

Shuswap Transit System

Service Discussion Report



August 2013

City of Salmon Arm
Columbia Shuswap Regional District



Document Control Sheet

Name	Position	Organization	Version	Date Completed/Received
Rebecca Newlove	Senior Transit Planner	BC Transit	Draft	August 9, 2013
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Steve Harvard	Senior Regional Transit Manager	BC Transit	Draft	August 9, 2013
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Robert Niewenhuizen	Director of Engineering & Public Works	City of Salmon Arm	Draft	August 9, 2013
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Executive Summary

The 2010/11 Shuswap Regional Transit System Service Review proposed nine short term service improvements and three future service options. This Service Discussion Report has been initiated following a request by the City of Salmon Arm to explore the impacts of achieving the options for additional timing on Routes 1, 2 and 3 at no additional cost (service hours). Further, in March 2013, the City of Salmon Arm requested that the costs and impacts of providing transit service to Farmcrest Foods Ltd., be explored. Recent information was also provided in early May 2013 relating to the expected completion date for the Walmart at the SmartCentres site in west Salmon Arm. Given the preference to introduce transit service to the new Walmart in line with the expected completion date, along with the requests for additional options and the time lapse since the original service review, further data collection and analysis was considered appropriate to update the original recommendations and associated resource requirements and present those in this Service Discussion Report.

Section 1: City Routes

Data analysis indicated that Route 2: College-Hillcrest has the highest ridership, followed closely by Route 1: West Loop and then Route 3: Canoe. The peak time of day for service is between 10am and 2.30pm on Route 1, at 8am (serving school children and employees) and then between 11am and 3pm for Route 2, and on the 7:20am and the 12:20pm trip for Route 3, which again reflects a commuter service as well as recognizing the use of this route to access the beach.

The timing for each route was compiled during the ride check data collection in July 2013. This data clearly identified issues with timing and reliability of service and confirmed the need for additional time to be allocated to the transit system. Based upon this data, it is recommended that Routes 1 and 2 be re-scheduled to accommodate an additional 3 minutes per trip on Route 1, an additional 4 minutes per trip on Route 2 and no additional time on Route 3. Albeit this time is less than that recommended in the 2010/11 Service Review, the regular delays experienced in the transit system are often a result of key events that happen on specific trips, such as multiple wheelchair loadings, higher ridership in summer due to children riding free, or construction. Therefore, rather than allocating unwarranted time within a trip, which may require drivers to wait at stops to ensure they are not early when there are no key events delaying the trip, it is proposed that these delays would be accommodated by adding additional 'recovery time' to the end of the trip.

Recovery Time is a planned time allowance between the arrival time of a just completed trip and the departure time of the next trip in order to allow the route to return to schedule if traffic, loading or other conditions have made the trip arrive late.

Recovery Time is a concept that is included in all transit scheduling and there is currently insufficient allocated to the Salmon Arm system. Therefore, by adding the smaller amount of additional trip time to Routes 1 and 2 and also including additional recovery time in the schedule for all routes, the system should perform more reliably and more easily accommodate delays.

Route 5: Shoppers Shuttle

Four options were developed for re-scheduling the system to accommodate this extra route and recovery time and to include service to the new Walmart. These options were based upon the ridership and system data and analysis, discussions with the operator and the recommendations of the 2010/11 report. The annual financial impacts associated with these options are outlined in Table A and the key benefits and disadvantages of each are outlined in Table B.

Option 1 presents the preferred service changes with the greatest wins and long term gains for ridership through the provision of a new Route 5: Shoppers Shuttle and the necessary additional time allocated to existing routes and for recovery. This option retains the same level of service (frequency and number of trips) on the existing routes and also retains clock-face headway on all routes:

Clock-face headway is when the transit service operates at regular and evenly-spaced time intervals. This enables riders to remember trip times easily without requiring a schedule.

Currently, Routes 1, 2 and 3 have clock-face headway as they run on the hour and half hour (Routes 1 and 2) or every 20minutes passed the hour (Route 3). Option 1 also enables sufficient time for the Route 5: Shoppers Shuttle to serve Piccadilly Place directly at the mall entrance.

The costs have been significantly reduced in Option 2 by reducing the frequency of service on Routes 1 and 3 (service every 75minutes) and including considerable cuts to the number of trips on Route 1 on weekdays. No additional vehicle would be required. However, the reduced frequency on Routes 1 and 3 will result in a schedule where Routes 1 and 3 are no longer on clock-face headway and span a longer time period. Reducing service frequency and cutting service to this level may result in a significant reduction in ridership and customer satisfaction.

Similarly, Option 3 reduces the frequency of service on Routes 1 (service hourly) and Routes 2 and 3 (service every 80 minutes). In this option, Route 1 will remain on clock-face headway but Routes 2 and 3 would no longer be on clock-face headway. Given the potentially significant negative impact on ridership that would result from the service changes outlined in Options 2 and 3, these are not recommended for implementation.

In comparison to Options 2 and 3, the costs for Option 4 have been significantly reduced by reducing the frequency of service on Route 1 (service every hour) and by reducing the coverage of Route 1 so that less time is required to complete a return trip. Two route re-alignments have been explored, in the first, route A, three key areas of the route would be cut in order to save time:

1. Route 1 will no longer go into Piccadilly Place mall but will continue on 10 St SW and serve the mall via the stop located near Parkhaven Place. This would require a new bus shelter.
2. The return loop serving Centenoka Mall on 5 St SW prior to returning downtown via 3 St SW would be re-structured so Route 1 continues on 5 St SW directly past Centenoka Mall with a new on-street bus stop and shelter.
3. The loop on Foothills Rd SW and 12 St SW would be reduced and Route 1 would turn right on Foothills Rd SW and 10 St SW instead.

Alternatively, route B provides a new Route 1 option that continues to serve Piccadilly Place mall entrance but removes a large section of the route at Foothill Rd SW and 10 St, albeit this is an area of lower ridership. Whilst these service reductions are likely to negatively impact customer satisfaction, they enable the saving of sufficient time to allow Route 2 and Route 3 to remain on the same level of service (number of trips and frequency). In addition, all routes will remain on clock-face headway. Therefore, it is considered that Option 4 will negatively impact ridership to a lesser extent than Options 2 and 3. However, removing service directly to the mall entrance at Piccadilly Place will have a negative impact on current riders and a significant negative impact for those with mobility difficulties. Further, it should be noted that whilst additional trip time and recovery time is allocated to the system in this option, the recovery time is less than that provided in Option 1. Therefore, should Option 4 be implemented, it is recommended that service time, delays and reliability be monitored and reviewed over a period of a year.

It is also recommended that additional revenue hours be allocated to Route 4 to enable this route to deviate into the Walmart car park on inbound and outbound trips to safely serve the site.

Table A: Summary of Service Changes for Route 5: Shoppers Shuttle

Service Option	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs*	Net Local Share of Costs*	BC Transit Share of Costs*
Shoppers Shuttle Option 1	1	75,800	3,090	15,931	\$21,000	\$281,000	\$114,800	\$145,200
Shoppers Shuttle Option 1b <i>(would be an addition to Option 1)</i>	0	17,000	690	4,156	\$5,500	\$51,000	\$19,100	\$26,400
Shoppers Shuttle Option 2	0	19,900	810	0	\$0	\$59,900	\$28,900	\$31,000
Shoppers Shuttle Option 3	0	17,700	720	0	\$0	\$53,200	\$25,700	\$27,500
Shoppers Shuttle Option 4	0	2,700	110	0	\$0	\$8,200	\$4,000	\$4,200
Additional Time Route 4 to SmartCentres	0	1,500	60	410	\$500	\$4,500	\$1,700	\$2,300

* Based on preliminary 2013/14 budgets. Final costs may change based on final budgets and confirmation of operational details.

** The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date. Annual lease fee costs used in these estimates for a custom Light Duty Vehicle is \$50,400, for a Medium Duty Vehicle is \$52,100 and for a Heavy Duty Vehicle is \$73,200.

Service to Farmcrest Foods Ltd.

Several options to serve Farmcrest Foods, 1880 30 St SW, were explored. Insufficient ridership would be generated to warrant amendments to the existing transit system to provide service directly to this location. Attempts to serve marginal ride generator locations more often than not result in negative impacts on system wide ridership and efficiency due to the existing time riders would have added to their trip. Such changes would require a specific trip to Farmcrest to meet shift times, or significant changes to the existing route structure and schedule, which would result in increased costs and potentially negative impacts on ridership and be unlikely to serve the general Salmon Arm population.

However, the introduction of service on the Route 5: Shoppers Shuttle will provide a bus stop at Walmart, which is in close proximity to Farmcrest Foods (700m north). This is considered a suitable transit service option for Farmcrest Foods, rather than providing direct service to that location, given the expected low trip generators on 30 St SW. Option 1 will not enable the first early shift time to be met. However, other Farmcrest shift start and end times would be accommodated by the Route 5: Shoppers Shuttle, albeit employees may arrive early due to the service being hourly. Should the demand for early service on the Route 5: Shoppers Shuttle develop over time, the additional resources identified in Option 1b could be considered for future implementation. This would include early morning service to Walmart that would address the first shift transit expectations of Farmcrest Foods.

Additional Route Re-structure

A new realignment is recommended for Route 1: West Loop should the Route 5: Shoppers Shuttle be implemented. This would be to route trips up 5 St SW instead of 3 St SW to serve the west entrance to Centenoka Mall and continue to Hwy 1 on 5 St SW. This will increase the direct nature and efficiency of the route and the east entrance of Centenoka Mall would now be served by Route 5. As outlined in the 2010/11 service review, a re-alignment is also recommended for Route 3: Canoe in order to provide more direct service from downtown to the hospital and medical centre and remove a section of the route with low ridership by Lakeshore Road and 20 Av NE. This would not impact the route timing and no additional service hours would be required for these changes to be implemented.

Table B: Summary of Benefits and Disadvantages for Route 5: Shoppers Shuttle Service Change Options

Service Proposal	Description	Key Benefits	Disadvantages
Option 1	Addition of Route 5: Shoppers Shuttle with additional trip time and recovery time allocated to Routes 1, 2 and 3.	<ol style="list-style-type: none"> 1. Frequency of service on all routes remains unchanged – ridership is unlikely to be negatively affected. 2. All routes remain on clock-face headway – supports ridership. 3. Additional trip time on Routes 1, 2 and 3 and additional recovery time – increases reliability of service. 4. Route 5 would be able to serve Piccadilly Mall entrance. 5. Good route connections other than Route 3 with Route 5. 	<ol style="list-style-type: none"> 1. Cost – requires an additional bus and 3,090 annual service hours.
Option 1b	Would be an addition to Option 1: <ul style="list-style-type: none"> • Additional early morning trips on Routes 2, 3 and 5 to serve 7am Walmart and Farmcrest shift time 	<ol style="list-style-type: none"> 1. Routes 2, 3 and 5 provide service to employees for 7am start. 	<ol style="list-style-type: none"> 1. Cost – requires additional 690 annual service hours on top of Option 1 costs (3,780 hours total). 2. There is no definitive market established for an early trip and ridership may be low.
Option 2	Addition of Route 5: Shoppers Shuttle with additional trip time allocated to Routes 1, 2 & 3. Route 1 reduced from 30min to 75min frequency losing 11 trips on weekdays & 11 on Sat. Route 3 reduced from 60min to 75min frequency losing 1 trip on weekdays. Route 2 gains 1 trip on weekdays & Sat. Service time span increases.	<ol style="list-style-type: none"> 1. Cost – does not require an additional bus and only requires approximately 810 annual service hours. 2. Additional trip time on Routes 1, 2 and 3 – increases reliability of service. 3. Routes 2 and 5 provide service to employees for 7am start. 	<ol style="list-style-type: none"> 1. Significantly reduced frequency and trips on Routes 1 and 3 is likely to negatively impact customer satisfaction and ridership. 2. Routes 1 and 3 will no longer be on clock-face headway, which is likely to negatively impact ridership further. 3. Routes 1 and 3 do not connect well to the Route 5: Shoppers Shuttle.
Option 3	Addition of Route 5: Shoppers Shuttle with additional trip time allocated to Routes 1, 2 and 3. Route 1 is reduced from 30min to 80min frequency losing 10 trips on weekdays and 9 trips on Saturdays. Routes 2 and 3 are reduced from 60min to 80min frequency losing a total of 3 trips on weekdays and 4 trips on Saturdays between the two routes. Service time span increases.	<ol style="list-style-type: none"> 1. Cost – does not require an additional bus and only requires approximately 720 annual service hours. 2. Additional trip time on Routes 1, 2 and 3 – increases reliability of service. 3. Routes 2, 3 and 5 provide service to employees for 7am start. 	<ol style="list-style-type: none"> 1. Significantly reduced frequency and trips on Routes 1 and 3 is likely to negatively impact customer satisfaction and ridership. 2. Reduction of trips on Route 2 is also likely to negatively impact customer satisfaction and ridership. 3. Routes 1, 2 and 3 no longer on clock-face headway, which reduces ease of use and may negatively impact ridership. 4. Route 2 & 3 do not connect well to Route 5: Shoppers Shuttle.
Option 4	Addition of Route 5: Shoppers Shuttle. Additional route time and recovery is added to the system. Route 1 is reduced from 30min to 60min frequency losing 10 trips on weekdays and 9 trips on Saturdays. Route 1 is restructured to remove sections of the route to save time for recovery. No cuts in frequency or service to Routes 2 or 3.	<ol style="list-style-type: none"> 1. Cost – does not require an additional bus and only requires approximately 110 annual service hours. 2. Frequency of service on Routes 2 and 3 remains unchanged – ridership is unlikely to be negatively affected. 3. All routes remain on clock-face headway – supports ridership. 4. Good route connections other than Route 2 with Route 5. 5. The restructuring of Route 1 at Centenoka Mall will increase efficiency of the route and reliability of service. 	<ol style="list-style-type: none"> 1. Reduced frequency on Route 1 may negatively impact customer satisfaction and ridership; but this may be offset by addition of Route 5 that duplicates part of Route 1 area. 2. Route A - restructuring Route 1 to no longer serve Piccadilly mall entrance may negatively impact customer satisfaction, particularly as this is a high ridership stop. 3. Route B - restructuring Route 1 to remove a large section on Foothill Rd SW and 10 St will reduce service area covered albeit there is low ridership at this location. 4. Less recovery time is allocated to the system than Option 1. 5. No service for employees on a 7am shift start time.

Section 2: Regional Routes

Additional ridership data was collected over a four week period in June for the Shuswap Transit System regional routes. This data was used alongside discussion with the operator and data from the 2010/11 Service Review to update the recommendations related to regional routes. Due to low ridership, it is recommended that Route 10: Salmon Arm-Silver Creek be eliminated, that the inbound and outbound Deep Creek loop portion of Route 11: Salmon Arm-Deep Creek-Enderby be eliminated, that the Sunnybrae portion of Route 12: Salmon Arm-Eagle Bay via White Lake be eliminated and that the Buckley Road and Cobeaux Road segments of Route 13: Salmon Arm-Sorrento via Blind Bay be eliminated.

