually at \$60). 11% indicate they do not support the use of public funds in support of public transit.

Figure 3: Sample Survey Results. Willingness to Fund Transit through Increase in Property Taxes



Open House

An open house was hosted on Tuesday, 5 March, 2013 from 7:00 p.m. to 9:00 p.m. at the Falkland Community Hall. A total of 37 residents attended. The open house included a series of storey boards containing pertinent community background information, maps, and potential transit options. The project team gave a presentation followed by a question-and-answer period.

The following is a summary of the key discussion points from the open house:

- There is a large seniors and low-income population who see a lack of basic travel options as a barrier to accessing activities, shopping, and employment;
- There is opportunity to accommodate Westwold⁴ residents by providing a park-and-ride in Falkland;
- Commuters and mid-day errand trips are the key transit markets; and
- From public feedback using sticky notes on one of the open house poster boards, 100% of those in attendance support public spending on public transit, although it is expected those unsupportive of transit chose not to attend.

⁴ Westwold is a small rural community approximately 18km due west of Falkland

5.0 POTENTIAL MARKETS FOR TRANSIT

Potential transit markets are population segments and/or locations where transit service is considered based on community characteristics. Potential transit markets were assessed for Falkland based on the community profile, demographics, travel options, and community feedback through the survey and open house.

For the purpose of this study, the size of potential transit markets are characterized as low, medium or high based on a combination of population size and potential usage.

Low= a small population (1-100) of the demographic group and/or trip types that are dispersed over the course of the day or the week

Medium= a medium population (100-300) of the demographic group and/or trip types that are somewhat concentrated over specific windows of time and with somewhat fewer destinations

High= a high population (300+) of the demographic group and/or well-defined and limited trip times and locations.

Potential Market:

People with a Disability

Overview: People with disabilities fit into all passenger categories. They include students who need transportation to school, younger adults and adults who may need transportation to jobs or day program activities, and seniors. 8% of survey respondents (4 people) indicated that a member of their household has a disability that requires door-to-door transportation service. Of those indicating they have a member of their household with a disability, 60% require no mobility aid, 20% require the assistance of a walker or cane and just 10% need a manual or electric wheelchair or scooter to assist them.⁵

General Service Expectations: In transportation terms, people with disabilities can be considered in two general categories:

- **Discretionary Trip Makers:** This category is the more feasible of the two categories to target in Falkland. Mainly adults and seniors, these passengers have schedules that are less regular than commuters. These passengers tend to use transit to go to medical, dental and therapy appointments, perform shopping and personal errands, and attend social and recreational functions. Therefore, transportation needs are somewhat more flexible and often vary from day to day and from week to week.
- **Commuters:** This category is probably very small in Falkland. Mainly student and adult passengers, commuting people with disabilities rely on transit for non-discretionary trips to work, school or adult day care programs on a regular, predictable basis. Commuters have much less flexible schedules and it is therefore harder for door-to-door style accessible service to meet their needs.

⁵ In many cases where respondents identified that a member of their household required door-to-door transportation, they also selected that there was no mobility aid used. It is unclear why door-to-door transportation is required if there is no mobility aid but this could be due to individuals with mental disabilities rather than physical disabilities requiring door-to-door transportation.

Potential Market for Transit Service: In general, the potential market for people with disabilities for transit service is **low** (based on population) and **medium** (based on potential usage).

- Mid-day medical / dental appointments or shopping in Vernon would be the prime reasons for transportation.
- Falkland's population is older than the provincial and regional average; as the population ages, the number of residents with mobility challenges may increase if those residents remain in Falkland.

Potential Market:

Seniors

Overview: Falkland has a higher median age than the provincial average, with 50% of the population (402 individuals) over 50 (provincial average of 38%), and 21% (170 individuals) over 65 versus (provincial average of 16%). When people between the ages of 55-64 are included in this category (as they may be early retirees), the percentage of seniors increases to 40% (322 people). Seniors aged 75 or over, who tend to take transit more than their younger counterparts, make up 8% of the area's total population (64 individuals).

General Service Expectations: In general, seniors request consistent midday service that adequately serves shopping, social, recreational and medical / dental facilities. Trips are of a discretionary nature and often fluctuate daily, weekly and monthly. Because appointments must be made around other's schedules, flexibility is very important for seniors. Long wait times for a return trip are challenging for seniors. Services that offer some personal attention and a chance to socialize as part of the trip tend to be better used.

Potential Market for Transit Service: In general, the potential seniors market for transit service is **low to medium** based on a combination of population and potential usage.

- Mid-day shopping and recreation trips and medical / dental appointments would be the prime reasons for transportation.
- Travel in the early evening is also a potential need due to declining eyesight and reluctance to drive at night for some seniors. However, this need can be harder to serve in a more rural area such as Falkland since it has a higher transit cost and carries fewer passengers.

Potential Market:

School Students / Youth

Overview: School-aged youth between the ages of 5 and 19 make up approximately 16% (129 people) of Falkland's population. Of these, youth in the more independent ages of 15 to 19 make up 7% of the total area population (56 people). Youth tend to be a captive transit market with limited transportation alternatives. Cycling and various pedestrian activities (walking, skateboarding, etc.) represent the main means of autonomous transportation. In 14% (7 responses) of survey respondents' households a household member attends school. The majority are younger children attending Falkland Elementary or are home-schooled. A small number attend school in Armstrong. For those who attend school, the majority are passengers in vehicles (29%, 15 people), an equal amount of people drive, walk and take the school bus (21%, 11 people for each mode).

General Service Expectations:

- In general, the primary reason youth use transit is to commute to/from school. In more rural areas such as Falkland, where the School District provides school transportation (for grades 6-12), one of the more common transit uses is for travel to and from other activities before or after school.⁶
- When not in school, the youth market group tends to use transit to go to part-time work or volunteer jobs, shopping, and social and recreational activities.
- School students and youth would have their needs best met by a transit system which offers direct trips between residential areas and schools, which aligns with school start and end times (in cases where no school bussing is provided), and which offers access to recreation and shopping facilities in the late afternoons and on Saturdays.

Potential Market for Transit Service: In general, the potential youth market for transit service is **low** (based on population and potential usage).

- Weekday transit service in late-afternoon would address social and extra-curricular activities in Armstrong that school buses do not accommodate.
- A late afternoon commuter trip connecting Armstrong and/or Vernon with Falkland would also facilitate after-school activities.
- Weekend service throughout the day to Vernon, Armstrong or Salmon Arm would increase the independence of youth and expand their options for extracurricular activities and employment.

Potential Market:

Younger Adults / College Students

Overview: Approximately 3% of Falkland's population (24 people) are adults between the ages of 20 and 24, half the provincial average (6%). This group of younger adults may be working or looking for work, may have started families, and may be attending a post-secondary or technical institution. Unlike youth, captive young adult riders have a greater tendency to take midday trips to perform personal errands or shop.

General Service Expectations:

- Service needs for college students are nearly identical to those of school students. Transit schedules need to correspond to the majority of class start and end times and transit must pass close to learning facilities. However, midday service to these facilities is also necessary since not all college students attend school full-time and not all courses have the same class schedules.
- Younger adults have similar needs to commuters in general, but they may also work part-time or in jobs without standard hours or shifts. This lack of regularity makes midday service more important. This passenger group tends to make fewer medical/dental related trips.

Potential Market for Transit Service: In general, the potential younger adult and youth market for transit service is **low** (based on population and usage).

⁶ Activities may be formal (school-based extracurricular activities) or informal (hanging out with friends, shopping, etc.)

- Currently, students who commute daily to/from Okanagan College, UBC in Kelowna or TRU in Kamloops likely either own a vehicle (if living at home in Falkland) or rent other accommodation closer to school. Varying class schedules and infrequency/ prohibitive cost of the existing Greyhound service make travel from Falkland to post-secondary classes challenging, if not impossible.
- Young adults not going to school may benefit from the same services targeted to meet the needs of other potential markets.
- A departing and returning commuter trip to Vernon, Armstrong or Salmon Arm during summer months would allow youth living at home in the Falkland area to seek summer jobs in other areas.

Potential Market:

Adults

Overview: People aged 25 to 64 make up approximately 57% of Falkland's population (456 people), similar to the provincial average (56%). When people between the ages of 55 and 64 are removed from this category (since they may be early retirees and are already discussed in the seniors category above), this number drops to 38% or 306 people.

