

TransLink

2017 Transit Service Performance Review



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Executive Summary

TransLink manages Metro Vancouver's integrated regional transit network and regularly reviews and modifies transit service to promote system efficiency, effectiveness and productivity. Our focus is on improving the customer experience and increasing ridership by maximizing the use of resources.

The 2017 Transit Service Performance Review (TSPR) is a comprehensive annual review of ridership, cost, utilization, and reliability for bus, SeaBus, SkyTrain and West Coast Express. The TSPR informs the management of our integrated regional transit network and guides decision-making regarding the allocation of transit service resources.

Service changes

2017 was the first year implementing Phase One of the 10-Year Vision and after opening the Evergreen Extension in December 2016.

The improvements in Phase One included service increases for most modes in 2017, including:

- 5% more service hours on bus
- 7% more service hours on SeaBus
- 17% more service car-hours on SkyTrain*

**includes Evergreen Extension and Phase One increases*

This report includes service changes from December 2016 to December 2017. Over 80 routes had service changes, including:

- Over 60 routes improved as part of Phase One
- 22 routes changed to integrate with the Evergreen Extension SkyTrain

System-wide performance

2017 was another record-breaking year for TransLink with over 407 million annual boardings system-wide (+5.7%). Highlights by mode for the year include:

Bus ridership increased overall for the year (3.2%). For some routes, Phase One service improvements addressing overcrowding increased ridership. For all routes in the network, overcrowding increased by 4.5%, indicating more service is needed to keep up with growing ridership.

SeaBus ridership grew overall for the year (7.3%), and fall boardings increased the most (between 11 and 35%) during times improved from 30 to 15 minute service.

SkyTrain ridership was up 12.0% from 2016, partially due to the opening of the Evergreen Extension. Average weekday boardings on the three lines surpassed half a million in September.

West Coast Express ridership decreased overall for the year (-5.5%), but fall boardings increased in Mission (17%) and Maple Ridge (5%) due to improved regional connections with the Evergreen Extension SkyTrain.

Sub-regional bus performance

Burnaby/New Westminster annual bus boardings (+2%) and service hours (+1%) increased, but at a slightly lower rate than the previous year.

Ladner/South Delta/Tsawwassen annual bus boardings (+9%) and service hours (+7%) increased dramatically compared to the previous year.

Maple Ridge/Pitt Meadows annual bus boardings decreased (-0.5%) despite a greater increase in service hours (+6%) compared to the previous year.

North Shore annual bus boardings increased (+2%) slightly less and service hours increased (+3%) slightly more than the previous year.

Northeast Sector annual bus boardings decreased (-23%) compared to the previous year due to customers shifting modes from the 97 B-Line bus to the Evergreen Extension SkyTrain. Annual service hours increased (+7%) over the previous year.

Richmond annual bus boardings (+6%) and service hours (+5%) grew more than during the previous year.

South of Fraser annual bus boardings increased (+8%) slightly less and service hours (+4%) increased more than the previous year.

Vancouver/UBC annual bus boardings (+3%) and service hours (+1%) increased slightly more than the previous year.

Summary of Highlights

The TSPR helps inform and track service improvements in the 10-Year Vision

The 2015 TSPR helped with the development of the list of bus service improvements in Phase One of the 10-Year Vision (hereafter referred to as Phase One). Similarly, the 2016 TSPR helped to inform projects that will be included in Phase Two of the 10-Year Vision.

The 2017 TSPR is the first system-wide assessment since we began implementing the Phase One service improvements. As these service improvements are rolled out, this and future TSPRs will summarize the impact on ridership, crowding, productivity and other measures.

We gather data from multiple sources

Ridership data in the TSPR was collected from a number of sources including:

- Automated passenger counts (APC) on buses
- Turnstiles at SeaBus terminals
- Compass fare gates at SkyTrain stations
- Compass validators at West Coast Express

Compass taps are the primary source of system-wide ridership data. Compass data is used for SkyTrain and West Coast Express performance reporting, because tapping a Compass Card or Compass Ticket is required to enter and exit fare-paid zones. On a sub-regional and route level, the TSPR uses bus APC and SeaBus turnstile data, because they include boarding and alighting (exiting) passengers, thus providing a better picture of passenger loads and crowding. The TSPR uses different data sources for different levels of analysis, and the sum of route-level boardings should not be compared to system-wide boardings.

REGIONAL HIGHLIGHTS

2017 included the largest service increases in nearly a decade, as part of Phase One

TransLink rolled out the largest service increases in nearly a decade in 2017, the first year of Phase One. These enhancements are an important first step to meeting the current and future demand for transportation in our growing region. In 2017, the following service increases were implemented (as compared to 2016):

- 5% – Increase in service hours for bus
- 7% – Increase in service hours for SeaBus
- 17% – Increase in service car-hours for SkyTrain*

**includes Evergreen Extension and Phase One increases*



SERVICE HOURS:

The total time bus and SeaBus are operating, from leaving the depot until returning.

SERVICE CAR-HOURS:

A car-hour is equivalent to one rail car in operation for one hour (SkyTrains have 2-6 cars per train).

A record 407 million annual boardings system-wide

In 2017, ridership in Metro Vancouver reached 407 million annual boardings and 247 million annual journeys, a 5.7% and 5.8% increase over 2016, respectively and all-time records.

Ridership grew across all modes except West Coast Express, which experienced a decrease of 5.5%. This decrease was due in part to some customers switching to the Millennium Line Evergreen Extension from Coquitlam and Port Coquitlam, while ridership increased in Maple Ridge and Mission.

Monthly updates on system-wide boardings and journeys are available in the [Accountability Centre](#) on the TransLink website.



BOARDING:

Each time a passenger enters a fare paid zone using Compass fare media or other proof of payment; transfers are counted as additional boardings.

JOURNEY:

A complete transit trip using Compass fare media or other proof of payment, regardless of the number of transfers.

Improved options in the Northeast Sector lead to increased ridership

The 11-km Millennium Line Evergreen Extension, which opened on December 2, 2016, provides a one-seat ride from Lafarge Lake-Douglas Station to VCC-Clark Station, with connections to the Expo Line at three stations. It also seamlessly integrates with buses and West Coast Express. With the opening of the Evergreen Extension, the three-line SkyTrain network became the longest fully-automated, driverless rapid transit system in the world, consisting of a total of 80 km.

