Part 2: Context

IMPORTANCE OF TRANSIT SERVICE

Transit service is critical to access and mobility in Metro Vancouver

Transit helps people in Metro Vancouver reach the things that are most important to life and liveliness: work, school, shopping, services, cultural centres, and social gatherings. Travelling by transit is more affordable than driving and is often the only option for people who don't drive, including those who are too young to have a driver's license, older adults, people with disabilities, and low-income populations. People may choose to take transit because it is convenient, sustainable, or safer, such as returning home after a night out. Good transit service also complements active modes of transportation—filling in gaps in the walking or cycling network, and extending the range of people who use a different mode for the first-mile or last-mile of their trip.

2.2M

Unique customers

In fall 2021, TransLink served nearly 2.2 million unique customers—that's equivalent to 84% of the Metro Vancouver population.[1]

850K

Weekday boardings

People in Metro Vancouver boarded transit nearly 850,000 times every weekday in fall 2021.[2]

>60%

Person throughput

Buses carry over 60% of travelers on some streets, and ridership was increasing prior to the pandemic.[3]

>75%

Pre-COVID ridership

By fall 2022, ridership had recovered to above 75% of its pre-pandemic levels, which is higher than other metropolitan areas in Canada and the US.[4]

Buses are the workhorses of the transit system.

Buses serve a significant majority of all transit users. In fall of 2021, almost two-thirds of transit journeys (63%) were by bus—a share that increased from about 61% in 2018.[5] And almost three-quarters of transit journeys included a bus for at least a portion of the trip.[6] On an average weekday in fall 2021, there were more than 530,000 boardings of a TransLink bus.[7]

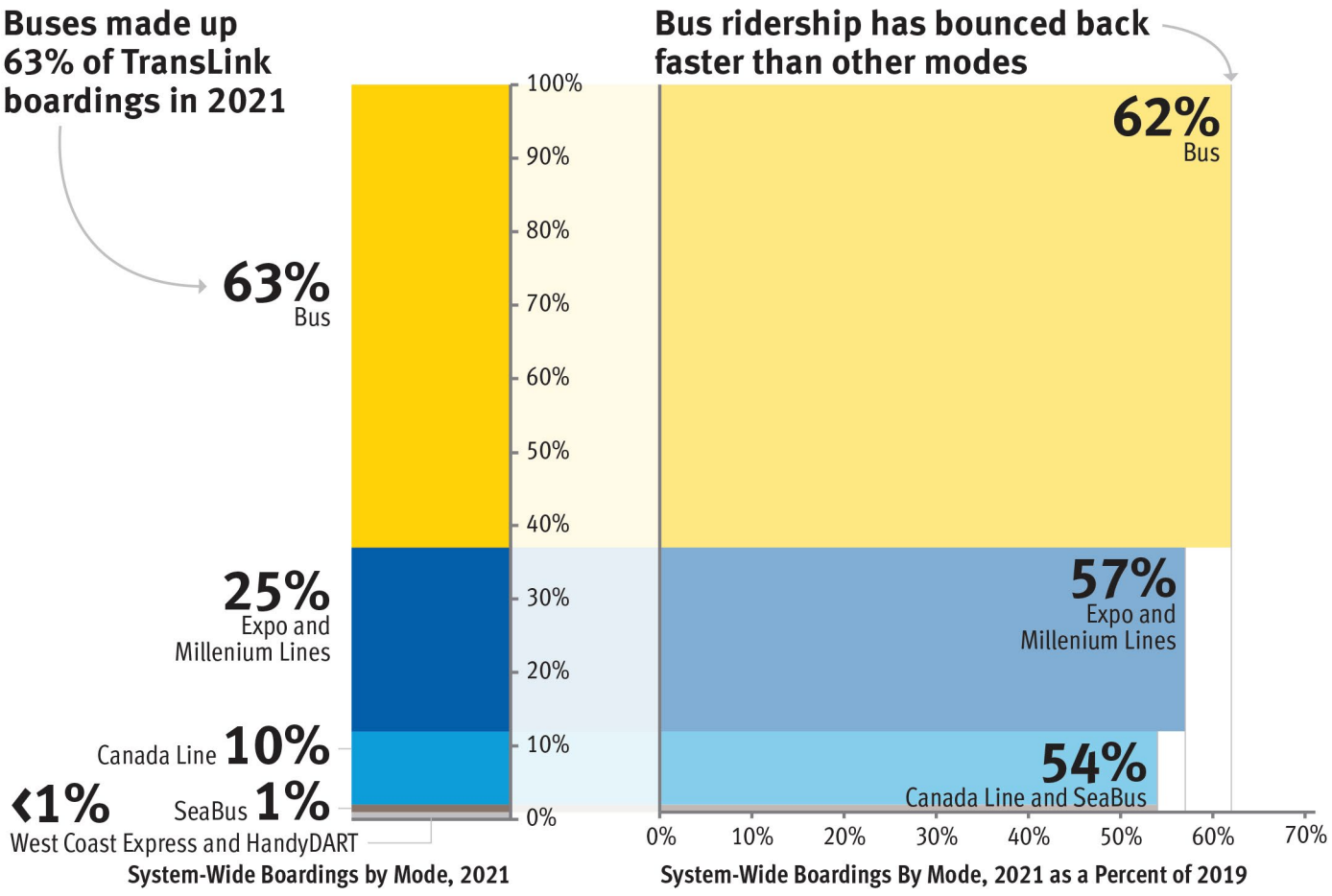
Bus riders are a significant share of road users in many places. (See map of mode-share below.) In others, buses still play a vital role providing access for all. Metro Vancouver has an extensive bus network that reaches communities across the region and runs from early morning to late evening.