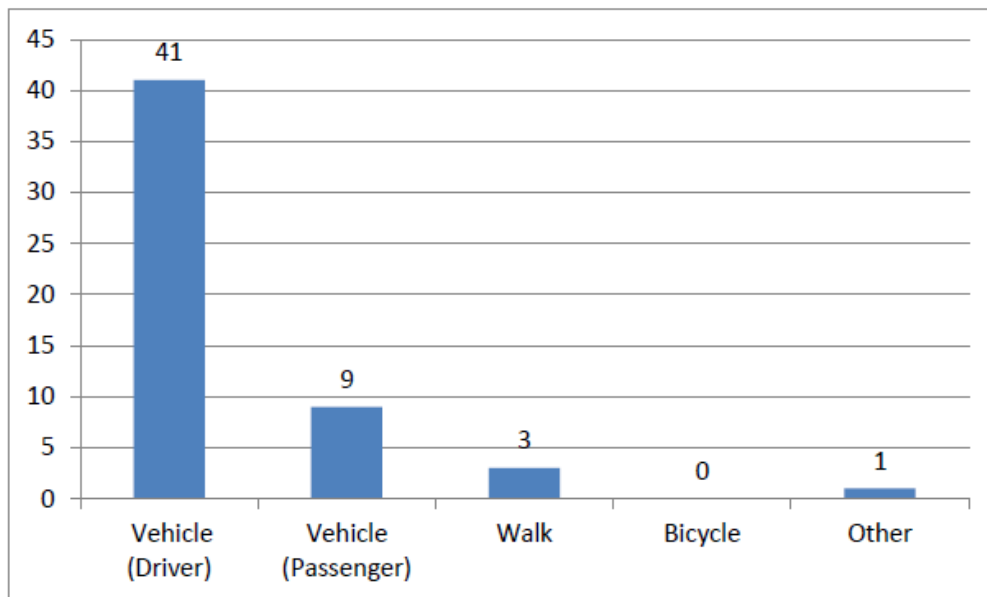
The unemployment rate in the Columbia-Shuswap Regional District is 7.9%, applying this rate to Falkland indicates a working population of approximately 282 people. Work locations of survey respondents are as follows: 41% work in Vernon (which, if taken as representative of the Falkland population, would be 116 people), 21% in Falkland (which, if taken as a representative of the total Falkland population would be 59 people) and 38% elsewhere (which, if taken as a representative of the total Falkland population would be 107 people). Those that worked elsewhere worked all over the province and, in one case, in Alberta. The survey data differs from the census data, as the survey indicates a higher proportion of individuals working in the CSRD (62% survey vs. 43% census). The survey data also indicates a smaller proportion of individuals working elsewhere (38% in survey vs. 43% in census).

According to the survey, most daily departures occurred between 6:00 a.m. and 8:00 a.m. (57%, 29 respondents). If this percentage is applied to the approximated Falkland population of 116 people working in Vernon there may be 66 people departing between 6:00 a.m. and 8:00 a.m. daily. This will reduce significantly dependent upon how convenient the trip time is for each individual and their preference for using transit. There were also a high number of respondents that selected they usually departed at other unspecified times (17%, or 9 respondents). The survey indicated that most returns occurred between 4:30 p.m. and 6:00 p.m. (51%, or 26 respondents, which equates to approximately 59 Falkland residents working in Vernon). Again, there were also a high number of respondents that selected they usually returned at other unspecified times (19%, or 10 respondents).⁷

For both respondents who work outside of the home and those that are home during the day the majority drive to work (76% and 53%) and a high percentage travel to work as a passenger in a private vehicle. Throughout Falkland, there are 2 cars per household on average.

⁷ Due to the relatively small number of respondents (51 responses, 6% of total population of Falkland), and the high proportion of seniors as well as soon to be seniors in Falkland, it is not realistic to schedule transit solely around these peak times. The "other" category is interpreted to represent various mid-day errand and appointment trips.

Figure 4: Sample Survey Results: Method of Getting to Work for Those Who Work Full-Time Outside of the Home.



General Service Expectations

In general, members of this group are more likely to be financially stable and most likely to own a private automobile. They are also the least likely to use transit. Transit passengers in this group are normally split into two:

- **Captive adult riders:** those who do not own or have regular access to a private vehicle, often for economic reasons. These passengers have similar transit needs to working young adults.
- **Choice adult riders:** those who have access to (or could have access to) a private automobile, but choose to use transit for economic, environmental, social or health reasons. Members of this group are typically regular commuters and expect service that rivals the convenience and travel time of an automobile.
- Adults with less rigid schedules require service similar to younger adult riders.

Potential Market for Transit Service: In Falkland the majority of people working outside the home are working in employment sectors and locations that are very hard to serve by transit. Implementing transit services that would be frequent and direct enough to attract choice commuters would be prohibitively expensive for the relatively small population of Falkland. Therefore, the potential adult market for transit service is considered to be **low**.

Potential Markets: Conclusions

- Travel in a private vehicle as the driver or as a passenger is currently the main travel mode in Falkland by a large majority with high car ownership per household.
- The primary focus for all travel is on connecting to Vernon as the majority of employment, shopping, errand, and medical trips are to/from Vernon.
- Seniors, people with a disability, and non-commuter adults represent the best potential markets for transit. However, this market is still considered low to medium.
- All other potential markets are deemed low.
- Mid-day and afternoon service for seniors and non-commuter adults, with a relatively short turn-around time (2-3 hours) one-day per week should be the priority for this group. This would assist in serving the essential needs of seniors, reducing their isolation and increasing their independence whilst increasing transportation options for the adult market. A senior-oriented service will also address day-time medical and errand/shopping trips for people with a disability, youth (when school is not in session), and non-commuting young adults/adults. Given the low market, alternative transportation options rather than the provision of transit may be most appropriate for this service.
- One commuter trip in the morning and one in the evening would provide a basic level of service to employment for those without other options and would broaden the flexibility of travel for other users. However, these trips will be costly and ridership is anticipated to be extremely low. Therefore, this service is not recommended.
- Weekend service to and from Vernon would enable seniors, youth and some adults to better participate in the community and access jobs and recreation. Adults with vehicles may choose to use this service for frequent shopping trips instead of their own vehicles. However, weekend service can be more expensive to operate and generally receives lower ridership. Given the potential market is already low, this service is not recommended.
- Any service options could consider potential to serve after-school needs for Pleasant Valley Secondary School students, and the potential to transfer from Route 60: Enderby route.
- 89% of area respondents (45 people) to a residential transportation survey for this study stated they would support some level of taxation increase to implement transit.

6.0 GENERAL SERVICE CONCEPTS

There are several service types provided by BC Transit. These include:

- **Conventional Transit** – regularly schedule, fixed-route service operating according to published route maps and timetables.
- **Custom Transit** – a door-to-door transit service for those persons whose physical disability prevents them from being able to use a conventional transit service. Custom service is only provided to systems with an existing conventional service. Custom service may be supported by such programs as Taxi Supplement and Taxi Saver⁸.
- **Paratransit Style Service** – a class of transit offering a more flexible service than conventional fixed-route transit. It includes systems such as flex-route and on-demand service.

Conventional and, therefore, custom service are inappropriate for the Falkland community profile given the population size and potential markets (more information is provided on these types of service in Appendix B).

However, paratransit service concepts have been explored in more detail below to determine if they are appropriate for service between Falkland and Vernon. In addition, information on several non-BC Transit services that are often more suitable transportation options for small rural communities has been provided.

Paratransit Service Concepts

Paratransit uses a standard transit vehicle or vehicles to provide more flexible service than conventional fixed-route transit, which is often more appropriate to meet the specific needs of smaller communities.

Encompassing a range of service types, paratransit services can include everything from door-to-door, demand responsive services for people with disabilities, to buses serving stops on fixed routes and schedules. It may also include many other mixtures and hybrids of these. In most cases, funding partners would be directly responsible for paratransit vehicle lease, insurance and maintenance costs. As with conventional transit, paratransit services use an accessible transit vehicle provided by BC Transit and are usually operated by contracted private operating companies or local governments contracted to provide that function. Paratransit service is divided into two basic types:

On-demand paratransit provides door-to-door service only when passengers request service. Dispatchers work to group similar trips together and have a specified number of service hours within each day to allocate trips.

Scheduled paratransit operates on a fixed schedule on a designated route with trips occurring at a predictable time each day. Trips operate regardless of the number of passengers on them. The service may use bus stops in more populated areas or may use flag stops⁹ in more rural areas.

Between these two basic types are some hybrid options.

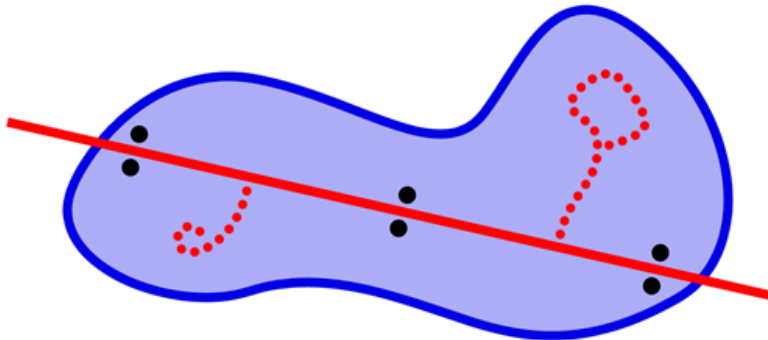
Flexible Transit or **Flex-Routed Transit** is a hybrid between on-demand paratransit and scheduled paratransit by building extra time into scheduled trips. This extra time enables the

⁸ More information is provided in Appendix B

⁹ A “flag stop” is when passengers wait on the bus route at safe pull off locations—such as group mail box areas—and wave at the approaching driver to stop. To get off the bus, passengers request a stop from their driver.

bus to go off route to provide door-to-door pick-ups or drop-offs for people with disabilities who would not otherwise be able to walk to the route (as illustrated in Figure 5).