In addition, on December 19, 2016, the bus network in the Northeast Sector sub-region was restructured to better connect with the Millennium Line Evergreen Extension and West Coast Express and offer better service in the surrounding areas.

After the bus integration, from winter (January-April) to fall (September-December) 2017, most bus routes in the Northeast Sector had increased boardings on weekdays (Table 1). Similar increases were observed on weekends. Although ridership is small on many of the routes, the sub-regional percentage increase within 2017 is large (10%).

Table 1: Northeast Sector Routes Ranked by % Change in Average Weekday Boardings from Winter (Jan-Apr) to Fall (Sep-Dec) 2017

Rank	Route	Fall 2017 Average Weekday Boardings	Boardings Change
Routes with % Increase Greater than Sub-region			
1	171	590	210 (55%)
2	172	1,000	290 (40%)
3	153	2,170	600 (38%)
4	143	4,180	1,080 (35%)
5	173	810	170 (26%)
6	185	440	90 (25%)
7	186	1,070	200 (23%)
8	174	620	90 (18%)
9	191	630	90 (17%)
10	184	440	60 (16%)
11	182	420	60 (15%)
12	187	950	130 (15%)
13	183	2,240	300 (15%)
14	170	540	60 (13%)
15	159	2,570	250 (11%)
16	180	3,230	310 (10%)
Routes with % Increase Less than Sub-region			
17	189	400	30 (9%)
18	188	2,610	180 (7%)
19	157	1,600	80 (6%)
20	181	220	10 (3%)
21	152	3,180	10 (0%)
Routes with % Decrease			
22	160	5,380	-50 (-1%)
23	175	150	-10 (-7%)
24	156	2,340	-220 (-9%)
25	151	1,330	-140 (-10%)
26	169	730	-280 (-28%)
All Bus Routes in Northeast Sector			10%

Routes with improved connections to SkyTrain saw increases in boardings. Routes with notable changes include:

- 171 & 172 (formerly C37) – Largest increase due to new service to Dominion Triangle and extension to SkyTrain at Coquitlam Central Station (previously terminating at Port Coquitlam Station)
- 191 – Large increase due to new service to Burke Mountain
- 169 – Largest decrease due to new local service role; previously served as the fastest route between Coquitlam Central and SkyTrain (at Braid)

Phase One allocated 25,000 annual service hours for Northeast Sector routes that were redesigned in addition to the reallocation of the 97 B-Line hours that were replaced by the Evergreen Extension. These Phase One investments were implemented in April and June 2017.

MODAL HIGHLIGHTS



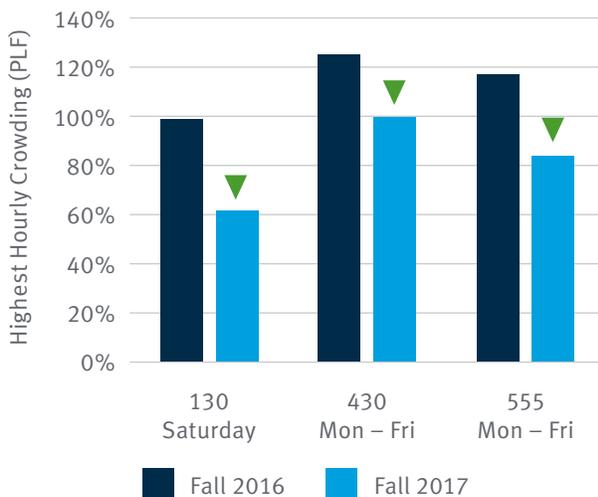
Bus: Service improvements to address overcrowding also led to increased ridership

2017 Phase One Bus Improvements

- Over 60 bus routes in all eight sub-regions had service increases to reduce overcrowding, improve span of service, and serve new areas

Improvements were made to 18 routes specifically to reduce chronic overcrowding, as shown in Table 2. From fall 2016 to fall 2017, the period when most of these changes were implemented, most of the 18 routes experienced reduced overcrowding. The largest reductions in overcrowding were on routes 130, 430, and 555, as shown in Figure 1.

Figure 1: Routes and Day Types with Greatest Reduction in Overcrowding



All 18 routes also had an increase in average daily boardings on all day types between fall 2016 and fall 2017. Most of these increases were above the annual growth in bus ridership of 3.2%.

Crowding worsened on the 240, 301, 335, and 401, even with increased service. These investments may have initially reduced overcrowding, but ridership continued to grow, causing renewed overcrowding.

Comparing the total revenue hours with overcrowding from 2016 to 2017 shows that improvements reduced crowding by 13% for the 18 routes. However, the entire bus network experienced a 4.5% increase in crowding over 2016 levels. This indicates there is more service needed to keep up with increasing ridership.

The remainder of Phase One bus service improvements will include additional investments to reduce overcrowding.



Crowding is measured by Passenger Load Factor (PLF):

$$PLF = \frac{\text{(passengers on a bus)}}{\text{(capacity of the bus)}}$$

Buses with a PLF between 84% and 99% are considered crowded and 100% or above are considered overcrowded.

Table 2: Change in Average Daily Boardings and Crowding from Fall 2016 to Fall 2017 on Routes with Service Increases Addressing Overcrowding

Day Type Improved ^a	% Change in Avg. Daily Boardings (# Change)	Change in Crowding (2017 Crowding (PLF))
25 Brentwood Stn/UBC		
Mon-Fri	6% (1,600)	-8% (104%)
Sat	5% (800)	-1% (95%)
49 Metrotown Stn/UBC		
Mon-Fri	15% (4,000)	-3% (118%)
84 VCC-Clark Stn/UBC		
Mon-Fri	0% (40)	-15% (92%)
130 Metrotown/Capilano University		
Mon-Fri	2% (300)	-8% (97%)
Sat	10% (700)	-34% (64%)
240 Vancouver/15th Street		
Mon-Fri	10% (900)	-7% (100%)
Sat	10% (700)	4% (95%)
250^a Dunderave/Vancouver		
Sat	6% (500)	-8% (96%)
255 Capilano University/Dunderave		
Mon-Fri	10% (400)	-13% (79%)
257^b Horseshoe Bay/Vancouver		
Mon-Fri	18% (500)	-21% (99%)
Sat	46% (1,000)	-7% (135%)
Sun/Hol	10% (300)	N/A
301 Brighthouse Stn/Newton Exchange		
Mon-Fri	24% (700)	6% (103%)
319 Scott Road Stn/Newton Exchange		
Mon-Fri	13% (2,000)	-2% (116%)

