

Part 6: Vision for Bus Priority

INVESTING IN TRANSIT PRIORITY

A Vision for Bus Priority will help the region accomplish its goal to provide bus priority on the full Frequent Transit Network

The 10-Year Priorities/Access for Everyone plan has a goal of providing bus priority across the entire Frequent Transit Network. The plan calls for TransLink to expand bus priority measures to the entire existing frequent bus network and up to 25% of the expanded frequent bus network.³⁴ Transit is the most efficient way to move the most people. Providing bus priority along the FTN ensures our buses continue to move as fast and efficiently as possible while our region continues to grow.

TransLink has funding to make buses faster and more reliable throughout the region. The 10-Year Priorities will expand funding for the types of bus priority measures described in this report. TransLink wants to partner with local jurisdictions to design and deliver these measures.

Despite significant recent expansions in bus priority, addressing the needs at the scale of the FTN is challenging. As described in the previous part of this report, most of the FTN has no or limited priority. A conceptual vision that prioritizes where and how to invest in bus priority will help TransLink, local governments, and BC MOTT determine how to most effectively address our region's transportation needs.

The Bus Priority Vision establishes a shared understanding of the types of bus priority solutions that can be established across the FTN. It will help TransLink and its partners work towards identifying specific solutions in different parts of the network.

This part of the report helps advance a regional vision for expanding bus priority. Part 6:

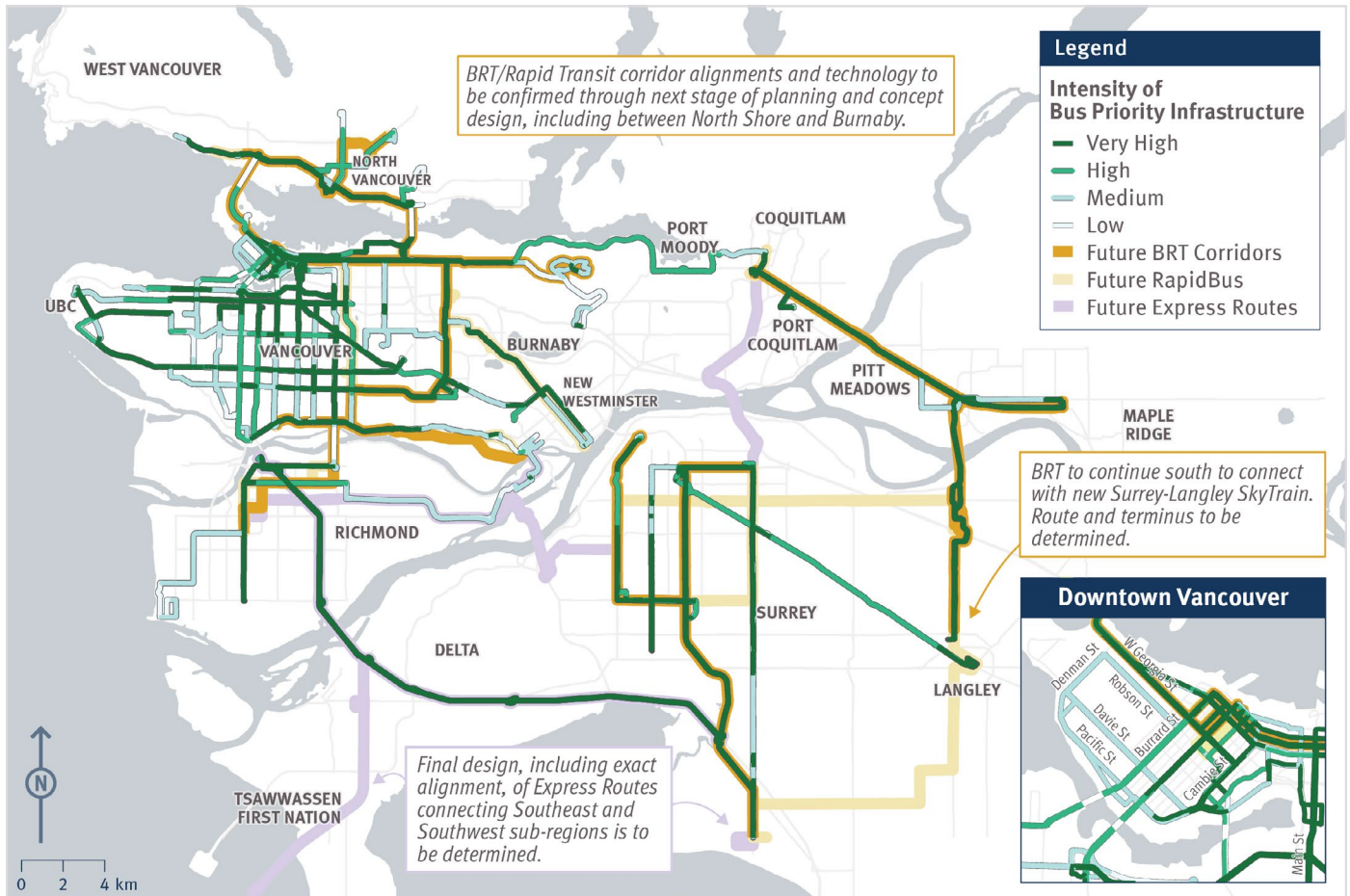
- **Proposes a regional Bus Priority Vision that establishes a shared understanding of the types of bus priority solutions that can be established across the FTN.** It will be used by TransLink and local government partners to work towards identifying specific solutions in different parts of the network.
- **Highlights the need to manage our streets to serve a variety of users.** Illustrating where the highest need for transit priority overlaps with the highest needs for other transportation networks—goods movement, cycling, walking, and business access—allows us to collaborate to find efficient solutions across our network.
- **Identifies conceptual solutions for the 20 “Profile Areas” identified in Part 3 of this report.** While still conceptual, these are examples of how we can refine the regional vision based on more detailed understanding of local conditions and context.

