

Southwest Area Transport Plan

**Appendix J.
Customer Perceptions
Analysis**

Southwest Area Transport Plan | Phase 1: Issues and Opportunities

CUSTOMER PERCEPTIONS ANALYSIS

Prepared by:

TransLink System Planning

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1. Introduction

The Southwest Area Transport Plan is an opportunity to develop actions that address the concerns of those that use the network. Consultation will play a large role in gaining a clear understanding of these public concerns, but there are other data sources that can offer insight. This report will examine three of those sources:

- **Transit Customer Feedback:** TransLink records all messages and phone calls received from the public for use in studies like these. Most of this feedback comes in the form of a complaint, providing us with a detailed description of acute issues.
- **Transit Customer Performance Survey Data:** TransLink has been administering the same 14-minute telephone survey since 2002, providing a wealth of data on how customers feel about our services organized by route and by issue.
- **Urban Futures Survey:** In 2012, PlaceSpeak administered a region-wide survey to gather attitudes on a wide variety of urban issues, including transportation. They have provided TransLink with a report on the specific attitudes of the Southwest sub-region.

2. Transit Customer Feedback

Customer feedback is an important part of TransLink’s ongoing planning processes. We track and analyze comments on every aspect of our operation from the sign at the bus stop to proposals for major investments. Messages and phone calls are analyzed upon receipt, providing a pulse check on the transit network. When aggregated for larger-scale planning projects, distinct patterns emerge, highlighting pressure points in the network. For this analysis, we will examine all correspondence received between September 30, 2010 and September 30, 2015 regarding transit network issues in the Southwest sub-region, including some additional regional bus routes that serve the sub-region. This analysis mostly excludes messages regarding issues that would not be examined in an Area Transport Plan – for example, messages about drivers and bus cleanliness are excluded.

Table 1: Total feedback by category, 2010-2015

Topic	Number of messages	% of total messages
Reliability	908	35.6%
Capacity & Frequency	654	25.6%
Schedules & Connections	483	18.9%
Bus Stop Issues	230	9.0%
Design & Routing	127	5.1%
Hours of Operation	108	4.2%
New Route Suggestions	32	1.3%
Total	2547	100%

The relative proportions of each message category largely reflect the way in which these issues are experienced. When a bus is late or crowded, the problem is felt immediately and acutely. Unsatisfied passengers are presented with enough time on a crowded bus or at a bus stop to submit a message to TransLink about this issue. The absence of transit service, on the other hand, is felt in a fundamentally different way, and this difference can explain why we have 908 messages about reliability, but only 32 about new routes. People in areas without transit service are generally accustomed to using other means of transportation, and are much less likely to be in a situation where they experience the lack of transit strongly enough to send a message about the issue. This explains why the raw numbers of messages don’t tell the whole story, and each topic must be examined independently.

2.1. Reliability

Reliability is our largest category, making up over a third of messages. The patterns that emerge from this data may provide guidance on which routes are subject to external factors like traffic congestion.

- **Route 301** had the most feedback about reliability of any route (119 messages), with many experiencing late buses and no-shows, which is often exacerbated by capacity issues and relatively low peak frequency. Customer survey data corroborates this finding, indicating that customers rate the 301 the lowest in the sub-region for reliability (see Section 3.2.2 for more details). These issues may be caused by congestion on the Alex Fraser Bridge, although a more detailed traffic analysis may be warranted.

- **Route N10** has the highest number of messages about reliability as a proportion of that route’s ridership, although this problem appears to have tapered off in recent years (12 reports in 2011-2012 and only 6 in 2013-2014).
- **Route 640** appears to have recent and significant reliability issues with buses arriving early and late at stops – TransLink has received 61 reports so far in 2015.
- **Route 410** has the second-most messages about reliability, but as a proportion of its ridership, this is the lowest rate of reliability issues. This does not negate the fact that many of the messages report chronically early/late buses. This route’s high frequency may explain why fewer riders have taken the time to report their reliability issues – as frequency goes up, riders are more confident that the next bus is coming soon.

Table 2: Feedback about Reliability, 2010-2015

Route	Messages	Messages per 100,000 rides (2014 Ridership)
301	119	4.0
410	94	0.3
351	84	1.1
640	76	3.1
601	59	1.2
401	49	0.3
620	42	1.0
407	42	0.8
430	39	0.6
403	38	0.4
405	34	1.3
352	26	4.5
480	26	0.5
C92	24	3.9
402	24	0.5
311	23	2.8
N10	20	6.6
602/603/604	17	1.4
C93	16	2.8
354	13	1.6
C76	11	1.6
404	10	0.5
C94	4	1.7
C98	4	1.3
C88	4	4.6
C96	3	0.8
C84	2	2.4
608	2	3.4
C89	1	1.2
C86	1	0.8
C87	1	1.6
Grand Total	908	35.6%

Table 3: Feedback about Capacity & Frequency, 2010-2015

Route	Messages (2010-2015)	Messages per 100,000 rides (2014 Ridership)
620	125	3.0
410	67	0.2
401	55	0.4
640	49	2.0
351	44	0.6
407	38	0.7
403	38	0.4
C93	37	6.4
480	36	0.7
C98	31	10.2
601	27	0.5
301	26	0.9
402	16	0.3
C92	15	2.5
602/603/604	12	1.0
311	10	1.2
430	8	0.1
405	6	0.2
404	3	0.1
609	2	No Ridership Data
352	2	0.3
N10	1	0.3
C96	1	0.3
354	1	0.1
C88	1	1.2
Airport	1	0.1
C89	1	1.2
980	1	0.0
Grand Total	654	25.6%

2.2. Capacity & Frequency

The second largest category of customer feedback relates to transit capacity and frequency, making up a quarter of all messages. **The vast majority of messages are requests for additional**

capacity, although we sometimes receive suggestions on where to reduce capacity. It should be noted that capacity and frequency are substantially different topics. Capacity issues can be solved in a variety of ways, whereas frequency is only one of the potential solutions. Capacity and Frequency are combined in this analysis because many of those who have sent us feedback see them as very closely linked, and separating the two topics would have been challenging.

- **123 messages have been submitted to TransLink about capacity issues on Route 620.** Pass ups occur at all the route's stops in peak periods, which include weekends and the summer travel season. Ridership statistics show that this is the most crowded route outside of Vancouver, with 16% of service hours in overcrowded conditions. Many messages mention that the high volume of luggage exacerbates capacity constraints. Rationales given for an increase in frequency include not only capacity constraints, but also more flexibility in making the connection between ferry and bus. Currently, buses depart every 1-2 hours, timed to connect with ferries to Swartz Bay (Victoria). Passengers destined for the Duke Point (Nanaimo) and Gulf Islands ferries feel that increasing frequency would reduce their wait times at the ferry terminal.
- **Route C98** had the highest number of messages as a proportion of the route's ridership. Most capacity complaints were received in late 2013 and throughout 2014, until the route's minibuses were converted to standard buses, largely solving the problem.
- **Route C93** also ranked highly as a proportion of its ridership, although many of the messages are commendations. In September 2014, the route's midday and weekend frequency was dropped to 60 minutes, spurring many complaints. In the next schedule change, frequency was raised back up to 35 minutes, which resulted in messages thanking us for the change.
- Pass-ups on **Route 640** seemed to occur on a regular basis in the afternoon peak until frequency was increased in April 2015.
- Overcrowding and peak-hour passups appear to be a regular problem on **Route 410 and 351**, the two Frequent Transit Network routes in the sub-region. It appears that no peak-hour improvements have been made since April 2012.
- **Route 401** experiences overcrowding on Sundays, the only day of the week when it operates at a frequency of 30 minutes, as opposed to 20 minutes on Saturdays and 15 minutes on weekdays. This is the only route in the sub-region where frequencies differ between Saturdays and Sundays.
- **Route 407** was the subject of several complaints about low frequency – not because of overcrowding, but simply because of travel time. The 407 is one of the least frequent routes in urban Richmond.