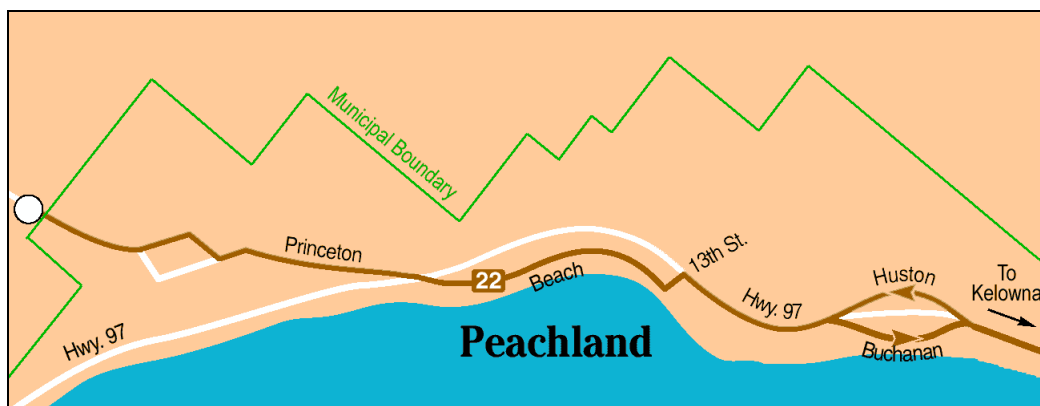
Figure 5: Illustration of a Flex-Routed Transit System



The benefit to this model is that it provides the predictability of scheduled service for the general population while also being able to provide a higher level of access and care to those who need it. A potential challenge is that it needs careful attention to schedule development and dispatching to work best. It is easier to do well on mid-day trips rather than mixed with peak-period commuter trips.

An example of a flex-route service is Route 22 between Peachland and Westbank in the Central Okanagan. The route follows Highway 97 and parallel roads along the waterfront, where the downtown commercial area and much of the population are located. The flex-route bus will deviate anywhere within the municipal boundaries, as illustrated in Figure 5, which can mean a deviation of more than a kilometre from the designated route. The schedule incorporates an additional 15 minutes for each round trip or run to allow sufficient time for route deviations. In practice, if someone has scheduled a pick-up or drop-off requiring a large deviation, and someone else requests another large deviation on the same run, the second person will be asked to travel on an earlier or a later run, to avoid two large deviations on the same run.

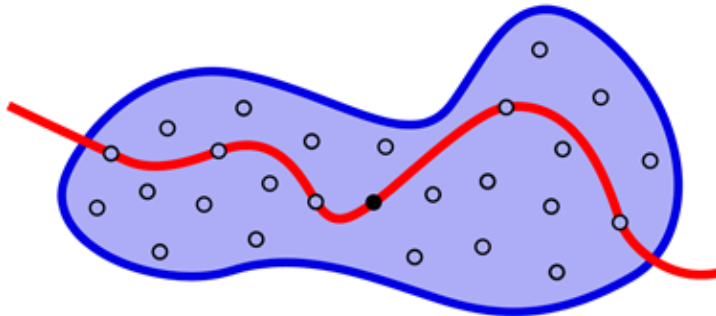
Figure 6: Example of a Flex-Routed System in Peachland



On-Demand Service Using Trip Windows is another hybrid illustrated in Figure 7. In this case, trip window times (say 10:00am to 11:00am, 2:00pm to 3:00pm, etc.) are published for transit users rather than a fixed route and schedule. People wanting to use transit—including both people with disabilities and general users—call dispatch and indicate during which trip window they would like to travel. The dispatcher then provides the caller with an estimated pick-

up and drop-off time. The bus provides door-to-door service for all pre-booked passengers during that trip window, shaping its route in the most efficient way. If no one requests service, the trip during that window does not operate and/or the transit vehicle can be allocated elsewhere.

Figure 7: On-Demand Service Using Trip Window



The key benefit of this style of service is that it is the most efficient way of providing service to people with a disability and others in a rural setting. It groups similar trips together and ensures that the bus doesn't travel further than it needs to. The challenge is that it can be harder to mix with commuter needs and can provide less predictability and autonomy for general users. Transit services in two rural electoral areas outside of Comox use this style of service¹⁰.

The most common type of demand-responsive service is the specialized services provided for persons with disabilities known as handyDART. Eligibility to use demand-responsive services is typically limited to persons with a documented physical or cognitive disability that prevents them from using conventional transit services. HandyDART or custom service is only provided to communities with existing conventional service.

A paratransit service can be timed to connect with a specific route in a conventional transit system or connect to another regional transit service. For example, the Shuswap system's Route 11 (Salmon Arm - Deep Creek - Enderby) makes two Wednesday trips to Enderby and arrival time is five minutes prior to the departure time for the Vernon system's Route 60 (Enderby - Armstrong - Vernon) with southbound service to Vernon. Buses make the connection a shared stop which enables passengers to transfer from one to the other. However, a timed connection places constraints on the ability to deviate off-route to provide door-to-door service for people with disabilities since a timed connection requires a fixed schedule that can be reliably adhered to.

Alternative Service Options

In addition to the concepts identified above, alternative service options may be more appropriate and could be implemented with or without involvement and funding from the CSRD or BC Transit.

Contracted Service & Vehicle

For this option, service delivery is contracted out to a third party carrier with a vehicle. This third party could be a taxi company or could be a non-profit organization or community group with a vehicle. This carrier would be contracted to provide either scheduled trips on a specific day or

¹⁰ Refer to BC Transit website for information: www.transitbc.com/regions/com/schedules/community_bus.cfm

days per week or using a “trip window” method whereby door-to-door pick-ups or drop-offs to an area would be available for specific periods of time and would not operate if there was no demand.

A "bulk" rate is negotiated with the third party carrier to provide the service. Terms of service are developed to ensure the service is consistent and kept to an appropriate standard. Similar to service in a regular transit vehicle, residents using the service would pay a fare on each trip, the level of which would be determined by the local funding partner(s).

Some examples of this type of service in other BC Transit communities include:

- **Pemberton Paratransit**, where a taxi operator provides seven scheduled round trips per day between Lil'wat First Nation communities and the Village of Pemberton using private vehicles. (See: www.transitbc.com/regions/whi/schedules/schedule.cfm?line=100&)
- **Central Fraser Valley Transit**, where taxis are used to provide shared-ride service within Mission to transport pre-booked passengers to the train station to meet very early West Coast Express trips that occur prior to the start-up of regular service on the transit system. (See: www.transitbc.com/regions/cfv/schedules/wce.cfm)

The key benefit of providing this type of service is that vehicle-related responsibilities (leases, insurance, or maintenance) are assumed by a third party operator, not CSRD or BC Transit. In addition, "down time" between trips or poor utilization does not impact transit financial viability. Further, if a smaller vehicle (such as a taxi) provides the service, this can be more appropriate if the anticipated ridership is low and has a more positive impact on reducing Green House Gas Emissions¹¹. Depending upon the negotiated contract, this can provide a low risk, lower cost option to support residents without access to a private vehicle.

However, it is difficult to monitor and control quality and customer service and there is limited control over whether the vehicle is accessible. There may also be issues with consistent integration with other potential transit options. Should the service be well used and ridership be significant, it would then become more financially efficient to explore a paratransit style service.

Vanpools

A vanpool is a group of up to 15 commuters who travel to the same destination at the same time each day. The group travels in a van provided by a transit agency or other organization, and each person in the group (sometimes with the exception of the driver) pays a monthly fare calculated based on the distance travelled and the costs of operating the van. Vanpools applicable conditions include:

- Longer-distance trips of at least 25km and 30 minutes travel time each way;
- Regular commute trips such as work and post-secondary school;
- Trips that are made at the same time each day; and
- Trips to destinations with a large number of persons, such as downtowns, hospitals, post-secondary institutions, and business parks.

Jack Bell Rideshare is an example of a vanpool program that operates throughout the province.

Vanpools use eight-passenger minivans purchased by Jack Bell Rideshare and operated by a designated vanpool driver. All passengers except the driver pay a monthly fare calculated to recover capital and operating costs. Seven persons is the minimum number required to start a

¹¹ As a general estimation, on average it requires greater than 5 or 6 rides per hour in a BC Transit bus to off-set the Green House Gas emissions produced by a single driver in a private automobile.

vanpool, although a vanpool can be started with only six persons if the group is prepared to pay for the empty seat until a seventh person can be found. It should be noted that BC Transit no longer provides funding for vanpool programs.

Ridesharing

Ridesharing or carpooling refers to cases where people coordinate trips together using a private vehicle owned by one of the participants. It is likely that a number of informal rideshares are already organized by Falkland residents. The community could increase the incidence of ridesharing by promoting online tools like the Jack Bell Foundation's free matching service at: www.ride-share.com. Easy to use, this tool helps match potential rideshare travelers based on time and location while also protecting user privacy. The benefit to this approach is that it is organized by participants themselves and has no community cost. A drawback is that it is more useful for regular commuters rather than non-commuters (i.e. seniors, youth) whose travel time may vary by day.

Volunteer Network

A volunteer transportation network is a transportation concept that has worked well in the Mt. Waddington Regional District in the Port Hardy / Port McNeil area¹². Through the network, anyone who is a resident within the Regional District and does not own or have access to transportation (due to a permanent or temporary disability or socio-economic reasons) may register with or be referred to the program. Trips are booked by calling the Mount Waddington Community Services Society who coordinates the service. Volunteer drivers use their own private vehicles to deliver the service. Passengers using the service (or families or referring agencies on their behalf) provide a donation to the network for each trip.