BUS PRIORITY VISION

The **Regional Bus Priority Vision map** below classifies the FTN into categories that describe the relative intensity of bus priority infrastructure needed to address bus delay due to congestion. The Vision:

- **Illustrates where different levels of priority are needed across the FTN.** Each level of investment is associated with a range of potential solutions based on need.
- **Does not account for existing traffic volumes or goods movement.** More detailed evaluation of solutions will be conducted as part of specific corridor or hotspot projects.
- **Is based on existing service and near-term plans.** It may need to be updated if service levels or plans change in the future.
- **Is intended to be fine-grained enough to account for local context while remaining a high-level tool for communicating policy.** As such, the map aims to account for business districts and major cycling facilities at the level of roadway segments, but not variations in individual blocks. Guided by this policy and vision, local implementation will require further analysis and design. Consistent solutions are important, rather than piecemeal infrastructure such as short bus lanes or discontinuous bike lanes that require merging in and out of traffic.

Bus Priority Vision Map



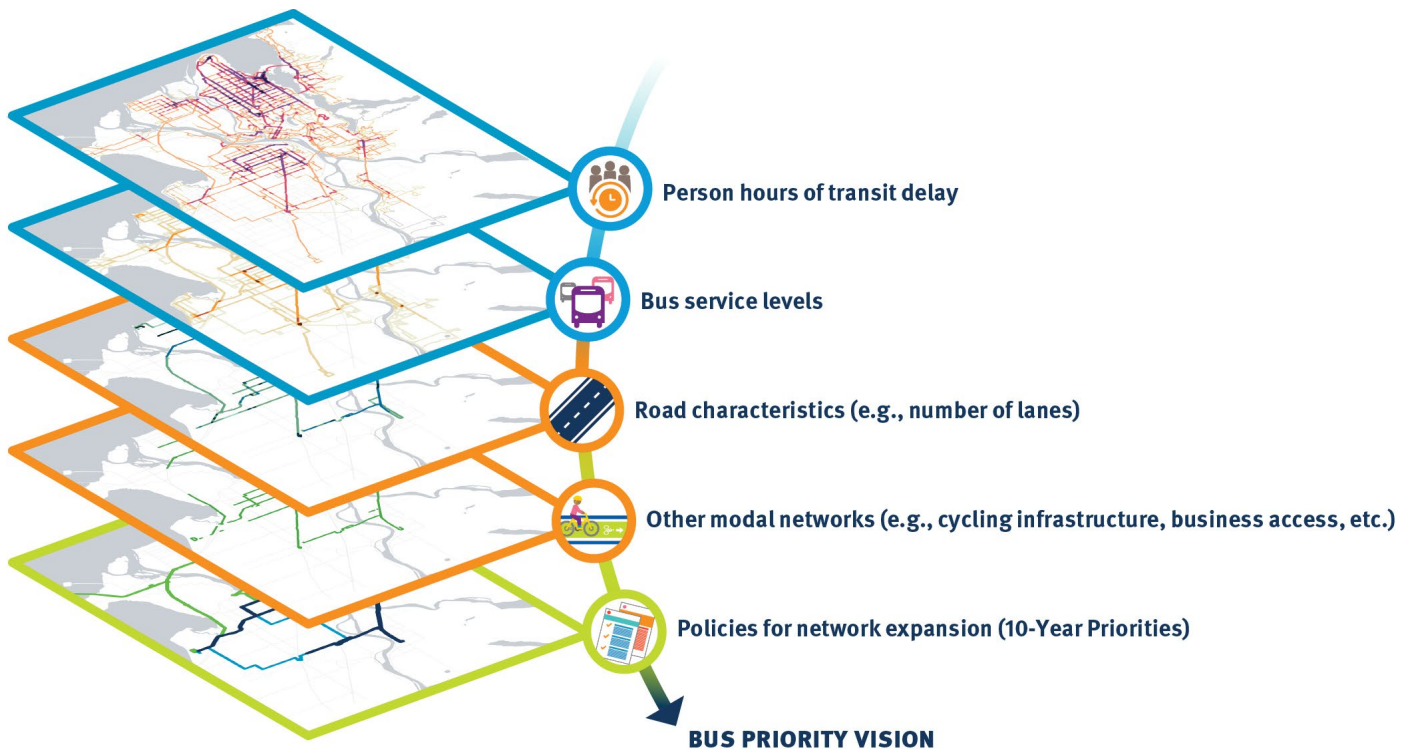
Establishing the Regional Bus Priority Vision

The Bus Priority Vision uses data and policy to assess where there is a strong case for better bus priority measures.

- We focused on the FTN; this is where we run the most buses, carry the most passengers, and can see the highest return from bus priority.
- We considered where there is the greatest need to provide more bus priority using two measures (see page 22) of how fast and reliable current service is:
 - **Transit delay**, in terms of person-hours, accounts for both delay to buses and the number of riders affected.