2.3.Schedules & Connections

One fifth of all messages refer to instances where the schedule could be better designed to reduce connection times. The Area Transport Plan will not establish full schedules, but may suggest frequencies and schedules structures that facilitate connections.

- **66% of all messages received about scheduled connections were in regards to Route 620.** This route runs relatively infrequently (60-120 minute frequency) and connects to other routes that run infrequently (640, C76, and BC Ferries). It follows that many people have ideas about how to optimize the schedule, which can have a huge impact on overall travel time. Of these, 71% were

in regards to the December 2013 cancellation of the 10am bus. This change would have resulted in a 100 minute wait for passengers arriving from the Gulf Islands. This outcry resulted in a reversal of the proposed service change, but the existing schedule still requires a 40 minute wait at Tsawwassen Ferry Terminal

- **Route 640** ranks a distant second in terms of number of messages, and they typically refer to poor connection timing with Route 620. Some have also requested that the schedule accommodate shift start/end times in Tilbury Industrial Area.
- Because of **route 601's** role as a regional link, riders use it to connect to a variety of other routes. Of the comments received, the two most prominent requests were for better connection timing at Ladner Exchange with other shuttle routes, and better connection timing with the Canada Line late at night when it runs at a reduced frequency.

Table 4: Feedback about Schedules & Connections, 2010-2015

Route	Messages	Messages per 100,000 rides (2014 Ridership)
620	340	8.1
601	19	0.4
640	19	0.8
602/603/604	13	1.1
402	11	0.2
407	8	0.1
C76	8	1.2
351	7	0.1
403	6	0.1
401	5	0.0
404	5	0.2
410	4	0.0
311	4	0.5
C87	4	6.2
301	4	0.1
C94	3	1.3
C88	3	3.5
C93	3	0.5
C92	2	0.3
480	2	0.0
609	2	No Ridership Data
c86	2	1.6
C84	2	2.4
430	1	0.0
C96	1	0.3
405	1	0.0
Airport	1	0.1
C98	1	0.3
606	1	3.9
608	1	1.7
Grand Total	483	18.9%

Table 5: Feedback about Stops, 2010-2015

Route	Messages	Messages per 100,000 rides (2014 Ridership)
640	39	1.6
410	37	0.1
351	23	0.3
401	19	0.1
620	16	0.4
430	11	0.2
402	11	0.2
601	11	0.2
403	10	0.1
C76	7	1.0
407	7	0.1
301	7	0.2
404	4	0.2
C92	3	0.5
C89	3	3.7
C94	3	1.3
405	3	0.1
N10	3	1.0
c86	2	1.6
C93	2	0.3
480	2	0.0
Mitchell Island	2	N/A
602/603/604	2	0.2
C87	1	1.6
311	1	0.1
C96	1	
Grand Total	230	9.0%

2.4.Stops

Issues with individual stops (9% of all messages) are largely out of the purview of the Area Transport Plan, but are included in this analysis to understand the scope of this issue in relation to others. Common topics in this category include damage to stops, complaints about pedestrian facilities, requests to make a stop wheelchair accessible, and requests for new stops. Stop issues that affect the larger network like route stopping patterns and exchange issues will be up for discussion.

2.5.Design

5.1% of all messages received were requests to change some aspect of a bus's routing, either to serve a new area or provide more direct service.

- The southern terminus of **Route 480** was moved from Brighouse to Bridgeport in April 2011 as part of the service optimization program. We received 48 messages (constituting a third of all messages about design) from people who made use of that portion of the route, and did not want to transfer to the Canada Line.
- **Route C98** terminates about a 10 minute walk from some major employers at the corner of Blundell Rd. and York Rd. TransLink received 7 messages requesting an extension, and there have been anecdotal reports of bus operators informally extending the route on their own. CMBC has explored the possibility of extending this route to York Rd but there is not yet a safe location to turn the bus around.
- In December 2014, **Route 404** from Richmond Brighouse was truncated at Steveston Hwy, no longer providing direct service between central Richmond and Ladner, through the Massey Tunnel. TransLink received 17 messages asking us to reconsider the change.

2.6.Hours of Operation

Only 4% of messages requested changes in the hours of operation of individual routes, and **these are predictably focused on the routes with the shortest hours.**

- Service on **Route 301** ends around 9pm on weekdays and 8pm on weekends. Kwantlen Polytechnic University students in particular have repeatedly requested later buses, because the 301 connects the Richmond campus with another campus in Surrey. The Kwantlen Student Association operates a shuttle for students who've missed the last 301, but it only operates Monday-Thursday during the school year. Without the 301, travel time on the alternate connection between these two campuses doubles.
- **Route C76** offers a regional connection between Ladner and Newton, but only operates until 6:30pm.
- The **N10 nightbus** travels in a triangular pattern between Vancouver, YVR, and Richmond Brighouse. While Brighouse is served all night long, service on the YVR branch ends at 3:30am. We've received messages from travellers and employees alike saying that this conflicts with shift and flight times.

Table 6: Feedback about Design, 2010-2015

Route	Messages	Messages per 100,000 rides (2014 Ridership)
480	48	0.9
410	19	0.1
404	17	0.8
C98	7	2.3
601	7	0.1
620	6	0.1
403	6	0.1
640	5	0.2
C94	3	1.3
C76	3	0.4
301	2	0.1
405	1	0.0
402	1	0.0
C96	1	0.3
602/603/604	1	0.1
430	1	0.0
351	1	0.0
Grand Total	129	5.1%

Table 7: Feedback about Hours of Operation, 2010-2015

Route	Messages	Messages per 100,000 rides (2014 Ridership)
301	14	0.5
C76	8	1.2
N10	8	2.6
407	8	0.1
C96	7	1.9
405	6	0.2
C94	5	2.1
C92	5	0.8
311	5	0.6
352	5	0.9
640	5	0.2
430	4	0.1
620	3	0.1
602/603/604	3	0.3
C98	3	1.0
354	3	0.4
C89	3	3.7
480	3	0.1
410	2	0.0
402	2	0.0
601	2	0.0
351	1	0.0
403	1	0.0
C93	1	0.2
C87	1	1.6
Grand Total	108	4.2%

2.7. New Route Suggestions

Suggestions for new routes accounted for only 1.3% of all messages.

- Five people requested a route that offers east-west connections along **Blundell Rd.** in Richmond. Currently, 1.6km of Blundell is covered by route 402, and it is bisected every 0.8km by north-south routes.
- Five people requested service to the float home community near the **Westham Island** Bridge. It is currently 3km from the nearest bus stop, in Ladner.
- Four people requested a bus circulating **Mitchell Island**, a long, narrow industrial area in the north arm of the Fraser River. The eastern side of the island is bisected by the Knight Street Bridge, which is served by the 407 and 430 buses. The western-most business on the island is a 35 minute walk (2.5km) from the existing bus stop.

Table 8: Feedback about New Routes, 2010-2015

Route	Messages
Blundell	5
Westham Island	5
Mitchell Island	4
No. 4 Rd north of Granville	3
North YVR	3
No. 5 Rd. north of Westminster Hwy	2
Steveston Hwy	1
Parc Riviera	1
Deltaport	1
Burkeville	1
Steveston - Tsawwassen	1
Knight St. B-Line	1
Surrey-Tsawwassen	1
East Steveston	1
Langley-Tsawwassen	1
Ladner - White Rock	1
Grand Total	32

3. Transit Customer Service Performance Survey

One of the tools that TransLink uses to gauge customer satisfaction is a 14-minute telephone survey administered to roughly 8,400 people every year. The same survey has been used since 2002, offering a consistent dataset from which we can extract trends about individual transit services. Participants are asked about critical success measures for each transit service that they use, and statistical methods are used to ensure that the results are representative of the region’s demographic profile. Unless otherwise specified, all ratings are on a scale from 0 to 10 points.