¹² Refer to BC Transit website for information: www.transitbc.com/regions/mtw/accessible/family_of_services.cfm

7.0 SERVICE OPTIONS

Service options are presented in this section that are specific to Falkland and address the potential transit markets identified in *Section 5.0*. The service description for each option identifies the following:

- **Service Hours** - Estimated number of annual hours buses will be utilized based on the time to complete one round-trip and any recovery time or "dead heading".
- **Annual Ridership** - Estimated annual ridership based on ridership levels on routes in other, similar transit systems.
- **Passenger Revenue** - Expected revenue generated based on estimated annual ridership and average fares (considers passes, discounted fares, etc).
- **Vehicle Requirements** - Estimated number of vehicles required to operate the service option, with consideration for potential to utilize under-used vehicles in Vernon system.
- **Total Cost** - Expected annual cost based on a standardized operating cost per service hour and estimated vehicle costs.
- **Cost Share** - Expected share of overall costs funded locally versus provincially, with consideration for passenger revenues.

Service in Comparable Communities

There are very few examples of transit service provided to communities of similar population size to Falkland. Service in comparable communities usually serves a population of 1000+ and is characterized by between 1 and 3 different bus routes. In the case of a single route service, transit service operates throughout the week and throughout the day. In the case of 3 routes, different routes operated on different days of the week, with service throughout the day. Often, 1 route is a local route and other routes alternate between connecting the central community to different outlying communities or popular destinations. Please see Appendix C for details.

Service Option 1: Contracted Service and Vehicle

This option proposes that service delivery is contracted out to a third party carrier with a vehicle, supported by CSRD and BC Transit funding. This third party could be a taxi company or a non-profit organization or community group with a vehicle based out of either Falkland or Vernon. This carrier would be contracted to provide one mid-day round trip each week between Falkland and downtown Vernon. It is expected that residents seeking to use this service will arrange their shopping, social, or medical trips for the day the service is offered.

Door-to-door pick-ups would be provided, requiring that passengers book their trip at minimum the day before to allow the driver to select an appropriate route. If no one requested a ride, the service would not operate on that day. The trip time is approximately 40-minutes to the downtown Vernon exchange, where passengers could transfer to other routes in the Vernon system.

A "bulk" rate would be negotiated with the third party carrier to provide the service. Terms of service should be developed to ensure the service is consistent and kept to an appropriate standard. Similar to service in a regular transit vehicle, residents using the service would pay a fare on each trip, the level of which would be determined by the CSRD.

Pros:

- Vehicle-related responsibilities (leases, insurance, or maintenance) are assumed by a third party operator, not CSRD or BC Transit;

- "Down time" between trips or poor utilization does not impact CSRD/BC Transit financial viability;
- A low risk, low cost option to support residents without access to a private vehicle; and
- Service style is appropriate for the estimated low ridership.

Cons:

- A suitable third party carrier will need to be identified through a Request for Proposal process. The service will not be viable if there is no suitable third party carrier;
- Difficult to monitor and control quality and customer service;
- Limited control over vehicle accessibility to people using wheelchairs and scooters; and
- Possible issues with consistent integration with other potential transit options.

Service Option 2: Introductory Mid-day Paratransit

Option 2 outlines an introductory paratransit service, which would include one mid-day round-trip each week between Falkland and downtown Vernon.

The service would operate using a "trip window" that identifies a half hour window of time in the morning and then another half hour window of time in the afternoon when residents seeking a ride could request a pick-up or drop-off. If no one requests a ride, the service will not operate on that day. This would save fuel costs but would still require a driver to be paid in full. Door-to-door pick-ups would be provided, requiring that passengers book their trip at minimum the day before to allow the driver to select an appropriate route. The trip time is approximately 40-minutes to the downtown Vernon exchange, where passengers could transfer to other routes in the Vernon system.

The costs for providing this service would include the operating costs associated with necessary service hours and vehicle lease fee costs. BC Transit requires 1 spare vehicle (a spare ratio of 33%) for a transit system with a fleet size between 1 and 3 buses. For a larger transit system with fleet size of between 4 and 8 buses, 2 spare vehicles (a spare ratio of 25%) are required. Therefore, should Falkland be served independently of an existing transit system, this would require any service to have a minimum of 2 vehicles in order for a spare vehicle to be available.

However, for the purposes of this feasibility study, it has been assumed that service for Option 2 could be operated as part of the Vernon Regional transit system and may make use of a vehicle within the Vernon system for the spare capacity requirement. However, this would still require a minimum of one vehicle to be purchased for the provision of transit service to Falkland. Should Option 2 be pursued, discussion between BC Transit, the City of Vernon and the CSRD will be required to determine whether the ability to operate service to Falkland from the Vernon Regional Transit system would be viewed favourably and refine the associated costs and agreement.

Pros:

- Provides basic service for shopping, social, or medical trips in Vernon;
- Provides door-to-door service; and
- Trip window approach ensures vehicle does not operate without riders.

Cons:

- Once per week service will not meet all resident needs;
- Requires new vehicle and associated costs;
- Commuters are not accommodated;
- Limited opportunity for scheduled transfers with Vernon routes; and

- Green House Gas (GHG) emissions are not offset if ridership is low. Emissions from transit serving less than 5-6 rides per hour are higher than if those passengers travelled by private automobile.

Initial High Level Estimate – Additional Annual Impacts			
Option 2: Introductory Mid-day Paratransit			
Service Hours:	210*	Passenger Revenue:	\$1,300
Annual Ridership:	520**	Total Cost:	\$67,700
Vehicles Required:	1	Net Local Share of Costs:	\$31,400
		Provincial Share of Costs:	\$35,000

* Assumes 4 hours per day (45min travel per trip, 45min dead-head, plus extra for door-to-door pick-up/drop-off)
 **Ridership based upon an estimated 4 rides per hour informed by experience from similar BC Transit communities and informed by two-week ridership counts for the Shuswap Transit System Regional routes
 *** Based upon an average fare of \$2.50, informed by regional fares within the Vernon and Shuswap Transit Systems

Service Option 3: Weekday Mid-day Paratransit

Option 3 outlines a regular weekday mid-day service. This would be the same as Option 2, but would operate Monday to Friday. As with Option 2, the costs for providing this service would include the operating costs associated with necessary service hours and vehicle lease fee costs. For the purposes of this feasibility study, it has been assumed that service for Option 3 would be operated as part of the Vernon Regional transit system and may make use of a vehicle within the Vernon system for the spare capacity requirement. However, this would still require a minimum of one vehicle to be purchased for the provision of transit service to Falkland.

Should Option 3 be pursued, discussion between BC Transit, the City of Vernon and the CSRD will be required to determine whether the ability to operate service to Falkland from the Vernon Regional Transit system would be viewed favourably and refine the associated costs and agreement.

Pros:

- Regular, predictable service; and
- Provides reliable option for shopping, social, or medical trips in Vernon.

Cons:

- Considerable revenue hours are required;
- A new vehicle and associated costs are required;
- Limited opportunity for scheduled transfers with Vernon routes.
- GHG emissions are not offset if ridership is low.

Initial High Level Estimate – Additional Annual Impacts			
Option 3, Weekday Mid-day Paratransit			
Service Hours:	1,010*	Passenger Revenue:	\$6,300
Annual Ridership:	2,520**	Total Cost:	\$124,700
Vehicles Required:	1	Net Local Share of Costs:	\$53,900
		Provincial Share of Costs:	\$64,500

* Assumes 4 hours per day (45min travel per trip, 45min dead-head, plus extra for door-to-door pick-up/drop-off)
 **Ridership based upon an estimated 4 rides per hour informed by experience from similar BC Transit communities and informed by two-week ridership counts for the Shuswap Transit System Regional routes
 *** Based upon an average fare of \$2.50, informed by regional fares within the Vernon and Shuswap Transit Systems

Service Option 4: Weekday Commuter Service

Option 4 outlines a weekday commute service, which would be intended for Falkland residents regularly commuting to Vernon. It would include two one-way trips each weekday, including a trip from Falkland to downtown Vernon in the morning and a trip from downtown Vernon to Falkland in the late afternoon.

The service would follow a regular route (i.e. no door-to-door or flex routing) to maintain regularity and minimize trip time. It would include a small loop through Falkland, potentially including a future park-and-ride location. Suggested trip times are as follows:

- Lv Falkland 7:30 a.m., Ar Downtown Vernon 8:15 a.m.; and
- Lv Downtown Vernon 5:05 p.m., Ar Falkland 5:45 p.m.

The suggested trip times would allow passenger transfers to access Armstrong and Enderby using the Route 60 Enderby northbound trip departing Vernon at 7:45 a.m. and the southbound trip departing Enderby at 4.34pm.

As with Option 2 and 3, the costs for providing this service would include the operating costs associated with necessary service hours and vehicle lease fee costs. For the purposes of this feasibility study, it has been assumed that service for Option 4 would be operated as part of the Vernon Regional transit system and may make use of a vehicle within the Vernon system for the spare capacity requirement. However, this would still require a minimum of one vehicle to be purchased for the provision of transit service to Falkland.

Should Option 4 be pursued, discussion between BC Transit, the City of Vernon and the CSRD will be required to determine whether the ability to operate service to Falkland from the Vernon Regional Transit system would be viewed favourably and refine the associated costs and agreement.

Pros:

- Regular, predictable service;
- Provides reliable option for Falkland residents employed in Vernon;
- May also be utilized for shopping, social, or medical trips in Vernon; and
- Potential for scheduled transfers with Vernon routes.

Cons:

- Requires new vehicle and associated costs; and
- GHG emissions are not offset if ridership is low.