Throughout the peaks of the pandemic, TransLink maintained high-frequency bus service on many routes in order to serve essential trips. It also continued to fund and construct new bus priority measures to make service faster and more reliable over the long term.

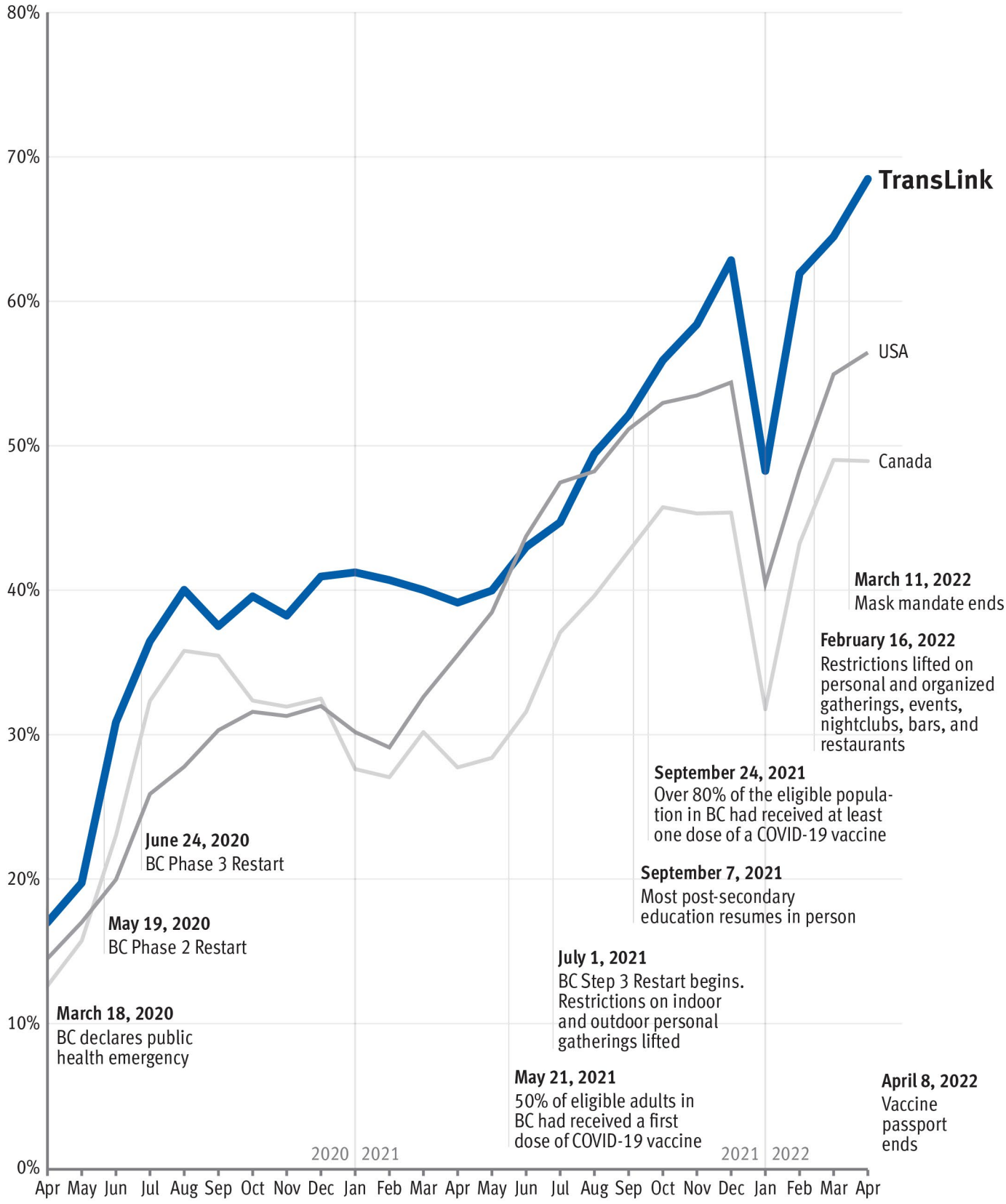
Ridership continues to recover from the pandemic.

In Metro Vancouver and elsewhere, transit ridership dropped steeply during the start of the pandemic in spring 2020. But as daily life outside the home resumed, riders returned. By fall 2021, TransLink's overall ridership levels were 59% of those in 2019. Bus ridership recovery was at 62%—more than the SkyTrain, SeaBus, West Coast Express, and the HandyDART.[8] By fall of 2022, ridership recovery rates had reached above 80%.

Distribution of Total System-Wide Boardings by Mode and Ridership Recovery, Fall 2021



Source: 2021 Transit Service Performance Review



Transit Ridership Recovery Compared to February 2020

Data Sources: 2021 Transit Service Performance Review, page 17.
Estimated based on data sourced from the International Association of Public Transport.

Bus riders are a significant share of road users.