This survey offers statistically significant longitudinal data, allowing us to track trends and identify problem areas. Customer feedback data can be compared with survey data, providing planners a greater understanding of the context around customer experience issues. In this analysis, ratings with low sample sizes are omitted. Complete data tables are available in Appendix A.

3.1.Canada Line

The Canada Line consistently has **some of the highest overall satisfaction ratings in the entire transit network**. In the second quarter of 2015, 85% of respondents rated it “Good¹” or higher, whereas only 66% offered the same praise for the Expo and Millennium Lines, and 62% for the bus network. The only notable departure from the Canada Line’s high ratings is in the crowding category, which is consistently rated by customers at around 7 out of 10, compared to the line’s overall rating of 8.6 out of 10.

Table 9: Canada Line-wide customer ratings

Measure	Rating (Q12011 - Q2 2015)
Overall	8.6
Frequency	8.5
Reliability	9.0
Crowding	7.0

3.1.1. YVR Branch

The stations of Sea Island largely echo the Canada Line’s high rating across all categories. Crowding ratings at Templeton and Sea Island Centre fluctuate more than any other measure, but sample sizes are abnormally small. These are two of the two least used transit stations in the region, and any reports of crowding are likely referring to conditions in Vancouver and Richmond.

Table 10: Canada Line capacity ratings

Station	2011	2015 Q1+Q2
ABERDEEN	7.1	6.0
BRIDGEPORT	6.7	7.0
LANSDOWNE	6.5	
RICHMOND BRIGHOUSE	6.5	6.8
YVR AIRPORT	8.3	8.0

Values with low sample sizes were omitted

3.1.2. Richmond Branch

The ratings of all stations on the Richmond Branch have been exhibiting slight, steady year-over-year improvement, with one key exception: passengers using **Aberdeen Station experienced a 1.7 point drop in satisfaction about overcrowding** in the first half of 2015. Automatic Passenger Counter data indicates that Aberdeen is the only station on the Richmond Branch that has seen significant peak

¹ Good is defined as a rating of 8 out of 10 or higher.

ridership growth between 2014 and 2015. Aberdeen Station is already constrained in the morning peak as much of the line’s capacity is used by riders boarding at Brighthouse and Lansdowne. Passenger counts indicate that in 2012, 80% of the Richmond Branch’s capacity is occupied before the train reaches Aberdeen. Reliability scores at Aberdeen Station have also been on a downward trajectory, but overall satisfaction has remained steady, and in line with the other stations.

3.2. Bus Routes

Customer satisfaction ratings for the bus routes of the Southwest sub-region are very similar to those of the region as a whole. Routes in the Southwest score slightly lower on directness and frequency, as compared to regional scores. They score slightly higher on not being overcrowded.

Table 11: Sub-region-wide bus ratings

Measure	Region-wide Q1 2011- Q2 2015 rating	Southwest Sub-region Q1 2011- Q2 2015 rating
Overall Bus Service	7.7	7.7
Not Being Overcrowded	6.9	7.2
On-Time Reliable Service	7.5	7.5
Having a Direct Route	8.5	8.2
Trip Duration	8.2	8.2
Frequency of Service	7.1	6.8

3.2.1. Bus Crowding

“How would you rate it in terms of not being overcrowded?”

Customer satisfaction regarding bus crowding demonstrates the widest variation of any individual metric. While the sub-regional satisfaction rating for bus crowding is 7.2, the 620 scores at 5.6, and the 405 was rated at 9.0. Both of these bus routes are outliers lying 0.5-1 points away from the nearest value. Other routes with low satisfaction on this metric include the 480, 410 and 301. **All four of the lowest-ranked routes share one commonality:** they all provide regional connections in and out of the sub-region.

Table 12: Crowding ratings by route

Route	Q1 2011- Q2 2015 Rating
620 Tsawwassen Ferries/Bridgeport Station	5.6
480 UBC/Bridgeport Station	6.6
410 22nd St. Station/Queensborough/Railway	6.7
301 Newton Exchange/Brighthouse Station	6.9
104 - 22nd St Stn/Annacis Island	7.0
401 One Road/Garden City	7.0
403 Bridgeport Station/Three Road	7.1
430 Metrotown/Brighthouse Station	7.4
351 - Crescent Beach/Bridgeport Stn	7.4
603 Beach Grove/Bridgeport	7.4
601 South Delta/Boundary Bay/Bridgeport	7.6
602 Tsawwassen Heights/Bridgeport	7.6
402 Two Road/Brighthouse Station	7.6
640 Ladner Exchange /Scott Road Station	7.6
407 Gilbert/Bridgeport	7.8
C76 Scottsdale/Ladner Exchange	8.1
404 Ladner Exchange/Brighthouse Station	8.2
604 English Bluff/Bridgeport	8.5
405 Five Road/Cambie	9.0

Of the routes that are rated highly for capacity, three of them (404, 405, and 407) serve areas of Richmond that have relatively low transit demand, and duplicate other routes in high-demand sections.

The customer performance data doesn’t indicate any significant upward or downward trends regarding capacity.

3.2.2. Bus Reliability

“How would you rate it in terms of providing on time, reliable service?”

The customer performance rankings show a clear relationship between which road a bus uses and reliability. Four of the top five bus routes on this metric travel along Highway 99, while three of the bottom four routes use Highway 91. Buses that use Highway 99 & the Massey Tunnel have access to HOV lanes, allowing buses to largely avoid peak-hour congestion. There are no transit priority facilities on Highway 91, nor on the Alex Fraser and Queensborough Bridges. The worst ranked route - 301 - is the only one in the sub-region that uses the Alex Fraser Bridge. Customer feedback echoes the findings of the customer performance survey – TransLink received more reliability complaints about the 301 than any other route in the sub-region.

A statistical analysis of the survey data shows that an improvement in bus reliability has the greatest likelihood of improving the public’s overall perception of a route.

Route 104 to Annacis Island – which may merit examining as part of the SWATP – received a notably low satisfaction rating for reliability in the performance data, ranking second-last. We know that this route is subjected to congestion on the Queensborough Bridge, but Google Maps indicates that there may also be some peak-hour congestion along other parts of the route, including on Cliveden Avenue and Ewen Avenue.

Table 13: Reliability ratings by route

Route	Q1 2011- Q2 2015 Rating
301 Newton Exchange/Brighthouse Station	6.8
104 - 22nd St Stn/Annacis Island	6.9
407 Gilbert/Bridgeport	7.2
410 22nd St. Station/Queensborough/Railway	7.3
401 One Road/Garden City	7.3
403 Bridgeport Station/Three Road	7.4
404 Ladner Exchange/Brighthouse Station	7.4
402 Two Road/Brighthouse Station	7.5
603 Beach Grove/Bridgeport	7.6
480 UBC/Bridgeport Station	7.6
640 Ladner Exchange /Scott Road Station	7.6
430 Metrotown/Brighthouse Station	7.8
C76 Scottsdale/Ladner Exchange	7.8
601 South Delta/Boundary Bay/Bridgeport	7.9
620 Tsawwassen Ferries/Bridgeport Station	7.9
405 Five Road/Cambie	8.0
602 Tsawwassen Heights/Bridgeport	8.0
351 - Crescent Beach/Bridgeport Stn	8.1
604 English Bluff/Bridgeport	8.4

3.2.3. Bus Route Directness

“How would you rate it for having a direct route?”

The Southwest sub-region’s routes score lower on “having a direct route” than the regional average. The lowest ranked routes feature prominent diversions that may explain their rankings.