- **Travel time reference ratio**, a measure of reliability, compares typical travel times in each hour to the best typical travel time during daytime hours (6 am–10 pm).
- We considered compatibility with our existing infrastructure, including existing right-of-way, active transportation, and business access, to understand where there are possible constraints to implementing specific types of transit priority improvements.
- We considered both current service levels and where we are making large service investments in the near-term, as identified in the 10-Year Priorities/Access for Everyone plan.

The Bus Priority Vision is Driven by Data and Policy



How we developed the Bus Priority Vision

We developed the Bus Priority Vision through an iterative, data-driven process that also included outreach to municipal partners. The graphic below illustrates what we considered.

- **Delay:** We assessed the level of delay based on both person-hours of delay and reliability of bus travel times. We considered Medium or High delay locations to have moderate to high person-delay (see map on page 32) and/or have unreliable travel times—where a bus could take over 1.5 times longer in some hours of the day compared to a typical trip at the best time of day.
- **Service:** We considered the level of bus service provided today as well as plans to provide a high level of service in the future, i.e., Bus Rapid Transit (BRT) service (see map on page 125), in assigning a High or Very High level of priority.

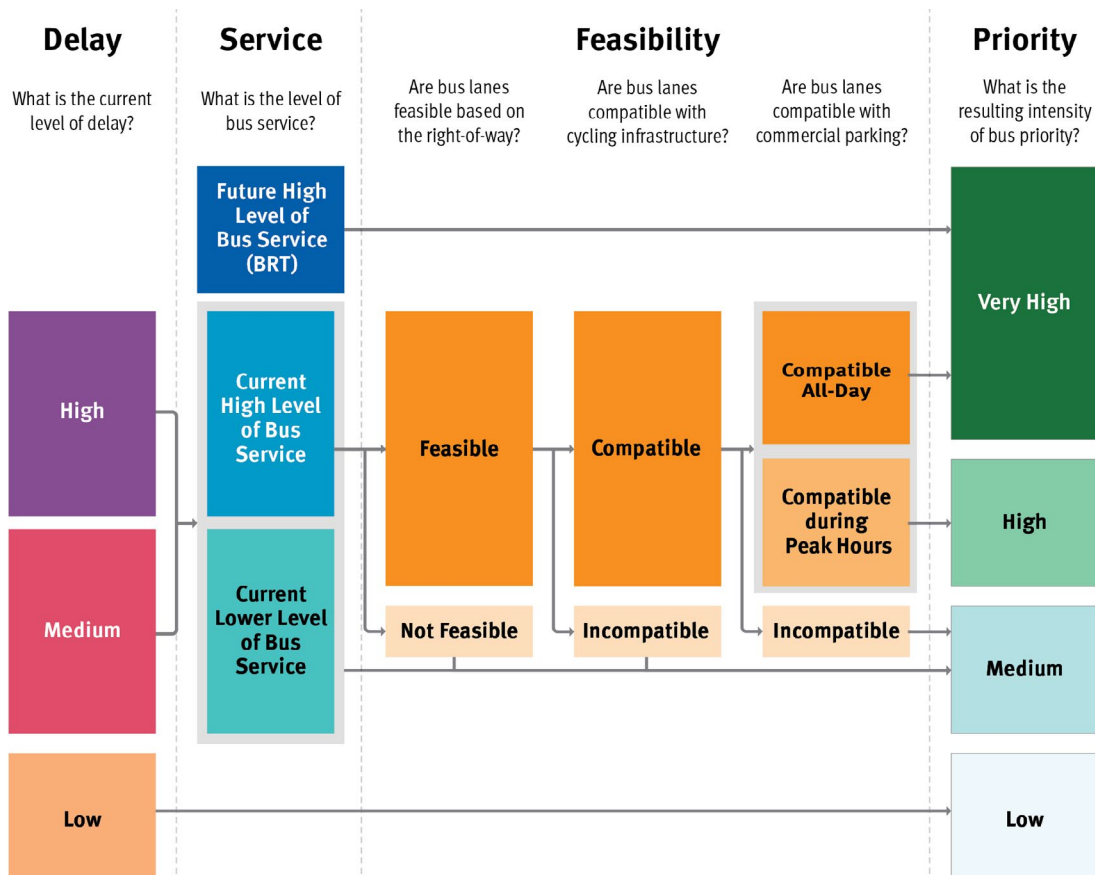
- **Feasibility:** We assessed if different types of bus priority are feasible based on roadway characteristics, including width of the road, compatibility with cycling infrastructure, and compatibility with curb uses, in particular commercial street parking.

- **Priority:** The resulting intensity of bus priority was categorized ranging from Very High to Low.

The result is a conceptual vision for bus priority that accomplishes the region's goals of bus priority on the full FTN.

Future planning and design efforts led by TransLink and local government partners will be needed to refine the Vision to account for a detailed understanding of roadway conditions, such as right-of-way and traffic patterns along a corridor, and the needs of different roadway users.

Bus Priority Vision Process







Intensity of Bus Priority Solutions

Identifying the desired level of bus intensity across our transit network allows local governments to understand where different types of bus priority investments are needed and consider how to incorporate them into roadway infrastructure plans. Developing bus priority solutions hinges on partnering with local government staff and leaders. Their local knowledge context and established connections with stakeholders are crucial in tailoring projects to specific community needs.