Buses can carry more people than cars—a reality that sometimes obscures their important role. In many areas of Metro Vancouver, buses carry more than 60% of travellers at peak times.[10]

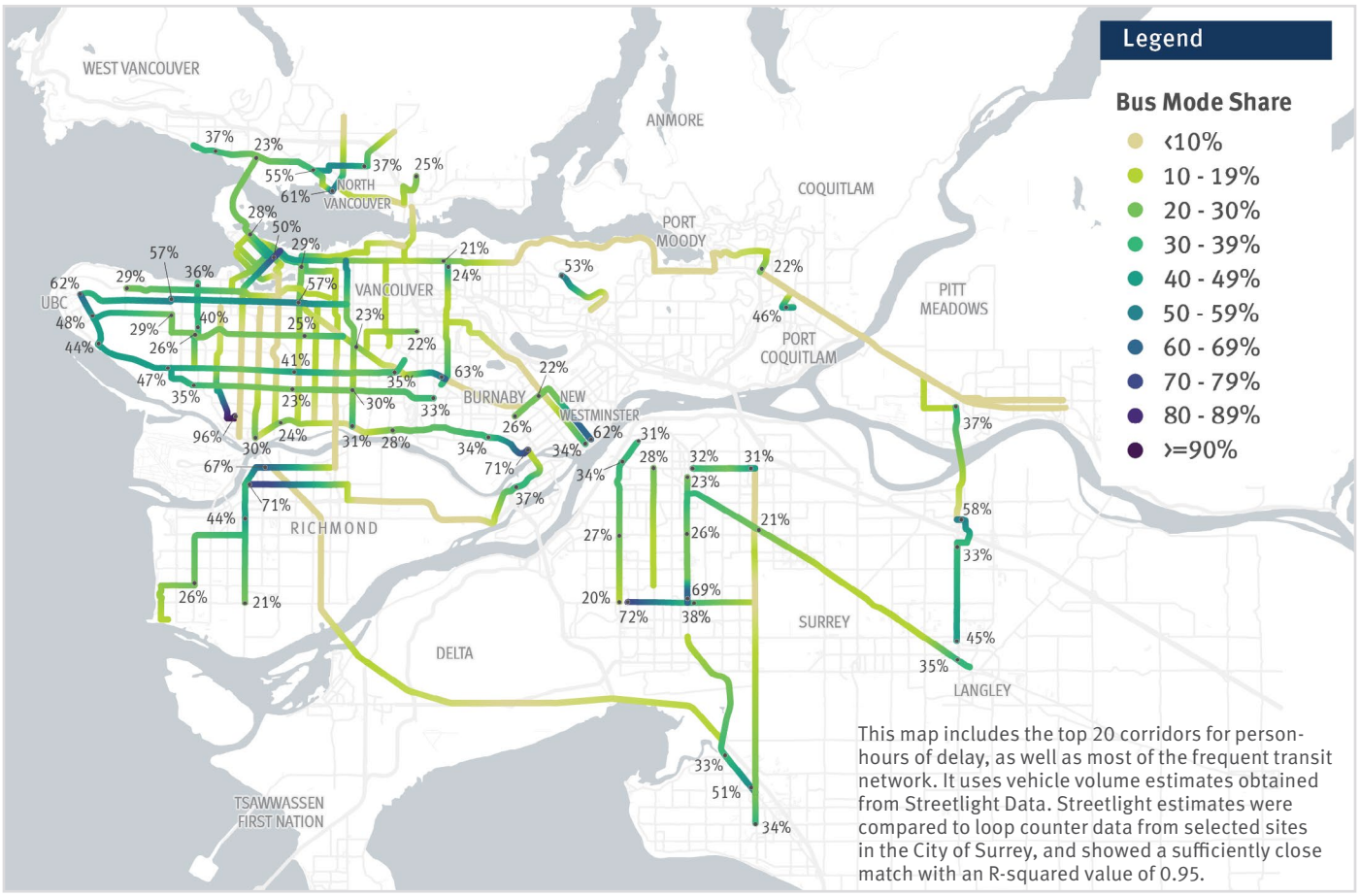
- Transit mode share in the AM Peak ranges from 30% to 50% or more on many corridors (see map below).
- The highest mode share corridors include: Broadway, Wesbrook Mall, North Granville, 41st Ave, Marine Dr/15th St, No 3 Rd, and Edmonds/6th St. Transit mode share across the day exceeds 30% to 40% on these corridors.

New rapid and reliable bus service is integral to our growing transit network.

TransLink's regional transportation strategy documents—Transport 2050, and its related "10-Year Priorities" are "bus-first" plans for growth, guided by goals to make transit convenient, reliable, affordable, safe and comfortable, and carbon-free.

Building on the 2020 launch of "RapidBus"—a new brand of faster, more frequent and reliable service supported by extensive bus priority measures—these future plans will expand RapidBus service further while also building new Bus Rapid Transit routes, which will benefit from even more comprehensive bus priority. (See "Regional Investments in Bus Priority" on page 33.)

Bus Mode Share, 2021, AM Peak



Data Source: TransLink (buses), Streetlight (vehicles)

IMPORTANCE OF BUS SPEED AND RELIABILITY

Fast, reliable service makes transit an attractive alternative to driving

Traffic congestion affects our health, safety, and quality of life.

More cars on the road mean more air pollution and more opportunities for collisions with other vehicles, cyclists, and pedestrians. Congestion also means people must spend more of their valuable time sitting in traffic, reducing time for the rest of life's activities.