- Route C76 is roughly 1.4 kilometres longer because of a diversion to the Boundary Bay Airport. Also, three trips a day divert another 1.4km to the Delta View Life Enrichment Centre. Respondents may also be taking issue with the termini. The western terminus is Ladner Exchange, which offers connections to useful bus routes but is not within walking distance of many destinations. The eastern terminus at Scottsdale Mall offers access to many shops and services but stops several kilometres short of Surrey’s Kwantlen Polytechnic campus and Newton Exchange, which is a much more prominent regional transportation hub.
- Route 640 diverts 1 kilometre off River Road to serve the Tilbury Industrial Area, and also suffers from the same termini issues as the C76.
- Route 104 does a 1.8km loop through Queensborough before reaching Annacis Island. It also uses Derwent Way to cross the Fraser River instead of the Alex Fraser Bridge, which may seem less direct to riders, although it is much less prone to traffic congestion.

- Route 601 is a direct connection for passengers travelling between Ladner and Richmond, but Tsawwassen passengers are subjected to a slower connection along Arthur Drive and Ladner Trunk Rd.

The top five ranked routes in this category all have direct and legible service patterns, with the 620 leading the pack. Notably, several routes have experienced a significant upward trend in rating, despite no change to the route pattern – notably, the 410, 351, and 601. Context may explain some of the improvement: When first introduced, routes 351 and 601 travelled directly into downtown Vancouver. In 2009, the opening of the Canada Line caused the truncation of these routes in Richmond, upsetting many passengers by eliminating their one-seat ride to Vancouver, despite a reduction in their overall travel time. The upward trend in rating for these routes may be the result of passengers growing comfortable with this new service pattern. The 410 has shown the highest increase in customer satisfaction score since 2011, despite no change in routing.

Table 14: Directness ratings by route

Route	Q1 2011-Q2 2015 Rating
C76 Scottsdale/Ladner Exchange	6.7
603 Beach Grove/Bridgeport	7.0
640 Ladner Exchange /Scott Road Station	7.6
104 - 22nd St Stn/Annacis Island	7.8
601 South Delta/Boundary Bay/Bridgeport	7.8
402 Two Road/Brighthouse Station	7.9
602 Tsawwassen Heights/Bridgeport	8.0
405 Five Road/Cambie	8.0
404 Ladner Exchange/Brighthouse Station	8.1
604 English Bluff/Bridgeport	8.2
407 Gilbert/Bridgeport	8.2
351 - Crescent Beach/Bridgeport Stn	8.3
480 UBC/Bridgeport Station	8.3
410 22nd St. Station/Queensborough/Railway	8.3
401 One Road/Garden City	8.3
430 Metrotown/Brighthouse Station	8.5
301 Newton Exchange/Brighthouse Station	8.6
403 Bridgeport Station/Three Road	8.7
620 Tsawwassen Ferries/Bridgeport Station	8.8

Table 15: Trip Duration ratings by route

Route	Q1 2011-Q2 2015 Rating
640 Ladner Exchange /Scott Road Station	7.6
603 Beach Grove/Bridgeport	7.6
C76 Scottsdale/Ladner Exchange	7.7
480 UBC/Bridgeport Station	7.9
301 Newton Exchange/Brighthouse Station	8.0
404 Ladner Exchange/Brighthouse Station	8.0
410 22nd St. Station/Queensborough/Railway	8.0
402 Two Road/Brighthouse Station	8.1
602 Tsawwassen Heights/Bridgeport	8.1
104 - 22nd St Stn/Annacis Island	8.1
407 Gilbert/Bridgeport	8.2
604 English Bluff/Bridgeport	8.2
601 South Delta/Boundary Bay/Bridgeport	8.2
401 One Road/Garden City	8.3
403 Bridgeport Station/Three Road	8.3
430 Metrotown/Brighthouse Station	8.3
351 - Crescent Beach/Bridgeport Stn	8.4
620 Tsawwassen Ferries/Bridgeport Station	8.6
405 Five Road/Cambie	8.7

3.2.4. Bus Trip Duration

“How would you rate the trip duration from the time you boarded to the time you got off the bus?”

Trip duration rankings seem to correlate roughly with directness, although riders are generally more satisfied with trip duration than directness. The lowest-scoring routes tend to have diversions (C76, 603, 640) that lengthen the overall trip for a majority of passengers. Only a few routes have drastically different trip duration and directness rankings – the 301 and 480 are notable examples where riders are less satisfied with the trip duration than the trip’s directness. These two routes are also subject to significant traffic congestion, which may lengthen trip duration, despite a direct routing.

3.2.5. Bus Frequency

“How would you rate it in terms of frequency of service?”

Frequency is the category in which riders were the least satisfied, giving the Southwest sub-region’s buses 6.8, in contrast with the regional average of 7.1. Low ratings in the frequency category have the highest influence on low overall scores, according to an internal statistical analysis. This highlights the importance of frequency to our customers.

The route-by-route rankings roughly mirror the relative frequencies of each route. In this data, there is a stark division between routes whose lowest frequency is 20 minutes and routes whose lowest frequency is 30 minutes, supporting the conclusion that this threshold is critical for customer satisfaction. All of the top 6 routes operate at a frequency of 12 minutes or better in the AM peak. All of the bottom 14 routes operate at a frequency of 30 minutes or worse on weekends.

Table 16: Customer Frequency Rating and Frequency levels

Ranking	Route	Q1 2011 - Q2 2015 Average Rating	Frequency (minutes)			
			Maximum	Weekday Midday	Saturday Midday	Sunday Midday
1	351 - Crescent Beach/Bridgeport Stn	7.7	10	15	15	15
2	410 22nd St. Station/Queensborough/Railway	7.5	6	10	12	12
3	480 UBC/Bridgeport Station	7.2	12	12		
4	401 One Road/Garden City	7.1	9	15	20	30
5	403 Bridgeport Station/Three Road	7.0	12	15	20	20
6	402 Two Road/Brighthouse Station	6.6	12	20	30	30
	C76 Scottsdale/Ladner Exchange	6.6	30	30	60	60
8	104 - 22nd St Stn/Annacis Island	6.5	12	30	30	30
	601 South Delta/Boundary Bay/Bridgeport	6.5	12	20	30	30
	620 Tsawwassen Ferries/Bridgeport Station	6.5	30	30	30	30
11	404 Ladner Exchange/Brighthouse Station	6.4	30	30	30	30
12	604 English Bluff/Bridgeport	6.3	30			
	602 Tsawwassen Heights/Bridgeport	6.3	30			
14	301 Newton Exchange/Brighthouse Station	6.2	20	30	60	60
15	405 Five Road/Cambie	6.1	30	30	30	30
	640 Ladner Exchange /Scott Road Station	6.1	15	30	30	30
	430 Metrotown/Brighthouse Station	6.1	20	20	30	30
18	603 Beach Grove/Bridgeport	6.0	30			
19	407 Gilbert/Bridgeport	5.9	20	30	30	30

Table 17: Highest ranked route-measure pairings* by rating

Route or Canada Line Station	Measure	Q1 2011-Q2 2015 Rating	Ranking out of 114
405 Five Road/Cambie	Not Being Overcrowded	9.0	1
620 Tsawwassen Ferries/Bridgeport Station	Having a Direct Route	8.8	2
403 Bridgeport Station/Three Road	Having a Direct Route	8.7	3
405 Five Road/Cambie	Trip Duration	8.7	4
301 Newton Exchange/Brighthouse Station	Having a Direct Route	8.6	5
620 Tsawwassen Ferries/Bridgeport Station	Trip Duration	8.6	6
604 English Bluff/Bridgeport	Not Being Overcrowded	8.5	7
430 Metrotown/Brighthouse Station	Having a Direct Route	8.5	8
351 - Crescent Beach/Bridgeport Stn	Trip Duration	8.4	9
604 English Bluff/Bridgeport	On-Time Reliable Service	8.4	10