The proposed changes were presented to the Columbia Shuswap Regional District (CSRD) for information and to receive their feedback regarding any required changes prior to presenting these to the City of Salmon Arm. It was made clear that any changes would need review and discussion with the City of Salmon Arm prior to implementation in order to fully understand potential impacts to the Annual Operating Agreement and cost sharing with the CSRD. The CSRD has since communicated with both BC Transit and the City of Salmon Arm to confirm that they have no objections to the recommendations as described. It should be noted that additional work will be required to determine cost implications of the recommended service reductions to the City of Salmon Arm.

Recommendation

It is recommended that the proposed timeline and resources associated with the Service Change options be reviewed and Option 1 be considered for approval by the City of Salmon Arm Council. In addition, it is recommended that the proposed re-alignment of Route 1 and Route 3 and the additional time required to serve Walmart by Route 4 be reviewed and considered for approval by the City of Salmon Arm. A marketing and public awareness exercise should be conducted on the approved option prior to implementation.

Should funding be limited, Option 4 presents service changes that meet the required additional time for the system as well as service to Walmart via a Route 5: Shoppers Shuttle with some negative impacts on ridership and customer satisfaction. In particular, removing service directly to the mall entrance at Piccadilly Place will have a negative impact on current riders and a significant negative impact for those with mobility difficulties. In addition, Option 4 reduces service on Route 1, which may reduce ridership and there is less recovery time allocated to the system in comparison to Option 1, which may result in some continued issues with system reliability. However, the impacts associated with Option 4 are considered less than those outlined in Options 2 and 3, and may be addressed to some degree by identified mitigation measures. Options 2 and 3 are not recommended for implementation.

Following approval of the service change option or direction by Council regarding which options to pursue for public consultation, the implementation timeline would be confirmed and agreed between the City of Salmon Arm and BC Transit. It is recommended that all service changes (city and regional) are implemented together in order to minimize the impact on riders. An engagement exercise would be required to inform the public of the proposed changes prior to implementation. Changes to the regional routes would be included as part of the public engagement exercise and BC Transit would collaborate with the CSRD and the City of Salmon Arm in the public engagement arrangements.

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Introduction

The 2011 Shuswap Regional Transit System Service Review, received for information by the City of Salmon Arm and the Columbia Shuswap Regional District in 2011, proposed nine short term service improvements and three future service options. These proposed enhancements were based on data analysis, discussion with the City of Salmon Arm and feedback from the operator, First Group. Table 1 provides a summary of the proposed short term options and the additional resources required for implementation.

Table1: Summary of 2010/11 Service Review Short Term Options

Option	Route	Description	Estimated Hours Required
1	Route 1 West Loop	Requires extra 6 minutes to complete	757 hours/year
2	Route 2 College/Hillcrest	Requires extra 5 minutes to complete. One stop at College and Recreation Centre	339 hours/year
3	Route 3 Canoe	Requires extra 5 minutes to complete. Reroute through Salmon Arm en-route to Canoe to increase ridership.	232 Hours/year
4	Route 10 Salmon Arm – Silver Creek	Remove from system due to poor ridership	Hours/year savings estimate: 88
5	Route 11 Salmon Arm – Deep Creek - Enderby	Eliminate the outbound Deep Creek loop portion of the route and travel directly to Enderby. Consider a short deviation off the highway to pick up the regular customer inbound to Salmon Arm.	Hours/year savings estimate: 21
6	Route 12 Salmon Arm – Eagle Bay via White Lake	Eliminate Sunnybrae and Blind Bay to Eagle Bay route portions.	Hours/year savings estimate: 104
7	Route 13 Salmon Arm – Sorrento via Blind Bay	Eliminate the Buckley Road and Corbeaux Road portions of this route.	Hours/year savings estimate: 7
8	Shoppers Shuttle	Service linking Downtown, new Wal-Mart Supercenter, Piccadilly Mall, and Centenoka Mall	Hours/year: 1,602
9	Route 4 Pierre's Point	Requires approx. 4 additional minutes to pick up and drop off at Wal-Mart.	60 hours/year
Total Hours Required for Improvements & New Route			2,770

This Service Discussion Report has been initiated following a request by the City of Salmon Arm to explore the impacts of achieving Options 1, 2 and 3 at no additional cost (revenue hours). Further, in March 2013, the City of Salmon Arm requested that the costs and impacts of providing transit service to Farmcrest Foods Ltd., 1880 30 St SW Salmon Arm, be explored. Recent information was also provided in early May 2013 relating to the expected completion date for the Walmart at the SmartCentres shopping centre in west Salmon Arm. Given the preference to introduce transit service to the new Walmart in line with the expected completion date, this will impact recommended Option 8. Given the time lapse since the service review was finalized, additional data collection and analysis was also considered appropriate to confirm the recommendations pertaining to regional service outlined in Options 4, 5, 6 and 7.

As such, this Service Discussion Report is divided into two sections. Section 1 provides an update and additional analysis on those options related to the City of Salmon Arm, specifically Options 1, 2, 3, 8 and 9 as well as addressing the impacts of serving Farmcrest Foods Ltd. Section 2 of this Service Discussion Report provides an update and additional analysis on those options related to the Columbia Shuswap Regional District, namely Options 4, 5, 6 and 7. The future service change options outlined within the service review for long term consideration are not addressed within this report.

Service Discussion Report Objectives

The objectives for each section are outlined below:

Section 1: City of Salmon Arm Options

1. Provide an update of the current ridership analysis and transit system performance for the Shuswap System City of Salmon Arm Routes.
2. Identify impacts and outline proposed schedule changes related to implementing the required additional time to Routes 1, 2 and 3 within existing revenue hours.
3. Identify impacts and outline proposed schedule changes related to implementing the Shoppers Shuttle service in addition to the additional time to Routes 1, 2 and 3 within existing revenue hours.
4. Identify the costs and impacts of providing transit service to Farmcrest Foods, 1880 30 St SW Salmon Arm.
5. Identify any additional recommendations to increase service efficiency.
6. Develop a timeline for implementation and associated public notification for service changes.

Section 2: Regional Service Options

7. Provide updated ridership information and associated analysis to confirm or amend the recommended options on regional service from the 2011 service review.
8. Develop a timeline for implementation and associated public notification for service changes.

Section 1: City of Salmon Arm Options

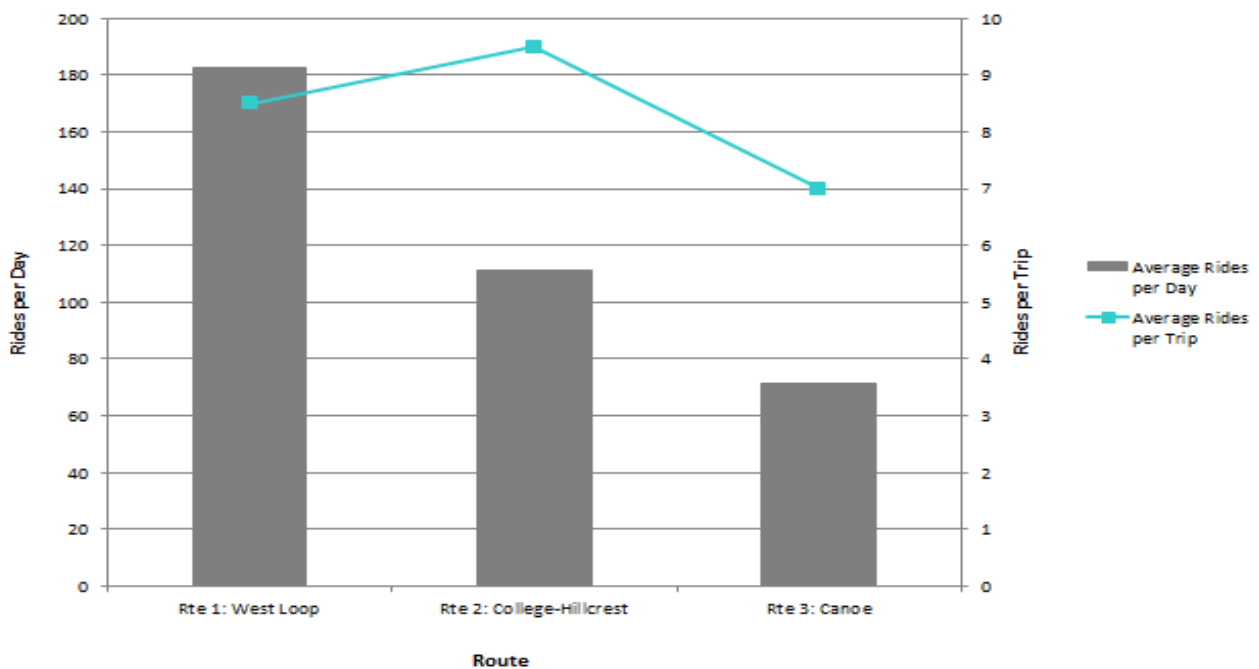
1.0 Updated System Analysis

On board Passenger Count Data was collected for Routes 1, 2 and 3 over a two week period in March 2013 and supplemented by additional data in July 2013. Information was also collected over a three week period on route timing performance. This data provided information on boardings and disembarkings per trip, total route ridership, ridership on specific route sections, ridership type and trip timing. It should be noted that these results reflect ridership specific to a snapshot period of time. Ridership can vary due to different factors such as time of year and weather. As such, this data was used as an indication of system performance along with a variety of other data in order to develop the service options outlined in Section 2.

1.1 System Ridership

The data indicated that the route with highest ridership is Route 2: College-Hillcrest with an average of 10 rides per trip. This was followed closely by Route 1: West Loop with an average of 9 rides per trip and then Route 3: Canoe, with an average of 7 rides per trip. However, Route 1 has greater frequency of service and almost double the number of trips per day in comparison to Routes 2 and 3. Therefore, Route 1: West Loop has an average of 183 rides per day in comparison to Route 2: College-Hillcrest with an average of 112 rides per day, and then Route 3: Canoe with an average of 72 rides per day. Weekday ridership by day and by trip is represented in Figure 1.

Figure 1: Average Rides per Day and per Trip by Route



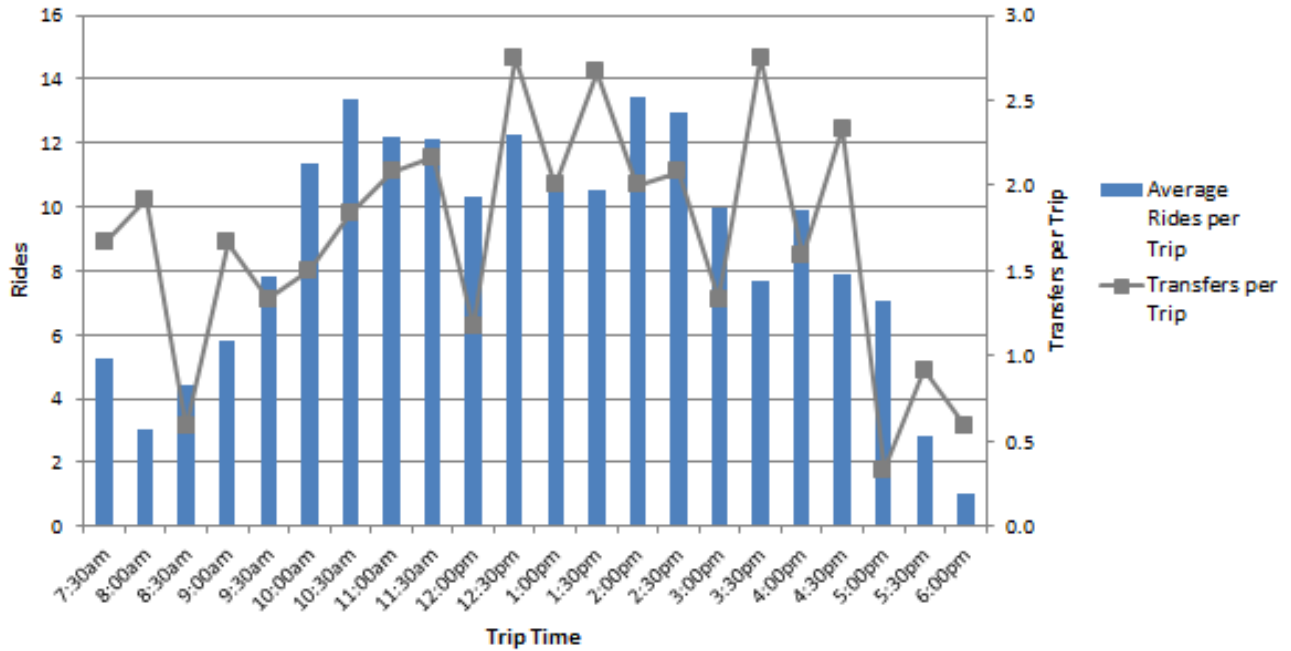
1.2 Ridership by Route

1.2.1 Ridership by Route and Time of Day

The peak time of day for Route 1 is between 10am and 2.30pm as shown in Figure 2. Ridership is primarily adults (including college students) (37%) and BC Buss Pass (37%) with 23% of rides by seniors

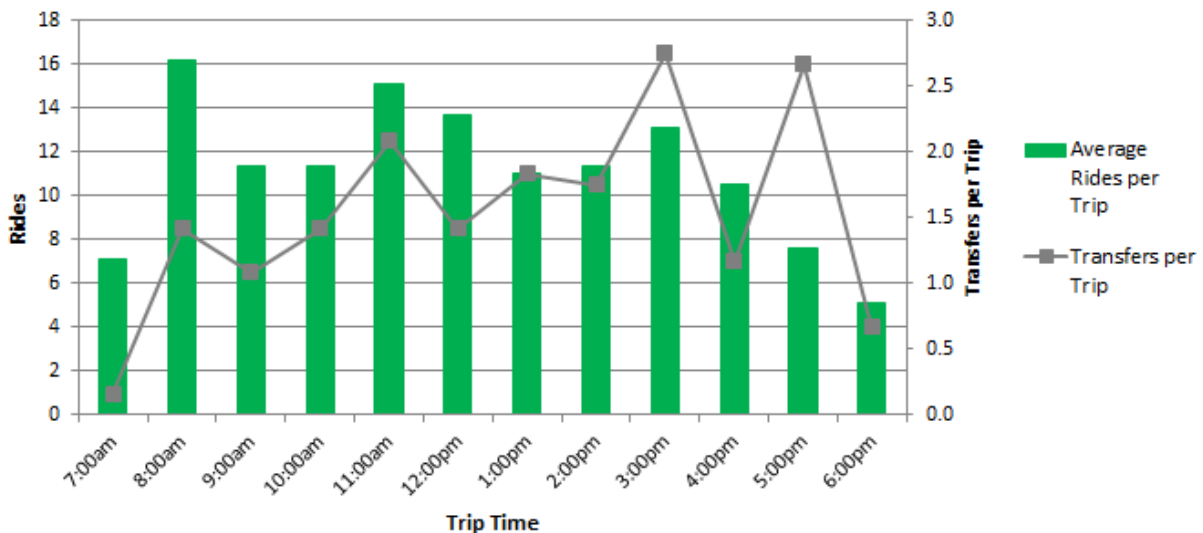
and 3% by school students. The highest number of transfers occur on the 12:30pm, 1:30pm, 3:30pm and 4:30pm trips (between 2.3-2.8 transfers per trip).