Day Type Improved ^a	% Change in Avg. Daily Boardings (# Change)	Change in Crowding (2017 Crowding (PLF))
335 Surrey Central Stn/Newton Exchange		
Mon-Fri	18% (1,400)	2% (97%)
Sat	61% (2,100)	26% (118%)
Sun/Hol	39% (1,100)	-3% (81%)
351 Bridgeport Stn/Crescent Beach		
Mon-Fri	8% (400)	-4% (110%)
401 One Road/Garden City		
Mon-Fri	9% (900)	7% (102%)
410 22nd Street Stn/Railway		
Mon-Fri	14% (2,600)	-1% (81%)
Sat	19% (2,400)	-3% (106%)
Sun/Hol	9% (900)	-20% (78%)
430 Metrotown Stn/Brighthouse Stn		
Mon-Fri	14% (600)	-28% (100%)
502 Surrey Central Stn/Langley Centre		
Mon-Fri	6% (500)	-12% (101%)
Sat	9% (500)	-15% (98%)
555^c Lougheed Stn/Carvoth Exchange		
Mon-Fri	4% (200)	-29% (86%)
620^d Bridgeport Stn/Tsawwassen Ferry		
Mon-Fri	26% (500)	-13% (91%)
Sat	41% (800)	-28% (80%)
Sun/Hol	17% (500)	-17% (101%)

^a Only day types improved are shown

^b Data unreliable on Sun/Hol

^c Data from Sep 25 to Dec 17, 2017

^d Based on estimations for Sep 2016

Note: Eight bus routes in the Northeast Sector (153, 171, 172, 173, 174, 180, 186, and 187) also had service increases to reduce overcrowding, but fall 2016 and fall 2017 data are not comparable due to the Evergreen Extension bus integration.



SeaBus: Increased frequency helped contribute to growing ridership

2017 Phase One SeaBus Improvements

- Increased service from every 30 to every 15 minutes on weekday evenings, Saturday mornings and evenings, and Sundays all day
- Became part of the Frequent Transit Network (FTN), a network with 15 minute or better service until at least 9 pm every day

Between fall 2016 and fall 2017, all time periods that received additional service had average daily SeaBus boardings increase between 11 and 35%, as illustrated in Table 3. All day types had overall increases in average daily SeaBus boardings, with the largest on Saturday:

- Monday-Friday: up 900 (5%)
- Saturday: up 2,300 (18%)
- Sunday/Holiday: up 1,400 (13%)

As part of Phase One, a new SeaBus vessel will be put into service in 2019 to increase peak frequency to every 10 minutes.



SkyTrain: Average weekday boardings surpassed half a million

2017 Phase One SkyTrain Improvements

- Expo/Millennium Lines: extended weekday peak period service and increased weekend midday to early evening frequency, a 2.5% weekday and 12% weekend passenger capacity increase
- Canada Line: increased weekday peak frequency and extended peak service, an 11% weekday passenger capacity increase

In September 2017, historically the month of the year with the highest ridership, the SkyTrain system had 504,000 average weekday boardings. This includes 354,000 average weekday boardings on the Expo and Millennium Lines and 150,000 on the Canada Line. The boardings on the Expo and Millennium Lines represent about 75% on Expo Line only, 13% on Millennium Line only, and 12% on both lines. Overall, average weekday SkyTrain boardings increased 12.5% over September 2016.

As part of Phase One, 56 new Expo and Millennium Line cars and 24 new Canada Line cars have been ordered to provide additional capacity. By early 2019 – the first 28 Expo/Millennium Line cars will be available for use, followed by the second 28 in late 2019, three years ahead of schedule. The 24 Canada Line cars will arrive by the end of 2020.

Table 3: SeaBus % Change in Average Daily Boardings by Time Period between Fall 2016 and 2017

Time (hours)	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	Average Daily Total		
Monday -Friday							+5%							+34%								+5%	
Saturday	-8%	+35%					+16%							+32%									+18%
Sunday/Holiday			+14%				+15%							+11%									+13%

Service Improved to Every 15 Min
 Unchanged Service
 Not in Service



West Coast Express: Ridership growth in Maple Ridge and Mission

2017 Phase One West Coast Express Improvements

- No improvements in 2017

In 2017, the West Coast Express commuter rail saw a decline in ridership from 2.5 to 2.3 million annual boardings, a 5.5% decrease. This decrease mostly occurred in Coquitlam and Port Coquitlam, as shown in Table 4, where bus routes were changed to integrate with SkyTrain. In Maple Ridge and Mission, ridership increased, indicating that the West Coast Express is still a vital rail service for commuters.

Ridership patterns on the West Coast Express indicate that some customers in Port Moody and Coquitlam shifted modes from West Coast Express to SkyTrain when the Evergreen Extension opened. At the same time, new customers began using the West Coast Express in Maple Ridge and Mission, since there was more flexibility to transfer to SkyTrain at Moody Centre Station.

Table 4: West Coast Express Average Weekday Boardings, Fall 2016 and Fall 2017

Station	Fall 2016 Boardings	Fall 2017 Boardings	Percent Change
Waterfront	4,900	4,630	-5%
Moody Centre	990	1,070	8%
Coquitlam Central	1,190	1,100	-7%
Port Coquitlam	1,200	1,020	-15%
Pitt Meadows	400	400	0%
Maple Meadows	610	640	5%
Port Haney	460	490	5%
Mission City	460	540	17%
Overall	10,210	9,890	-3%

As part of Phase One, two additional locomotives will be added to the fleet, and the six existing locomotives will be refurbished. This upgrade will improve service reliability, reduce environmental impacts, and allow for future service expansion.

SUB-REGIONAL BUS HIGHLIGHTS

In 2017, every sub-region had bus routes which were either improved or introduced. Additional information about improvements to each route can be found in the bus route summaries.