Table 18: Lowest ranked route-measure pairings* by rating

Route or Canada Line Station	Measure	Q1 2011-Q2 2015 Rating	Ranking out of 114
404 Ladner Exchange/Brighthouse Station	Frequency of Service	6.4	105
604 English Bluff/Bridgeport	Frequency of Service	6.3	106
602 Tsawwassen Heights/Bridgeport	Frequency of Service	6.3	107
301 Newton Exchange/Brighthouse Station	Frequency of Service	6.2	108
405 Five Road/Cambie	Frequency of Service	6.1	109
640 Ladner Exchange /Scott Road Station	Frequency of Service	6.1	110
430 Metrotown/Brighthouse Station	Frequency of Service	6.1	111
603 Beach Grove/Bridgeport	Frequency of Service	6.0	112
407 Gilbert/Bridgeport	Frequency of Service	5.9	113
620 Tsawwassen Ferries/Bridgeport Station	Not Being Overcrowded	5.6	114

**Route-measure pairing: Survey data was collected on 5 distinct measures (ie. not being overcrowded) for 19 of the routes (ie. 301) in the sub-region for which enough samples were available. The customer rating of each measure for each route was ranked in a table, and the highest and lowest rankings are presented above. Any values with a low sample size have been omitted, leaving a final total of 114 route-measure pairings.*

Table 19: Bus measures with largest increase in rating

Route or Canada Line Station	Measure	2011 Rating	2015 Q1 & Q2 Rating	2011-2015 change
601 South Delta/Boundary Bay/Bridgeport	Having a Direct Route	7.5	8.1	0.6
410 22nd St. Station/Queensborough/Railway	Frequency of Service	7.3	7.9	0.6
351 - Crescent Beach/Bridgeport Stn	Having a Direct Route	8.0	8.7	0.7
410 22nd St. Station/Queensborough/Railway	Having a Direct Route	8.0	8.7	0.8
402 Two Road/Brighthouse Station	Overall Bus Service	6.6	7.8	1.2

Table 20: All bus measures with decrease in rating

Route or Canada Line Station	Measure	2011 Rating	2015 Q1 & Q2 Rating	2011-2015 change
601 South Delta/Boundary Bay/Bridgeport	Not Being Overcrowded	7.5	7.0	-0.5
410 22nd St. Station/Queensborough/Railway	Not Being Overcrowded	6.9	6.4	-0.5
401 One Road/Garden City	Trip Duration	8.2	7.9	-0.2
601 South Delta/Boundary Bay/Bridgeport	On-Time Reliable Service	7.9	7.6	-0.2
401 One Road/Garden City	Not Being Overcrowded	6.8	6.7	-0.1
601 South Delta/Boundary Bay/Bridgeport	Frequency of Service	6.4	6.3	-0.1

3.3.Links

[The latest Customer Service Performance Data report](#) has a detailed description of the survey and methods starting on page 61.

4. Urban Futures Survey

The Greater Vancouver Urban Futures Opinion Survey is intended to provide local policymakers with a clearer view of how the public feels about matters of policy. It is the third in a series of studies that have impacted the decisions that make Metro Vancouver what it is today. At our request, PlaceSpeak compiled the sub-regional results of their Urban Futures Survey to understand how the opinions of Southwest residents differ from the rest of the region. Note that North Delta is included in this data, due to difficulties in separating it from South Delta. PlaceSpeak's observations are listed below. Data tables are available in Appendix B.

4.1. General Observations

- Regarding the high-level priorities such as the need for more public transit, importance of health care, preserving the natural environment and the policies of the regional growth strategy, the views of the residents of the sub-region are essentially the same as those of the region as a whole.
- The residents of Richmond/Delta/TFN can be characterized as somewhat more “traditional” in outlook with respect to dependence on the private automobile, scepticism about cycling as a mode of transportation rather than a form of recreation and the sense that living in single-family homes is more “normal” than apartment living.
- It is also clear that the residents of the sub-region view cultural diversity as a positive aspect of their communities.

4.2. Policy Priorities

- There appears to be more of an emphasis on building more transit and on improving highway transportation.
- The differences in views between the region and the sub-region are not significant.

4.3. Issue Statements

- It is in this section of the survey that the suburban nature of the sub-region comes through, with more support for automobile use and apparently less willingness to support alternative modes, all for the practical reason that origins and destinations for many trips are further apart and more numerous than in a more urban setting.
- There is more support for shopping in malls and living in single-family homes in the sub-region.

4.4. Metro Vancouver Urban Growth Strategy Goal Priorities

- There is no material difference between the views of those in the sub-region and the region as a whole with respect the regional growth strategy priorities.
- It is important that this question involved a ranking of predetermined goals in order of preference; it should not be inferred that these would be the goals of respondents if they were asked a more open-ended question.

4.5.Challenges

- This table reflects the fact that the sub-region has not experienced the issues such homelessness and housing supply to the degree experienced by the region as a whole.
- The relatively less concern with air pollution from automobiles may be a reflection of the view that automobile use a practical necessity in the sub-region.

5. Key Findings

- Customers are generally **very satisfied with the Canada Line**, with overcrowding on the Richmond Branch being the primary concern. More research is needed to understand why Aberdeen Station’s overcrowding rating has dropped more than other stations.
- Frequency ratings have the greatest negative impact on overall bus service perceptions. Increased reliability has the greatest potential to increase overall ratings.
- Both data sources indicate that **route 301** between Richmond Brighthouse and Newton Exchange **is the least reliable route in the sub-region**. It is also the only route in this analysis to use the Alex Fraser Bridge, which is frequently congested.
- Overall, **routes using the Queensborough and Alex Fraser bridges have lower reliability ratings**, and routes using the Massey Tunnel have higher reliability ratings.
- **Route 620**, linking Tsawwassen Ferry Terminal to the regional transit network, **has drawn attention for a number of reasons**:
 - It frequently experiences overcrowding
 - Customers have requested that schedules are coordinated to facilitate connections at Ladner Exchange
 - Customers have requested increased frequency
 - Generally, we receive a high number of messages about the 620 in relation to the route’s ridership.
- On the frequency metric, **routes with the highest customer satisfaction operate every 12 minutes or better in the peak**. Routes with the lowest satisfaction operate at a frequency of 30 minutes or worse on weekends.
- Ladner Exchange is a connection point for a number of low-frequency routes. Customers have told us that **connection timing at Ladner Exchange could play a big role in improving their experience**.
- The Performance survey shows that customers **are extremely satisfied with the crowding levels of certain routes** (C76, 404, 604, and 405), indicating that those routes may be under-utilized.
- Customers experience the **most overcrowding on longer regional routes** that connect to points outside the sub-region (620, 480, 410, 301).
- One of the major elements of transit network design is deciding the hours of operation of a bus route, but survey data on this topic is not available. **It may be useful to add a question about hours of operation to the performance survey**. Data on that topic could be useful to understand where these hours may be adjusted to better meet the needs of riders. In the absence of a specific survey question, customer dissatisfaction about hours of operation may be partly reflected in their ratings for frequency.
- **Routes 603 and 604 have vastly different customer service performance ratings** on several measures despite running nearly identical routes (see Table 21). Both run in a loop around Tsawwassen, with the 603 running clockwise and the 604 running counter-clockwise. More

Table 21: Comparing ratings of the 603 and 604

Measure	Q1 2011-Q2 2015 Rating	
	603	604
Frequency of Service	6.0	6.3
Having a Direct Route	7.0	8.2
Not Being Overcrowded	7.4	8.5
On-Time Reliable Service	7.6	8.4
Overall Bus Service	7.9	8.2
Trip Duration	7.6	8.2

research is needed to understand whether this reflects a significant difference in customer satisfaction between the two routes.