The Vision identifies the types of measures that are likely to be most appropriate. The four categories of bus priority intensity in the Vision, ranging from Very High to Low, correspond to a general application of the appropriate types of bus priority solutions. The graphic below illustrates the possible solutions to address bus priority where it is most needed.

- Along corridors where we have the most delay and greatest need to address speed and reliability issues, **Very High intensity** priority would often include all-day bus lanes.
- Where we have moderate delay, or our roadways are constrained, **Medium to High intensity** solutions could include bus lanes to address delay at specific times of day or improvements at many intersections.
- For corridors where we have less delay, **Low intensity** priority could be appropriate, including solutions such as bus stop balancing and in-lane bus stops (potentially), along with interventions at key intersections and other hot spots.

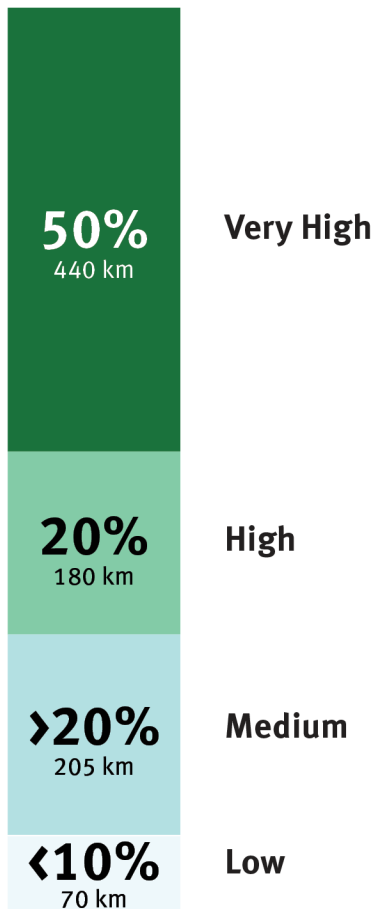
Types of Solutions that are Generally Applicable for Each Category of Bus Priority

INTENSITY OF BUS PRIORITY	Potential Solutions			
	 BUS LANES	 INTERSECTION IMPROVEMENTS	 IN-LANE BUS STOPS	 BUS STOP BALANCING
Very High	All Day	Yes	Maybe	Yes
High	Peak Hour	Yes	Maybe	Yes
Medium	No	Maybe	Yes	Yes
Low	No	No	Maybe	Yes

Results of the Bus Priority Vision

The chart illustrates the resulting breakdown of bus priority classifications for the region. The Bus Priority Vision identifies a need for Very High or High intensity bus priority along 70% of the FTN, which could include all-day bus lanes or peak-hour bus lanes.

FTN Bus Priority Vision by Category



Appendix A provides maps showing the Bus Priority Vision for each sub-region along with summary statistics.

Planning For Future Rapid Transit

The Bus Priority Vision map shown above reflects our region’s near-term plans for BRT. As illustrated on page 125, the 10 Year Priorities/Access for Everyone plan identifies **nine** new BRT corridors, applying Transport 2050.

- **Three** of these corridors are identified as near-term and will be advanced to BRT or Rapid Transit immediately. (Rapid Transit is characterized by high carrying capacity and speed, frequency, and reliability; it is typically provided by transit technologies such as rail rapid transit, light rail transit, and bus rapid transit.)
- The remaining **six** corridors can still benefit from incremental bus priority measures.

The Vision is based on existing delay. Future concept plans for these corridors should consider solutions that are either "early wins" for BRT implementation or "temporary" measures that are low cost or have quick payback periods.



BRT routes will be supported by a higher-level of bus priority, depending on road context.

NETWORK INTEGRATION

The Bus Priority Vision considers the needs of other modes.

Transit is the most efficient mode for moving the most people. It should be reliable, convenient, and provide direct access to destinations. But buses share roadway space and sometimes a single street doesn't have room for everything. We need to manage our streets to achieve common objectives. These are some of the other needs that must be considered in the overall transportation network.

- We depend on **freight and goods movement** to meet our daily needs and allow our economy to grow and thrive. Manufacturing/industrial centers and business districts need to have reliable connections to the freight network.
- **Cycling** creates zero emissions and provides easy access for shorter trips. There should be safe and convenient routes so people can access businesses, schools, parks, transit stops, and other destinations. The Bus Priority Vision supports future expansion of the cycling network, including cycling facilities on parallel streets to support greater transport network modal integration.
- Thriving business districts require **commercial streets** that are inviting, comfortable for walking,

support access for deliveries, and enable people to arrive safely by all modes.

We have identified where we have overlapping needs for roadway space along with solutions to help integrate multiple modes in our transportation system.

The maps on pages 138 to 141 illustrate where implementing High and Very High intensity bus priority is likely to overlap with our needs to move goods, facilitate safe and convenient travel for people cycling, and/or provide access to businesses for people and deliveries. The accompanying graphics describe bus priority improvements that may provide a “win-win” solution where needs overlap.