Fast and reliable bus service provides a better alternative, alleviating congestion, and complementing healthy active transportation such as walking and cycling. Transit customers have the freedom to take their eyes off the road, and not worry about driving safely, or finding a parking spot.

Fast, reliable bus service increases access to opportunity.

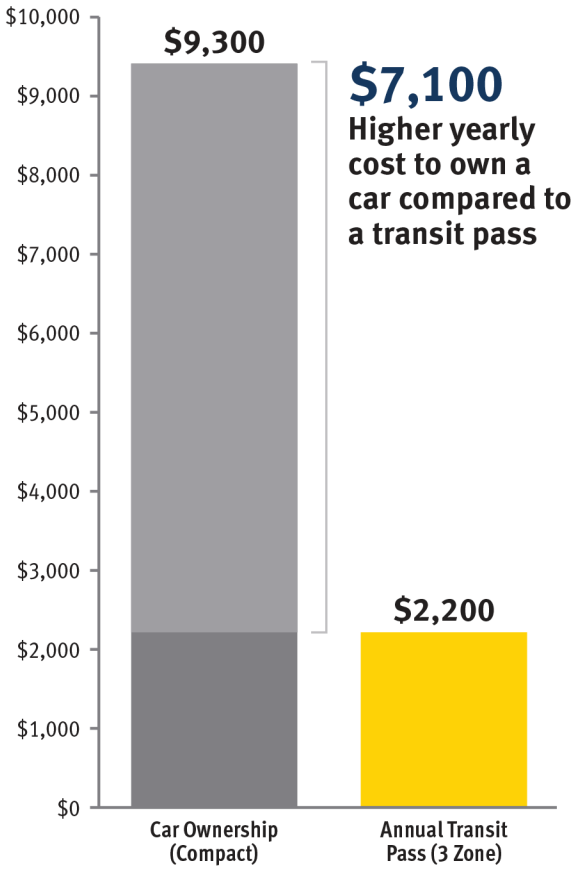
Good transit expands people's access to jobs, schools, and social activities—especially people who cannot afford to live in urban centres. When service is reliable and frequent, people feel more confident taking longer transit trips or trips that require transfers. They may also opt to take trips they previously wouldn't have attempted, increasing their freedom to live life fully.

Enabling people to use transit for more trips makes transportation more affordable.

Owning and driving a car is more expensive than taking transit, which does not entail expenses such as gas, insurance, and maintenance. Fast and reliable transit enables more people to forego car ownership, something that could save them thousands of dollars a year.[11]

On average, people living in the Vancouver metro region spend 40% to 49% of their income on housing and transportation.[12] Making transit more convenient will help to achieve the Transport 2050 goal so that no one in the region needs to spend more than 45%.

Annual Cost of Owning a Car vs. Transit Pass [13]



Bus service is also among the most efficient and effective uses of limited resources.

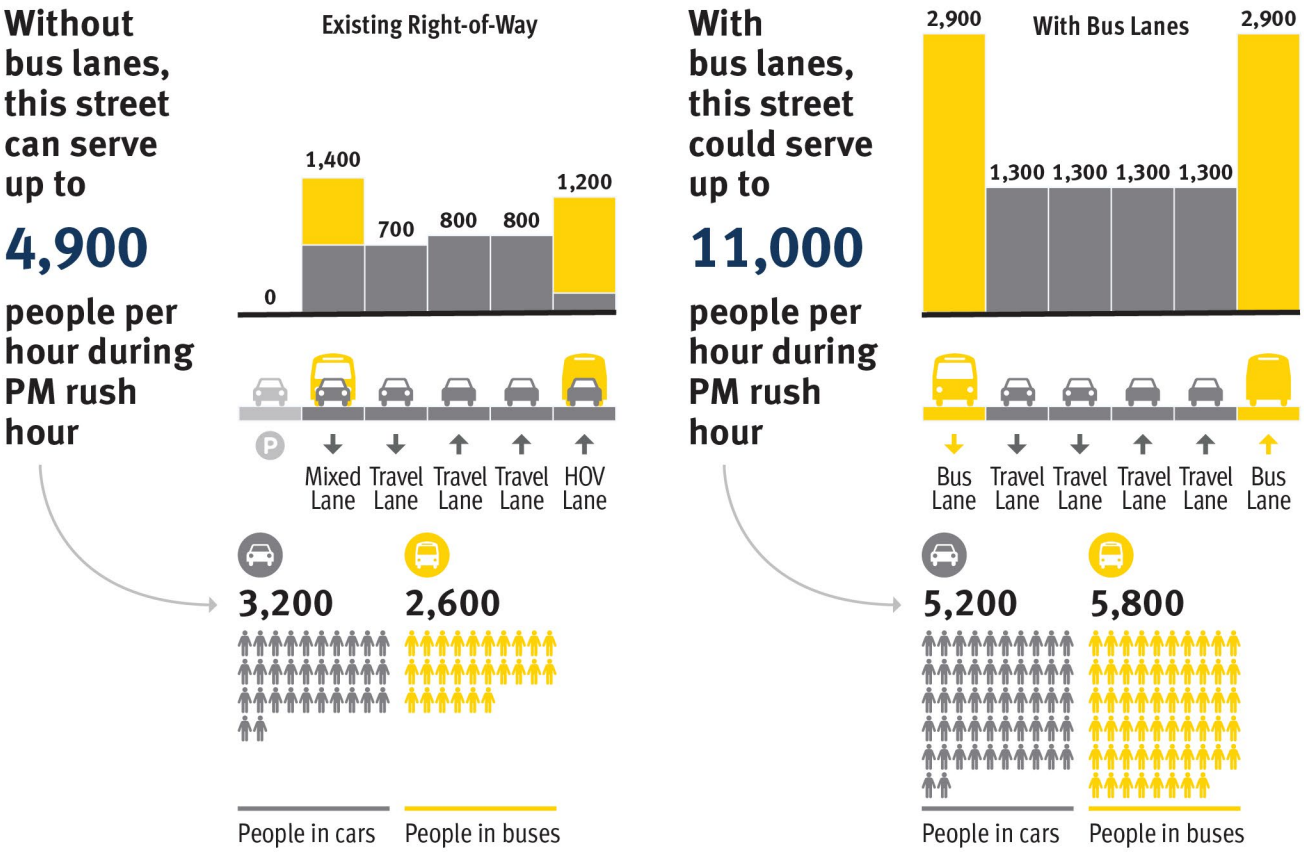
Buses are an efficient way to move people. Unlike trains, they do not require the construction of tracks, and can use existing rights of way. Buses can also hold a lot more people than a car, using the road space more efficiently.