Figure 2: Ridership and Transfers per Trip for Route 1: West Loop



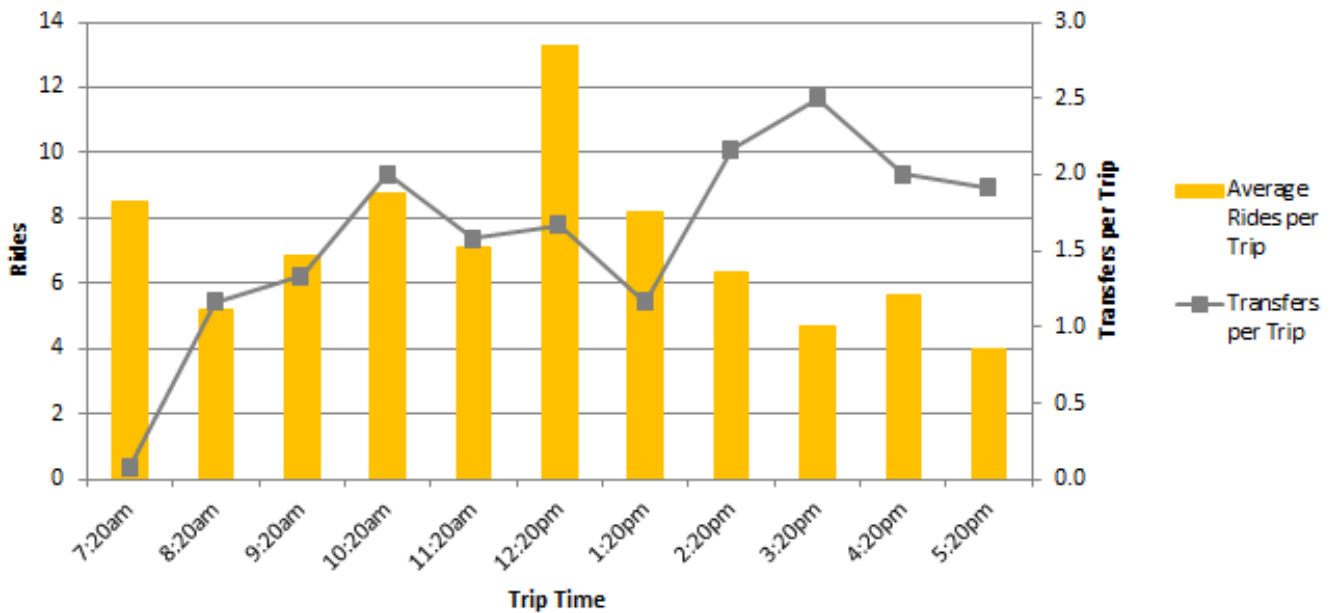
The peak time of day for Route 2 is on the 8am trip and then between 11am and 3pm as shown in Figure 3. This corresponds with a high number of students at 8am. 50% of riders are adults (including college students) with 21% BC Bus Pass, 18% seniors and 11% school students. The highest number of transfers occur on the 3pm and 5pm trips (2.8 and 2.7 transfers per trip respectively).

Figure 3: Ridership and Transfers per Trip for Route 2: College-Hillcrest



The peak time of day for Route 3 is on the 7:20am and the 12:20pm trip as shown in Figure 4. 50% of riders are adults (including college students) with 25% BC Bus Pass, 15% seniors and 10% school students. The highest number of transfers occur in late afternoon from 2:20pm to 4:20pm (between 2.0-2.5 transfers per trip).

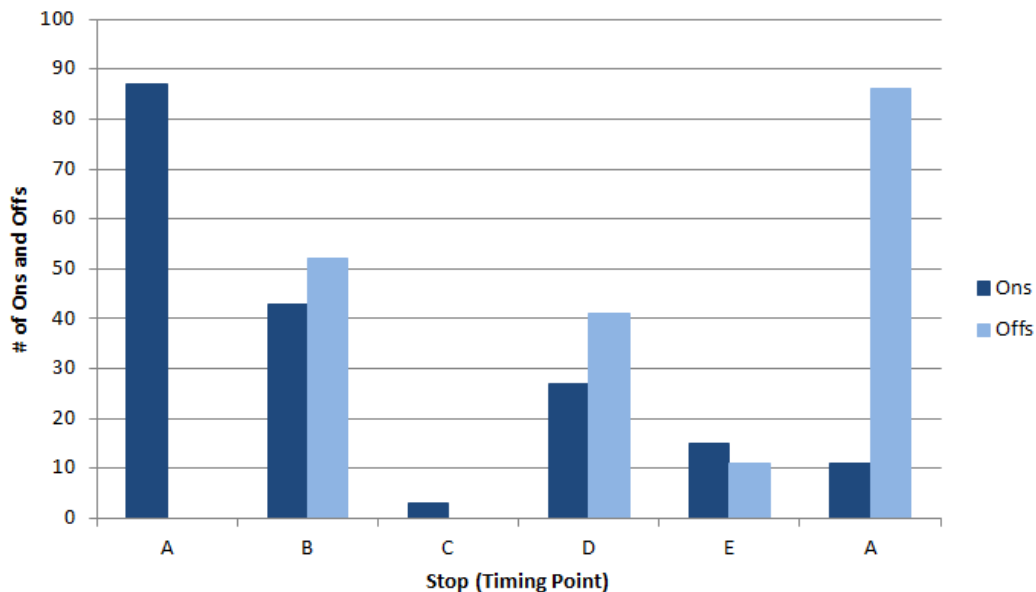
Figure 4: Ridership and Transfers per Trip for Route 3: Canoe



1.2.2 Ridership by Route and Stop

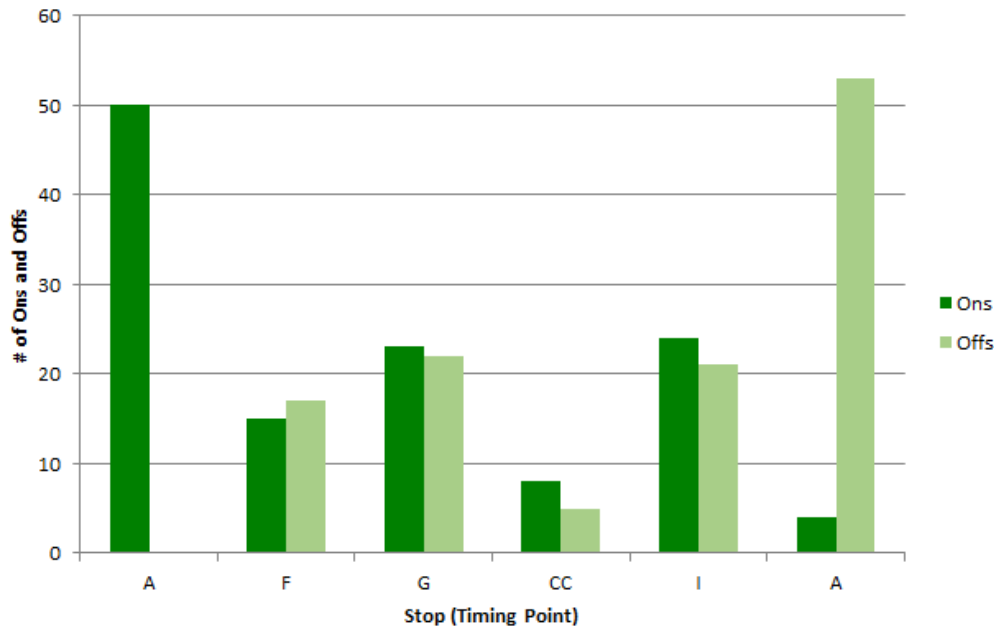
The highest ridership on Route 1 is downtown (timing point A in Figure 5). There is also high ridership in the residential areas south of Okanagan Av (timing point B) and at Piccadilly Place Mall. The lowest ridership is on the southern portion of the route, which runs along Foothill Rd SW and returns to downtown via 10 St SW (timing point C). This only had 3 riders during the data collection period equating to 3 riders per day.

Figure 5: Stop Activity for Route 1: West Loop



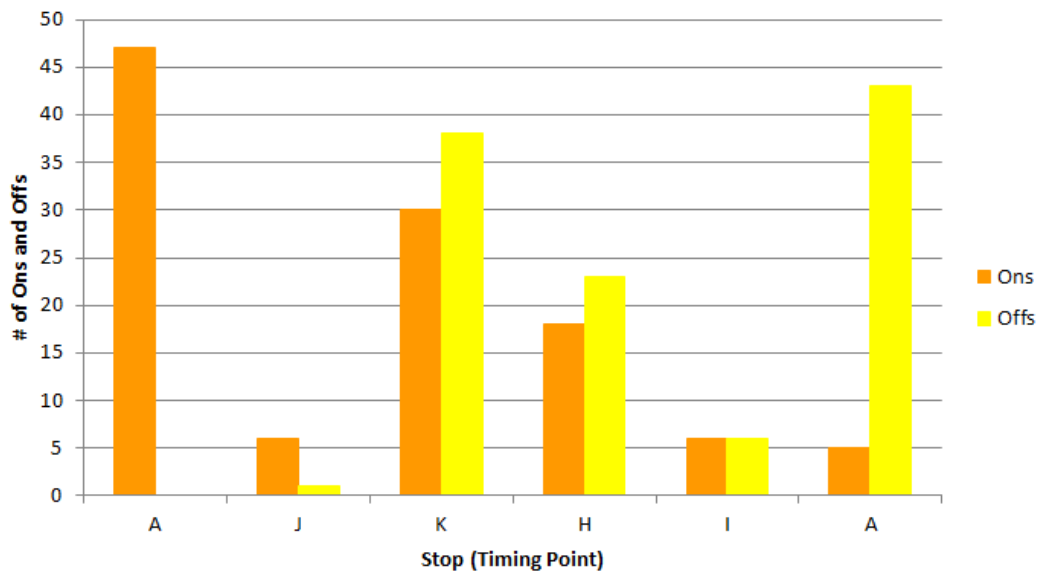
Route 2 has good ridership across the route as indicated in Figure 6. Ridership was lowest at the Community Centre and Okanagan College (Timing Pint CC). However, it is likely that this was due to the data being collected in July when the College is not in session and it is expected that ridership at this timing point would be considerably higher between September and May.

Figure 6: Stop Activity for Route 2: College-Hillcrest



The highest ridership on Route 3 is both downtown and at Canoe (timing point K in Figure 7). Ridership is also high on the route around 11 Avenue North East and 30 St NE. Ridership is lowest at Lakeshore and 20th Avenue (timing point J) with low ridership also at the Hospital (timing point I). Low ridership at the Hospital may be due to the route only serving this location on the inbound direction, requiring passengers from downtown to travel out to Canoe and back before being able to reach the hospital. There were 4 loadings and 1 disembarking in total between timing point A (downtown) and J (Lakeshore and 20 Av NE). Of these, only one rider was outside the downtown area.

Figure 7: Stop Activity for Route 3: Canoe



1.3 Route Timing

The timing for each route was compiled during the ride check data collection in July 2013. This was analyzed as a whole and also between specific timing points (as shown in the Rider's Guide¹). The scheduled versus actual time taken by the bus to serve the route is outlined in Table 2 below.

Table 2: Scheduled versus Actual Travel Time per Route and Timing Point

Route 1: West Loop			Route 2: College/Hillcrest			Route 3: Canoe		
Timing Points	Scheduled Time (mins)	Actual Time (Average)	Timing Points	Scheduled Time (mins)	Actual Time (Average)	Timing Points	Scheduled Time (mins)	Actual Time (Average)
A → B	3	7	A → F	5	6	A → J	5	5
B → C	4	3	F → G	7	10	J → K	10	12
C → D	3	3	G → CC	5	4	K → H	10	10
D → E	5	4	CC → I	5	7	H → I	5	4
E → A	4	5	I → A	5	4	I → A	5	4
Total	19	22	Total	27	31	Total	35	35

In addition to trips taking longer than the transit schedule allows for, there is also limited recovery time allocated to the system.

Recovery Time is a planned time allowance between the arrival time of a just completed trip and the departure time of the next trip in order to allow the route to return to schedule if traffic, loading or other conditions have made the trip arrive late.

A specific amount of recovery time is always scheduled into a transit system to maintain the reliability of service. The amount of scheduled time for recovery depends upon the length of the route, the frequency of service and size of the system, amongst other factors. Albeit a significantly high recovery time can reduce the efficiency of a transit system; alternatively, if insufficient recovery time is allocated, this can reduce the reliability of service, impact customer satisfaction and ridership and ultimately also reduce the efficiency of the system. It should be noted that a whole trip on Route 1 in the Salmon Arm transit system is occasionally removed from service at the last minute due to schedule delays. This is done to allow the system to recover from those delays and run the trips that remain that day on time. This occurred on two occasions during one week of the data collection period and is usually a result of multiple wheelchair loadings during one trip and/or additional ridership in summer months. Therefore, during the data collection period it was clearly identified that there are issues with timing and reliability of service and insufficient trip and recovery time allocated to the system.

This information is comparable to timing check data collected in 2011. Based upon this data, it is recommended that Routes 1, 2 and 3 be re-scheduled to accommodate the times as outlined in Table 2 and that additional recovery time be scheduled into the system at the end of each trip to allow the system to accommodate delays. This should enable the transit system to perform more reliably, more easily accommodate delays and support transit ridership.

¹ Shuswap System Rider's Guide available online at <http://www.transitbc.com/regions/shu/>

1.3 System Performance Benchmarking

Transit system performance for the Shuswap system was compared to similar paratransit systems within the province as outlined in Table 3. The similarity is based on a variety of criteria such as population, ridership and revenue hours for 2012/2013 data. It should be noted that, as with other paratransit systems represented, the data is for the whole Shuswap system; city and regional routes.

Table 3 outlines that the Shuswap system supports approximately 11,700 hours of service with an annual ridership of 114,660 rides. The system performs well in comparison to the average for all BC community transit systems with 9.6 rides per revenue hour in comparison to 5 rides per revenue hour at an operating cost of \$9.59 per ride in comparison to \$14.23 per ride. In addition, cost recovery for the Shuswap system in 2012/2013 was 14%, which compares to an average of 11.8% for all similar BC paratransit communities.

In summary, the Shuswap transit system is performing above average in most areas and well in ridership compared to similar communities.