Initial High Level Estimate – Additional Annual Impacts			
Option 4, Weekday Commute Service			
Service Hours:	760*	Passenger Revenue:	\$5,700
Annual Ridership:	2,268**	Total Cost:	\$106,900
Vehicles Required:	1	Net Local Share of Costs:	\$45,900
		Provincial Share of Costs:	\$55,300

* Assumes 3 hours per day (45min travel per trip, 45min dead-head)

**Ridership based upon an estimated 6 rides per hour informed by experience from similar BC Transit communities and informed by two-week ridership counts for the Shuswap Transit System Regional routes

*** Based upon an average fare of \$2.50, informed by regional fares within the Vernon and Shuswap Transit Systems

Service Option Summary

The following table summarizes the estimated impacts for all service options presented above. All figures are annual and estimates that would require review based on actual date of implementation and confirmed service and operational details. Costs are also based on the service being operated under the umbrella of the Vernon Regional Transit System.

Table 1: Preliminary Estimated Additional Annual Impacts for Service Options*

Service Option	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs	BC Transit Share of Costs	Rides per hour
Option 1, Contracted Service & Vehicle	Costs would be identified and negotiated with the third party appointed via a Request for Proposals process.								
Option 2, Introductory Mid-day Paratransit	1	5,800	210	520	\$1,300	\$67,700	\$31,400	\$35,000	4
Option 3, Weekday Mid-day Paratransit	1	27,600	1,010	2,520	\$6,300	\$124,700	\$53,900	\$64,500	4
Option 4, Weekday Commute Service	1	20,700	760	2,268	\$5,700	\$106,900	\$45,900	\$55,300	6

* Based on 2012/13 budgets. Final costs may change based on final budgets and operational details.

** Vehicle requirements would be confirmed by BC Transit Fleet Standards Department as part of the implementation plan should service be pursued.

8.0 RECOMMENDATIONS

Service Option 1, Contracted Service and Vehicle is considered the most feasible service option for Falkland based on the findings of this study. This one day per week (weekly) mid-day service would provide mobility between Falkland and Vernon primarily for seniors and young adults without access to other transportation options. This service would receive funding from CSRD and BC Transit dependent upon the private contracted service options available, which would be identified through a Request for Proposals Process.

This option is recommended based on the potential transit markets, community profile, key trip generators, frequency of travel¹³, ridership, costs and level of service:

- The highest number of people surveyed travel to Vernon on a weekly basis;
- The potential transit market is primarily seniors and low-income individuals¹⁴, both groups are transit dependent and are anticipated to make use of mid-day service;
- The costs of providing a commuter service or other daily service would outweigh expected limited ridership; and
- GHG emissions would be higher for a service of 5-6 rides per hour than if potential riders were to use a private vehicle.

This indicates that transit service (provided by BC Transit as outlined in Options 2, 3 and 4) is not feasible for Falkland. In comparison, a private contracted service would potentially offer a low risk option with cost savings produced by eliminating the need for a spare vehicle, ensuring vehicle-related responsibilities (leases, insurance, or maintenance) are assumed by a third party and allowing "down time" between trips or poor utilization does not impact CSRD/BC Transit financial viability.

It is important to note that there are a limited number of similar communities in the province serviced by BC Transit, as communities of this size are difficult to service efficiently.

The weakness of Option 1 is that it is not a daily service. The implications are that residents that regularly travel to Vernon cannot rely on transit entirely and commuters are not accommodated. It is also recommended that CSRD staff work with community partners to promote and encourage use of rideshare and formal vanpool options to enhance resident travel options.

Should Option 1 be pursued, it is recommended that a 1-year follow-up study is conducted to evaluate the service, assess ridership and determine if service should continue and if any changes are required.

It is recommended that the Columbia Shuswap Regional District receive this report for information and provide comment on the recommended Option 1: Contracted Service and Vehicle.

¹³ identified through the travel survey

¹⁴ Based on Census Canada demographic data, combined with survey data.

9.0 IMPLEMENTATION CONSIDERATIONS

The following is a summary of actions that must be pursued in advance of implementing transit service.

- **CSRD support** – this report should be formally received by the Columbia Shuswap Regional District and direction provided prior to moving forward on the recommended Option 1.
- **Identification of a Suitable Third Party Provider** – if the CSRD Board is supportive of the recommended transit option and wishes to pursue implementation of service, a Request for Proposals (RFP) process should be initiated to identify a suitable third party provider.
- **Coordination with Vernon System** – the recommended Option 1 does not require coordination with the Vernon Regional Transit system. However, the implementation of Options 2, 3 or 4 would require discussion between BC Transit, the City of Vernon and the CSRD to determine whether the ability to operate service to Falkland from the Vernon Regional Transit system would be viewed favourably and to refine the associated costs and agreement. These options are not recommended.
- **Funding and Implementation Timeline** – Under the BC Transit Act, funding for public transit systems must be cost shared between BC Transit and the sponsoring local or regional government at a prescribed rate, with passenger revenues used to offset the local share of costs. This funding arrangement means that both parties must come to the table with funding before service can be implemented. For instance, if a municipality or regional government has funding for new transit services but the corresponding provincial share is not available, then service cannot be implemented.

BC Transit receives its funding on an annual basis from the provincial government. Occasionally BC Transit receives expansion requests that exceed the available expansion funding and, as such, BC transit cannot always accommodate all requests. If a commitment is made by CSRD to fund the recommended service option, the service expansion request will be included within the BC Transit expansion plan and an available timeline for implementation be determined. BC Transit uses a number of transit service performance and land use criteria to prioritize available funding for service expansions between transit systems. Therefore, moving ahead on the recommended CSRD/Falkland transit service Option 1 would require available provincial funding and sufficient ranking against other service requests.

- **Resident support** – If the CSRD Board is supportive of the recommended transit option and wishes to pursue implementation of service, a second round of public consultation should be undertaken to confirm the intent to pursue (and fund) service and refine service options, trip window schedule, and fares. The resident survey conducted for this study indicates support to fund transit using public monies, but survey responses represent only a portion of residents (~6.5%). A referendum or alternate approval process may also be required by the CSRD.
- **Detailed Implementation Plan** – Once funding is confirmed, BC Transit would work with the CSRD to create a detailed implementation plan. This plan would finalize the third party contractor, schedules or trip windows, routes or pick-up areas, and outline a strategy to market the new service.

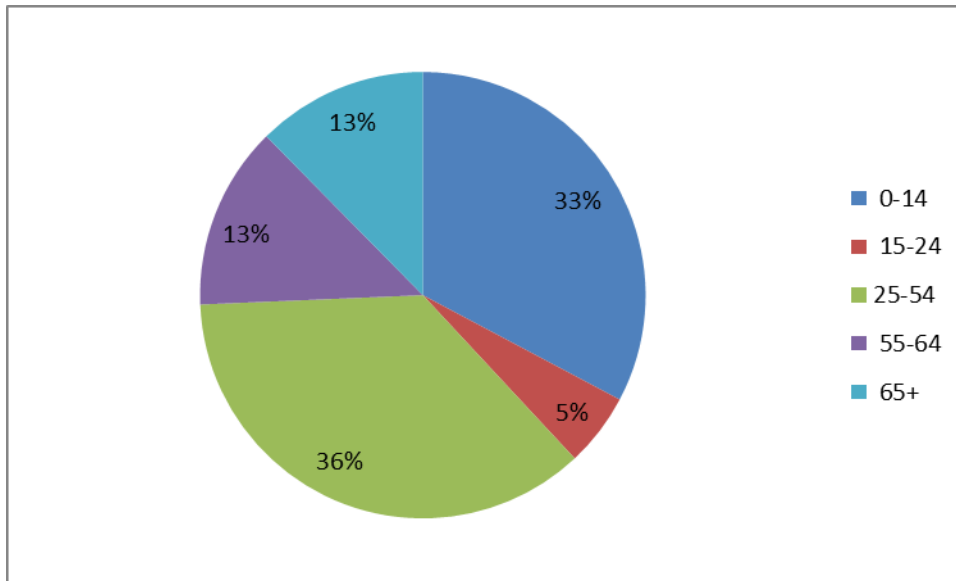
APPENDIX A: Summary of Survey

Falkland

51 completed surveys

1. How many people live in your household?

113 in total. Average= approx. 2 per household



0-14= 33% **15-24= 5%** **25-54= 36%** **55-64=13%** **65+=13%**

2. How many people in your household work full-time outside the home?

54 (48%) 1 per household

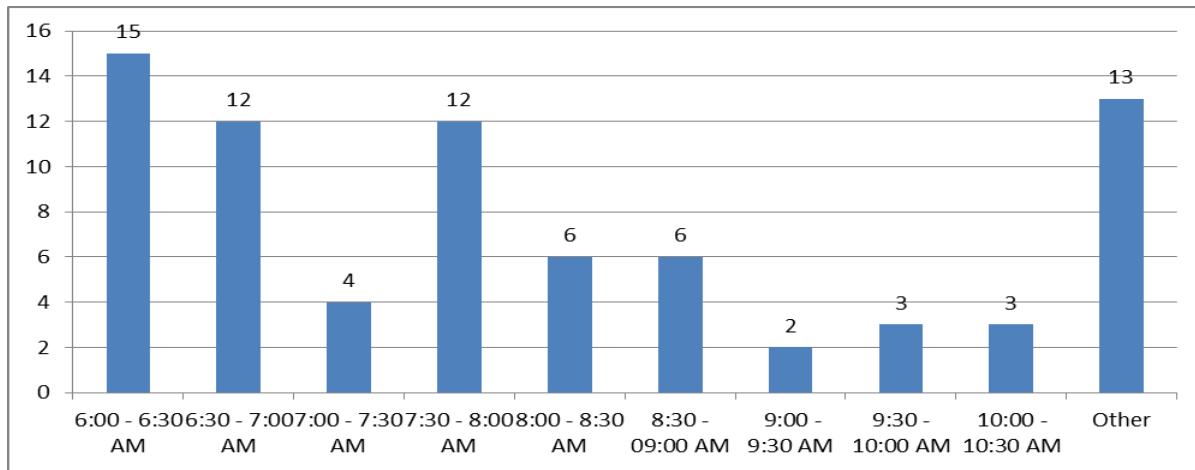
3. How many people in your household attend school full time (including post secondary) outside the home?