Appendix A: Customer Service Performance Survey Data

Table A.1: Average Southwest sub-regional ratings vs. Metro Vancouver

Average Scores of SWA transit users** versus all ratings by year	2011		2012		2013		2014		2015*	
	SWA	All	SWA	All	SWA	All	SWA	All	SWA	All
Overall service provided by the transit system in the Greater Vancouver Region	7.8	7.6	7.8	7.7	7.6	7.6	7.8	7.6	7.7	7.5
Value for Money	7.2	7.1	7.3	7.1	7.0	6.9	7.3	7.1	7.1	7.1
good connections between transit modes with a reasonable wait time	6.8	7.0	7.0	7.1	7.0	7.0	7.2	7.2	7.0	7.0
adequate transit information at stops and stations	7.1	7.0	7.2	7.0	7.3	7.1	7.2	7.1	7.0	7.0
service that runs during convenient hours	7.2	7.3	7.5	7.3	7.3	7.3	7.4	7.4	7.2	7.2
enough bus shelters at bus stops throughout the region	6.6	6.6	6.7	6.6	6.6	6.6	6.8	6.7	6.6	6.5

** Boarded or alighted Canada Line at one of the 7 SWA stations, or provided feedback on one of the 30 identified SWA routes

* Includes Q1 & Q2 Only

Table A.2: Canada Line Ratings

	2011	2012	2013	2014	2015*	All 5 Time Periods
All Canada Line Ratings**						
Overall Service	8.6	8.6	8.6	8.6	8.5	8.6
Not Being Overcrowded	6.9	7.0	7.0	7.0	7.1	7.0
On-Time Reliable Service	8.9	9.0	9.0	9.0	8.9	9.0
Frequency of Service	8.4	8.5	8.5	8.5	8.5	8.5
All 7 SWA Station Users						
Overall Service	8.5	8.5	8.6	8.6	8.4	8.5
Not Being Overcrowded	6.9	7.0	6.9	6.9	7.1	7.0
On-Time Reliable Service	8.9	9.0	9.0	9.0	8.8	8.9
Frequency of Service	8.2	8.4	8.4	8.4	8.4	8.4

	2011	2012	2013	2014	2015*	All 5 Time Periods
BRIDGEPORT						
Overall Service	8.5	8.5	8.6	8.6	8.3	8.5
Not Being Overcrowded	6.7	6.8	6.8	6.7	7.0	6.8
On-Time Reliable Service	9.0	9.0	9.0	9.1	8.9	9.0
Frequency of Service	8.4	8.5	8.5	8.6	8.6	8.5
TEMPLETON	n = 18	n = 12	n = 19	n = 10	n = 7	
Overall Service	8.1	8.8	9.1	8.1	9.0	8.6
Not Being Overcrowded	6.7	8.8	7.1	8.7	8.6	7.6
On-Time Reliable Service	8.6	9.1	9.3	8.1	9.2	8.8
Frequency of Service	7.6	8.6	8.1	7.3	8.1	7.9
SEA ISLAND CENTRE	n = 15	n = 18	n = 11	n = 8	n = 8	
Overall Service	9.0	8.3	7.4	6.6	8.8	8.1
Not Being Overcrowded	8.3	7.0	5.1	6.7	8.5	7.1
On-Time Reliable Service	9.5	9.0	7.7	6.4	9.1	8.6
Frequency of Service	8.9	8.3	7.3	6.0	9.0	8.0
YVR AIRPORT						
Overall Service	8.8	8.9	9.0	8.8	8.7	8.8
Not Being Overcrowded	8.3	8.4	8.2	8.0	8.0	8.2
On-Time Reliable Service	9.2	9.2	9.2	9.1	9.0	9.1
Frequency of Service	8.6	8.6	8.7	8.5	8.5	8.6
ABERDEEN						
Overall Service	8.2	8.4	8.5	8.9	8.3	8.5
Not Being Overcrowded	7.1	7.2	7.3	7.7	6.0	7.2
On-Time Reliable Service	9.0	8.8	8.9	8.9	8.1	8.9
Frequency of Service	7.9	8.3	7.9	8.1	7.6	8.0
LANSDOWNE					n = 13	
Overall Service	8.4	8.6	8.6	8.4	8.0	8.4
Not Being Overcrowded	6.5	7.4	7.0	6.6	7.1	6.9
On-Time Reliable Service	8.7	9.1	8.7	8.7	8.3	8.7
Frequency of Service	7.9	8.5	8.2	8.3	7.6	8.2
RICHMOND						

	2011	2012	2013	2014	2015*	All 5 Time Periods
BRIGHOUSE						
Overall Service	8.4	8.4	8.3	8.5	8.4	8.4
Not Being Overcrowded	6.5	6.4	6.5	6.7	6.8	6.5
On-Time Reliable Service	8.8	8.9	8.8	8.9	8.6	8.8
Frequency of Service	8.0	8.1	8.1	8.3	8.0	8.1

Ratings in Red should be interpreted with extreme caution due to very low sample sizes

* Includes Q1 & Q2 Only

Table A.3: Ratings of bus routes in the Southwest sub-region

** Ratings from those who either boarded or alighted from a Canada Line Station

	2011	2012	2013	2014	2015*	All 5 years
All Buses						
Overall Bus Service	7.7	7.7	7.7	7.8	7.7	7.7
Not Being Overcrowded	6.9	6.9	6.9	7.0	6.9	6.9
On-Time Reliable Service	7.4	7.5	7.4	7.5	7.4	7.5
Having a Direct Route	8.4	8.5	8.5	8.6	8.5	8.5
Trip Duration	8.1	8.2	8.3	8.3	8.2	8.2
Frequency of Service	7.1	7.2	7.1	7.2	7.1	7.1
All 30 SWA Buses						
Overall Bus Service	7.6	7.8	7.6	7.9	7.6	7.7
Not Being Overcrowded	7.2	7.4	7.2	7.3	7.0	7.2
On-Time Reliable Service	7.5	7.5	7.5	7.7	7.5	7.5
Having a Direct Route	7.9	8.2	8.3	8.3	8.2	8.2
Trip Duration	8.0	8.1	8.2	8.3	8.2	8.2
Frequency of Service	6.6	6.8	6.8	6.8	6.8	6.8
301 Newton Exchange/Brighthouse Station						
Overall Bus Service						7.4
Not Being Overcrowded						6.9
On-Time Reliable Service						6.8
Having a Direct Route						8.6
Trip Duration						8.0
Frequency of Service						6.2