Table 3: Transit Performance Criteria for the Shuswap System (City and Regional Routes) and Similar BC Paratransit Systems

System	AOA Service Area Population	Service Area Population	Annual Service Revenue Hours	Fixed Routes	Vehicles	Annual Ridership	Revenue (\$)	Total Cost (\$)	Cost Recovery (%)	Total Cost per Ride	Total Cost per Hour	Rides per Revenue Hour	Adult Cash Fare
Shuswap	29,400	15,700	11,693	8	8	114,660	\$153,499	1,100,129	14.0%	\$9.59	\$92.01	9.6	\$1.50 (city)
BC Community Average									11.8%	\$14.23	\$74.98	5.0	
Agassiz-Harrison	86,400	9,300	5,379	1	3	39,484	\$90,624	377,084	24.0%	\$9.55	\$70.10	7.3	\$2.50 (1zone)
Castlegar, BC	13,400	9,400	7,519	8	6	65,145	\$69,345	827,080	8.4%	\$12.70	\$109.87	8.7	\$1.75
Merrit & Area, BC	8,900	5,900	4,518	4	2	58,959	\$54,151	264,295	20.5%	\$4.48	\$58.50	13.1	\$1.50
North Okanagan	226,800	19,100	6,342	12	5	75,153	\$116,659	726,400	16.1%	\$9.67	\$108.34	11.2	\$2.00
Powell River	13,100	15,600	5,865	6	4	19,005	\$33,633	333,325	10.1%	\$17.54	\$56.31	3.2	\$2.00
Quesnel, BC	23,000	10,000	10,140	5	7	77,642	\$173,860	773,701	22.5%	\$9.96	\$75.95	7.6	\$1.75
Revelstoke, BC	7,100	5,900	4,231	2	3	22,262	\$45,877	410,771	11.2%	\$18.45	\$71.74	3.6	\$2.00
Williams Lake, BC	21,900	8,600	9,254	4	7	86,026	\$99,327	839,191	11.8%	\$9.76	\$90.12	9.2	\$1.25

Source: Operating Data & BC Transit Information & Performance Summary Data, 2012/2013

2.0 Shoppers Shuttle Service

In early 2013, the City of Salmon Arm requested information on the impacts of incorporating the additional time within the schedule for Routes 1, 2 and 3 (Options 1, 2 and 3 in the 2010/11 Service Review) at no additional cost. Some analysis was completed prior to receiving information regarding the SmartCentres development permit completion and updated construction plan and therefore addressed only the existing routes. As this analysis did not address the new shoppers shuttle, it has not been included in this report.

However, since that time, in March 2013, SmartCentres was issued the development permit and building permit for the application pertaining to a shopping centre on 30 Street and 10 Avenue SW in west Salmon Arm. A statement made by SmartCentres following receipt of the permits indicated that construction would begin immediately and be expected to be completed by the end of 2013. Discussion with SmartCentres in May 2013 indicated that the anchor store hand-over date is expected 28 September, 2013 and the anchor door opening date is expected 8 November, 2013. These dates may be subject to change. In late June, 2013 SmartCentres publicly confirmed that the anchor tenant would be Walmart. The City of Salmon Arm has expressed a desire to provide transit service to Walmart in time for its opening.

SmartCentres indicated that there would be approximately 175 employees at the new Walmart; 20-30 employees would be allocated to each shift and the expected shift and store times are as follows:

- Store Hours: 7:00 a.m. – 11:00 p.m.
- Shift 1: 7:00 a.m. – 3:00 p.m.
- Shift 2: 3:00 p.m. – 11:00 p.m.
- Shift 3: overnight

2.1 Shoppers Shuttle Route 5

Several potential routes for the Shoppers shuttle service have been explored based upon the proposed route outlined in the 2010/11 Service Review. The preference was to provide a direct route ensuring a convenient service whilst also minimizing duplication of coverage offered by Route 1. The preferred option for Route 5: Shoppers Shuttle is outlined in Figure 8.

The route would start at timing point A, Lakeshore and Alexander, and route south along the TransCanada Highway 1 (Hwy 1), turning left onto 3 St SW past Centenoka Mall. It would then turn right onto 5 Av SW and left onto 5 St SW, right onto 10 St SW past Piccadilly Place towards Hwy 1². The route would then turn left onto Hwy 1 going westbound towards Walmart, looping into the Walmart complex and exiting the complex at the proposed signalized intersection at 30 St SW and Hwy 1. The route would then continue back on Hwy 1 towards downtown Salmon Arm, turning left on 6 St NE, left on Hudson Av NE (serving the medical clinic) and then right on 4 St NE returning to downtown via Lakeshore Dr E.

This route option would minimize the time required (19 minute total return trip time), which would ensure a direct and convenient service and would also assist when scheduling the route into the existing system whilst minimizing budget. Further, by routing outbound via Piccadilly Place and Centenoka Mall and inbound via Highway 1, this option would provide two-way service to Piccadilly Place and Centenoka Mall when combined with the Route 1. This enables passengers to take a transit trip directly from downtown to the mall and also directly back from the mall to downtown without having to travel on the entire Route 1. Unfortunately the route would be unable to continue on 10Av SW to join Hwy 1 after serving Piccadilly Place given that the junction near 20 St SW and the old Canadian Tire site is no longer

² The route is prevented from continuing on 10 Av SW on the outbound direction due to a lack of signalized junction at 10 Av SW and Hwy 1.

due to be signalized. Therefore, a left-hand turn at this junction would not be feasible. It should be noted that the Route 5: Shoppers Shuttle would not detour into Piccadilly Place to drop off at the store entrance. The operator has indicated the significant contribution this can make to delays due to the numerous obstructions and pedestrian crossings within the complex car park.

An alternative route option is outlined in Figure 9. This would provide a direct service from downtown to Walmart, whilst routing the inbound trip via Piccadilly Place and Centenoka Mall. This would also be feasible within a 19minute return trip time but would exclude the ability to provide two-way service to the shopping centres. Figure 9 outlines how this alternative route would overlap with Route 1. Figure 9 also indicates the distance to Farmcrest foods as discussed in Section 3 of this report.

Figure 8: Proposed Route 5: Shoppers Shuttle

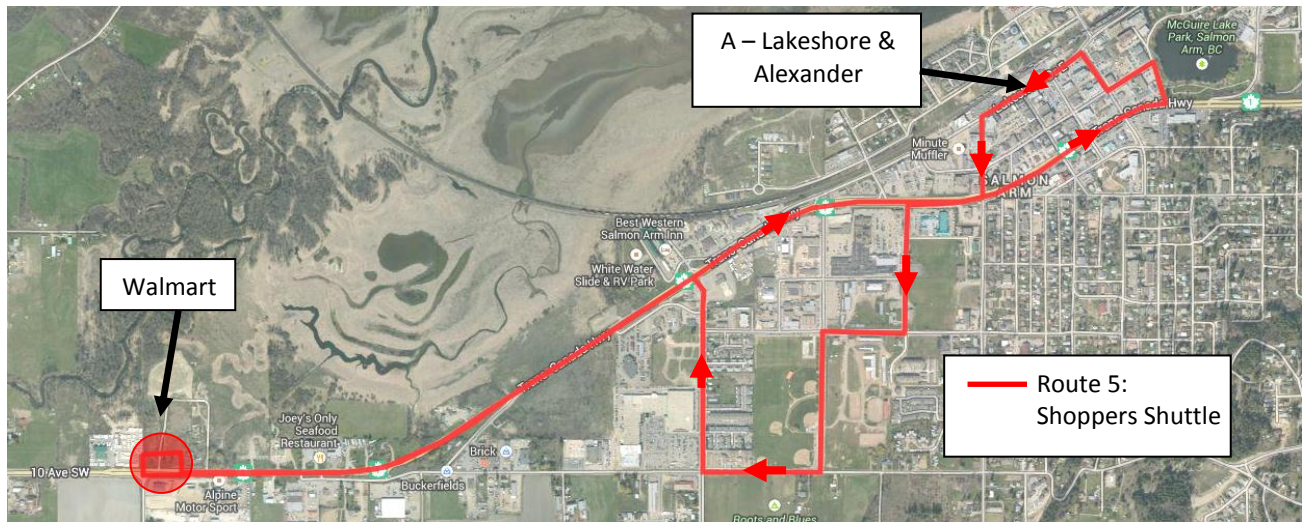
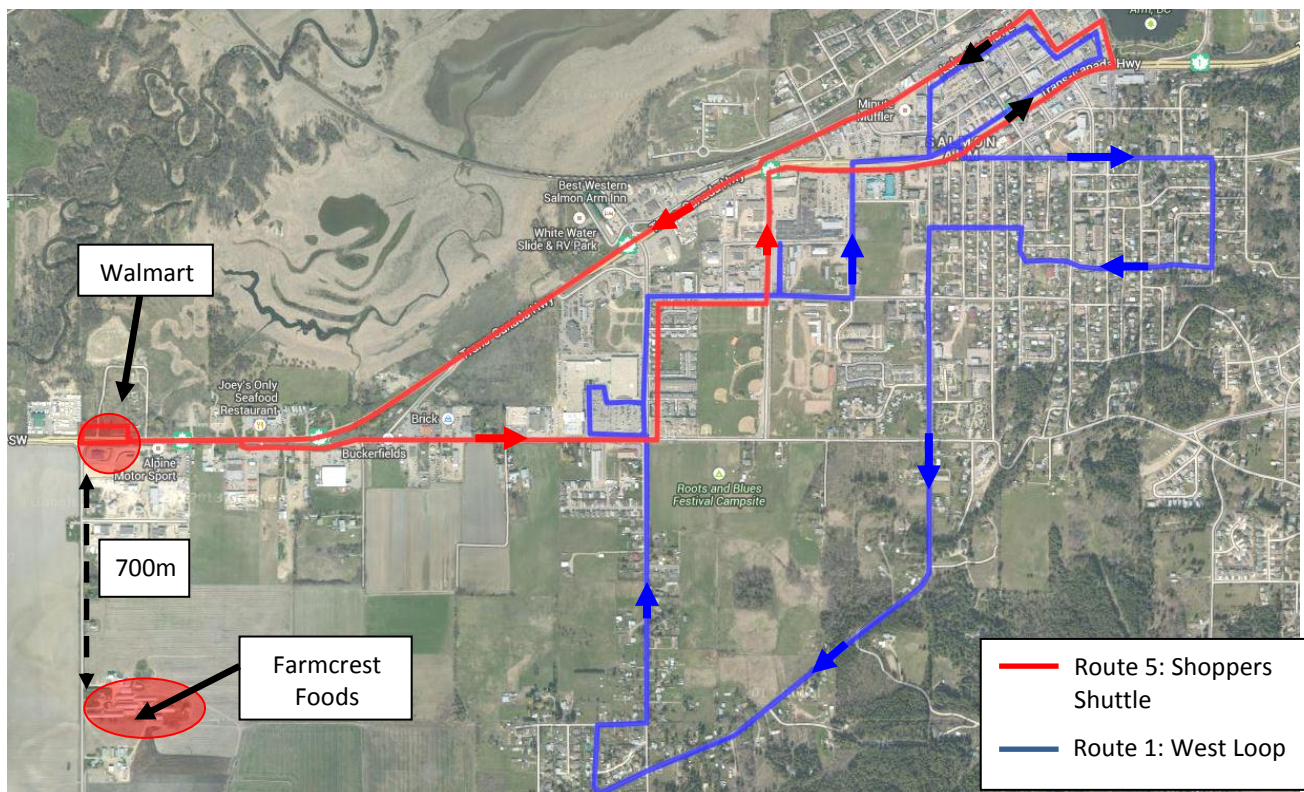


Figure 9: Alternative Route 5: Shoppers Shuttle



2.2 Shoppers Shuttle Draft Schedule

Considering current system service levels (no Sunday or evening service), Route 5: Shoppers Shuttle could operate a round trip approximately every hour Monday through Saturday. In addition to the 8:00 a.m. start time recommended within the Transit Service Review 2010/2011, Option 1b also includes an additional trip(s) on Route 5, starting service prior to 7:00 a.m. in order to meet the expected Walmart and Farmcrest Foods early shift times for employees.

The transit system has been re-scheduled to accommodate both the Shoppers Shuttle and the additional time required on Routes 1, 2 and 3. Four options were developed and the associated impacts and costs are outlined below.

2.3 Shoppers Shuttle Option 1

Description:

- The additional schedule time and a substantial amount of recovery time would be included for Routes 1, 2 and 3.
- A Route 5: Shoppers Shuttle would be introduced that would provide hourly frequency with 10 trips on weekdays and 10 trips on Saturdays.

Table 2: Option 1 Summary of Service Changes

Route	Frequency		# Trips		Approximate Service Span
	Existing	Option 1	Existing	Option 1	
WEEKDAY SERVICE					
Route 1: West Loop	30min	30min	22	22	7.30am-6.30pm
Route 2: College/Hillcrest	60min	60min	12	12	7am-6.30pm
Route 3: Canoe	60min	60min	11	11	7am-5.45pm
Route 4: Pierre's Point	-	-	3	3	-
Route 5: Shoppers Shuttle	-	60min	-	10	8.30am-5.50pm
SATURDAY SERVICE					
Route 1: West Loop	30min	30min	20	20	8.30am-6.30pm
Route 2: College/Hillcrest	60min	60min	10	10	9am-6.30pm
Route 3: Canoe	60min	60min	10	10	8am-5.45pm
Route 4: Pierre's Point	-	-	3	3	-
Route 5: Shoppers Shuttle	-	60min	-	10	8.30am-5.50pm

Key Benefits:

- The frequency of service on existing routes remains unchanged, which means ridership is unlikely to be negatively affected on these routes.
- The additional trip time and/or recovery time required is allocated to Routes 1, 2 and 3.
- All routes remain on clock-face headway³. This enables riders to remember trip times easily without requiring a schedule.

³ Clock-face headway is when the transit service operates at regular and evenly-spaced time intervals.

- There is sufficient recovery time to allow the Route 5: Shoppers Shuttle to go into Piccadilly Place Mall to serve the mall entrance.
- Route 2 will connect well to the Route 1 and Route 5, whereas Route 3 connects to the Route 2, has a 15min wait to connect to the Route 1 and does not connect with the Route 5.

Key Disadvantages:

- Cost - this option will require an additional 3,090 service hours annually and an additional bus.

The annual additional impacts of Option 1 are outlined below.

Initial High Level Estimate – Additional Annual Impacts			
Shoppers Shuttle Option 1			
Service Hours:	3,090	Passenger Revenue:	\$21,000
Annual Ridership:	15,931	Total Cost:	\$281,000
Vehicles Required:	1	Net Local Share of Costs:	\$114,800
		Provincial Share of Costs:	\$145,200

*Ridership is based upon an estimated 6.1 rides per hour, informed by an average 10.2 rides per hour for the existing system.

**Based upon an average system fare of \$1.32

2.3.1 Option 1b: Early Morning Trips Added

Option 1b would be an addition to Option 1. This option would include additional early morning commuter trips on Routes 2, 3 and 5 in order to meet the expected 7:00am shift times at Walmart with the ability to also serve Farmcrest Foods.

Description:

- Two early morning weekday trips would be provided on Route 5: Shoppers Shuttle to meet a 7am shift time. Service would start at approximately 6.30am.

Key Benefits:

- A number of riders of an early morning trip may originate from residential areas outside downtown Salmon Arm. As such, an early morning trip may also be required on Routes 2 and 3 to collect these riders from outlying communities and enable them to transfer to the Route 5: Shoppers Shuttle. Therefore, an early trip is also included for Routes 2 and 3 enabling them to connect to the first Shoppers Shuttle trip. Service would start at 6am on Route 2 and 5.20am on Route 3.