16 (14%) 0.3 per household

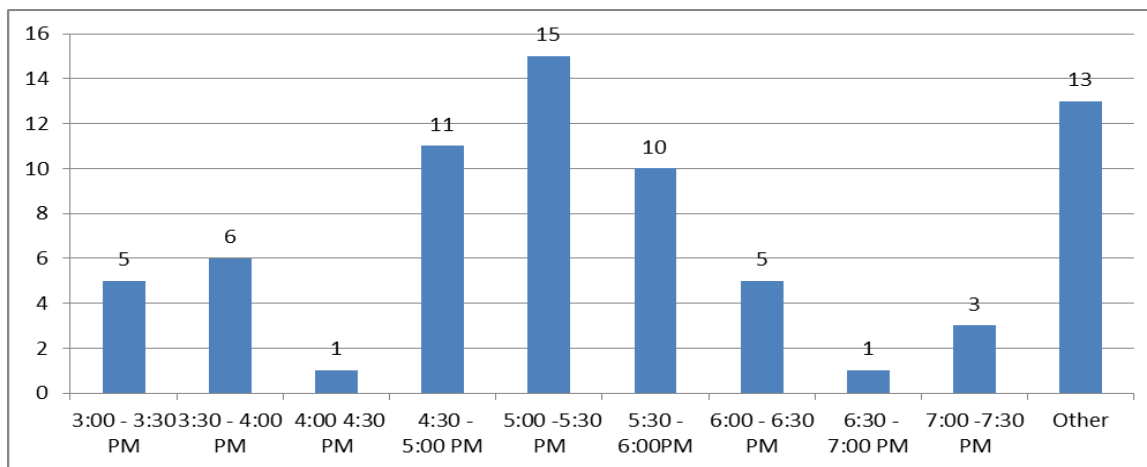
4. How many licensed, registered vehicles does your household own?

100 (2 per household)

5. Generally what time does each member of your household leave for the day?



6. Generally what time does each member of your household return for the day?



7. Where are the workplace locations for those who work full-time outside the home? Please specify the street address and community.

Vernon

Vernon x 8
 Vernon KIA, Vernon x 2
 TD Bank in Vernon and varied locations
 Kal Lake rd. Vernon
 Hospital, Vernon
 821 fairweather, Vernon

One works all over the place and couldn't take transit (hauls work trailer)

Kelowna x2

BC wide

Hwy 97 Westwald

One is in Armstrong

9746 189B Street, Langley

Golden

bush camp, Fort McMurray

Okanagan

Kamloops

Falkland

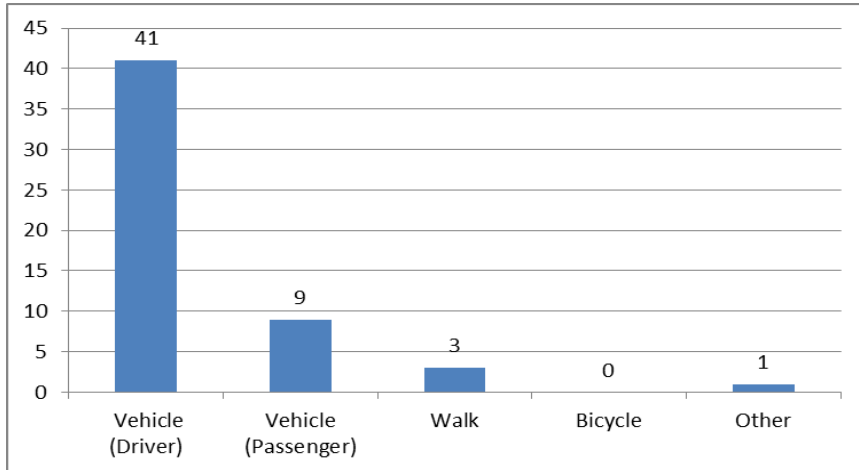
Falkland, BC x 7
 Hwy 97, Falkland x2

2477 East Transcanada hwy, Kamloops

Other

All over Shuswap, Okanagan, and some Kamloops and Kootenays.

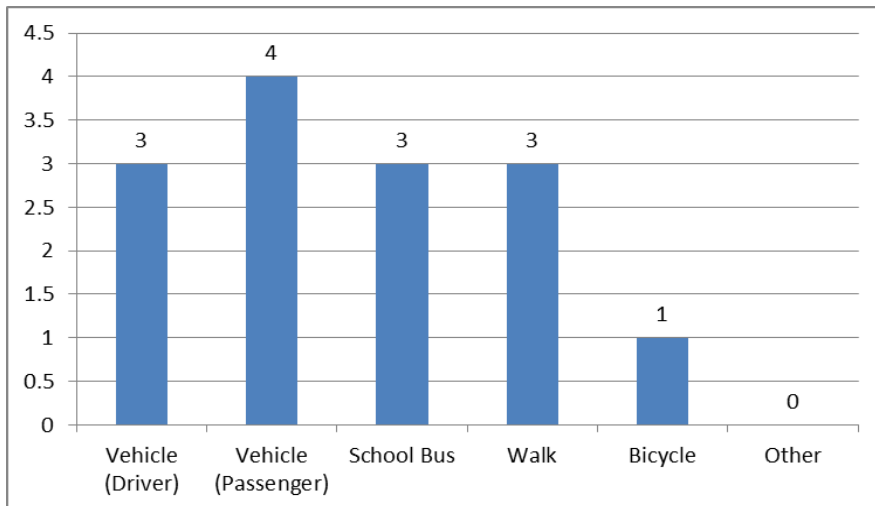
8. Of those who work full-time outside the home, what are their usual methods of getting to work?



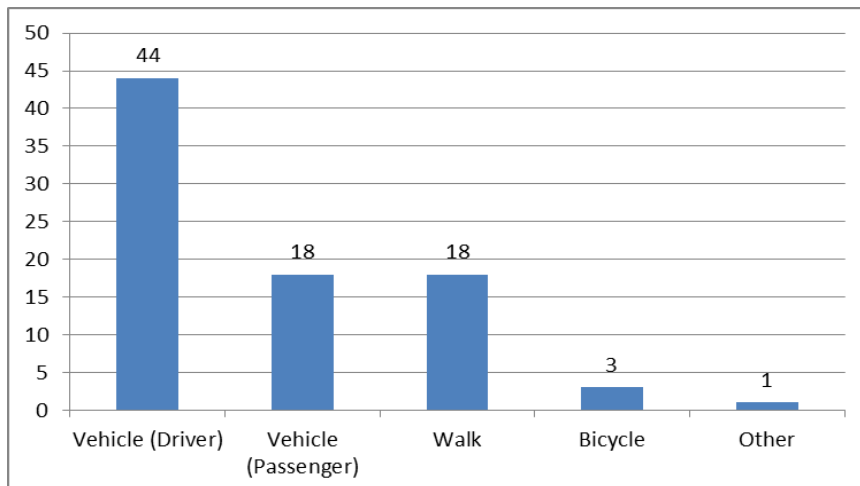
9. Of those who attend school full-time, where do they go to school?

- Falkland Elementary School x 5
- Falkland, BC x 3
- PVSS Armstrong, BC
- Armstrong
- TRU, Kamloops
- Homeschool x 2

10. Of those who attend school full-time, what is their usual method of getting to school?



11. For those who are home during the day, what is their usual mode of transportation?



12. Outside work or school, where do members of your household most often travel for shopping, recreation, medical appointments, and other errands? Please choose your top three destinations and specify the community, destination and how often.