Sub-regions are groups of municipalities; bus routes are assigned to one sub-region based on their geographic location, though they may serve two or more sub-regions.

For each sub-region, the year-over-year change between 2016 and 2017 is shown for annual bus boardings and annual bus service hours. Ridership numbers for individual routes are based on fall 2017 versus fall 2016 data only.

Most sub-regions had a greater percent increase in number of bus boardings on Saturdays than on weekdays. The boardings by day of the week are shown in Table C under Additional Tables.

Additional figures for the annual bus service hours, annual bus boardings, and top 5 routes in annual boardings by sub-region are listed in Tables A, B, and E respectively under Additional Tables.

Burnaby/New Westminster

Annual Bus Boardings: up 761,000 (2%)

Annual Bus Service Hours: up 6,500 (1%)

Routes Improved: 95 B-Line, 106, 119*, 130, C3, C4, C9, N35

*NOTE: No 2017 route summary

The sub-region grew slightly less in both boardings and service hours compared to the previous year (2016 growth was 4% and 2% respectively).

Notable routes include:

- 106 – Greatest absolute increase of 1,000 (5%) average weekday boardings.
- C4 – Increase of 400 (112%) average weekday boardings – the greatest percent increase. Routing was changed in April 2016 and span of service increased in April 2017.

Ladner/South Delta/Tsawwassen

Annual Bus Boardings: up 216,000 (9%)

Annual Bus Service Hours: up 6,200 (7%)

Routes Improved: 601, 620

The sub-region grew dramatically in both boardings and service hours compared to the previous year (2016 growth was 5% and 1% respectively).

Notable routes include:

- 601 – Large increase of 200 (6%) average weekday boardings. Service was increased in April 2017.
- 620 – Greatest increase of 500 (26%) average weekday boardings. Stop pattern changed to express in September 2016 and service was increased in September 2017.

The Southwest Area Transport Plan will be completed in 2018 and includes projects to improve the bus network over the coming years.

Maple Ridge/Pitt Meadows

Annual Bus Boardings: down 15,000 (-0.5%)

Annual Bus Service Hours: up 7,000 (6%)

Routes Improved: 701, C45, C46

New Service Areas: Silver Valley via new routes 733 and 741, which replaced the C47

The sub-region boardings are lower than the previous year, despite an increase in service hours (2016 growth was 4% and 1% respectively).

Notable routes include:

- 733 & 741 – Combined had 100 (34%) more average weekday boardings than the C47.
- 791 – Had second highest overall boardings, but decreased by 500 (-19%) average weekday boardings.
- All community shuttle-operated routes saw an increase in average weekday boardings.

Work on the Maple Ridge-Pitt Meadows Area Transport Plan began in spring 2018 and will determine future multimodal transportation improvements in the sub-region.

North Shore

Annual Bus Boardings: up 356,000 (2%)

Annual Bus Service Hours: up 14,700 (3%)

Routes Improved: 240, 250A, 253, 254, 255, 257, C10, C11

The sub-region grew slightly less in boardings and slightly more in service hours as compared to the previous year (2016 growth was 4% and 1% respectively).

Notable routes include:

- 240 – Large increases in average weekday (900, 10%) and Saturday (800, 12%) boardings. Improved to address overcrowding in September 2017.
- 257 – Large increases in average weekday (500, 18%) and Saturday (1,000, 46%) boardings. Improved to address overcrowding in June 2017.

Northeast Sector

Note: On December 19, 2016, TransLink restructured the bus network in the Northeast Sector to integrate with the Millennium Line Evergreen Extension. The decrease in bus boardings represents a mode shift from the 97 B-Line to the Evergreen Extension SkyTrain.

Annual Bus Boardings: down 3,175,000 (-23%)

Annual Bus Service Hours: up 28,100 (7%)

Evergreen Integration Service Changes: 143, 151, 153, 156, 157, 159, 160, 169, 170 (C36), 171/172 (C37), 173/174 (C38), 175 (C40), 180 (C24), 181 (C25), 182 (C26), 183 (C27), 184/185/186 (C28), 187 (C29), 188, 189 (C30)

Routes Improved: 153, 159, 160, 171, 172, 173, 174, 180, 182, 183, 184, 186, 187

New Service Areas: Burke Mountain via route 191

The sub-region saw a decline in annual bus ridership from 2016, which was tightly linked with a mode shift from bus to SkyTrain. The sub-region saw an increase in annual bus service hours compared to the previous year (2016 growth was 1%).

The 97 B-Line bus previously served the corridor now served by the Evergreen Extension. In 2016, the 97 B-Line saw 3,352,000 annual boardings; in comparison, the six Evergreen Extension stations had 6,088,000 annual boardings in 2017.

For additional information on the Northeast Sector, see the section under **Regional Highlights (page 6)**.

Richmond

Annual Bus Boardings: up 1,088,000 (6%)

Annual Bus Service Hours: up 18,400 (5%)

Routes Improved: 301, 401, 410, 430

The sub-region grew dramatically in both annual boardings and annual service hours compared to the previous year (2016 growth was 3% and 2% respectively).

Notable routes include:

- 410 – Greatest absolute increase in average weekday (2,600, 14%), Saturday (2,400, 19%), and Sunday (900, 9%) boardings. Improved to address overcrowding in April 2017.
- 301 – Large increases in average weekday (700, 24%), Saturday (400, 39%), and Sunday (400, 60%) boardings. Improved to address overcrowding in April 2017.

The Southwest Area Transport Plan will be completed in 2018 and includes projects to improve the bus network over the coming years.

South of Fraser

Annual Bus Boardings: up 3,311,000 (8%)

Annual Bus Service Hours: up 34,800 (4%)

Routes Improved: 319, 335, 351, 360 (C50), 361 (C51), 362 (C52), 363 (C53), 375, 501, 502, 555, 595, C63, C73

New Service Areas: Clayton Heights via new route 372, Morgan Creek via rerouted 354 and 363 (C53), Willoughby via rerouted 595

The sub-region grew slightly less in boardings and more in service hours compared to the previous year (2016 growth was 10% and 2% respectively).