Key Disadvantages:

- Cost - this option will require an additional 690 annual service hours over and above those outlined in Option 1 (requiring a total of 3,780 service hours annually and an additional bus).
- There is no definitive market established for an early morning service to meet shift start times and ridership would potentially be low.

The annual additional impacts of Option 1b are outlined below.

Initial High Level Estimate – Additional Annual Impacts			
Shoppers Shuttle Option 1b			
Service Hours:	690	Passenger Revenue:	\$5,500
Annual Ridership:	4,156	Total Cost:	\$51,000
Vehicles Required:	0	Net Local Share of Costs:	\$19,100
		Provincial Share of Costs:	\$26,400

*Ridership is based upon an estimated 6.1 rides per hour, informed by an average 10.2 rides per hour for the existing system.

**Based upon an average system fare of \$1.32

2.4 Shoppers Shuttle Option 2: Reduced Frequency Routes 1 and 3

The costs have been significantly reduced in Option 2 by reducing the frequency of service on Routes 1 and 3 and including considerable cuts to the number of trips on Route 1 on weekdays. No additional vehicle would be required. However, Route 1 and Route 3 would change from 30min and hourly service on a clock-face headway to service every hour and 15minutes (75 minute headway).

Clock-face headway is when the transit service operates at regular and evenly-spaced time intervals. This enables riders to remember trip times easily without requiring a schedule.

Currently, Routes 1, 2 and 3 have clock-face headway as they run on the hour and half hour (Routes 1 and 2) or every 20minutes passed the hour (Route 3).

Description:

- The additional route and recovery time required for Routes 1, 2 and 3 would be included.
- Route 1 is reduced from 30min to 75min frequency, which results in a reduction of 11 trips on weekdays (50%) and 11 trips on Saturdays (55%).
- Route 3 is reduced from 60min to 75min frequency, which results in a reduction of 1 trip per day on weekdays (9%).
- Route 2 would gain one trip on weekdays and Saturdays.
- A Route 5: Shoppers Shuttle would be introduced on hourly frequency with 12 trips on weekdays and 10 trips on Saturdays.
- An early morning trip would be provided on Route 5: Shoppers Shuttle on weekdays to meet a 7am shift time at Walmart.
- An early trip would be introduced on Route 2 enabling Route 2 to connect to the first Shoppers Shuttle trip to primarily serve employees at early shift start time.

Table 4: Option 2 Summary of Service Changes

Route	Frequency		# Trips		Approximate Service Span	Does this serve a 7am shift start time?
	Existing	Option 2	Existing	Option 2		
WEEKDAY SERVICE						
Route 1: West Loop	30min	75min	22	11	6.30am-7.20pm	No
Route 2: College/Hillcrest	60min	60min	12	13	6am-6.30pm	Yes
Route 3: Canoe	60min	75min	11	10	7am-7pm	No
Route 4: Pierre's Point	-	-	3	3	-	-
Route 5: Shoppers Shuttle	-	60min	-	12	6.30am-6pm	Yes
SATURDAY SERVICE						
Route 1: West Loop	30min	75min	20	9	9am-7.25pm	
Route 2: College/Hillcrest	60min	60min	10	11	8am-6.30pm	
Route 3: Canoe	60min	75min	10	10	8.15am-7pm	
Route 4: Pierre's Point	-	-	3	3	-	
Route 5: Shoppers Shuttle	-	60min	-	10	8.30am-6pm	

Key Benefits:

- Cost - this option would not require an additional bus and would only require approximately 810 additional annual service hours.
- The additional trip time required is allocated to Routes 1, 2 and 3.
- This option will provide service from Route 2 to meet a 7am shift start time at Walmart, which will serve employees.
- The Route 1 and 3 connect and the Route 2 and 5 connect.

Key Disadvantages:

- The reduced frequency on Routes 1 and 3 will result in a schedule where Routes 1 and 3 are no longer on clock-face headway. Reducing service frequency and cutting service to this level may result in a significant reduction in ridership. As such, no additional ridership or associated revenue is included in the costs outlined below and there may be an additional loss in revenue.
- The reduced frequency results in the service spanning a longer time period in order to retain a similar number of trips to the existing service (other than on Route 1). This means that service will start earlier and end later. This may also negatively impact ridership as ridership is often lower than average on early morning trips.
- Routes 1 and 3 do not connect to the first Route 5 trip on weekdays to serve employees and will not connect well to the Shoppers Shuttle throughout the day.

The annual additional impacts of Option 2 are outlined below.

Initial High Level Estimate – Additional Annual Impacts			
Shoppers Shuttle Option 2			
Service Hours:	810	Passenger Revenue:	\$0
Annual Ridership:	-	Total Cost:	\$59,900
Vehicles Required:	0	Net Local Share of Costs:	\$28,900
		Provincial Share of Costs:	\$31,000

*Ridership is based upon an estimated 6.1 rides per hour, informed by an average 10.2 rides per hour for the existing system.

**Based upon an average system fare of \$1.32

2.6 Shoppers Shuttle Option 3: Reduced Frequency Routes 1, 2 and 3

The costs have also been significantly reduced in Option 3 by reducing the frequency of service on Routes 1, 2 and 3 and including considerable cuts to the number of trips on Route 1 as well as a small number of cuts on Routes 2 and 3.

Description:

- The additional time required for serving Routes 1, 2 and 3 would be included.
- Route 1 is reduced from 30min to 60min frequency, which results in a reduction of 10 trips on weekdays (55%) and 9 trips on Saturdays (45%).
- Route 2 is reduced from 60min to 80min frequency, which results in a reduction of 2 trips per day on weekdays (17%) and 2 trips on Saturdays (20%).
- Route 3 is reduced from 60min to 80min frequency, which results in a reduction of 1 trip per day on weekdays (9%) and 2 trips on Saturdays (20%).
- A Route 5: Shoppers Shuttle would be introduced that would follow the longer route outlined in Figure 2. This would be provided on hourly frequency with 12 trips on weekdays and 10 trips on Saturdays.

- An early morning trip would be provided on Route 5: Shoppers Shuttle on weekdays to meet a 7am shift time.
- An early trip would be introduced on Routes 2 and 3 enabling these to connect to the first Shoppers Shuttle trip to primarily serve employees at shift start time.

Table 5: Option 3 Summary of Service Changes

Route	Frequency		# Trips		Approximate Service Span	Does this serve a 7am shift start time?
	Existing	Option 3	Existing	Option 3		
WEEKDAY SERVICE						
Route 1: West Loop	30min	60min	22	12	7am-6.30pm	No
Route 2: College/Hillcrest	60min	80min	12	10	6am-6pm	Yes
Route 3: Canoe	60min	80min	11	10	6am-6.30pm	Yes
Route 4: Pierre's Point	-	-	3	3	-	-
Route 5: Shoppers Shuttle	-	60min	-	12	6.30am-6pm	Yes
SATURDAY SERVICE						
Route 1: West Loop	30min	60min	20	11	8am-6.30pm	
Route 2: College/Hillcrest	60min	80min	10	8	8am-6pm	
Route 3: Canoe	60min	80min	10	8	8.30am-6.30pm	
Route 4: Pierre's Point	-	-	3	3	-	
Route 5: Shoppers Shuttle	-	60min	-	10	8.30am-6pm	

Key Benefits:

- Cost - this option would not require an additional bus and would only require approximately 720 additional annual service hours.
- Option 3 reduces service on Route 1 to a lesser degree than Option 2 and the frequency will be reduced to hourly service rather than every 75min.
- The additional trip time required is allocated to Routes 1, 2 and 3.
- This option will provide service from Routes 2 and 3 to meet a 7am shift start time at Walmart, which will serve employees.
- The Route 2 and 3 connect and the Route 1 and 5 connect.

Key Disadvantages:

- The reduced frequency on Routes 2 and 3 will result in a schedule where Routes 2 and 3 are no longer on clock-face headway. Reducing service frequency and cutting service to this level may result in a significant reduction in ridership. As such, no additional ridership or associated revenue is included in the costs outlined below and there may be an additional loss in revenue.
- The reduced frequency results in the service spanning a longer time period in order to retain a similar number of trips to the existing service (other than on Route 1). This means that service

will start earlier and end later. This may also negatively impact ridership as ridership is often lower than average on early morning trips.

- Route 1 does not connect to the first Route 5 trip on weekdays to serve employees.
- The Routes 2 and 3 will not connect well to the Shoppers Shuttle.

The annual additional impacts of Option 3 are outlined below.

Initial High Level Estimate – Additional Annual Impacts			
Shoppers Shuttle Option 4			
Service Hours:	720	Passenger Revenue:	\$0
Annual Ridership:	-	Total Cost:	\$53,200
Vehicles Required:	0	Net Local Share of Costs:	\$25,700
		Provincial Share of Costs:	\$27,500

*Ridership is based upon an estimated 6.1 rides per hour, informed by an average 10.2 rides per hour for the existing system.

**Based upon an average system fare of \$1.32

2.7 Shoppers Shuttle Option 4: Reduced Coverage & Frequency on Route 1

In comparison to Options 2 and 3, the costs for Option 4 have been significantly reduced by reducing the frequency of service on Route 1 and by reducing the coverage of Route 1 so that less time is required to complete a return trip. This enables all routes to remain on clock-face headway. There are two options for reducing the service area on Route 1 outlined below:

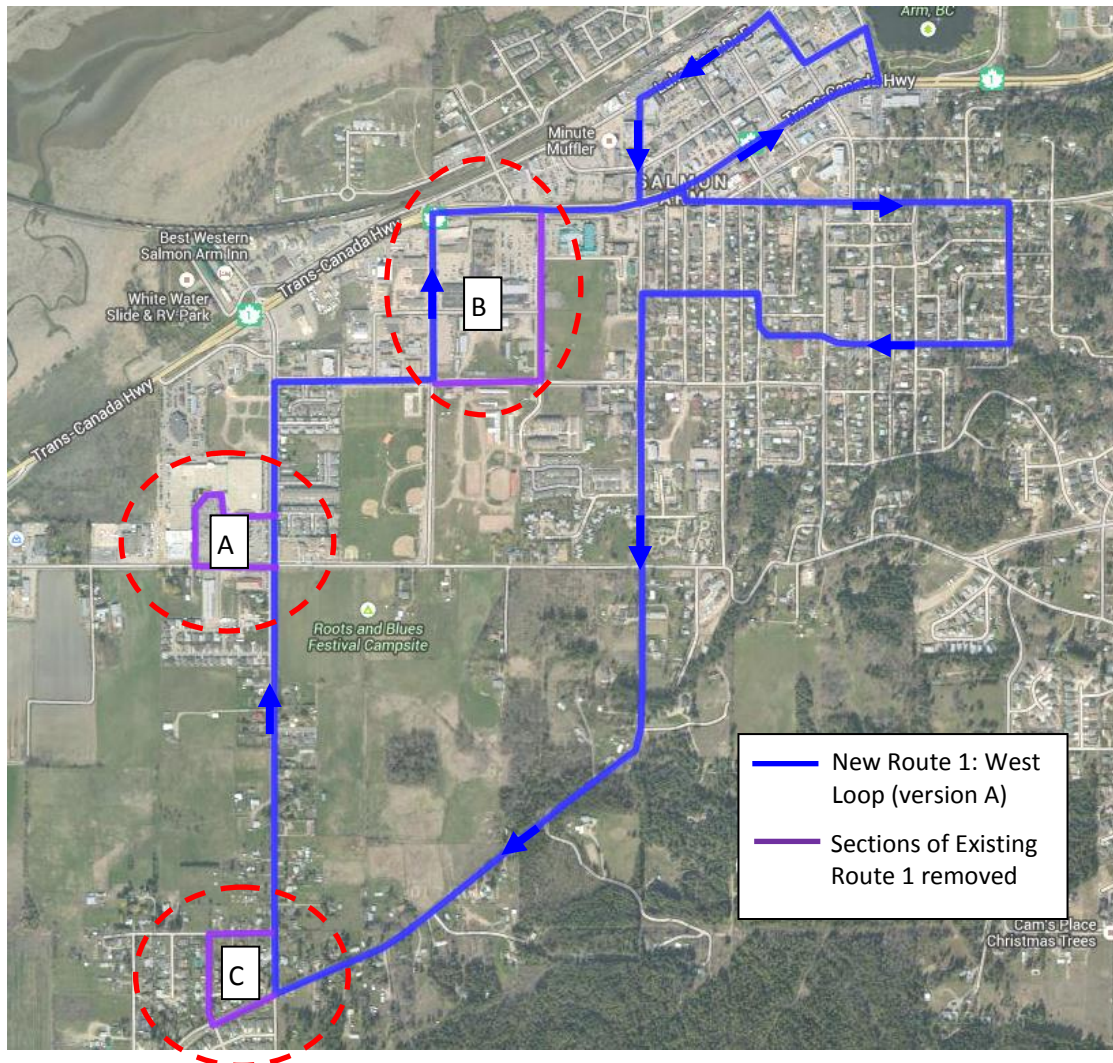
Description:

- Route 1 is reduced from 30min to 60min frequency, which results in a reduction of 10 trips on weekdays and 9 trips on Saturdays (45% reduction in trips).
- The route structure for Route 2 is and Route 3 is not reduced.
- The additional time required for serving Routes 1, 2 and 3 is accommodated via the reduction to the coverage and frequency of Route 1. Recovery time is increased slightly.
- A Route 5: Shoppers Shuttle would be introduced that would provide hourly frequency with 11 trips on weekdays and 10 trips on Saturdays.
- This option does not include an additional early morning weekday trip on Routes 1, 2, 3 and 5 to meet employee shift times at 7am.
- **New Route 1 (A).** The route is reduced as outlined in Figure 10 and described as follows:
 - **A** (Figure 10) - Route 1 will no longer go into Piccadilly Place mall but will continue on 10 St SW. This will save approximately 2minutes in route timing. However, this is a stop with high ridership and affords passengers shelter at the mall entrance. Passengers will no longer have service at the entrance to the mall near Save on Foods and Shoppers Drug Mart but will need to walk 250m and cross the pedestrian crossing to the bus stop located near Parkhaven Place on 10St SW. This bus stop does not currently have a shelter and it is recommended that a shelter be installed and the bus stop updated to universally accessible standards should Option 4 be implemented.
 - **B** (Figure 10) - Route 1 currently serves Centenoka Mall on both 5 St SW, via a short loop from 5Av SW and then also on 3 St SW. The return loop serving Centenoka Mall on 5 St SW that specifically goes into the mall car-park would be removed in this option. This loop requires several minutes to deviate into the mall to drop-off and pick up passengers and means the bus must travel through a narrow section of angled parking by the mall entrance that can occasionally impede the flow of traffic. Instead it is

recommended that the Route 1 turn left on 5th St SW and a new stop is provided on-street by the Centenoka Mall entrance. The route would then continue north on 5 St SW prior to turning right on Hwy 1. Removal of this detour would save approximately 2 minutes in route timing. With the introduction of the Route 5: Shoppers Shuttle, Centenoka Mall would be served hourly on 3 St SW and Route 1: West Loop would continue to serve Centenoka Mall via an on-street bus stop on 5 St SW. This would require passengers to walk only 10m out of the mall entrance to the sidewalk and new bus stop. This would require installation of a new bus stop, preferably with a shelter and the removal of two on-street car parking spaces.