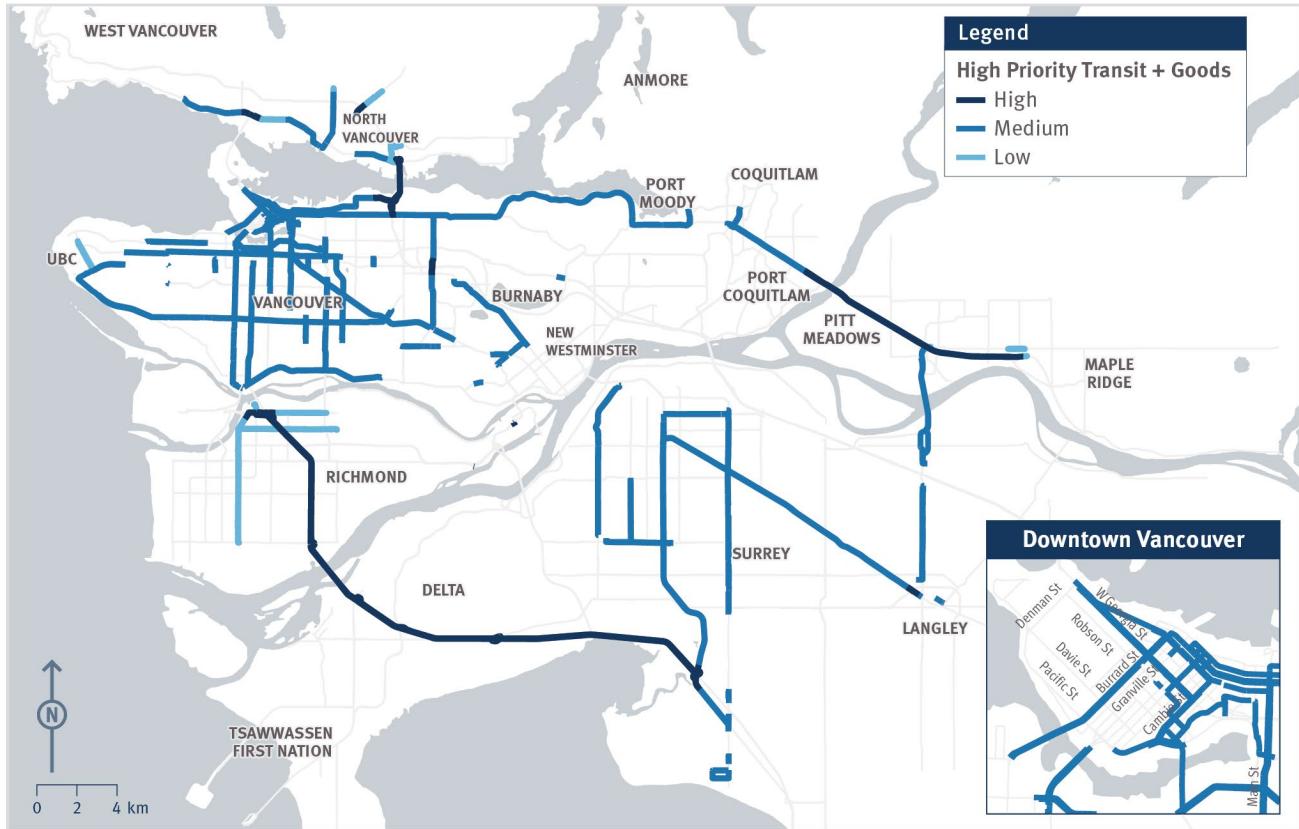
Bus and bike lanes can be compatible with careful design.

Together with local governments, TransLink co-funds and co-manages the Major Road Network, which includes hundreds of kilometres of key roads connecting major destinations for people and goods.

Investments in the Major Road Network will help advance regional objectives for improving safety and moving people and goods along these regional roads. These investments will also ensure roads are maintained in a state of good repair to support emergency response.

Buses are essential to effective streets planning, providing high people-moving capacity with limited space. TransLink's streets program also includes expanded funding for improving bus speed and reliability (see the Bus Priority Infrastructure portion of this report, starting on page 40, for information) to be carefully planned in coordination with other street uses and street changes.

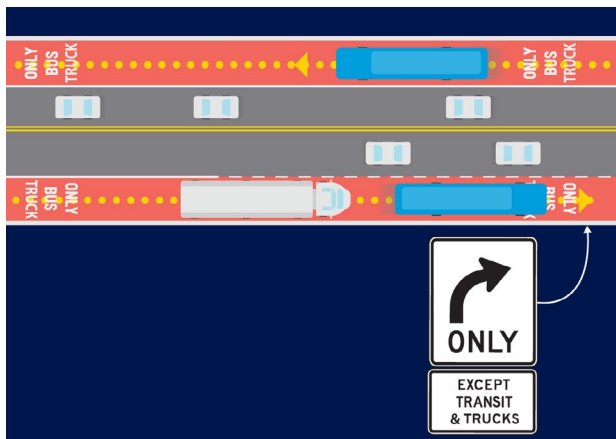
High Priority Transit and Goods Network



This map shows the overlap between transit network (streets identified for peak or all-day bus lanes) and goods movement network priorities. **High** includes overlap with provincial highways. **Medium** includes overlap with designated municipal truck routes (with or without truck travel restrictions) and limited sections of provincial highways (UBC). **Low** includes overlap with municipal roads with no truck travel restrictions.

Note: The major road types in the Goods Network are based on TransLink’s Regional Truck Route Network.