** Note: In all locations, more frequent trips are for groceries, other shopping and general errands. Slightly less frequent trips are for the same as well as recreation. Least frequent trips are generally for medical appointments (Doctor and Dentist), medical specialists, recreation and visits. Less frequent trips are also often for shopping, it is assumed this is shopping of a different nature than the more frequent shopping trips (big box stores, or specialty shopping)*

Vernon

Vernon daily x3
 Vernon 5 times per week x2 (playgroup)
 Vernon 2-3 times per week x 11 (banking, groceries, recreation, appointments)
 Vernon 1 time per week x 21 (groceries, errands, recreation, appointments)
 Vernon 2 times a month x 2 (appointments)
 Vernon once a month x 14 (appointments)
 Vernon for shopping and errands a few times per month.
 Bloodwork in Vernon every 3 months
 Doctor in Vernon every 6 months
 The boys would go to Vernon for recreation on the weekends or pro-d days and in the summer if there were a bus.
 Vernon (undefined frequency) x 6
Total references: 63

Salmon Arm

Salmon Arm once per week x 4
 Salmon Arm for doctor bi-monthly on average.
 Salmon Arm for recreation bi-monthly.
 Salmon Arm, BC once a month or less

Salmon Arm (undefined frequency) x2
Total references: 9

Kamloops

Kamloops 1x a week
 Kamloops once per month x5
 Kamloops 3 times per month
 Kamloops (undefined frequency)
Total references: 8

Armstrong

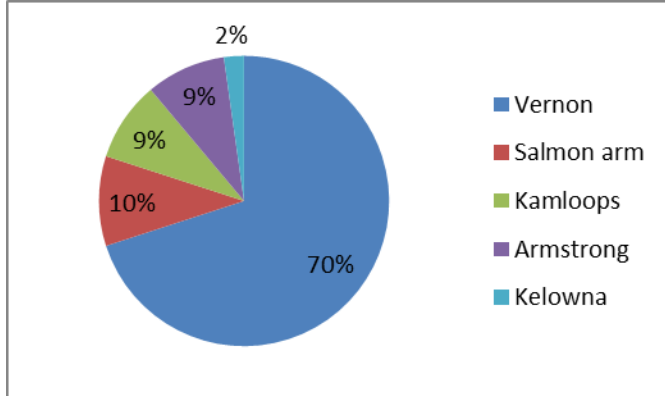
Armstrong for work occasionally, and dentist.
 Shopping in Armstrong once a week x4
 Armstrong 2 times per month
 Armstrong (undefined frequency) x2
Total references: 8

Kelowna

Kelowna once per month
 Kelowna once every 2 months
Total references: 2

Falkland

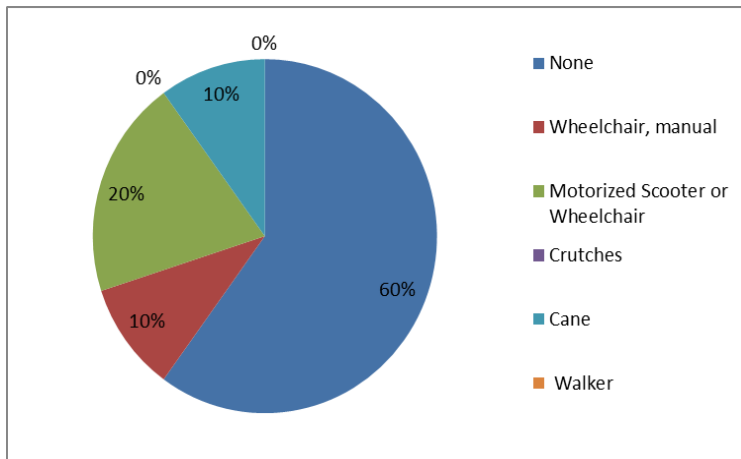
Errands in the community (Falkland)



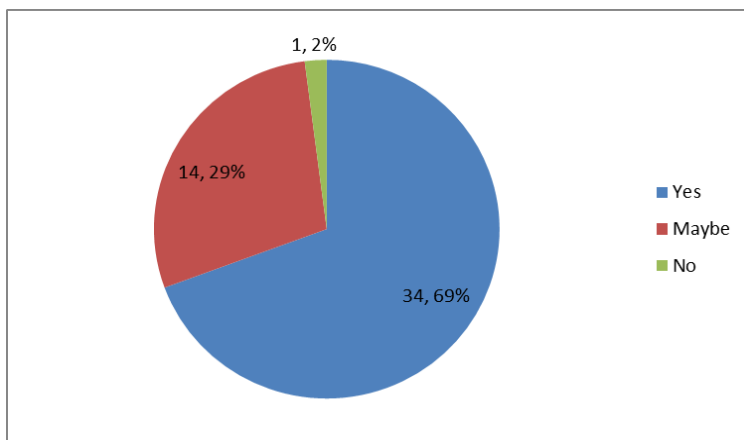
13. Does anybody in your household have a disability that requires door-to-door transportation?

4 people answered yes

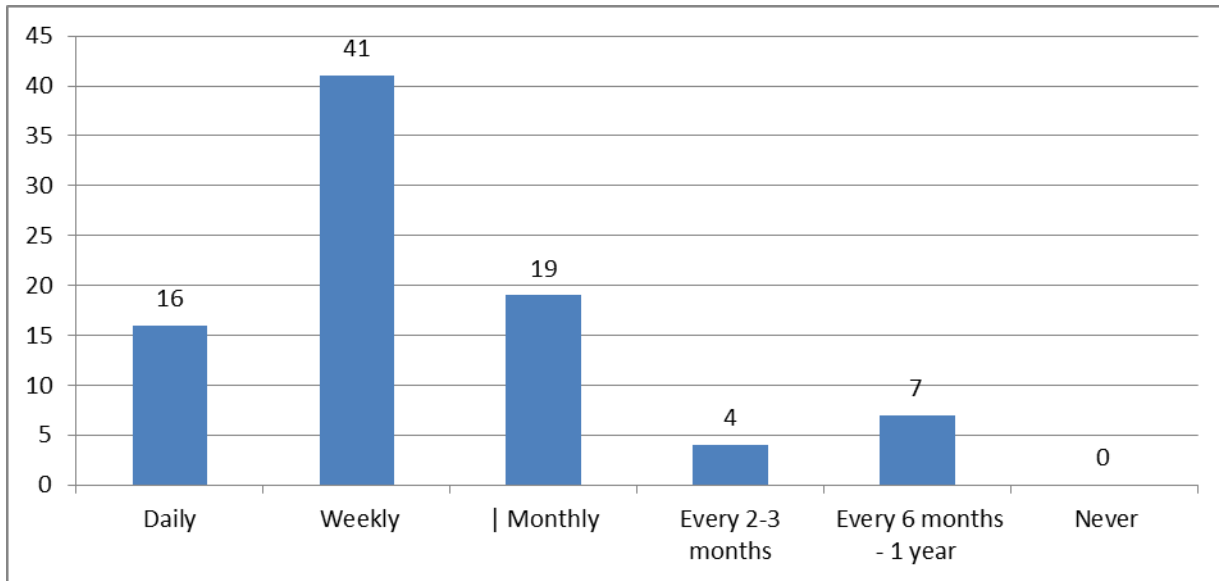
14. If yes, what types of mobility aids do they use? Please select all that apply.



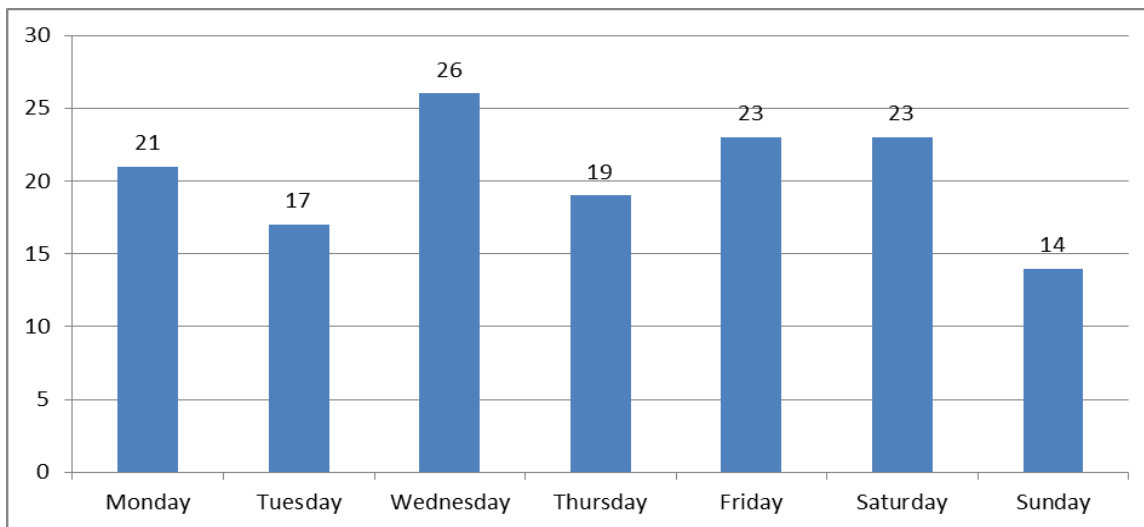
15. If public transit were provided in your area, would you or members of your household use it?



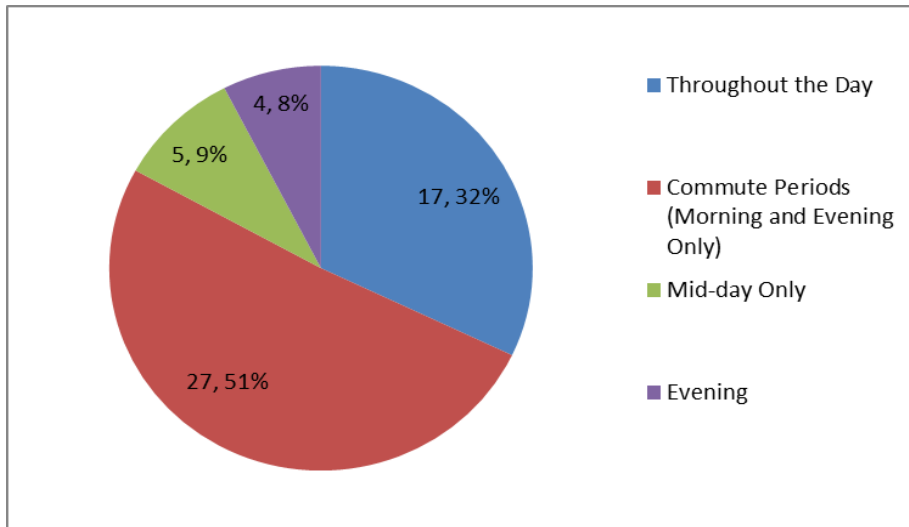
16. How often would you or members of your household use transit if it operated in your area?



