



2023 Bus Speed and Reliability Report

April 2024

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Executive Messages

A Message from the CEO of TransLink

Every day, customers rely on buses to get them to the people and places that matter most—from work and school to healthcare appointments, and everywhere in between. Representing almost two-thirds of our daily boardings, customers take more than half a million bus trips every day. As ridership continued to recover from the pandemic in 2022, bus ridership consistently rebounded faster than any other transit mode. Buses are the backbone of our transit system, and as we look to the future, they will continue to play a key role in how we move around this region.

The 10-Year Priorities of our regional transportation strategy, Transport 2050, envisions a bold "bus-first" approach. Priority investments include doubling bus service, 11 new RapidBus routes, seven new Express bus lines, and up to nine new Bus Rapid Transit corridors. Since 2019, TransLink's Bus Speed & Reliability (BSR) Municipal Funding Program has awarded almost \$15 million in funding to more than 100 studies and projects. While this is encouraging progress, there is still much work to be done so we can achieve the future we envision for our bus system. We will continue to work with the TransLink Board of Directors and the Mayors' Council on Regional Transportation to secure funds for this program because investing in bus priority measures will directly help us achieve our future goals: to make transportation more convenient, reliable, safe and comfortable, affordable, and carbon-free.

With opportunities to prioritize more road space for transit through bus lanes, queue jumps, bus bulbs, and signal improvements, we can clear the way for faster, more reliable, and more efficient bus service, ultimately reducing delays and helping our customers get to where they need to go.

The humble bus is the future of mass transit. In planning for this future, this Bus Speed & Reliability Report serves as a call to action. Working with our customers, local and regional government, Indigenous Nations, and partners, now is the time to make it happen.



Kevin Quinn
Chief Executive Officer
TransLink

A Message from the President and General Manager of Coast Mountain Bus Company

Across CMBC, our employees—from Transit Operators to Mechanics, Schedulers and many more—work hard every day to provide the high-quality bus service that our customers expect, all while interacting with millions of other road users. However, increasing roadway traffic slows down our buses.

Operating alongside mixed traffic such as private cars, freight trucks, and other vehicles presents both daily and long-term challenges. Despite a temporary respite during the pandemic, traffic is anticipated to continue growing. This means we need to increase the number of buses and Transit Operators on the road, and the number of people working behind the scenes, to maintain our status quo. Just because of traffic, our operational budget must grow \$2–\$7 million every year, and the cost continues to accumulate. This report estimates the total cost of delay in 2021 was more than \$80 million.

Bus priority measures such as bus lanes, queue jumps, bus bulbs, and signal improvements can help. These efficiency improvements allow us to provide additional service at the same cost and help us save for the future. When buses are protected from rising congestion, we can make more durable improvements in bus service, and most importantly, ensure that employees and customers have more certainty in knowing how long each transit journey will take.

This report has a hopeful outlook, highlighting both the problem of bus delay and its potential solutions. By identifying key locations for future bus priority investments, it provides an overview of 20 corridors that most warrant our attention, illustrating where we need to focus our work. Coast Mountain Bus Company service has a big impact on the region, and we'll need help from all our partners to maintain the excellent transit experience our customers expect and deserve.



Michael McDaniel
President & General Manager
Coast Mountain Bus Company

Part 1: Introduction

Bus delay due to congestion is a significant, but solvable, regional problem

Transit service is critical to access and mobility in Metro Vancouver. People in Metro Vancouver board transit to get to their destinations more than 800,000 times every weekday. Before the COVID-19 pandemic, transit ridership was increasing faster in Metro Vancouver than any other region in Canada and the US; and since the pandemic, ridership has recovered faster than most other metropolitan areas in North America.

Buses are the workhorses of the transit system. Most of TransLink's riders take the bus, and buses carry a substantial share of all people traveling on some streets. Bus ridership grew faster prior to the pandemic and recovered more quickly than other transit modes. And continued expansions in bus service are central to TransLink's regional transportation strategy (Transport 2050).

Fast, reliable bus service makes transit an attractive and healthy travel choice and increases access to opportunity. Frequent and reliable bus service allows Metro Vancouver residents to plan their travel around their lives, rather than plan their lives around their travel.

TransLink and Coast Mountain Bus Company work hard to provide frequent and reliable service, including: adding service to reduce passenger wait times and crowding, adjusting schedules to improve accuracy, and launching new frequent-service routes, such as the five RapidBus lines launched in 2020.

However, traffic worsens customer experience and increases operating costs. Traffic-related delays means passengers must add extra travel time to their plans, or risk being late for work or appointments. Delays also require TransLink to either put more buses on the street to maintain the same frequency, or else accept reduced service levels.

These are solvable problems. The early months of the pandemic helped us see where buses freed from congestion can run faster and more reliably. And there are many tools to make these improvements more permanent. These rely on strong partnerships between TransLink, municipalities, and the BC Ministry of Transportation and Infrastructure (BC MOTI).

TransLink will be investing to keep our buses reliable as our region grows. The Bus Speed and Reliability (BSR) Program is focused on making improvements to our network where they are most needed. These investments will be complemented by the service enhancements and new RapidBus and Bus Rapid Transit (BRT) corridors that are central to the regions' plans for growth.