Bus and Truck Lanes Along Freight Routes



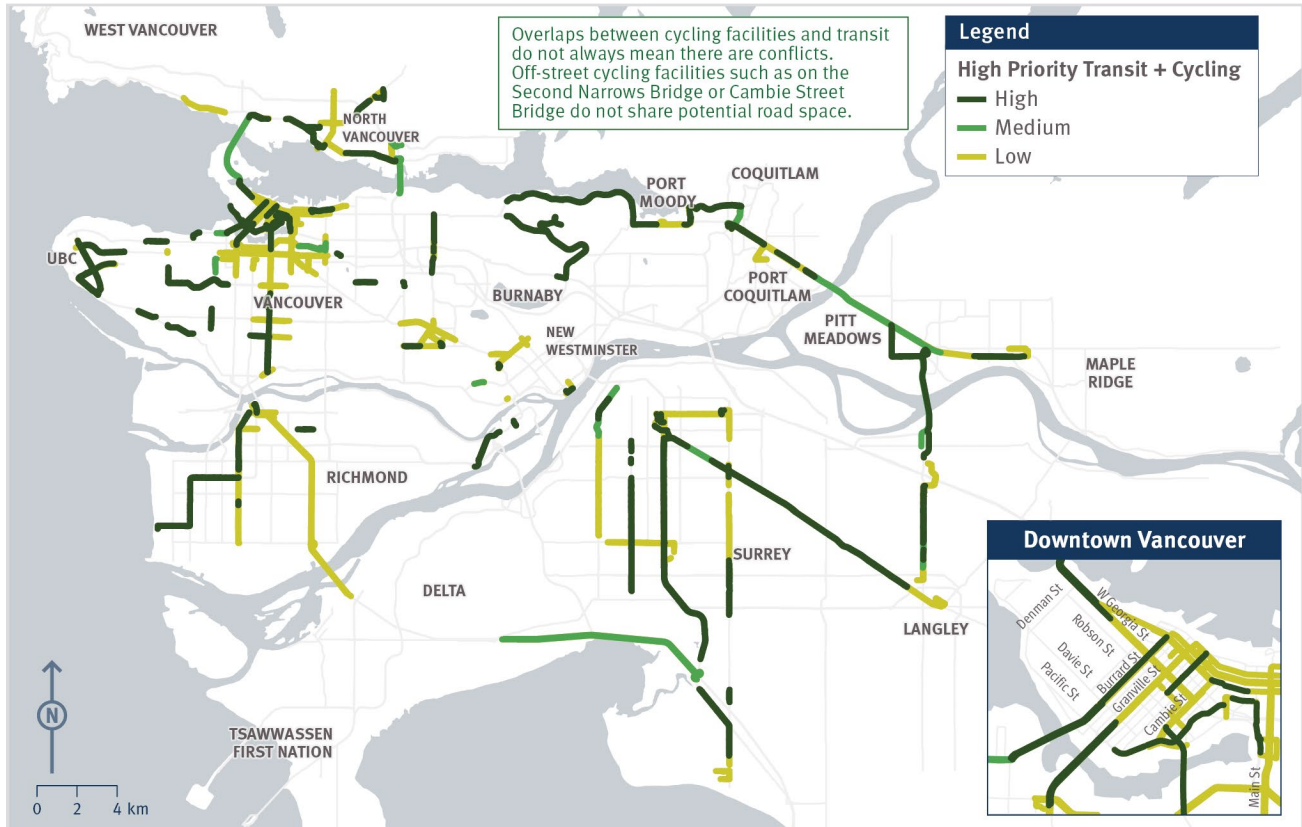
Freight and bus lanes could help provide efficient and reliable travel by buses and freight through congested parts of our transportation network.

Bus and Truck Lanes in Other Regions

Cities are experimenting with improvements that both provide bus priority and address freight bottlenecks.

- The City of **Boston** and the MBTA launched a six-month bus/truck lane pilot on Summer Street in December 2023. The project will address delay to buses and truck traffic from the port, and will include protected bike lanes.³⁸
- The City of **Seattle** is piloting freight and bus lanes (FABs) on Westlake Avenue N, north of downtown Seattle. Larger trucks (more than 12,000 kg) would be allowed to use the FABs. The City’s policy is that FABs would not be used where there are more than 30 buses per hour during peak periods.³⁹

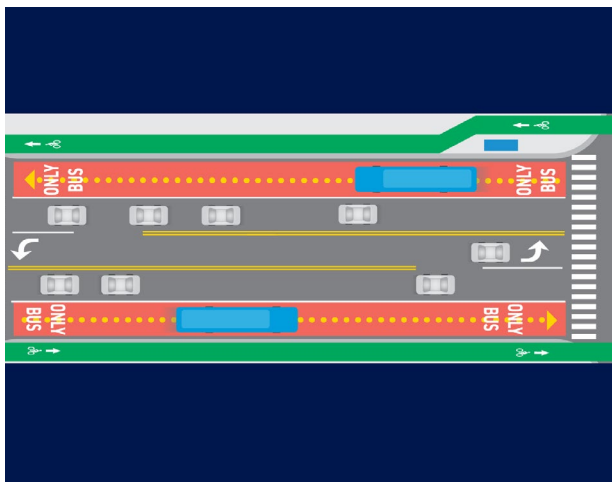
High Priority Transit and Existing and Future Cycling Network



This map shows the overlap between transit network (streets identified for peak or all-day bus lanes) and cycling network (streets that are identified or established as part of the cycling network) priorities. **High** includes overlap with on-street bicycle facilities and in-progress or completed facilities as part of the Municipal Funding Program. **Medium** includes overlap with the existing Major Bike Network. **Low** includes overlap with the proposed Major Bike Network, Frequent Transit Development Areas, or Urban Centres.