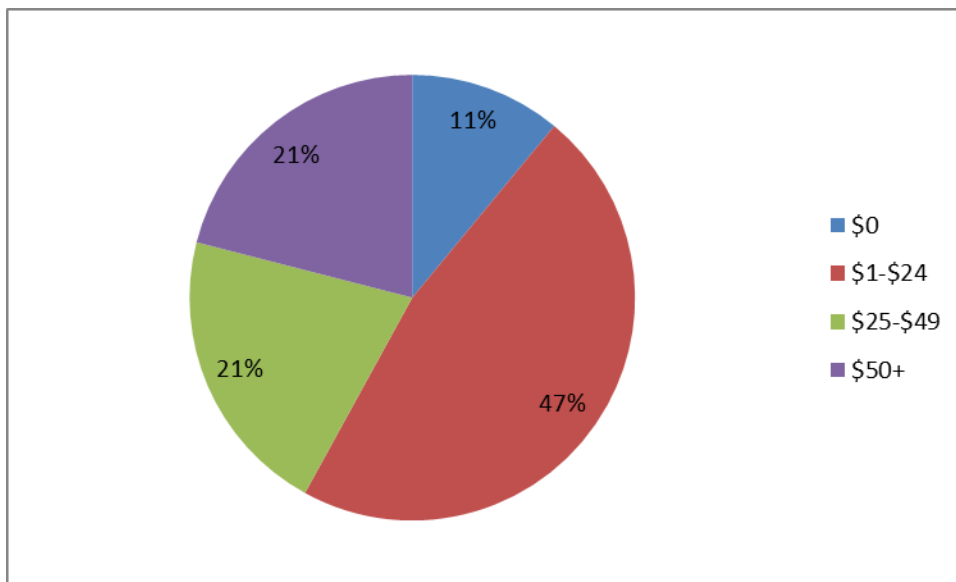
17. What days of the week would you or members of your household be most likely to use this service? Please check all that apply.



18. How often should a transit service operate if provided in your community?



19. What level of annual property tax increase would you be prepared to support in order to implement transit service?



20. Comments:

Summarised as part of the report analysis. Not included here for purposes of protecting anonymity.

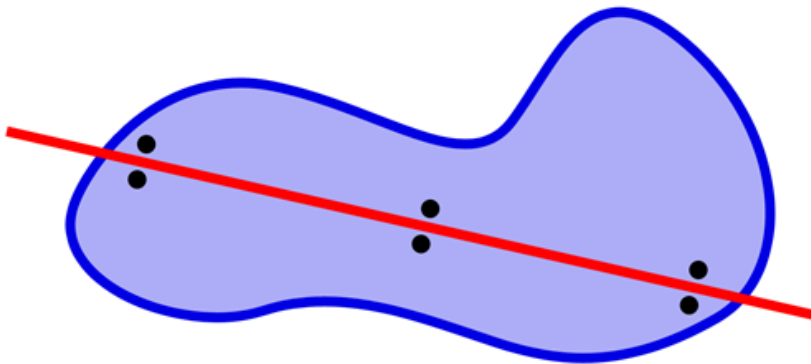
APPENDIX B: Conventional & Custom Transit Service Description

Conventional Transit

Conventional transit is the most common form of transit service and may use a range of vehicle types and sizes dependent upon a variety of factors such as ridership and terrain. Buses operate on established routes at scheduled times, stopping at designated bus stops.

The Vernon Regional Transit System operates on a conventional transit model. Figure A illustrates an idealized conventional service.

Figure A: Conventional Transit



Conventional transit services are best suited to higher-density areas with popular origins and destinations concentrated along main arteries. In these conditions, conventional service can attract sufficient ridership to support reasonably frequent service throughout the day, in evenings and on weekends. On the other hand, in many rural and lower-density areas, conventional service cannot attract sufficient ridership to be financially viable.

Where conventional transit services do operate in rural and low-density areas, they are characterized by the following limitations:

Infrequent service. A limited number of trips per day and the lengthy time between trips means that in many cases, passengers must travel earlier or later than their desired times. This might mean arriving at work 45 minutes early, for example, or waiting two hours after a medical appointment for the trip home.

Limited hours of service mean that passengers cannot return home in the evening, for example, and cannot make trips on the weekend. A teenager using the service to travel to a job after school would not be able to use transit to return home in the evening, and service would not be available on Sunday to take people to church.

Limited coverage. A conventional transit service on a fixed route can only cover a small part of a large rural or low-density area. Many residents will be beyond a reasonable walking distance to a bus stop, which for most people is 400 m or about a 5-minute walk.

One example of a “non-conventional” feature of Conventional Service would be a route where passengers may flag down buses at points along the route where the bus can safely pull off the road. An example of this would be the Lake Cowichan Route 7 service.

Custom Transit

Custom transit is provided in systems with existing conventional service. HandyDART is a door-to-door, on-demand custom transit service for people who are unable to use the conventional transit system unassisted either some or all of the time. It is generally provided to registered users who live in areas within 1.5 kilometres of the conventional system routes. Potential customers must register for handyDART. To determine eligibility, handyDART considers medical conditions as well as limitations in mobility, agility, sensory or cognitive skills.

Taxi-based Service Concepts

Taxi Supplement

Taxi Supplement is a service where a privately owned taxi is dispatched through the transit operator when the regular custom (handyDART) service is not available. For instance, this may occur when a passenger takes handyDART to an appointment which finishes after the handyDART service has ended and so the Taxi Supplement Program enables the passenger to return home after their appointment.

In general, Taxi Supplement trips are dispatched to a taxi operator and are operated using the taxi company’s private vehicle(s). Passengers using the service pay a standard custom transit fare (which covers a portion of costs), with the remaining portion paid by local transit funding partners. The cost of service may either be a metered amount or on a per-trip or per-hour amount, depending upon the contract established between the taxi operator and transit operator.). Many BC Transit systems use taxi supplement to complement their custom (handyDART) service e.g. Vernon and Kelowna.

A key benefit of Taxi Supplement service is that funding partners are not directly responsible for funding vehicle leases, insurance, and maintenance. It can also be a more economical way of delivering service since funding partners do not have to pay for “down time” between trips.

On the other hand, Taxi Supplement programs can be harder to monitor and control in terms of customer service and integration within a transit system. The funding partners may have less control over the physical condition of vehicles used and whether or not they are accessible to people using wheelchairs and scooters. Also, at some point enough trips are carried that it is actually more feasible to pay a driver for a number of hours of work.

Taxi Saver

The Taxi Saver program provides eligible handyDART clients¹⁵ with a 50% subsidy towards the cost of taxi rides. Eligible individuals purchase an \$80 package of Taxi Saver coupons once per month at a cost of \$40. The coupons come in denominations of \$1, \$2 and \$5. Registered users would typically use subsidized Taxi Saver coupons to travel by taxi when handyDART cannot accommodate their needs. The handyDART client uses the coupons to pay the dollar meter rate of taxi fare. For example, if a taxi fare is \$5.80, the passenger pays \$5.00 in coupons and 80 cents in change (taxi drivers do not give change on Taxi Saver coupons).

The Vernon system offers a Taxi Saver program to complement handyDART services. The key benefit to the Taxi Saver Program is that it offers flexibility for passengers to travel when they

¹⁵ HandyDART provides door-to-door pre-booked transportation for people with a disability. More information available at: www.bctransit.com/regions/rev/accessible/door_to_door.cfm

want and can help support taxi providers in a community, thereby assisting in keeping them viable to provide Taxi Supplement services.

One challenge with the program is that it is harder to monitor usage and that, particularly in smaller communities; it may undermine other transit services since some people will use Taxi Savers exclusively without supporting the shared-ride transit system. Also, the Taxi Saver program is typically misunderstood to be a subsidy program for any senior when it is actually only available for people with a disability who are unable to use the regular transit system (many of whom may be seniors) and are registered with the program.

APPENDIX C: Transit Service in Comparable Communities

Community and Land Area sq.km	Population	Population Density per sq. km	Description of Service	Buses	Annual Revenue Hours (2011/12)	Annual Ridership (2011/12)	Total Operating Cost/Hour (2011/12)
Falkland	800		n/a	n/a	n/a	n/a	n/a
Kaslo 2.48	1,567 for service area population (the AOA service area boundary includes a population up to 2,439)	413.6	3 routes. Weds and Thurs route from Kaslo to surrounding areas and return. Fri: Local bus service in Kaslo and surrounding area. On-Demand, reservation required. Flex pick up and drop off.	1	594	1,913	\$82.65
Bella Coola 15.24	940 for service area population (the AOA service area boundary includes a population of 3,161)	55.9	1 route along main HWY. Mon-Sat: 7:30a.m.-6:30p.m. Six scheduled trips a day, with remaining service as Dial-a-Ride service. "Shared-ride" system, other passengers are picked up and dropped off en-route.	2	3556	18,179 rides	\$64.30
Port Edward 168.01	4,172 for service area population (the AOA service area boundary includes a population of 13,052)	3.2	1 bus route connecting Port Edward and surrounding area to Prince Rupert via small town of Portage. Mon-Fri: 7 trips per day from 7:00 a.m to 10:00 p.m. Sat: 6 trips per day 9:00a.m-10:00 p.m.	1	2155	33,179 rides	\$121.20