Notable routes include:

- 319 – Greatest absolute increase of 2,000 (13%) average weekday boardings. Service was increased in April 2017.
- 96 B-Line – Greatest absolute increase of 2,600 (25%) Saturday and 2,000 (24%) Sunday boardings.
- 363 – Greatest percentage increase of 200 (84%) average weekday, 200 (120%) Saturday, and 100 (132%) Sunday boardings over the C53 it replaced. Service was increased in April 2017 and rerouted to Morgan Creek in September 2017.

Vancouver/UBC

Annual Bus Boardings: up 4,110,000 (3%)

Annual Bus Service Hours: up 23,900 (1%)

Routes Improved: 5, 6, 23, 25, 43, 49, 84, N8, N9, N20

The sub-region grew steadily in both annual boardings and annual service hours compared to the previous year (2016 growth was 3% and 1% respectively).

Notable routes include:

- 43 – Large increase of 1,800 (23%) average weekday boardings. Midday service was added in September 2017.
- 49 – Largest absolute growth in entire Metro Vancouver region with 4,000 average weekday boardings (15%).

B-LINE HIGHLIGHTS

B-Line bus service offers faster travel time, direct routing, and connections to key regional destinations. Currently, there are three B-Line routes operating in the region: the 95, 96, and 99. The 95 B-Line was the first route implemented as part of Phase One.

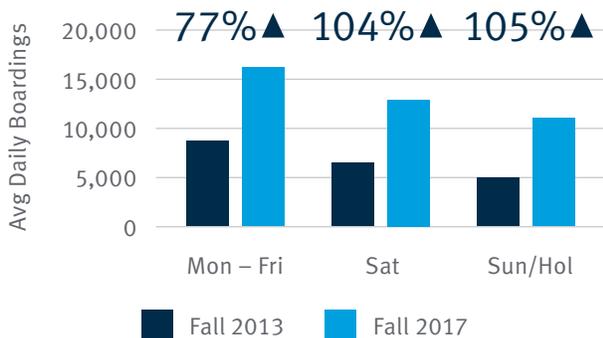
99 B-Line: Ridership surpassed 61,000 average weekday boardings

The 99 B-Line was introduced in September 1996 and is the busiest bus corridor in Canada and the U.S. In fall 2017, the route surpassed 61,000 average weekday boardings, which is more than double of any other route in the entire region.

96 B-Line: Ridership doubled since 2013

The 96 B-Line, which serves King George Boulevard and 104th Avenue in Surrey, is the fastest growing B-Line in the region. Since its launch in September 2013, average daily boardings on the 96 B-Line have grown by 77% on weekdays and more than doubled on the weekends (see Figure 2). Between fall 2016 and fall 2017 alone, the increase was 13% on weekdays, 25% on Saturdays, and 24% on Sundays.

Figure 2: Average Daily 96 B-Line Boardings, Fall 2013 vs. Fall 2017



95 B-Line: The first Phase One B-Line with four more to come

The 95 B-Line was launched in December 2016. It replaced route 135 and makes limited stops along Hastings Street between downtown Vancouver and SFU's Burnaby campus.

The 95 B-Line has less than half the stops compared to the 135. Fewer stops led to a shorter end-to-end travel time of up to 10 minutes. These travel time savings were reinvested to provide increased frequency in January 2018.

Though fall ridership on the 95 was slightly lower than the 135 in the previous year (-6%), ridership on local routes along the Hastings Corridor increased by 5%. This shows that customers may be taking other routes along Hastings, such as the 14 and 160, for local trips between stops not served by the B-Line, and the B-Line for longer distance travel. The 95 B-Line was the first Phase One B-Line to launch and will be followed by four additional B-Lines in fall 2019.

The full TSPR can be found on the TransLink website at: www.translink.ca/tspr

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Table A — Annual Bus Service Hours by Sub-Region

Sub-Region	Annual Bus Service Hours (ooo's)					1 Year Change [2016 - 2017]
	2013	2014	2015	2016	2017	
Burnaby/New Westminster	636	638	646	656	662	1%
Ladner/South Delta/ Tsawwassen	87	86	87	88	94	7%
Maple Ridge/Pitt Meadows	118	115	112	113	120	6%
North Shore	414	505	514	523	538	3%
Northeast Sector	397	402	404	410	438	7%
Richmond	389	385	376	379	398	5%
South of Fraser	901	928	931	947	982	4%
Vancouver/UBC	1,858	1,871	1,891	1,914	1,938	1%
System-wide	4,799	4,930	4,962	5,030	5,170	3%

*Note: % change is fiscalized. Numbers will differ from annualized numbers as some improvements were implemented part way in year.

Table B — Annual Bus APC Boardings by Sub-Region

Sub-Region	Annual Bus APC Boardings (Millions)					1 Year Change [2016 - 2017]
	2013	2014	2015	2016	2017	
Burnaby/New Westminster	32.4	32.6	33.9	35.2	36.0	2%
Ladner/South Delta/ Tsawwassen	2.0	2.2	2.3	2.4	2.6	9%
Maple Ridge/Pitt Meadows	3.1	3.1	3.0	3.1	3.1	0%
North Shore	20.5	20.6	21.3	22.1	22.5	2%
Northeast Sector*	13.8	13.4	13.4	14.1	10.9	-23%
Richmond	16.6	16.7	16.8	17.4	18.4	6%
South of Fraser	33.3	34.5	36.3	40.0	43.3	8%
Vancouver/UBC	132.0	130.0	132.0	136.5	140.6	3%
System-wide	253.7	253.0	259.1	270.8	277.5	2%

*Note: The decrease in boardings represents a mode shift from the 97 B-Line bus to the Evergreen Extension SkyTrain

Table C — 2017 Average Daily Bus APC Boardings by Sub-Region

Sub-Region	Monday-Friday		Saturday		Sunday/Holiday	
	Avg Daily Boardings	1 Year Change [2016 -2017]	Avg Daily Boardings	1 Year Change [2016 -2017]	Avg Daily Boardings	1 Year Change [2016 -2017]
Burnaby/New Westminster	117,400	3%	66,400	3%	51,300	1%
Ladner/South Delta/ Tsawwassen	7,800	9%	6,000	25%	5,100	2%
Maple Ridge/Pitt Meadows	10,400	1%	5,800	3%	4,300	2%
North Shore	69,700	2%	49,700	3%	40,400	4%
Northeast Sector*	36,100	-22%	19,000	-26%	15,100	-22%
Richmond	59,200	6%	35,600	10%	28,500	7%
South of Fraser	138,400	6%	85,500	12%	70,500	11%
Vancouver/UBC	437,600	3%	304,500	5%	243,100	3%
System-wide	876,600	2%	572,500	4%	458,300	3%