- **C** (Figure 10) – Route 1 currently serves residential development near the intersection of Foothills Rd SW and 10 St SW via a small loop and one bus stop on 12 St SW. This loop has very low ridership and passengers primarily board at the nearby stop on 10 St SW and 20 Av SW. This loop would be removed, saving approximately ½ - 1 minute in route timing.

Figure 10: Proposed New Route 1 (A)



- **OR New Route 1 (B).** Given the high ridership at Piccadilly Place Mall (outlined in Figure 5 and Section 1.2) this route option continues to serve the mall at the mall entrance and saves time by reducing coverage on Foothills Rd SW as outlined in Figure 11 and described as follows:
 - **A** (Figure 10) - Route 1 will continue to go into Piccadilly Place mall but will serve the west entrance of the mall by Save on Foods instead of the current entrance. The west mall entrance is less congested and has fewer pedestrian crossings, allowing this route re-structure to improve transit safety. No additional time is required.
 - **B** (Figure 10) – As with the route option outlined in Route 1 (A), this route option would now serve Centenoka Mall on 5 St SW, saving approximately 2 minutes in route timing.
 - **C** (Figure 11) – Route 1 currently serves residential development on Foothills Rd SW and 10 St SW. However, the ridership by stop data analysis (Figure 5) indicated that this section has the lowest ridership for the Route 1 with only approximately 3 riders per day. This entire loop would be removed, saving approximately 2.5 minute in route timing. The new Route 1 would now from Shuswap St S to Piccadilly Place Mall via 10 Av SW.

Figure 11: Proposed New Route 1 (B)

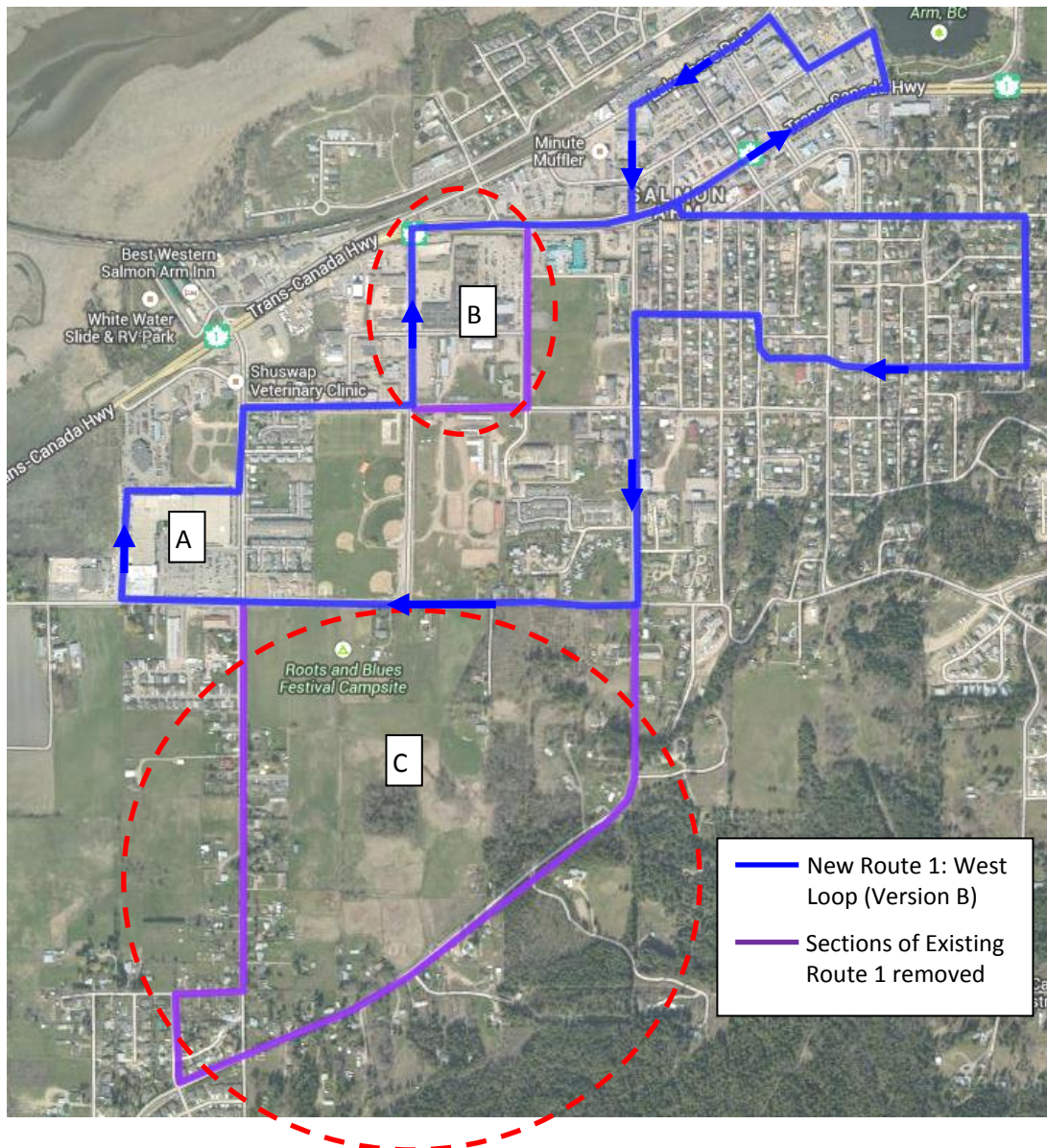


Table 6: Option 4 Summary of Service Changes (applies to route options A or B)

Route	Frequency		# Trips		Approximate Service Span
	Existing	Option 4	Existing	Option 4	
WEEKDAY SERVICE					
Route 1: West Loop	30min	60min	22	12	7am-6.20pm
Route 2: College/Hillcrest	60min	60min	12	12	7am-6.30pm
Route 3: Canoe	60min	60min	11	11	7.20am-6pm
Route 4: Pierre's Point	-	-	3	3	-
Route 5: Shoppers Shuttle	-	60min	-	11	7.30am-6pm
SATURDAY SERVICE					
Route 1: West Loop	30min	60min	20	11	8am-6.20pm
Route 2: College/Hillcrest	60min	60min	10	10	9am-6.30pm
Route 3: Canoe	60min	60min	10	10	8.20am-6pm
Route 4: Pierre's Point	-	-	3	3	-
Route 5: Shoppers Shuttle	-	60min	-	10	8.30am-6pm

Key Benefits:

- Cost - this option would not require an additional bus and would only require approximately 140 additional annual service hours.
- Additional time required for Routes 1, 2 and 3 is added to the system and the amount of recovery time is slightly increased. This is achieved by reducing the length of Route 1 and by re-scheduling the service. This should improve the reliability of service.
- Service frequency on Routes 2 and 3 remains unchanged. This means ridership is unlikely to be negatively affected on these routes.
- All routes remain on clock-face headway⁴. This enables riders to remember trip times easily without requiring a schedule.
- Route 3 will connect well to the Route 1 and the Route 2. The Route 2 will connect to the Route 5 but not the Route 3.

Key Disadvantages:

- Route 1 is reduced from 30min frequency to 60min frequency. The negative impact on ridership may be partially mitigated by the addition of the Route 5: Shoppers Shuttle which serves some of the same key destination points (Piccadilly Place and Centenoka Mall) and duplicates service on part of the Route 1. As such, no additional ridership or associated revenue is included in the costs outlined below.
- Albeit additional route and recovery time has been added to the schedule, occasional delays may still occur when multiple events delay loadings on one trip. It is recommended that this should be monitored over a year following implementation to determine if further amendments are required.
- **Route 1 A** - Route 1 is re-structured to remove a small area of low ridership and to no longer go in the car-park of Piccadilly Place and Centenoka Mall. Albeit both centres will still be served by

⁴ Clock-face headway is when the transit service operates at regular and evenly-spaced time intervals.

transit with bus stops in close proximity to the entrance of both malls, this may reduce the convenience of service to the door and reduce customer satisfaction. Removing service directly to the mall entrance will have a negative impact on current riders and a significant negative impact for those with mobility difficulties. This may be partially mitigated by the addition of a bus shelter at the stop located near Parkhaven Place on 10St SW.

- Route 1 B** - Route 1 is re-structured to remove a large area of low ridership on Foothill Rd SW and to no longer go in the car-park of Centenoka Mall. This route benefits from continuing to serve Piccadilly Place Mall entrance in comparison to Route 1 A, where there is a high ridership. However, a large section of route and isolated residential development area has service removed. Albeit ridership is low in this area, this will impact those existing riders by removing service entirely and thereby reducing their mobility.

The annual additional impacts of Option 4 are outlined below (applies to either route option A or B).

Initial High Level Estimate – Additional Annual Impacts			
Shoppers Shuttle Option 4			
Service Hours:	110	Passenger Revenue:	\$0
Annual Ridership:	-	Total Cost:	\$8,200
Vehicles Required:	0	Net Local Share of Costs:	\$4,000
		Provincial Share of Costs:	\$4,200

*Ridership is based upon an estimated 6.1 rides per hour, informed by an average 10.2 rides per hour for the existing system.

**Based upon an average system fare of \$1.32

2.8 Additional Time to Access Walmart on Route 4: Pierre’s Point

Route 4 currently passes the SmartCentres site on Highway 1 with service operating Monday to Saturday with three trips per day. There is no place for this route to stop on Highway 1 near the site and no safe crossing for pedestrians. As such, each trip could deviate into the Walmart site utilizing an anti-clockwise loop by entering the site on the new access road opposite 30 St SW on the inbound trip and entering the site on the new right-in, right-out only road on the outbound trip. Both inbound and outbound trip would exit on 30St SW. It should be noted that this suggested routing is based upon site plans provided by SmartCentres as part of the development permit application and routes may need amending once the road construction is completed. This would require approximately 4 minutes per trip and 60 hours per year.

Initial High Level Estimate – Additional Annual Impacts			
Additional Time Route 4 to Walmart			
Service Hours:	60	Passenger Revenue:	\$500
Annual Ridership:	410	Total Cost:	\$4,500
Vehicles Required:	0	Net Local Share of Costs:	\$1,700
		Provincial Share of Costs:	\$2,300

*Ridership is based upon an estimated 6.1 rides per hour, informed by an average 10.2 rides per hour for the existing system.

** Based upon an average system fare of \$1.32

2.9 Route 5: Shoppers Shuttle Service Change Option Summary

Table 7 summarizes the annual additional impacts of the five Shoppers Shuttle service change options outlined in this section:

Table 7: Summary of Service Changes for Route 5: Shoppers Shuttle

Service Option	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs*	Net Local Share of Costs*	BC Transit Share of Costs*	Based upon Rides per hour
Shoppers Shuttle Option 1	1	75,800	3,090	15,931	\$21,000	\$281,000	\$114,800	\$145,200	6.1
Shoppers Shuttle Option 1b (<i>would be an additional to Option 1</i>)	0	17,000	690	4,156	\$5,500	\$51,000	\$19,100	\$26,400	6.1
Shoppers Shuttle Option 2	0	19,900	810	0	\$0	\$59,900	\$28,900	\$31,000	6.1
Shoppers Shuttle Option 3	0	17,700	720	0	\$0	\$53,200	\$25,700	\$27,500	6.1
Shoppers Shuttle Option 4	0	2,700	110	0	\$0	\$8,200	\$4,000	\$4,200	6.1
Additional Time Route 4 to SmartCentres	0	1,500	60	410	\$500	\$4,500	\$1,700	\$2,300	6.1

Notes:

* Based on preliminary 2013/14 budgets. Final costs may change based on final budgets and confirmation of final operational details.

** The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date. Annual lease fee costs used in these estimates for a custom Light Duty Vehicle is \$50,400, for a Medium Duty Vehicle is \$52,100 and for a Heavy Duty Vehicle is \$73,200.

Table 8: Summary of Benefits and Disadvantages for Route 5: Shoppers Shuttle Service Change Options

Service Proposal	Description	Key Benefits	Disadvantages
Option 1	Addition of Route 5: Shoppers Shuttle with additional trip time and recovery time allocated to Routes 1, 2 and 3.	<ol style="list-style-type: none"> 1. Frequency of service on all routes remains unchanged – ridership is unlikely to be negatively affected. 2. All routes remain on clock-face headway – supports ridership. 3. Additional trip time on Routes 1, 2 and 3 and additional recovery time – increases reliability of service. 4. Route 5 would be able to serve Piccadilly Mall entrance. 5. Good route connections other than Route 3 with Route 5. 	<ol style="list-style-type: none"> 1. Cost – requires an additional bus and 3,090 annual service hours.
Option 1b	Would be an addition to Option 1: <ul style="list-style-type: none"> • Additional early morning trips on Routes 2, 3 and 5 to serve 7am Walmart and Farmcrest shift time 	<ol style="list-style-type: none"> 1. Routes 2, 3 and 5 provide service to employees for 7am start. 	<ol style="list-style-type: none"> 1. Cost – requires additional 690 annual service hours on top of Option 1 costs (3,780 hours total). 2. There is no definitive market established for an early trip and ridership may be low.
Option 2	Addition of Route 5: Shoppers Shuttle with additional trip time allocated to Routes 1, 2 & 3. Route 1 reduced from 30min to 75min frequency losing 11 trips on weekdays & 11 on Sat. Route 3 reduced from 60min to 75min frequency losing 1 trip on weekdays. Route 2 gains 1 trip on weekdays & Sat. Service time span increases.	<ol style="list-style-type: none"> 1. Cost – does not require an additional bus and only requires approximately 810 annual service hours. 2. Additional trip time on Routes 1, 2 and 3 – increases reliability of service. 3. Routes 2 and 5 provide service to employees for 7am start. 	<ol style="list-style-type: none"> 1. Significantly reduced frequency and trips on Routes 1 and 3 is likely to negatively impact customer satisfaction and ridership. 2. Routes 1 and 3 will no longer be on clock-face headway, which is likely to negatively impact ridership further. 3. Routes 1 and 3 do not connect well to the Route 5: Shoppers Shuttle.
Option 3	Addition of Route 5: Shoppers Shuttle with additional trip time allocated to Routes 1, 2 and 3. Route 1 is reduced from 30min to 80min frequency losing 10 trips on weekdays and 9 trips on Saturdays. Routes 2 and 3 are reduced from 60min to 80min frequency losing a total of 3 trips on weekdays and 4 trips on Saturdays between the two routes. Service time span increases.	<ol style="list-style-type: none"> 1. Cost – does not require an additional bus and only requires approximately 720 annual service hours. 2. Additional trip time on Routes 1, 2 and 3 – increases reliability of service. 3. Routes 2, 3 and 5 provide service to employees for 7am start. 	<ol style="list-style-type: none"> 1. Significantly reduced frequency and trips on Routes 1 and 3 is likely to negatively impact customer satisfaction and ridership. 2. Reduction of trips on Route 2 is also likely to negatively impact customer satisfaction and ridership. 3. Routes 1, 2 and 3 no longer on clock-face headway, which reduces ease of use and may negatively impact ridership. 4. Route 2 & 3 do not connect well to Route 5: Shoppers Shuttle.
Option 4	Addition of Route 5: Shoppers Shuttle. Additional route time and recovery is added to the system. Route 1 is reduced from 30min to 60min frequency losing 10 trips on weekdays and 9 trips on Saturdays. Route 1 is restructured to remove sections of the route to save time for recovery. No cuts in frequency or service to Routes 2 or 3.	<ol style="list-style-type: none"> 1. Cost – does not require an additional bus and only requires approximately 110 annual service hours. 2. Frequency of service on Routes 2 and 3 remains unchanged – ridership is unlikely to be negatively affected. 3. All routes remain on clock-face headway – supports ridership. 4. Good route connections other than Route 2 with Route 5. 5. The restructuring of Route 1 at Centenoka Mall will increase efficiency of the route and reliability of service. 	<ol style="list-style-type: none"> 1. Reduced frequency on Route 1 may negatively impact customer satisfaction & ridership; but this may be offset by addition of Route 5 that duplicates part of Route 1 area. 2. Route A - restructuring Route 1 to no longer serve Piccadilly mall entrance may negatively impact customer satisfaction, particularly as this is a high ridership stop. 3. Route B - restructuring Route 1 to remove a large section on Foothill Rd SW and 10 St will reduce service area covered albeit there is low ridership at this location. 4. Less recovery time is allocated to the system than Option 1. 5. No service for employees on a 7am shift start time.