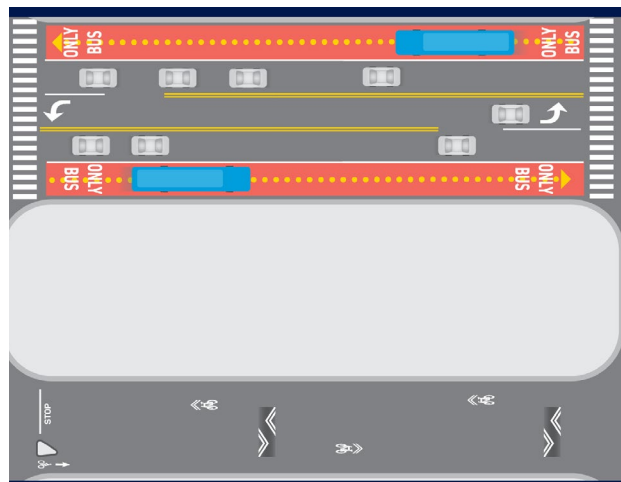
Note: On-street bicycle facilities are from TransLink's State of Cycling work. Major Bike Network infrastructure is defined by the Bicycle Infrastructure Capital Cost Share (BICCS) Program.

Bus Lanes and Bike Facility on the Same Street



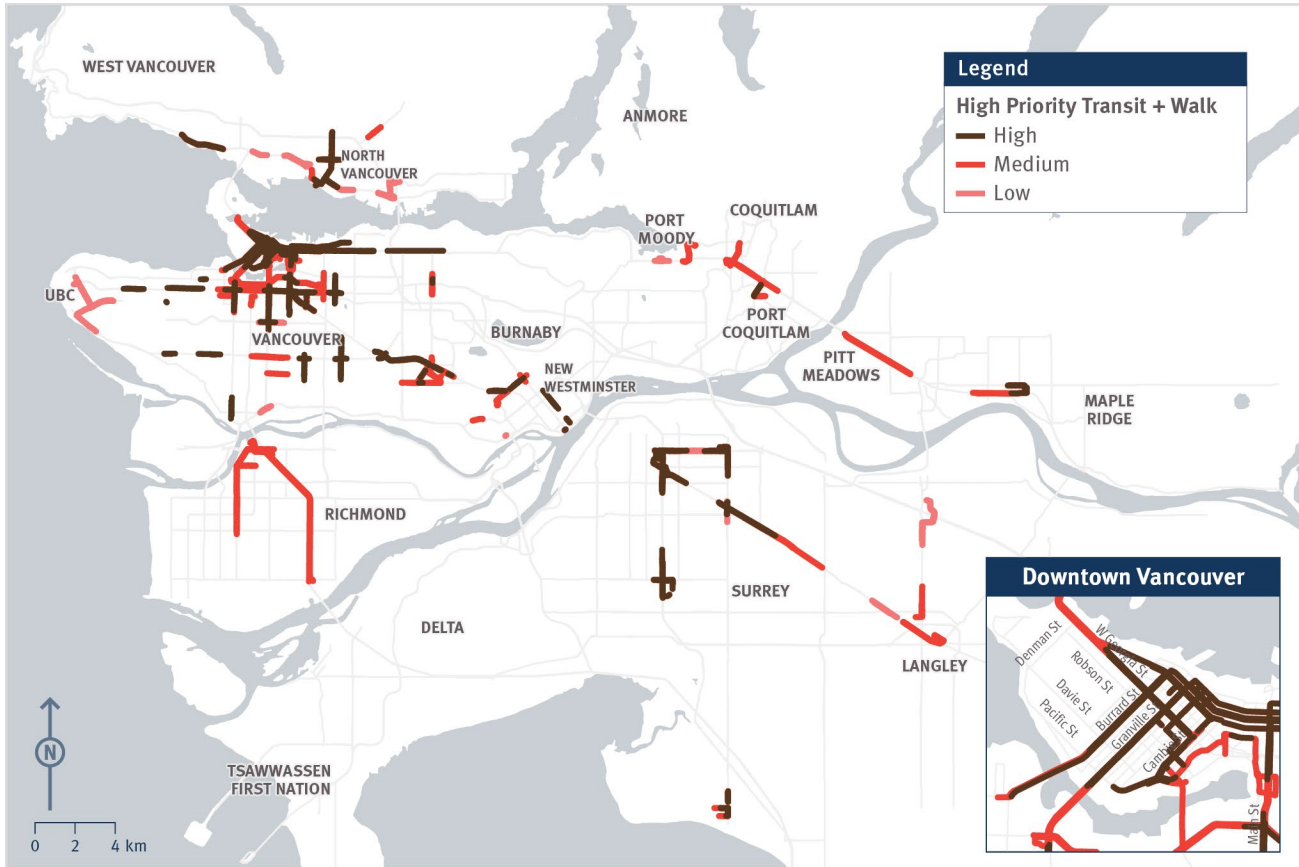
When bus lanes and protected bike lanes are implemented on the same street, “floating” bus stops are one solution to allow people getting on and off the bus to cross the bike lane, which runs between the bus stop and the sidewalk.