*Note: The decrease in boardings represents a mode shift from the 97 B-Line bus to the Evergreen Extension SkyTrain

Table D — 2017 Bus and SeaBus Routes Ranked by Annual Boardings

Rank	Route	Sub-Region	Annual APC Boardings
1	99	Vancouver/UBC	17,421,000
2	41	Vancouver/UBC	8,918,000
3	20	Vancouver/UBC	8,630,000
4	49	Vancouver/UBC	8,034,000
5	25	Vancouver/UBC	7,642,000
6	16	Vancouver/UBC	7,549,000
7	9	Vancouver/UBC	7,273,000
8	3	Vancouver/UBC	6,724,000
9	SeaBus	North Shore	6,343,000
10	106	Burnaby/New Westminster	6,212,000
11	410	Richmond	6,211,000
12	95	Burnaby/New Westminster	6,056,000
13	8	Vancouver/UBC	5,845,000
14	14	Vancouver/UBC	5,750,000
15	19	Vancouver/UBC	5,734,000
16	319	South of Fraser	5,193,000
17	96	South of Fraser	5,019,000
18	10	Vancouver/UBC	4,770,000
19	7	Vancouver/UBC	4,712,000
20	2	Vancouver/UBC	4,254,000
21	100	Vancouver/UBC	4,026,000
22	22	Vancouver/UBC	3,827,000
23	130	Burnaby/New Westminster	3,661,000
24	5	Vancouver/UBC	3,631,000
25	250	North Shore	3,471,000
26	4	Vancouver/UBC	3,419,000
27	239	North Shore	3,146,000
28	401	Richmond	3,094,000
29	17	Vancouver/UBC	2,952,000
30	240	North Shore	2,932,000
31	502	South of Fraser	2,833,000
32	6	Vancouver/UBC	2,824,000
33	84	Vancouver/UBC	2,788,000
34	321	South of Fraser	2,550,000
35	33	Vancouver/UBC	2,522,000
36	335	South of Fraser	2,508,000
37	145	Burnaby/New Westminster	2,425,000
38	123	Burnaby/New Westminster	2,342,000
39	320	South of Fraser	2,211,000
40	129	Burnaby/New Westminster	2,162,000

Table D – 2017 Bus and SeaBus Routes Ranked by Annual Boardings (continued)

Rank	Route	Sub-Region	Annual APC Boardings
41	701	Maple Ridge/Pitt Meadows	2,125,000
42	28	Burnaby/New Westminster	2,031,000
43	144	Burnaby/New Westminster	2,020,000
44	403	Richmond	1,951,000
45	43	Vancouver/UBC	1,917,000
46	323	South of Fraser	1,899,000
47	160	Northeast Sector	1,723,000
48	351	South of Fraser	1,715,000
49	50	Vancouver/UBC	1,641,000
50	430	Richmond	1,533,000
51	26	Vancouver/UBC	1,462,000
52	44	Vancouver/UBC	1,438,000
53	407	Richmond	1,396,000
54	501	South of Fraser	1,391,000
55	246	North Shore	1,328,000
56	255	North Shore	1,319,000
57	601	Ladner/South Delta/Tsaww.	1,297,000
58	112	Burnaby/New Westminster	1,279,000
59	210	North Shore	1,260,000
60	23	Vancouver/UBC	1,201,000
61	27	Vancouver/UBC	1,190,000
62	257	North Shore	1,146,000
63	555	South of Fraser	1,133,000
64	101	Burnaby/New Westminster	1,097,000
65	15	Vancouver/UBC	1,029,000
66	110	Burnaby/New Westminster	1,022,000
67	340	South of Fraser	1,004,000
68	229	North Shore	996,000
69	364	South of Fraser	983,000
70	402	Richmond	954,000
71	324	South of Fraser	953,000
72	230	North Shore	945,000
73	152	Northeast Sector	943,000
74	325	South of Fraser	932,000
75	480	Richmond	921,000
76	342	South of Fraser	920,000
77	301	Richmond	868,000
78	180	Northeast Sector	861,000
79	620	Ladner/South Delta/Tsaww.	860,000
80	375	South of Fraser	853,000

Table D – 2017 Bus and SeaBus Routes Ranked by Annual Boardings (continued)

Rank	Route	Sub-Region	Annual APC Boardings
81	155	Burnaby/New Westminster	835,000
82	337	South of Fraser	825,000
83	228	North Shore	815,000
84	116	Burnaby/New Westminster	810,000
85	211	North Shore	788,000
86	341	South of Fraser	786,000
87	104	South of Fraser	768,000
88	232	North Shore	768,000
89	312	South of Fraser	752,000
90	143	Northeast Sector	750,000
91	128	Burnaby/New Westminster	740,000
92	188	Northeast Sector	731,000
93	159	Northeast Sector	714,000
94	156	Northeast Sector	707,000
95	640	South of Fraser	687,000
96	345	South of Fraser	682,000
97	503	South of Fraser	674,000
98	236	North Shore	669,000
99	316	South of Fraser	648,000
100	405	Richmond	626,000
101	531	South of Fraser	590,000
102	136	Burnaby/New Westminster	586,000
103	183	Northeast Sector	583,000
104	134	Burnaby/New Westminster	566,000
105	791	Maple Ridge/Pitt Meadows	556,000
106	29	Vancouver/UBC	556,000
107	153	Northeast Sector	541,000
108	C3	Burnaby/New Westminster	471,000
109	253	North Shore	466,000
110	157	Northeast Sector	456,000
111	C75	South of Fraser	440,000
112	595	South of Fraser	429,000
113	314	South of Fraser	424,000
114	404	Richmond	400,000
115	C73	South of Fraser	393,000
116	C7	Burnaby/New Westminster	391,000
117	326	South of Fraser	391,000
118	151	Northeast Sector	383,000
119	241	North Shore	363,000
120	169	Northeast Sector	315,000