WHY ARE WE UPDATING THIS DOCUMENT?

TransLink's first Bus Speed & Reliability Report, published in 2019, highlighted the issue of bus-delay in Metro Vancouver, its impacts on customers, and its operational costs. The Report also identified corridors for future bus priority investment, establishing a foundation for the new Bus Speed & Reliability Municipal Funding Program ("BSR Program").

The 2023 Bus Speed & Reliability Report serves several purposes. It is an opportunity to:

- Refresh data about bus speed and reliability to create a solid basis for future reporting.
- Identify lessons learned about bus performance during the low-traffic period of the COVID-19 pandemic.
- Report on performance of bus priority projects delivered since 2019, including lessons learned about the priority measures that were most effective.
- Support a growing municipal funding program to improve bus speed and reliability. The BSR Program will grow approximately 35%, from \$5.25 million (2022) to over \$8 million (2023). This complements the region's ambitious plans to improve bus service with new RapidBus and Bus Rapid Transit routes.



This example of a commercial street with offset bus lanes, cycling facilities, and on-street parking would work well for people riding transit, walking, and cycling as well as business interests. It includes bus and pedestrian bulb-outs and right-turn pockets, along with possible restrictions on some left-turns.

HOW TO USE THIS DOCUMENT

This report informs the public, elected leaders, and municipal staff about where delays have the greatest impact on bus service and what to do about it

The 2023 BSR Report explores:

1. The causes and effects of delay on buses and people in our region.
2. The strategies available to TransLink, municipalities, and the BC Ministry of Transportation Infrastructure (“BC MOTI”) to improve bus speed and reliability.
3. Specific, actionable, and effective improvements that TransLink can help fund through the Bus Speed and Reliability Program.

The report begins by establishing the context for bus speed and reliability, describing the importance of fast, reliable bus service to Metro Vancouver. It also describes the current state of bus speed and reliability, and how delay impacts people in our region. It examines travel time and ridership data before, during, and after the COVID-19 pandemic to draw conclusions about the essential nature of bus service and the benefits of protecting buses from traffic congestion.

The report describes how TransLink, municipalities and BC MOTI partner to deliver bus priority projects, along with some common challenges. It summarizes our approach to identifying needs, including potential equity considerations. It emphasizes the partnerships needed to implement bus priority improvements, and identifies 20 Profile Areas as focal points for future bus priority investments.

The report evaluates bus priority measures built in the region. It provides an inventory of existing bus priority measures constructed since the launch of TransLink’s BSR Program and highlights bus priority project examples to help us understand the measures that have been most effective and how to apply what we have learned to make future projects better.

The report then highlights needs for future investments. It identifies gaps between current bus priority measures and areas of highest need along the Frequent Transit Network (FTN). It also highlights areas of opportunity for bus priority measures within the 20 Profile Areas.

The Appendix provides more detail on areas of interest including detailed maps and statistics about delay.

- **Subregional Profiles:** The location and magnitude of delay in each subregion as well as location and types of existing bus priority.
- **Profile Areas:** The location, magnitude, and causes of delay on selected major corridors.

GLOSSARY

Term	Definition
Boarding	Every time a passenger enters a bus, train or SeaBus. Transfers are counted as additional boardings.
Bus Rapid Transit (BRT)	Bus service that is fast, frequent and high-capacity, typically via dedicated, fully traffic-separated lanes, with signal priority at intersections.
Bus Speed & Reliability Municipal Funding Program (BSR Program)	A TransLink cost-share funding program to support municipalities in planning, designing, and constructing bus priority projects.
Delay	Excess time spent traveling between bus stops, defined in this report as the difference between the “average” and “best case” conditions. (See "Our Approach to Identifying Needs" on page 23.)
Frequent Transit Network (FTN)	TransLink’s network of corridors where transit service runs at least every 15 minutes in both directions throughout the day and into the evening, every day of the week. It is the focus of the BSR Program.
Dwell	Time spent at a bus stop to allow customers to get on and off.
Journey	A complete transit trip, regardless of the number of transfers.
On-time Performance	The percent of trips that arrive at their destination at the time scheduled.
Passenger Load	The number of people on a bus at any given time.
Person-hours of Delay	The total amount of excess time spent in transit for all passengers on the bus.
Rapid Transit	An urban transit service characterized by high carrying capacity and by speed, frequency, and reliability (high speed and reliability are usually achieved by separation from other modes of travel); typically provided by transit technologies such as rail rapid transit, light rail transit, and bus rapid transit.
RapidBus	A TransLink brand of bus service operating at least every 10 minutes at peak times, with bus priority, limited stopping, and enhanced passenger amenities.
Ridership	The total number of people who use transit, typically reported for an average weekday or entire year.
Speed	The rate at which something moves, generally expressed in kilometres per hour. Speed is a useful metric for comparing the performance of buses traveling different distances.
Travel Time	Time spent traveling between locations (e.g., stops or termini). Most bus riders think about their experience on transit in terms of travel time (rather than speed).
Variability	The range of travel times observed for a given route, direction, segment, and time of day—in this report defined as the range between 80th and 20th percentile travel times, by hour of the day. Variability is used as the primary measure of reliability in this report. (See "Our Approach to Identifying Needs" on page 23.)