3.0 Service to Farmcrest Foods

In early 2013, the City of Salmon Arm requested that BC Transit explore the feasibility of serving Farmcrest Foods Ltd. (hereby Farmcrest), 1880 30 St SW Salmon Arm. Farmcrest is not currently served by transit and is located approximately 700m from the existing Route 4, which runs between downtown Salmon Arm and Pierre's Point along the TransCanada Highway.

Discussion with Farmcrest in May 2013 indicated that their expectations for transit service would be primarily to meet employee needs for those employees without access to private transportation. There are approximately 45 staff employed on two separate shift times; 7:00 a.m. – 3:30 p.m. (approximately 15 employees) and 8:30 a.m. – 6:00 p.m. (approximately 30 employees). In addition, there is the potential for an additional 15 staff to be employed summer/fall 2014.

In terms of potential transit demand, majority of these employees will currently travel to work by private automobile. However, it is understood that a number of employees currently have no access to transportation and walk several kilometres to work at Farmcrest. Farmcrest has estimated that approximately 15 employees may utilize transit service if it is introduced. This is a considerably low base from which to establish ridership. Further, employees travel from a variety of locations to Farmcrest including downtown, Hillcrest, Canoe, Neskonlith Indian Band land and other locations. Should service be introduced to Farmcrest from downtown Salmon Arm, it is likely that this dispersed nature of employees could reduce the potential ridership further.

The trips for Route 4 do not currently run at times suitable to meet Farmcrest employee shifts. In addition, there is currently no early service on other Routes that would enable employees from other residential locations to access the Route 4 downtown. As such, service to meet the Farmcrest 7 a.m. shift start time would be required earlier than is currently provided on the existing system. Given the limited employee base and dispersed nature of their residences in order to access transit service originating in downtown, it is anticipated that ridership would be low.

Farmcrest is located in agricultural land on 30St SW with no or limited residential development to provide an additional market for transit ridership. The nearest markets for transit are the residential development at 12St SW and Foothill Rd SW, 3km south east of Farmcrest and currently served by Route 1 and the commercial units located on 10 Av SW, 700m to the north of Farmcrest and due for future transit provision in the form of the Shoppers Shuttle (see Section 2.1).

3.1 Option: Incorporate Service as part of Route 5: Shoppers Shuttle

Farmcrest Foods is located approximately 700m south of the new Walmart location (see Figure 9). Albeit this is outside the preferred 400m walking distance to transit, given the flat topography and limited destinations or residential development on 30 St SW that would provide potential transit ridership, 700m is considered a suitable distance to access transit service in this situation. Therefore, it is proposed that the Route 5: Shoppers shuttle service stop located at Walmart would address the transit expectations from Farmcrest Foods and the other commercial development on 10 Avenue SW.

The expected 7:00 a.m. shift start and store opening time for Walmart would coincide with the early shift at Farmcrest Foods. Should Option 1b be implemented, which includes an early trip on Route 5 to serve Walmart by 7:00 a.m., this Option would also enable employees on the 7:00 a.m. shift at Farmcrest Foods to utilize the transit service from downtown Salmon Arm.

3.2 Alternative Options Assessed

Alternatively, Farmcrest could be served via an extension to Route 1 or Route 4. An extension to Route 1 would add approximately 4.5km and 10min to the existing route for each trip. To meet shift start and end times, this would require an amendment to Route 1 on 4 trips per day. In order to schedule this extension into the system, this would require an additional bus and re-structuring of the system. This extension of Route 1 could be incorporated into Option 1 or 1b outlined in Section 2 above and would require a minimum of 40minutes daily or 170hrs annually in addition to the service hours and costs outlined in the Option 1 and 1b calculations. Further, this would also impact the schedule, connections to other routes, the direct nature of the Route 1 service for those amended trips and would reduce service to residents on 10 St SW. As such, service to Farmcrest via Route 1 is considered inappropriate.

An extension to Route 4 to include Farmcrest would add approximately 1.6km and 4min for each trip with turnaround required on the unpaved road within Farmcrest land. This assumes that changes to the Farmcrest shift schedule could be accommodated to utilize the existing Route 4 trip at 7:35 a.m. and 4:05 p.m. and that an additional 20minute trip would be required from downtown to Farmcrest return at approximately 6pm for the final shift. This would require approximately 28min daily or 112 hours annually. This would potentially also impact handyDART service given that the bus that provides the current Route 4 service also provides handyDART service. The second Farmcrest shift start time at 8:30 a.m. could not be accommodated with this approach. Given the potential impacts, service to Farmcrest via Route 4 is considered inappropriate.

3.3 Farmcrest Service Summary

Attempts to service marginal ride generator locations more often than not results in negative impacts on system wide ridership and efficiency due to the existing time riders would have added to their trip. Insufficient ridership would be generated to warrant amendments to the existing transit system to provide specific transit service directly to Farmcrest given that only approximately 15 employees are assigned to the 7am shift time. Such changes would require a specific early trip to Farmcrest to meet shift times, or significant changes to the existing route structure and schedule, which would result in increased costs and potentially negative impacts on ridership and be unlikely to serve the general Salmon Arm population.

However, the introduction of service on the Route 5: Shoppers Shuttle will provide a bus stop at Walmart, which is in close proximity to Farmcrest Foods (700m north). Should Option 1b for Route 5: Shoppers Shuttle be pursued that includes early morning service; this will address the first shift transit expectations of Farmcrest. Given this, it is recommended that the proposed Route5: Shoppers Shuttle act as service to Farmcrest and no specific service to the Farmcrest location on 30 St SW be considered.

4.0 Additional Route Re-structure

4.1 Route 1: West Loop Re-structure

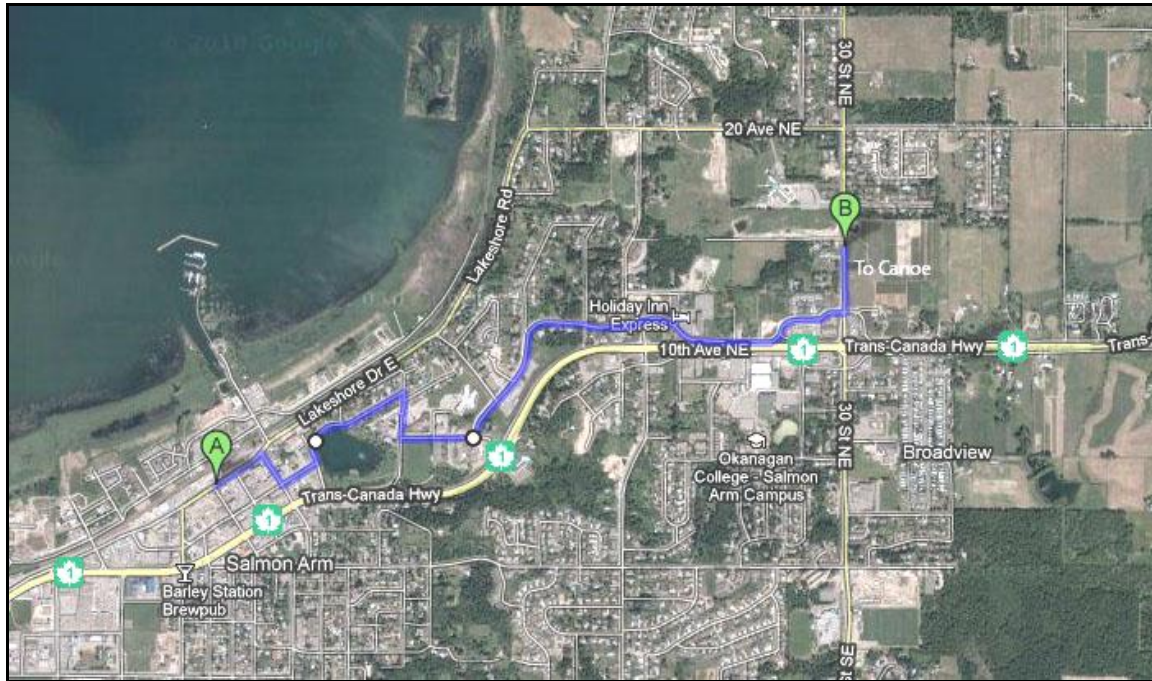
A new realignment is recommended for Route 1: West Loop should the Route 5: Shoppers Shuttle be implemented. This would be to route trips up 5 St SW instead of 3 St SW to serve the west entrance to Centenoka Mall and continue to Hwy 1 on 5 St SW. This will increase the direct nature and efficiency of the route and the east entrance of Centenoka Mall would now be served by Route 5.

4.2 Route 3: Canoe Re-structure

As outlined in the 2011 service review, a re-alignment is recommended for Route 3: Canoe in order to provide more direct service from downtown to the hospital and medical centre (Figure 11). This route re-alignment would remove a section of residential development by Lakeshore Road and 20 Av NE.

However, the ridership in this location is low, as outlined in Section 1.2 and Figure 7, and the re-alignment will now result in riders benefiting from direct service from downtown to the Hospital. This would not impact the route timing.

Figure 11: Proposed New Inbound and Outbound Routing for Route 3: Canoe



5.0 Recommendation & Implementation Considerations

Option 1 presents the preferred service changes needed to address the immediate time-related issues and deliver service to the new Walmart. This option provides the greatest wins and long term gains for ridership through the provision of a new Route 5: Shoppers Shuttle and necessary additional time allocated to existing routes without negatively impacting existing riders and service. Should the demand for early service on Route 5: Shoppers Shuttle to meet shift times for employees develop over time, the additional resources identified in Option 1b could be considered for future implementation.

Should funding be limited, Option 4 presents service changes that meet the required additional time for the system as well as service to Walmart via a Route 5: Shoppers Shuttle with some negative impacts on ridership and customer satisfaction. In particular, removing service directly to the mall entrance at Piccadilly Place as outlined in route A will have a negative impact on current riders and a significant negative impact for those with mobility difficulties. Alternatively, route B provides a new Route 1 option that continues to serve Piccadilly Place mall entrance but does remove a large section of the route at Foothill Rd SW and 10 St, albeit this is an area of lower ridership. In addition, Option 4 reduces service on Route 1, which may reduce ridership and there is less recovery time allocated to the system in comparison to Option 1, which may result in some continued issues with system reliability. However, the impacts associated with Option 4 are considered less than those outlined in Options 2 and 3, and may be addressed to some degree by identified mitigation measures. Options 2 and 3 are not recommended for implementation.

It is recommended that the proposed timeline and costs associated with the Service Change options be reviewed and Option 1 be considered for approval by the City of Salmon Arm Council. In addition, it is recommended that the proposed re-alignment of Route 1 and Route 3 and the additional time required to serve Walmart by Route 4 be reviewed and considered for approval by the City of Salmon Arm.

Following this, the implementation timeline would be confirmed and agreed between the City of Salmon Arm and BC Transit. It is recommended that all service changes (city and regional) are implemented together in order to minimize the impact on riders. An engagement exercise would be required to inform the public of the proposed changes prior to implementation. Should Option 2, 3 or 4 be considered it is recommended that a comprehensive public engagement exercise be carried out to ensure sufficient time and resources to fully engage the community on potential changes and incorporate their feedback into the final recommendation for service. Engagement could be completed in fall 2013 in anticipation of an implementation of service in early 2014. Changes to the regional routes would be included as part of the public engagement exercise and BC Transit would collaborate with the CSRD and the City of Salmon Arm in the public engagement arrangements.

Should Option 1 be approved, any consultation could be in the form of a 'sneak peek' public information exercise given that this would provide an expansion to service rather than a reduction in service. A 'sneak peek' exercise would inform the public of the approved option and allow for minor amendments prior to implementation. This would be completed in parallel with the implementation process as outlined in Table 9 and could result in an implementation of service by late 2013, dependent upon the date of approval.

It is recommended that the proposed timeline and resources associated with the Service Change options be reviewed and Option 1 be considered for approval by the City of Salmon Arm Council. In addition, it is recommended that the proposed re-alignment of Route 1 and Route 3 and the additional time required to serve Walmart by Route 4 be reviewed and considered for approval by the City of Salmon Arm. A marketing and public awareness exercise should be conducted on the approved options prior to implementation.