Faster and more reliable bus service can attract new riders. It can also allow TransLink to run more frequent service, further attracting riders. By moving people from cars into buses, the person-moving capacity of the road can be increased, without spending money on widening a road.

How Many People Can Move in Cars Versus a Bus Lane

Source: Based on typical capacities for vehicles and buses traveling in different types of travel lanes.[14]

People Carried by Mode



Existing: Based on vehicle and transit volumes on Hastings Street at Gilmore Avenue in Fall 2019.[15]

Conceptual with bus lanes: Based on assumed capacity for vehicles and buses.[16]

Myth: The bus lanes are empty.

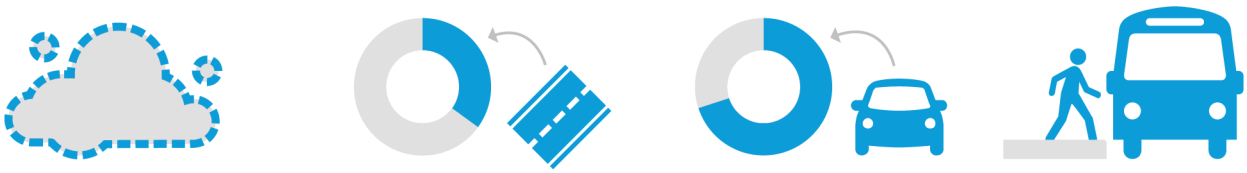
Fact: On Hastings Street, one of our RapidBus corridors, buses carry up to a third of the 5,000 people moving through Burnaby Heights in the PM Peak, with only 3% of total vehicles.[22]

Good bus service helps reduce carbon emissions and slow climate change.

Transportation generates over a third of the region's "on-road" greenhouse gas emissions.[17] Light-duty vehicles are the primary contributors (84%).[18] A key strategy of Metro Vancouver's Climate 2050 Transportation Roadmap is therefore to shift trips from passenger vehicles to public transit. Today, 70% of all trips in the region are made by car.[19] Every time a resident takes the bus instead of driving a gas-powered car for a typical trip they're avoiding about 2.3 kg of carbon emissions.[20] Fast and reliable bus service makes this choice easier.

Even as drivers increasingly use electric cars, TransLink's buses will still be a lower carbon option. There are still greenhouse gas emissions associated with manufacturing batteries, and these are more efficiently used by a bus moving many passengers. In addition, TransLink already has a large fleet of buses that are powered by overhead wire. These not only don't require a big new battery, but also weigh less, making them even more efficient.[21]

Transportation's Role in Greenhouse Gas Emissions and Meeting Our Climate Goals



2050
The greater Vancouver region aims to be carbon neutral by 2050

35%
On-road transportation generates 35% of the region's carbon emissions, mostly from light-duy vehicles (cars and trucks)

70%
Currently, 70% of all trips in the region are made by car

2.3kg
Taking the bus instead of a gas-powered car for a single trip avoids roughly 2.3kg of carbon emissions for an average trip

Data Sources: TransLink Climate Action Strategy (2022) and Climate 2050 Roadmap: Transportation (2021)

TransLink and Coast Mountain Bus Company work hard to provide frequent and reliable service.

High quality bus service allows Metro Vancouver residents to plan their travel around their lives, rather than plan their lives around their travel. TransLink and CMBC work hard to make this possible.

TransLink plans service increases, to both support existing ridership and to shape future ridership growth. For example, the new RapidBus routes launched in 2020 increased the frequency, as well as reliability, of buses along some of the most important transit corridors in the region. During the pandemic, other adjustments were important—including focusing service toward areas where ridership remained high, by making small reductions on frequent bus routes with extra capacity.

TransLink can also work with local partners to invest in bus priority measures. Under the BSR Program, almost $15 million has been allocated for measures such as bus bulbs, queue jumps, transit lanes, and re-balancing bus stops. (See "Multi-agency partnerships are required for progress on bus priority." on page 20.)