Table D – 2017 Bus and SeaBus Routes Ranked by Annual Boardings (continued)

Rank	Route	Sub-Region	Annual APC Boardings
121	C5	Burnaby/New Westminster	297,000
122	212	North Shore	295,000
123	C15	North Shore	293,000
124	186	Northeast Sector	292,000
125	187	Northeast Sector	260,000
126	C62	South of Fraser	256,000
127	172	Northeast Sector	252,000
128	C18	Vancouver/UBC	234,000
129	209	North Shore	229,000
130	254	North Shore	227,000
131	C4	Burnaby/New Westminster	227,000
132	311	South of Fraser	226,000
133	173	Northeast Sector	215,000
134	388	South of Fraser	214,000
135	214	North Shore	201,000
136	N19	Burnaby/New Westminster	194,000
137	C76	South of Fraser	190,000
138	C20	Vancouver/UBC	189,000
139	395	South of Fraser	178,000
140	191	Northeast Sector	178,000
141	354	South of Fraser	175,000
142	174	Northeast Sector	166,000
143	125	Burnaby/New Westminster	162,000
144	32	Vancouver/UBC	154,000
145	C92	Richmond	153,000
146	171	Northeast Sector	149,000
147	170	Northeast Sector	143,000
148	352	South of Fraser	140,000
149	C71	South of Fraser	137,000
150	227	North Shore	137,000
151	329	South of Fraser	133,000
152	C98	Richmond	133,000
153	393	South of Fraser	130,000
154	C9	Burnaby/New Westminster	126,000
155	602	Ladner/South Delta/Tsaww.	126,000
156	C70	South of Fraser	122,000
157	394	South of Fraser	122,000
158	251	North Shore	119,000
159	182	Northeast Sector	117,000
160	189	Northeast Sector	117,000

Table D – 2017 Bus and SeaBus Routes Ranked by Annual Boardings (continued)

Rank	Route	Sub-Region	Annual APC Boardings
161	184	Northeast Sector	116,000
162	185	Northeast Sector	115,000
163	C6	Burnaby/New Westminster	110,000
164	C93	Richmond	110,000
165	361	South of Fraser	106,000
166	509	South of Fraser	97,000
167	C44	Maple Ridge/Pitt Meadows	96,000
168	256	North Shore	95,000
169	391	South of Fraser	94,000
170	N9	Vancouver/UBC	91,000
171	C45	Maple Ridge/Pitt Meadows	90,000
172	247	North Shore	87,000
173	363	South of Fraser	83,000
174	252	North Shore	78,000
175	N20	Vancouver/UBC	78,000
176	C43	Maple Ridge/Pitt Meadows	76,000
177	N35	Burnaby/New Westminster	73,000
178	604	Ladner/South Delta/Tsaww.	73,000
179	C46	Maple Ridge/Pitt Meadows	73,000
180	603	Ladner/South Delta/Tsaww.	72,000
181	N24	North Shore	67,000
182	C63	South of Fraser	66,000
183	N10	Vancouver/UBC	64,000
184	181	Northeast Sector	63,000
185	C10	North Shore	63,000
186	362	South of Fraser	61,000
187	C61	South of Fraser	58,000
188	360	South of Fraser	56,000
189	C2	Burnaby/New Westminster	53,000
190	C96	Richmond	53,000
191	C1	Burnaby/New Westminster	51,000
192	N8	Vancouver/UBC	50,000
193	C60	South of Fraser	50,000
194	C94	Richmond	46,000
195	N17	Vancouver/UBC	46,000
196	C12	North Shore	43,000
197	231	North Shore	41,000
198	C64	South of Fraser	40,000
199	175	Northeast Sector	40,000
200	C41	Maple Ridge/Pitt Meadows	34,000

Table D – 2017 Bus and SeaBus Routes Ranked by Annual Boardings (continued)

Rank	Route	Sub-Region	Annual APC Boardings
201	258	North Shore	30,000
202	C86	Ladner/South Delta/Tsaww.	29,000
203	C11	North Shore	26,000
204	372	South of Fraser	25,000
205	C88	Ladner/South Delta/Tsaww.	21,000
206	C49	Maple Ridge/Pitt Meadows	21,000
207	609	Ladner/South Delta/Tsaww.	21,000
208	C84	Ladner/South Delta/Tsaww.	20,000
209	C87	Ladner/South Delta/Tsaww.	20,000
210	C89	Ladner/South Delta/Tsaww.	19,000
211	C48	Maple Ridge/Pitt Meadows	17,000
212	N22	Vancouver/UBC	16,000
213	733	Maple Ridge/Pitt Meadows	16,000
214	741	Maple Ridge/Pitt Meadows	15,000
215	N15	Vancouver/UBC	15,000
216	608	Ladner/South Delta/Tsaww.	13,000
217	242	North Shore	11,000
218	606	Ladner/South Delta/Tsaww.	7,000
219	259	North Shore	4,000

Table E — 2017 Bus and SeaBus Annual Boardings: Top 5 Routes by Sub-Region

Route	Annual APC Boardings	System-Wide Rank
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Burnaby/New Westminster		
106	6,212,000	10
95	6,056,000	12
130	3,661,000	23
145	2,425,000	37
123	2,342,000	38

Ladner/South Delta/Tsawwassen		
601	1,297,000	57
620	860,000	79
602	126,000	155
604	73,000	178
603	72,000	180

Maple Ridge/Pitt Meadows		
701	2,125,000	41
791	556,000	105
C44	96,000	167
C45	90,000	171
C43	76,000	176

North Shore		
SeaBus	6,343,000	9
250	3,471,000	25
239	3,146,000	27
240	2,932,000	30
246	1,328,000	55

Route	Annual APC Boardings	System-Wide Rank
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Northeast Sector		
160	1,723,000	47
152	943,000	73
180	861,000	78
143	750,000	90
188	731,000	92

Richmond		
410	6,211,000	11
401	3,094,000	28
403	1,951,000	44
430	1,533,000	50
407	1,396,000	53

South of Fraser		
319	5,193,000	16
96	5,019,000	17
502	2,833,000	31
321	2,550,000	34
335	2,508,000	36