Table 9: Proposed Implementation Timeline for Service Change Option 1

Date*	Deliverable	Owner/Lead
Late Aug 2013	Service Change Option approved. Confirm resources, funding and operational feasibility	City of Salmon Arm, Operating Company
September 9, 2013	Update schedules/blocks with approved changes and forward to all stakeholders for review	BC Transit
September 9, 2013	Maps marked up for Marketing	BC Transit
September 16, 2013	Review updated schedules and provide feedback	City of Salmon Arm, Operating Company
September 23, 2013	Update schedules	BC Transit
September 30, 2013	Final Schedules provided to marketing and to the Operating Company for runcutting	BC Transit
October, 2013	Draft Rider's Guide Completed and forwarded to all stakeholders for review	BC Transit
October, 2013	Review Rider's Guide	City of Salmon Arm, Operating Company
October, 2013	'Sneak peek' public information sessions using approved schedules and Riders Guide	BC Transit
October, 2013	Make final updates to schedule and Rider's Guide (if necessary)	BC Transit
December 2, 2013	Service Implementation	BC Transit, Operating Company

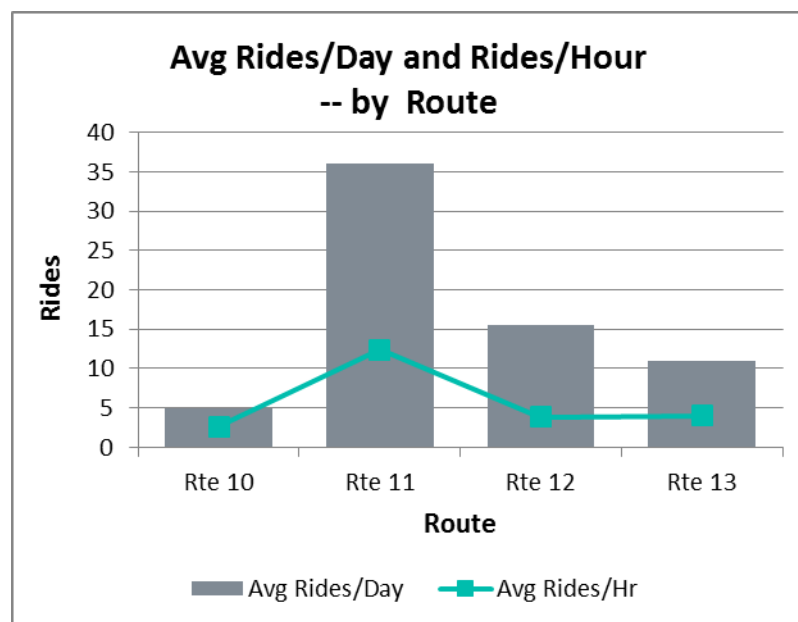
*Please note that this timeline is subject to change

Section 2: Regional Options

6.0 Regional Route Ridership and Service Options

The 2010/2011 Transit Service Review recommended several changes to the four Regional service routes. Additional ridership data has been collected over a four week period given the time since the service review recommendations were made. This updated data information is outlined below and the recommendations amended accordingly.

Figure 12: Salmon Arm Regional Routes Ridership Data 2013



6.1 Route 10: Salmon Arm – Silver Creek

Route 10 provides service between Salmon Arm and the small community of Silver Creek, located approximately 20 kilometres south of Salmon Arm. The route operates on Wednesday's only with 2 trips per day; 10:00 a.m. and 3:10 p.m. from Salmon Arm. As in 2010/2011, this route continues to experience the lowest ridership in the system with an average of 5 rides per week, 2.5 rides per trip and 2.6 rides per hour (Figure 12). Rides occur from timing point N: Sallenback and timing point M: Hornsberger. There were no rides taken from timing point L: Branch Flower in the four week period of data collection.

Recommendation

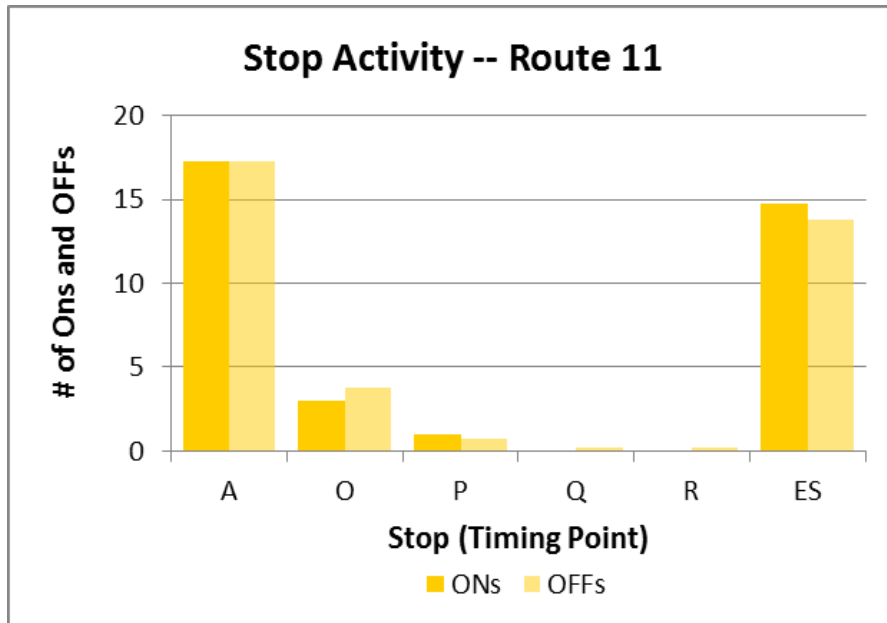
- Remove route from the system. One round trip takes 50 minutes, saving approximately 90 hours per year.

6.2 Route 11: Salmon Arm – Deep Creek – Enderby

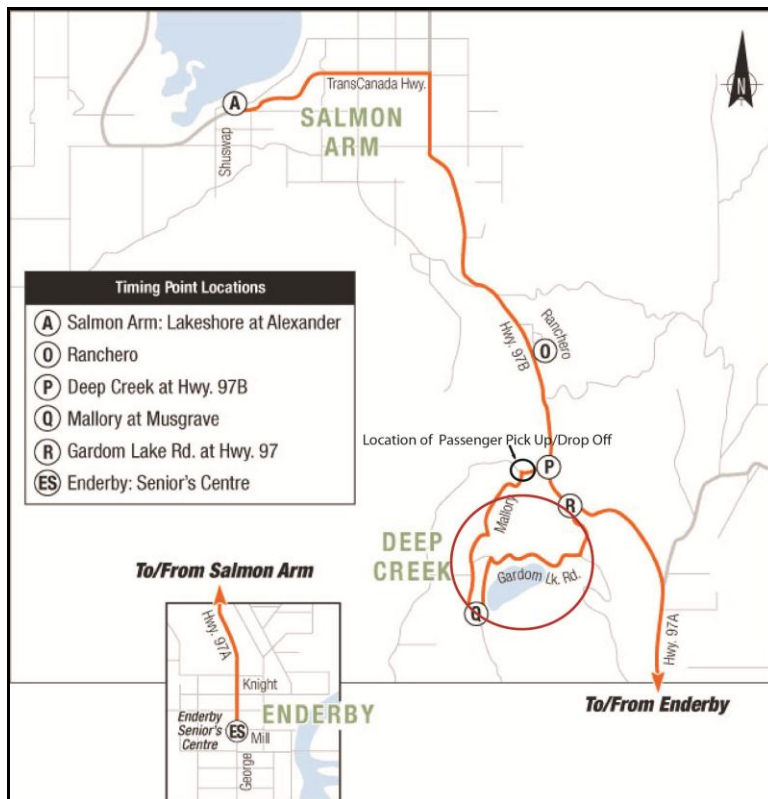
Route 11 provides service between Salmon Arm, the small residential area along Highway 97B of Deep Creek, and to the town of Enderby. In Enderby, passengers can transfer to a BC Transit service that operates between Enderby and Armstrong-Vernon. The route operates two round trips from Salmon Arm on Wednesday's only at 8:12 a.m. and 1:37p.m.

Route 11 has the highest ridership of all regional routes in the Shuswap transit system with an average of 36 rides per day, 18 rides per trip and 12.4 rides per hour (Figure 12). However, as in 2010/2011 there continues to be very poor ridership along Mallory Road and Gardom Lake Road. In all four weeks analyzed, there was only one incidence of a person disembarking at timing point Q and timing point R (Figure 13). In the 2010/2011 service review it was noted that there was only one passenger per week from this location going to Salmon Arm. This single passenger had taken this same trip every week since 1991 and used a walker. The passenger’s stop was very close to the highway, but they cannot walk long distances. These roads are very rough and are not paved although they are cleared in the winter. The 2013 data now indicates that this section of the route is no longer used on a weekly basis.

Figure 13: Route 11: Salmon Arm-Deep Creek-Enderby Timing Point Ridership



Eliminating the outbound and inbound Deep Creek portion of the route would provide a more direct service between Salmon Arm and Enderby for passengers. In addition, it would save approximately 16minutes per return trip, which equates to a saving of approximately 30 revenue hours per year. An alternative would be to consider a short deviation off Highway 97B on Deep Creek Road at timing point P to serve the regular customer travelling to Salmon Arm (Figure 14). This could be provided on an on demand basis, which would require passengers wishing to use this short deviation to call the day before in order to book travel. In this case, only approximately 6 minutes would be saved per return trip, which equates to approximately 11 hours per year.

Figure 14: Route 11: Salmon Arm-Deep Creek-Enderby Proposed Route Section Removal**Recommendation**

- Eliminate the inbound and outbound Deep Creek loop portion of the route. This will save approximately 16 minutes per return trip, which equates to approximately 30 hours per year.
- Conduct public engagement to determine whether it would be suitable to retain a short deviation off Highway 97B at Deep Creek Road.

6.3 Route 12: Salmon Arm – Eagle Bay via White Lake

Route 12 provides service from downtown Salmon Arm to Eagle Bay via Sunnybrae and White Lake. This route operates Thursdays only, with two round trips from Salmon Arm leaving at 8:15 a.m. and 2:00 p.m. The 2013 data indicates that this route receives an average of 15.5 rides per week, 7.8 rides per trip and 3.9 rides per hour (Figure 12).

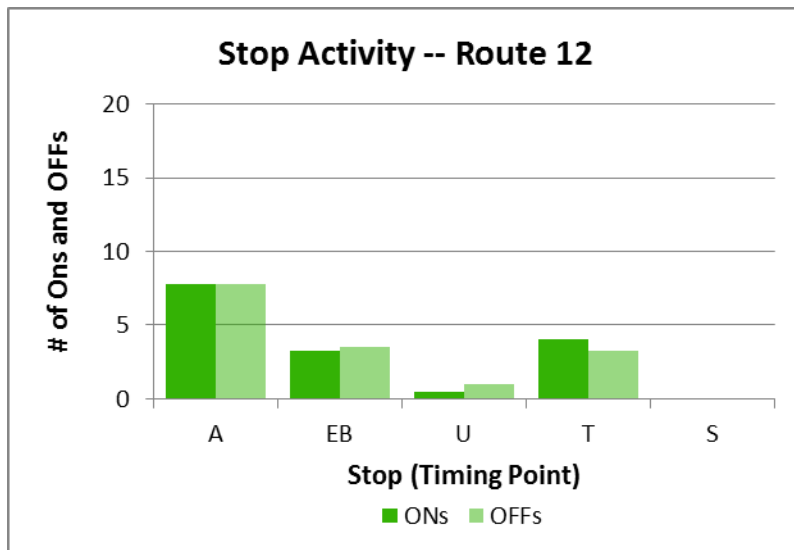
As in 2010/2011, the section of the route that deviates from the TransCanada Highway to Sunnybrae has no ridership (Figure 15). Removing this section of the route would save approximately 14 minutes per trip, which equates to approximately 26 hours per year. This would provide a more direct service for passengers by reducing the trip time from Eagle Bay to Salmon Arm from 1 hour 15 minutes to approximately 1 hour.

Since 2010/2011, ridership at Eagle Bay has increased from a single passenger to now approximately three passengers per trip (Figure 15). As such, it is no longer recommended that this section of Route 12 be removed, as outlined in the 2010/2011 service review.

Recommendation

- Eliminate the Sunnybrae portion of the route. This will save approximately 14 minutes per return trip, which equates to approximately 26 hours per year.

Figure 15: Route 12: Salmon Arm-Eagle Bay Timing Point Ridership

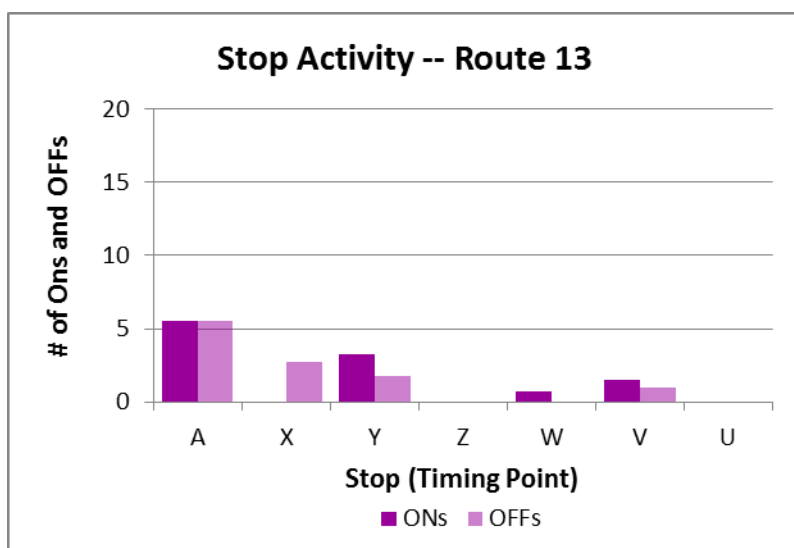


6.4 Route 13: Salmon Arm – Sorrento via Blind Bay

Route 13 provides service between downtown Salmon Arm and the small community of Sorrento, located approximately 34 kilometres north-west of Salmon Arm. This route operates two round trips on Thursdays, leaving Salmon Arm at 10:10 a.m. and 4:05 p.m. The 2013 data indicates that this route receives an average of 11 rides per week, 5.5 rides per trip and 4 rides per hour (Figure 12).

As in 2010/2011 there are several stops and areas that experience poor or no ridership, primarily timing point U: Balmoral Road and timing point Z: Cobeaux Road and along Buckley Road (Figure 16). These roads are also used as a place to turn the bus around to get back on the highway.

Figure 16: Route 13: Salmon Arm-Sorrento Timing Point Ridership



As such, the recommendation within the 2010/2011 service review to eliminate the Buckley Road and Cobeaux Road portions of the route is maintained. It is recommended that the new route return to Salmon Arm from either Highway 1 via Garroway Road (Figure 17) or via timing point Y (Sorrento Place, by Caen Road and Highway 1). This would save an estimated 7 hours of service per year.

Figure 17: Proposed Changes to Route 13 at Sorrento**Recommendation**

- Eliminate the Buckley Road and Cobeaux Road segments of the route. This will save approximately 7 hours of service per year.

7.0 Recommendation & Implementation Considerations

The proposed elimination of Route 10 and changes to Routes 11, 12 and 13 were presented to the Columbia Shuswap Regional District (CSRD) for information and review to receive their feedback regarding any required changes prior to presenting these to the City of Salmon Arm. It was made clear that any changes would need review and discussion with the City of Salmon Arm prior to implementation in order to fully understand potential impacts to the Annual Operating Agreement and cost sharing with the CSRD. The CSRD has since communicated with both BC Transit and the City of Salmon Arm to confirm that they have no objections to the recommendations as described. It should be noted that additional work will be required to determine cost implications of the recommended service reductions to the City of Salmon Arm.

If the regional route amendments are approved, it is recommended that all service changes (city and regional) are implemented together in order to minimize the impact on riders. An engagement exercise would be required to inform the public of the proposed changes prior to implementation. Changes to the regional routes would be included as part of the public engagement exercise outlined in Section 1, Table 9 and this timeline would be confirmed and agreed between the City of Salmon Arm and BC Transit once an option to address city routes has been approved. BC Transit would collaborate with CSRD and the City of Salmon Arm in the public engagement arrangements.