Bike Facility on a Parallel Street



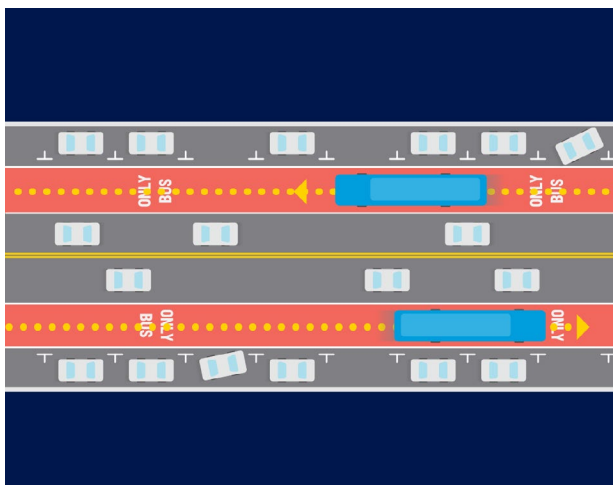
When a street doesn't have room for appropriate cycling infrastructure, a nearby parallel street may be considered if it provides a safe and direct alternative route.

High Priority Transit and Walking and Commercial Streets



This map shows the overlap between transit network priorities (streets identified for peak or all-day bus lanes) and Commercial Streets (approximated by Business Improvement Associations and/or presence of metered on-street parking) that are important for walking and access to businesses. **High** includes overlap with Business Improvement Areas or commercial parking (including paid parking). **Medium** includes overlap with Urban Centres. **Low** includes overlap with Frequent Transit Development Areas.

Offset Bus Lanes in Commercial Districts



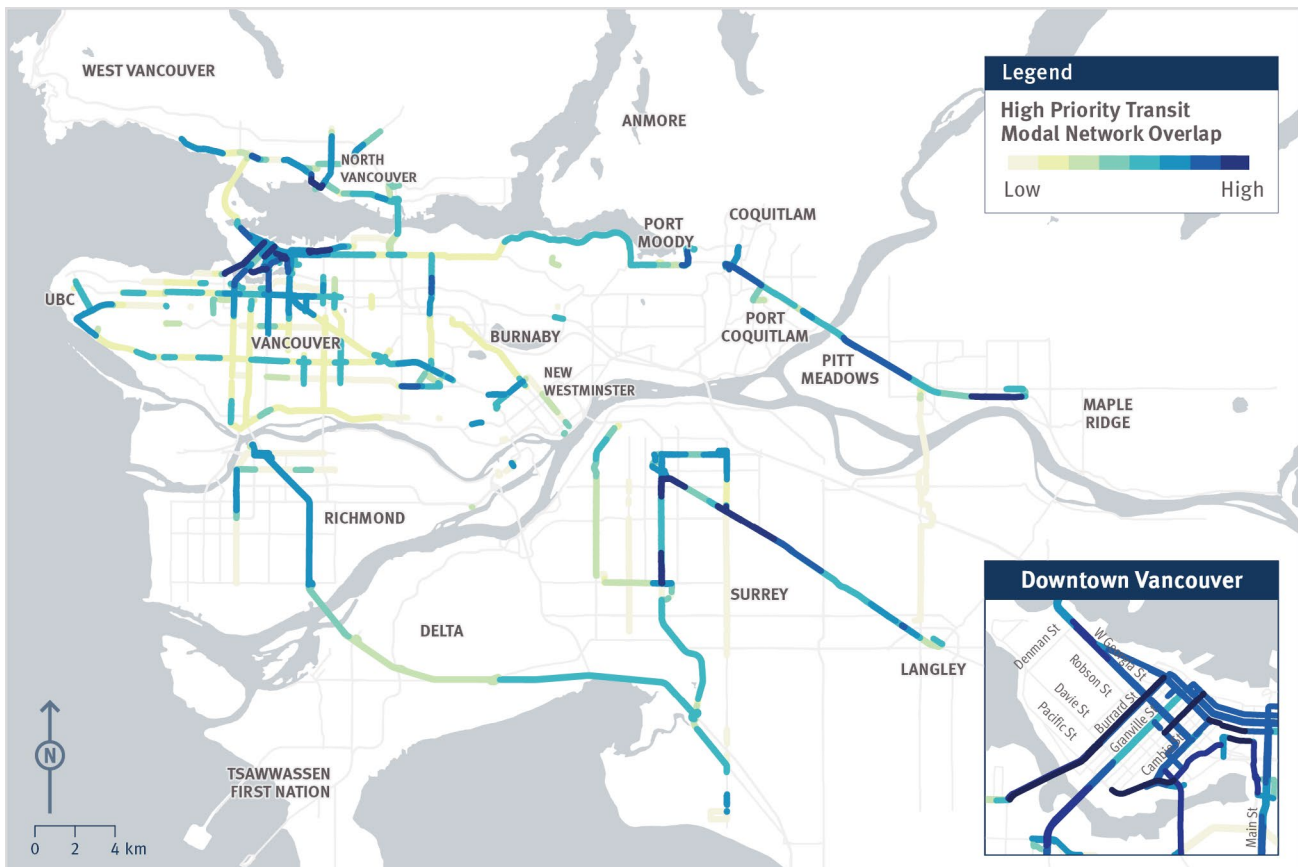
Offset bus lanes preserve parking and loading along the curb in business districts.



Offset transit lanes on West Keith Road maintain on-street parking near a commercial area.

Source: Google Maps

High Priority Transit and Goods Movement, Current/Future Cycling Network, and Walking and Commercial Streets



This map shows the overlap between transit network priorities (streets identified for peak or all-day bus lanes) and all other network priorities (Goods Movement, Cycling, and Walking and Commercial Streets), considering both the number and intensity (High, Medium, or Low) of overlaps.