Vancouver/UBC		
99	17,421,000	1
41	8,918,000	2
20	8,630,000	3
49	8,034,000	4
25	7,642,000	5

Table F – 2017 Top 25 Routes by Key Performance Indicator

Service Cost per APC Boarding		Average APC Boardings per Revenue Hour	
Top 25		Top 25	
99	\$0.79	99	135
20	\$1.12	125	101
106	\$1.15	20	97
3	\$1.16	106	94
96	\$1.19	49	93
49	\$1.21	3	90
41	\$1.23	145	90
319	\$1.25	96	89
8	\$1.26	41	88
5	\$1.26	5	88
323	\$1.26	319	86
145	\$1.33	8	86
25	\$1.43	323	84
393	\$1.43	44	80
16	\$1.45	25	79
112	\$1.45	112	76
100	\$1.47	393	74
95	\$1.48	16	73
335	\$1.51	9	73
9	\$1.51	32	73
44	\$1.51	43	73
19	\$1.52	100	72
6	\$1.57	95	72
2	\$1.61	19	72
10	\$1.61	335	71

Table G — 2017 Bottom 25 Routes by Key Performance Indicator

Service Cost per APC Boarding		Average APC Boardings per Revenue Hour	
Bottom 25		Bottom 25	
609	\$21.92	609	3
259	\$17.44	C87	6
606	\$15.78	741	7
C87	\$11.58	C11	7
741	\$11.58	259	7
C64	\$10.34	C64	7
733	\$10.20	372	7
C48	\$9.87	C48	7
372	\$9.73	733	7
C11	\$9.47	C84	8
C41	\$8.84	C41	8
C60	\$8.80	C60	8
C84	\$8.80	C49	9
C61	\$8.36	C61	9
C49	\$8.27	C88	9
C88	\$8.27	606	9
C89	\$8.14	360	9
360	\$7.78	363	9
363	\$7.68	C89	9
N15	\$7.63	C12	9
C12	\$7.54	184	9
184	\$7.35	C43	10
N22	\$7.29	C63	11
N9	\$7.28	182	11
258	\$7.17	252	11

Table H — Top 10 Overcrowded Routes by Annual Revenue Hours with Overcrowding

Rank	2015			2016			2017		
	Route	ARHs with Over-crowding	% of ARHs with Over-crowding	Route	ARHs with Over-crowding	% of ARHs with Over-crowding	Route	ARHs with Over-crowding	% of ARHs with Over-crowding
1	99	29,100	23%	99	30,500	25%	99	39,500	31%
2	49	16,700	21%	25	22,400	24%	25	17,800	19%
3	25	15,800	17%	49	19,400	25%	41	17,200	17%
4	41	12,700	12%	41	12,600	12%	49	15,800	18%
5	14	8,700	10%	250	10,000	17%	95	11,900	14%
6	410	8,400	9%	14	9,900	12%	100	9,900	18%
7	130	6,600	12%	319	8,200	14%	319	9,400	16%
8	250	6,200	10%	130	7,900	14%	410	8,900	8%
9	257	5,800	27%	410	7,200	7%	250	8,500	14%
10	16	5,800	6%	502	7,100	14%	16	8,400	8%

Note: The overcrowding indicator methodology changed for the 2017 TSPR. Therefore, the routes and overcrowding values listed for 2015 and 2016 differ from those published in previous versions of the TSPR.

Table I – 2017 SkyTrain Stations Ranked by Average Weekday Boardings

Rank	Station	Line	Average Weekday Boardings
1	Waterfront	Canada and Expo Lines	37,500
2	Commercial–Broadway	Expo and Millennium Lines	24,900
3	Burrard	Expo Line	23,000
4	Granville	Expo Line	20,600
5	Metrotown	Expo Line	19,900
6	Vancouver City Centre	Canada Line	18,400
7	Stadium–Chinatown	Expo Line	16,200
8	New Westminster	Expo Line	14,800
9	Broadway–City Hall	Canada Line	14,500
10	Main Street–Science World	Expo Line	14,300
11	Joyce–Collingwood	Expo Line	13,800
12	King George	Expo Line	13,300
13	Lougheed Town Centre	Expo and Millennium Lines	12,700
14	Surrey Central	Expo Line	12,400
15	Edmonds	Expo Line	11,700
16	Richmond–Brighouse	Canada Line	11,700
17	Bridgeport	Canada Line	11,100
18	Yaletown–Roundhouse	Canada Line	10,500
19	22nd Street	Expo Line	9,800
20	Marine Drive	Canada Line	9,400
21	Scott Road	Expo Line	8,700
22	Oakridge–41st Avenue	Canada Line	8,500
23	YVR–Airport	Canada Line	7,500
24	Langara–49th Avenue	Canada Line	7,400
25	29th Avenue	Expo Line	7,000
26	Nanaimo	Expo Line	6,700
27	King Edward	Canada Line	6,400
28	Production Way–University	Expo and Millennium Lines	6,200
29	Royal Oak	Expo Line	5,500
30	Brentwood Town Centre	Millennium Line	5,500

Table I – 2017 SkyTrain Stations Ranked by Average Weekday Boardings (continued)

Rank	Station	Line	Average Weekday Boardings
31	Patterson	Expo Line	5,300
32	Gateway	Expo Line	5,300
33	Olympic Village	Canada Line	5,300
34	Columbia	Expo Line	4,800
35	Lansdowne	Canada Line	4,400
36	Aberdeen	Canada Line	4,300
37	Coquitlam Central	Millennium Line	4,000
38	Braid	Expo Line	3,900
39	Renfrew	Millennium Line	3,900
40	Gilmore	Millennium Line	3,800
41	Burquitlam	Millennium Line	3,800
42	Lincoln	Millennium Line	3,600
43	VCC–Clark	Millennium Line	3,400
44	Holdom	Millennium Line	3,200
45	Sapperton	Expo Line	3,100
46	Rupert	Millennium Line	3,000
47	Lafarge Lake–Douglas	Millennium Line	2,700
48	Templeton	Canada Line	2,600
49	Sperling–Burnaby Lake	Millennium Line	2,100
50	Moody Centre	Millennium Line	2,000
51	Inlet Centre	Millennium Line	1,900
52	Lake City Way	Millennium Line	1,200
53	Sea Island Centre	Canada Line	800