	2011	2012	2013	2014	2015*	All 5 years
401 One Road/Garden City						
Overall Bus Service	7.4	7.9	7.5	7.9	7.6	7.7
Not Being Overcrowded	6.8	7.5	6.8	7.0	6.7	7.0
On-Time Reliable Service	7.1	7.4	7.3	7.6	7.5	7.3
Having a Direct Route	8.0	8.6	8.3	8.5	8.1	8.3
Trip Duration	8.2	8.4	8.4	8.3	7.9	8.3
Frequency of Service	6.5	7.1	7.4	7.3	7.0	7.1
402 Two Road/Brighthouse Station						
Overall Bus Service	6.6	7.8	7.7	7.4	7.8	7.4
Not Being Overcrowded	7.2	7.6	7.8	7.6	7.7	7.6
On-Time Reliable Service	6.9	8.0	7.6	7.5	7.4	7.5
Having a Direct Route	7.6	8.1	7.9	8.0	7.9	7.9
Trip Duration	7.7	8.2	8.0	8.3	8.2	8.1
Frequency of Service	6.3	6.7	6.7	6.5	6.8	6.6
403 Bridgeport Station/Three Road					n = 27	
Overall Bus Service	8.1	7.4	7.6	8.0	6.7	7.7
Not Being Overcrowded	7.3	7.2	7.3	7.1	6.5	7.1
On-Time Reliable Service	7.8	6.9	7.3	7.5	7.1	7.4
Having a Direct Route	8.4	8.4	8.9	8.9	8.4	8.7
Trip Duration	8.2	8.1	8.4	8.4	8.4	8.3
Frequency of Service	7.3	7.0	6.9	7.0	5.9	7.0
404 Ladner Exchange/Brighthouse Station						
Overall Bus Service						7.6
Not Being Overcrowded						8.2
On-Time Reliable Service						7.4
Having a Direct Route						8.1
Trip Duration						8.0
Frequency of Service						6.4
405 Five Road/Cambie						
Overall Bus Service						7.8
Not Being Overcrowded						9.0
On-Time Reliable Service						8.0
Having a Direct Route						8.0
Trip Duration						8.7
Frequency of Service						6.1
407 Gilbert/Bridgeport					n = 10	

	2011	2012	2013	2014	2015*	All 5 years
Overall Bus Service	6.8	7.6	7.6	7.4	6.2	7.2
Not Being Overcrowded	7.6	8.2	8.0	7.5	7.5	7.8
On-Time Reliable Service	6.9	8.0	7.3	6.7	6.6	7.2
Having a Direct Route	7.5	8.4	8.6	8.4	7.8	8.2
Trip Duration	7.9	8.1	8.5	8.2	8.0	8.2
Frequency of Service	5.2	6.4	5.7	6.4	5.7	5.9
410 22nd St. Station/Queensborough/Railway						
Overall Bus Service	7.8	7.8	7.6	8.0	7.8	7.8
Not Being Overcrowded	6.9	6.5	6.5	6.9	6.4	6.7
On-Time Reliable Service	7.3	7.4	7.2	7.5	7.3	7.3
Having a Direct Route	8.0	8.4	8.3	8.2	8.7	8.3
Trip Duration	7.8	8.0	8.0	8.0	8.3	8.0
Frequency of Service	7.3	7.4	7.4	7.8	7.9	7.5

430 Metrotown/Brighthouse Station						
Overall Bus Service						7.8
Not Being Overcrowded						7.4
On-Time Reliable Service						7.8
Having a Direct Route						8.5
Trip Duration						8.3
Frequency of Service						6.1
	2011	2012	2013	2014	2015*	All 5 years
480 UBC/Bridgeport Station						
Overall Bus Service						8.1
Not Being Overcrowded						6.6
On-Time Reliable Service						7.6
Having a Direct Route						8.3
Trip Duration						7.9
Frequency of Service						7.2
601 South Delta/Boundary Bay/Bridgeport						
Overall Bus Service	7.8	7.7	7.8	8.0	7.9	7.8
Not Being Overcrowded	7.5	7.8	7.5	7.8	7.0	7.6
On-Time Reliable Service	7.9	7.6	8.0	8.0	7.6	7.9
Having a Direct Route	7.5	7.5	8.0	8.0	8.1	7.8
Trip Duration	8.0	8.1	8.3	8.4	8.3	8.2
Frequency of Service	6.4	6.6	6.6	6.7	6.3	6.5
602 Tsawwassen Heights/Bridgeport						

	2011	2012	2013	2014	2015*	All 5 years
Overall Bus Service						7.9
Not Being Overcrowded						7.6
On-Time Reliable Service						8.0
Having a Direct Route						8.0
Trip Duration						8.1
Frequency of Service						6.3
603 Beach Grove/Bridgeport						
Overall Bus Service						7.9
Not Being Overcrowded						7.4
On-Time Reliable Service						7.6
Having a Direct Route						7.0
Trip Duration						7.6
Frequency of Service						6.0
604 English Bluff/Bridgeport						
Overall Bus Service						8.2
Not Being Overcrowded						8.5
On-Time Reliable Service						8.4
Having a Direct Route						8.2
Trip Duration						8.2
Frequency of Service						6.3
620 Tsawwassen Ferries/Bridgeport Station						
Overall Bus Service						7.7
Not Being Overcrowded						5.6
On-Time Reliable Service						7.9
Having a Direct Route						8.8
Trip Duration						8.6
Frequency of Service						6.5
640 Ladner Exchange /Scott Road Station						
Overall Bus Service						7.4
Not Being Overcrowded						7.6
On-Time Reliable Service						7.6
Having a Direct Route						7.6
Trip Duration						7.6
Frequency of Service						6.1
C76 Scottsdale/Ladner Exchange						

	2011	2012	2013	2014	2015*	All 5 years
Overall Bus Service						7.5
Not Being Overcrowded						8.1
On-Time Reliable Service						7.8
Having a Direct Route						6.7
Trip Duration						7.7
Frequency of Service						6.6
104 - 22nd St Stn/Annacis Island						
Overall Bus Service						7.2
Not Being Overcrowded						7.0
On-Time Reliable Service						6.9
Having a Direct Route						7.8
Trip Duration						8.1
Frequency of Service						6.5
351 - Crescent Beach/Bridgeport Stn						
Overall Bus Service	7.9	8.0	7.8	8.4	8.3	8.1
Not Being Overcrowded	7.3	7.5	7.2	7.5	7.7	7.4
On-Time Reliable Service	8.0	8.1	7.9	8.4	8.0	8.1
Having a Direct Route	8.0	8.2	8.1	8.5	8.7	8.3
Trip Duration	8.2	8.3	8.2	8.6	8.7	8.4
Frequency of Service	7.4	7.7	7.5	8.0	7.8	7.7

* Includes Q1 & Q2 Only

Ratings in Red should be interpreted with extreme caution due to very low sample sizes

Appendix B: Urban Futures Data

Table B.1: Ranking of Priority Policy Issues by Region - Overall Rank

Issue	Metro Vancouver	Richmond/Delta/TFN	Difference
Expanding the public transit system	1	2	1
Making more efficient use of present transportation	2	1	1
Promoting comprehensive community planning	3	3	0
Preserving the natural environment	4	4	0
Stimulating economic development	5	5	0
Promoting comprehensive social planning	6	6	0
Increasing the housing supply	7	7	0
Developing more public parks	8	10	2
Improving highway transportation	9	8	1
Changing the structure of government	10	9	1
Channeling growth outside of existing centres	11	11	0

Table B.2: Ranking of Issue Statements -- Regional Breakdown

Statement	Metro Vancouver	Richmond/Delta/TFN	Difference
Diversified forms of public transportation, such as streetcars and light rail, should be encouraged.	1	1	0
New ways must be found to deal with the waste we create.	2	4	2
Home based businesses should be encouraged.	3	2	1
Opportunities for urban agriculture should be encouraged.	4	3	1
Recycling of organics and garden waste should be part of local government's solid waste management services.	5	6	1
It is important to maintain existing agricultural land for food production.	6	5	1
An expanded public transit system is the best way to solve Metro transportation problem.	7	10	3
The Internet makes it possible for me to work from home.	8	8	0
If people get together it is possible to influence planners and politicians.	9	9	0
Compact urban growth is a good way to reduce our environmental impact.	10	12	2
People from many cultures contribute to the quality of urban life.	11	7	4
Cars with multiple occupants should be given priority during peak commuting times.	12	19	7
Both public transit and highways will be essential to Metro Vancouver in the future.	13	23	10
Active citizens groups are needed because governments at all levels never recognize a problem until it is critical.	14	11	3