CMBC adjusts schedules, ensuring that transit customers have accurate expectations when they plan their trips. This is based on measures of on-time performance (the percent of buses arriving at their destinations on time). As traffic conditions change, CMBC staff change their predictions of how long the bus will take to travel from one stop to the next.

CMBC also manages the complex implementation of service plans—ensuring that enough buses and operators are ready to go, and that routine problems on the ground are resolved quickly—in order to deliver frequent and reliable service on a day-to-day basis.

COSTS OF DELAY

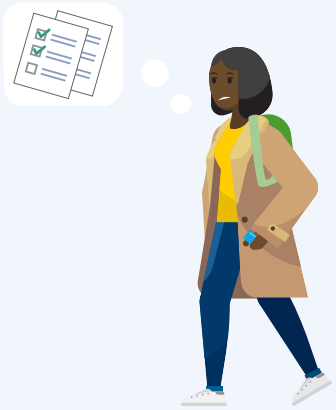
Traffic greatly affects customer experience and operating costs

Delay has direct impacts on peoples' lives.

Bus delays have real impacts on the lives of people who rely on transit. As they sit in traffic or wait to transfer, transit riders face a time penalty—which can be particularly steep for those who cannot afford to live in an urban core. This reduces people's confidence in riding the bus, pushing them toward driving a car instead, a choice that not only costs more for an individual, but also adds further to the road congestion everyone must deal with.

Highly-variable, or inconsistent, bus service means people must include more travel time in their plans to ensure they're not late. Buses may not come on schedule, especially at peak times. Inconsistent service means longer waits, and increased overcrowding when more than one bus arrives at once. And being late for an appointment, childcare pick-up, or exam can be more than an inconvenience. It can mean paying a late fee, waiting until the next slot, or failing a course. Being late for a job can mean losing it.

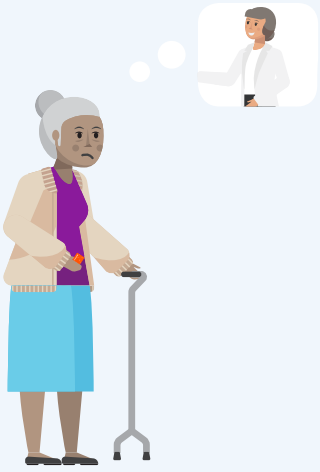
If I'm late for work one more time, I might lose my job.



I can't be late for my exam!

I have to pay a fee if I'm late picking up my child.

If this bus is late, I'll miss my transfer and my time will be wasted waiting for the next one.



The doctor's office charges a fee if I'm late for my medical appointment.

If I don't get to the grocery store before it closes, I can't pick up food for my family.

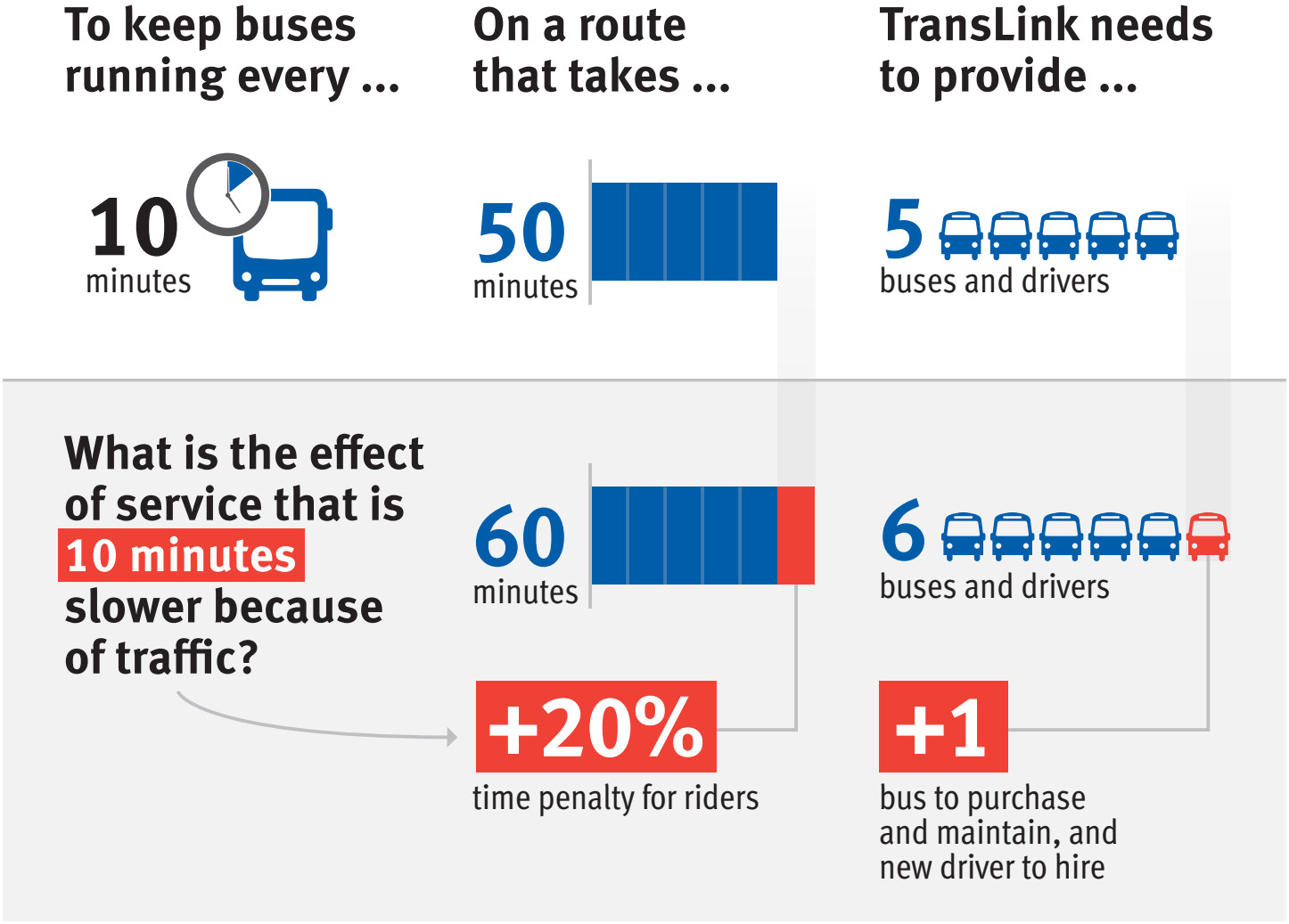
Delay affects our ability to provide great service.

As congestion slows buses down, TransLink must either put more buses on the street—to maintain the same frequency of service—or else accept a reduction in service—requiring customers to wait longer for the next bus. (See diagram below.) When service is inconsistent, it can also be hard to provide an accurate schedule, unless this is based on the slowest days, which guarantees slow service even on good days.

Service that is unreliable or slow reduces the overall attractiveness of transit as a mode choice, reducing fare revenues. In turn, less revenue reduces TransLink's ability to maintain high quality service. This can lead to a downward spiral of declining ridership and lower service levels—a situation experienced by many transit agencies in North America.

Conversely, when buses get faster and more reliable, TransLink can either provide the same level of service with fewer buses or increase frequency with no additional cost.

This graphic shows the additional buses needed to maintain the same frequency of service when a bus runs more slowly.

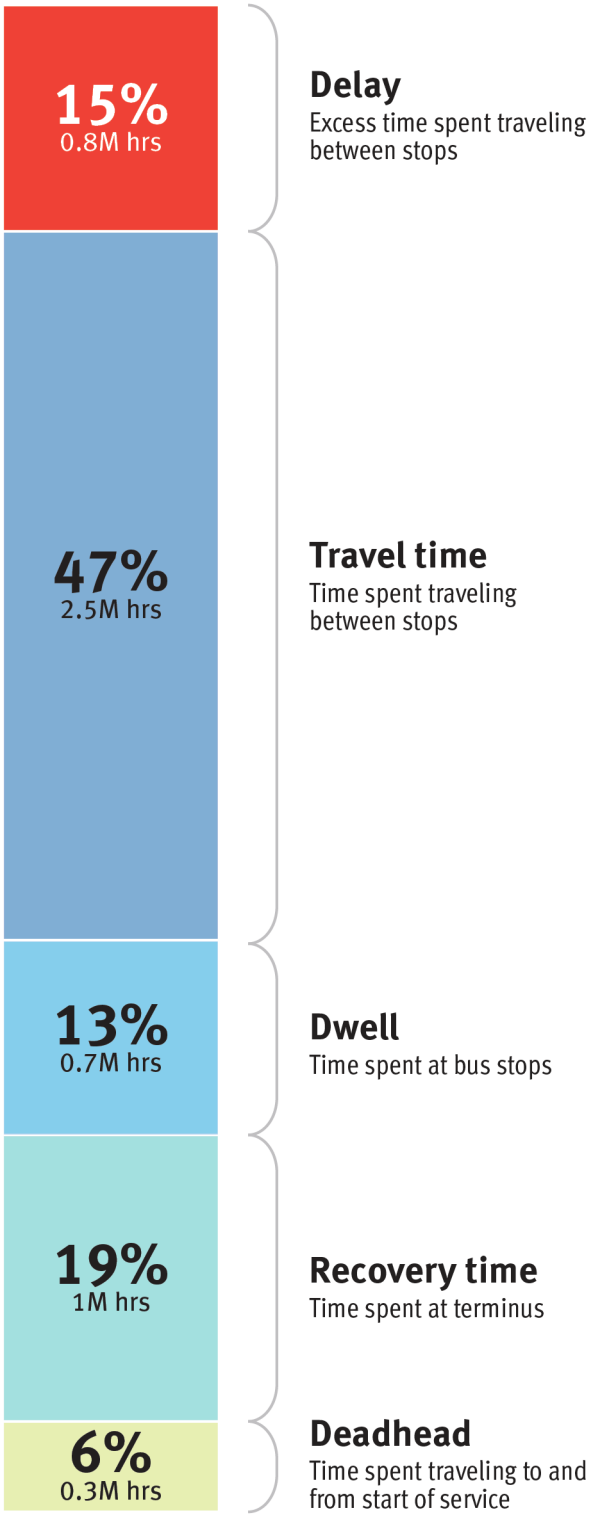


Roadway delay is responsible for approximately 15% of CMBC bus operating costs.

We estimate that over $80 million per year (800,000 annual service hours), or **15%** of CMBC total bus operating costs, are attributable to roadway delay.