Statement	Metro Vancouver	Richmond/Delta/TFN	Difference
More parks and open space are needed within a short distance of local neighbourhoods.	15	17	2
Metro Vancouver should accommodate all future urban development within existing urban containment boundaries.	16	13	3
I frequently experience severe traffic congestion.	17	18	1
People should pay less when using public transportation at off-peak times.	18	14	4
Cultural diversity makes my community a better place to live.	19	16	3
Local governments should support increasing child care spaces.	20	24	4
The first task of improving transportation in Metro Vancouver is to make better use of existing transit facilities.	21	21	0
People should pay less when using community facilities at off-peak times.	22	20	2
Getting to work is no particular problem for me.	23	25	2
Bicycle use would increase if designated routes were expanded.	24	30	6
I use my car because I have a number of activities to do en route.	25	15	10
All municipalities in Metro Vancouver should have a diversity of cultural amenities.	26	29	3
Every neighbourhood should plan ways of accommodating more residents.	27	22	5
Preserving the quality of the environment should be the first goal of any local government.	28	32	4
A generation ago major changes took 15 years to happen; now 2 years is a long time.	29	40	11
Off-leash dog parks should be provided by local governments.	30	42	12
Social housing would lower the quality of my neighbourhood.	31	34	3
The provision of child care spaces should be a priority of local governments.	32	38	6
The private motor vehicle is essential to our sense of freedom.	33	31	2
Children can gain a lot by being raised in an urban area.	34	28	6
I feel more secure in my home than I did 10 years ago.	35	27	8
Neighbourhood and municipal planning does little to solve or avoid social problems.	36	37	1
I am prepared to live at higher densities to shorten my journey to work.	37	26	11
It now takes me longer to travel to work than it did a year ago.	38	35	3
Housing affordability is a problem for me.	39	39	0
It's all very well to have dissident groups but once the majority has reached a decision, everyone should abide by it.	40	33	7
I am not prepared to change my mode of transportation to get to and from work.	41	41	0
One of the most important reasons for working is to get enough money to buy a house.	42	49	7
The recreational facilities in and around Metro Vancouver are inadequate.	43	52	9
Local governments should increase revenue by allowing commercial activities in public parks.	44	36	8

Statement	Metro Vancouver	Richmond/Delta/TFN	Difference
Rush hour commuters should pay more at peak times.	45	50	5
Where I work does not influence where I live.	46	44	2
Land zoned for industrial use should not be rezoned toward other uses.	47	43	4
For comparative shopping I prefer a shopping centre to a commercial street.	48	45	3
The suburbs are a cultural wilderness.	49	48	1
Apartment living is always a second choice; everyone really wants a house of their own.	50	46	4
The most convenient place to shop is at a shopping centre.	51	47	4
Shopping centres can provide me with all my shopping needs.	52	51	1
I'm too busy with my own life to be concerned with urban problems; the experts can take care of them.	53	53	0
There is no real traffic problem in the Metro Vancouver area.	54	54	0

Table B.3: Metro Vancouver Urban Growth Strategy Goal Priorities – Regional Overall

Issue	Metro Vancouver	Richmond/Delta/TFN	Difference
Support Sustainable Transportation Choices	1	1	0
Support a Sustainable Economy	2	2	0
Develop Complete Communities	3	4	1
Protect the Environment and Respond to Climate Change Impacts	4	3	1
Create a Compact Urban Compact Urban Area	5	5	0

Table B.4: Ranking of Challenges: Regional Breakdown - Overall Rank

Challenge	Metro Vancouver	Richmond/Delta/TFN	Difference
Provision of health care	1	2	1
Traffic congestion	2	1	1
Homelessness	3	6	3
Increasing housing supply	4	8	4
Air pollution from industry	5	4	1
Water pollution from industry	6	7	1
Air pollution from cars	7	10	3
Dishonesty in government and business	8	3	5
Quality of municipal government	9	5	4
Provision of welfare services	10	11	1
Crime and personal honesty	11	9	2

Challenge	Metro Vancouver	Richmond/Delta/TFN	Difference
Integration of minority groups	12	12	0
Behavior problems in public schools	13	13	0
Inadequate recreation facilities	14	14	0
Unfriendliness of city life	15	16	1
Visual pollution from signs	16	15	1

Appendix C: North Delta Regional Transit Services – 311, 340, 388

The Southwest Area Transport Plan (SWATP) will develop a multi-modal transport plan for the area of Richmond, South Delta, and Tsawwassen First Nations. The plan utilizes a flexible boundary approach, which allows the plan to cover important transportation connections that are not within the primary study area of the plan. Based on feedback from stakeholders, some additional routes which provide important connections between North Delta and the primary study area (routes 311, 340 and 388) were analyzed.

Two data sets were explored to understand customers' perceptions of these three routes: customer feedback and customer service performance survey data. Data from the same time period as the Southwest Area data was used to ensure comparability.

Transit Customer Feedback

In the analysis of the Southwest Area routes, messages about schedule adherence were found to be the most common type of message, making up 36% of all correspondence. For these three South Delta regional routes, schedule adherence messages make up 71% of all correspondence. Routes 311 and 388 have especially high rates of correspondence regarding early or late buses – over 15 messages were received per 100,000 yearly riders. When broken down by year, the data does not reveal any spikes or drops that would indicate that this high level of correspondence is part of a trend. The only exception is a spike in correspondence about route 311 in the second half of 2014, which corresponds with a frequency reduction.

Other highlights from the data include year-over-year growth in complaints about capacity issues on route 388, which seem to be clustered around the corner of Nordel Way and Scott Road, as well as at Holy Cross High School in Surrey.

Customer Service Performance Survey Data

Survey data is available for all three routes, but due to low sample sizes, yearly data is only available for route 340. The only comparable figure for all three routes is an aggregated figure that averages responses for all years from 2011 to 2015. These aggregate figures indicate that customers have given these routes high marks for directness and trip duration, with all routes receiving a 7.9 or

higher for these two metrics. The lowest ratings were offered for frequency of service – all three of these routes received a rating of 6.7 or lower, and the lowest rating offered was a 5.8 for the frequency of route 388, which currently operates every half hour in the weekday peak hours. This rating is lower than any of the frequency ratings for the Southwest Sector bus routes, as listed in Table 16.

Table C.1: Feedback about South Delta Regional Routes

Route & Issue	2011 Messages	2012 Messages	2013 Messages	2014 Messages	2015 Messages	Total 2011-2015 Messages	Messages per 100,000 rides (2014 Ridership)
311							
Capacity	1	1	1	9	3	15	1.8
Span	0	2	3	0	0	5	0.6
Reliability	14	21	25	54	18	132	15.9
Connections		1	1	3	1	6	0.7
340							
Capacity	3	0	2	1	1	7	0.2
Span	0	2	1	0	1	4	0.1
Reliability	30	51	42	48	36	207	4.5
Connections	2	1	3	3	3	12	0.3
388							
Capacity	31	8	16	34	41	130	15.7
Span	1	2	7	4	2	16	1.9
Reliability	36	27	26	38	29	156	18.8
Connections	0	2	1	0	1	4	0.5

Table C.2: Survey Data about South Delta Regional Routes

311 - Scottsdale/Bridgeport Stn	
Overall Bus Service	8.5
Not Being Overcrowded	8.0
On-Time Reliable Service	8.1
Having a Direct Route	8.8
Trip Duration	8.4
Frequency of Service	6.5
340 - Scottsdale/22nd St. Stn	
Overall Bus Service	7.7
Not Being Overcrowded	7.6
On-Time Reliable Service	7.4
Having a Direct Route	8.6
Trip Duration	8.4
Frequency of Service	6.7
388 - 22nd St. Stn/Carvolth Exch.	
Overall Bus Service	7.0
Not Being Overcrowded	6.9
On-Time Reliable Service	6.6
Having a Direct Route	7.9
Trip Duration	8.0
Frequency of Service	5.8