A further **19%** of CMBC's operating cost is attributed to recovery time spent at termini. While this provides important break time for operators, some of it is also necessary as a buffer against unreliable bus trips. This buffer is not defined as "delay" in this report, but when bus travel times become longer and more irregular, recovery time must also be increased to ensure on-time departures. It adds further to the costs of delay.

Breakdown of Annual Scheduled Service Hours, 2021



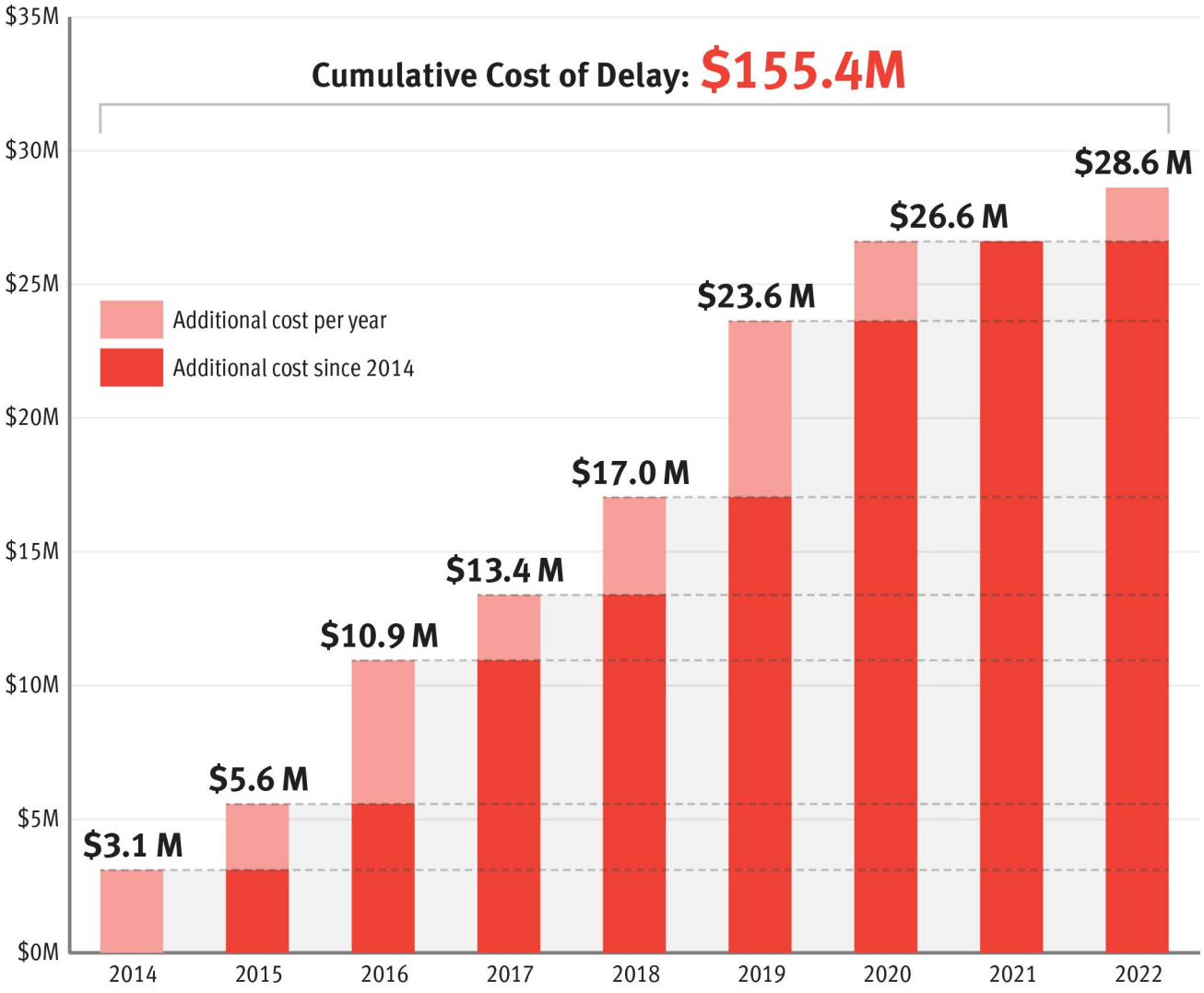
Each year, TransLink adds over $2M of service to offset the impacts of traffic.

In the face of growing roadway congestion, CMBC has endeavored to maintain service levels and on-time performance by increasing the number of buses on the road. Except for one year during the pandemic, these adjustments have added $2M–$7M each year in operating costs in recent years. That's comparable to the operational cost of introducing a new RapidBus route every two years. In 2022, it cost $28.6 million to counter delays from increased traffic relative to 2014 levels. The cumulative cost from 2014 to 2022 is $155.4 million.

Bus delay is back to the same levels as before the pandemic.

Although pandemic restrictions and remote working policies have shifted travel patterns, overall bus-delay is at the same levels, or worse than before COVID-19. Buses did run faster for a brief period in Metro Vancouver in the spring of 2020 (see "Buses freed from congestion are faster and more reliable." on page 26). But by fall 2021, the total hours of bus-delay on weekdays were the same as those just before the pandemic (in fall 2019), and exceeded those in fall 2018 by about 3%.

Change in Annual Operating Costs due to Schedule Maintenance, 2014–2022



Note: Costs due to bus delay increased in all years except 2021, during the pandemic.